

TITLE 23: EDUCATION AND CULTURAL RESOURCES
SUBTITLE A: EDUCATION
CHAPTER I: STATE BOARD OF EDUCATION
SUBCHAPTER b: PERSONNEL

PART 27

STANDARDS FOR ENDORSEMENTS IN SPECIFIC TEACHING FIELDS ([Repealed](#))

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AUTHORITY: Implementing Article 21B and authorized by Section 2-3.6 of the School Code [105 ILCS 5/Art. 21B and 2-3.6].

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SUBPART A: GENERAL

Section 27.10 Purpose and Effective Dates

This Part establishes the standards that, together with the standards set forth in Standards for All Illinois Teachers (see 23 Ill. Adm. Code 24), shall apply to the issuance of endorsements in specific teaching fields on a professional educator license pursuant to Article 21B of the School Code [105 ILCS 5/Art. 21B]. The standards set forth in this Part shall apply both to candidates for the respective endorsements and to the programs that prepare them.

- a) Except as provided in Section 27.350 and Section 27.425, beginning July 1, 2003, approval of any teacher preparation program or course of study in any field covered by this Part pursuant to the State Board's rules for Educator Licensure (23 Ill. Adm. Code 25, Subpart C) shall be based on the congruence of that program's or course's content with the standards identified in this Part.
- b) Except as provided in Section 27.350 and Section 27.425, beginning on July 1, 2004, the examinations required for issuance of an endorsement in any field covered by this Part shall be based on the relevant standards set forth in this Part.
- c) On or before February 1, 2018, the standards set forth in Sections 27.100 and 27.130 will be replaced by the standards set forth in Part 21 (Standards for Endorsements in the Middle Grades) both for the approval of any teacher preparation program or course of study in the middle grades and the basis of the

examinations required for issuance of an endorsement for teaching literacy (e.g., English language arts) or mathematics in the middle grades.

SUBPART B: FUNDAMENTAL LEARNING AREAS

Section 27.100 English Language Arts

- a) The competent English language arts teacher understands and uses good pedagogical skills.
 - 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands how to design, select, modify, and evaluate materials that reflect curriculum goals, current knowledge, and the interests, motivation, and needs of individual learners.
 - B) understands and is sensitive to the diversity that exists among learners and how differences influence reading, learning, and communicating.
 - C) understands cultural, linguistic, and ethnic diversity and recognizes the positive contributions of diversity.
 - D) understands the role of motivation and interest in learning to read.
 - E) understands the influence of school programs (e.g., remedial programs, gifted programs, and tracking) on students' learning.
 - F) recognizes and understands that assessment must take into account the complex nature of reading, writing, and language and must be based on a range of authentic literacy-related tasks using a variety of texts and resources.
 - G) recognizes and understands the importance of aligning assessment with curriculum and instruction.
 - H) recognizes and understands the importance of technological resources in teaching and learning.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) promotes the development of an environment that fosters interest and growth in all aspects of literacy.
 - B) models reading aloud.

- C) uses good grammar and appropriate sentence construction in both oral and written communication.
 - D) practices effective listening techniques.
 - E) provides students with appropriate and constructive evaluation and feedback.
 - F) uses a variety of instructional strategies and devices to be inclusive of all learners' needs.
 - G) promotes students' understanding of interdisciplinary relevancy.
 - H) uses literature and instructional materials relative to all disciplines in appropriate fictional and non-fictional contexts.
 - I) models sensitivity to the cultural, linguistic, and ethnic diversity of all learners.
 - J) uses technological resources to enhance teaching and learning.
- b) The competent English language arts teacher understands the nature of reading, how it develops, and the implications of its many uses for instructional programs. Knowledge Indicators - The competent English language arts teacher:
- 1) knows that literacy is a lifelong activity that enables personal fulfillment and successful functioning in society, including participation as a citizen.
 - 2) understands, respects, and values cultural, linguistic, and ethnic diversity and their relationship to learning to read.
 - 3) understands reading as a process of constructing meaning through the interaction of the reader's existing knowledge and experience, the information suggested by written language, and the context of the reading situation.
 - 4) understands the roles of motivation and interest in learning to read.
 - 5) understands language development, cognition, and learning as applied to reading development.
 - 6) understands the role that various language components play in reading development: phonemes (sounds of the language); morphemes (words and

meaningful parts of words); semantics (meaning); and syntax (sentence structure and parts of speech); as well as the pragmatic aspect of language (how language works in social contexts).

- 7) recognizes the relationships among the four language arts (reading, writing, listening, and speaking) and knows how to provide opportunities to integrate these through instruction.
 - 8) understands the importance of using reading and writing in all content areas, including social studies, mathematics, and science.
 - 9) understands emergent literacy and home and school experiences that support it.
- c) The competent English language arts teacher knows the benefits and limitations of various materials and selects and uses these materials appropriately.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) knows a variety of materials that can be used for teaching reading, including trade books (both fiction and nonfiction), commercially available basal readers or anthologies, magazines, predictable and decodable texts, and electronic media.
 - B) knows how to create, organize, and use a classroom library.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - B) uses students' interests, knowledge and experiences, cultural backgrounds, and developmental levels as the basis for selecting materials.
 - C) selects and uses high-quality technological materials as a resource for reading and learning (CD-ROM, Internet, etc.).
- d) The competent English language arts teacher uses and extends oral language to develop reading.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands similarities and differences in oral and written language learning.

- B) is aware of students' dialects and language differences and understands the implications of these differences in teaching children to read standard English.
 - C) knows how oral language activities can be used effectively to teach reading.
 - D) knows a variety of approaches for developing and assessing phonemic awareness, including activities that encourage rhyming and the blending, manipulation, and segmentation of phonemes.
- 2) Performance Indicators – The competent English language arts teacher:
- A) provides oral language experiences that extend language growth and support reading development.
 - B) engages students in various types of discussion and talks about texts that are read to them.
 - C) engages students in readers' theater, choral reading, and other oral language activities that are related to reading.
- e) The competent English language arts teacher plans, teaches, and assesses student knowledge in multiple areas of word identification.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) recognizes the types of words that should be learned as sight words and is aware of various lists of sight words.
 - B) knows the common letter-sound correspondences and English spelling patterns.
 - C) knows the organization of phonics instruction.
 - D) knows how to teach basic concepts of print (where to begin reading on a page and that print refers to speech, directionality, text format, concept of word, punctuation, etc.).
 - E) knows how to teach the letters of the alphabet.
 - F) knows ways to teach sight vocabulary effectively.
 - G) knows ways to teach phonics effectively, including word analogies, word sorting, and systematic explicit instruction.

- H) knows how spelling and phonics relate and how to use children's writing to stimulate phonics learning and to evaluate its progress.
- 2) Performance Indicators – The competent English language arts teacher:
- A) assesses emergent reading abilities including phonemic awareness, concepts of print, and letter knowledge.
 - B) assesses students' sight word knowledge.
 - C) encourages students to use phonics knowledge together with context to help figure out unknown words.
 - D) teaches students to use common affixes to aid word identification.
- f) The competent English language arts teacher plans, teaches, and assesses lessons to enhance reading fluency.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) knows that oral reading fluency requires accuracy, speed, and expression and understands its role in reading development.
 - B) understands the relationship between oral and silent reading.
 - C) knows how to use predictable books, poetry, and songs as the basis for early fluency development.
- 2) Performance Indicators – The competent English language arts teacher:
- A) responds to dialect differences or developmental speech problems in oral reading.
 - B) reads to students in ways that support fluency development.
 - C) encourages independent reading by students.
 - D) uses strategies for developing fluency, including shared reading, choral reading, repeated reading, and dramatization.
 - E) assesses students' fluency by listening to them read.
- g) The competent English language arts teacher knows how to plan and teach effective vocabulary lessons and how to encourage the types of reading likely to stimulate progress in vocabulary learning.

- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the role of vocabulary in reading comprehension and learning from text in subject areas.
 - B) knows how to use technology to enhance and encourage vocabulary skills.
- 2) Performance Indicators – The competent English language arts teacher:
 - A) uses teacher reading effectively to build new vocabulary knowledge.
 - B) engages students in word play, games, and dramatization activities that teach word meanings.
 - C) develops knowledge of concepts and knowledge of words and recognizes when each would be appropriate.
 - D) teaches students to use context and reference materials for the learning of word meanings.
 - E) teaches the meanings of common word structures (affixes and common roots).
 - F) teaches students to define words in a variety of ways, including categories, synonyms, antonyms, definitions, contexts, pictorial representations, and analogies.
 - G) teaches students to develop connections or relationships among words, contexts, and personal experiences.
 - H) teaches students to review vocabulary to increase retention.
 - I) encourages both a breadth and depth of reading experiences to build new vocabulary.
- h) The competent English language arts teacher plans and teaches lessons that support and extend students' comprehension abilities with a variety of materials and assesses students' reading comprehension.
 - 1) Knowledge Indicators – The competent English language arts teacher:
 - A) knows the relationship between listening comprehension and reading comprehension.

- B) knows how types of questions affect reading comprehension and how they can be used to promote comprehension and learning.
 - C) recognizes the types of questions and levels of understanding expected in different subject areas.
- 2) Performance Indicators – The competent English language arts teacher:
- A) encourages students to respond personally to literary and informational materials and helps them to connect their prior knowledge and experiences to text.
 - B) plans and teaches guided reading lessons that model and guide students' use of comprehension strategies before, during, and after reading text.
 - C) encourages a variety of students' responses to text, including dramatization, art, discussion, and multi-media presentation.
 - D) teaches students to use a variety of book features (such as table of contents and index), and organizational patterns common to informational text to improve understanding and recall of text.
 - E) plans and teaches lessons on how to preview and prepare to read a text effectively.
 - F) plans and teaches lessons on how to monitor comprehension and how to correct confusions and misunderstandings that arise during reading.
 - G) plans and teaches lessons that enable students to summarize, analyze critically, evaluate, and synthesize information read.
 - H) plans and teaches units that require students to conduct research or inquiry using multiple texts and other sources of information.
 - I) encourages students to write about what they read in order to improve understanding.
 - J) teaches students to identify a variety of literary elements to enhance comprehension.
- i) The competent English language arts teacher knows that all instruction should be based upon an assessment of students' current knowledge and abilities.

1) Knowledge Indicators – The competent English language arts teacher:

- A) understands the use of standardized and informal reading assessments, including on-going observations.
- B) knows how to conduct a parent interview to gain the parent's perspective on the child's reading development.
- C) understands the implications of cultural, linguistic, and ethnic differences for interpretation of assessments.
- D) recognizes technological resources appropriate to students' knowledge and ability.

2) Performance Indicators – The competent English language arts teacher:

- A) determines students' independent, instructional and frustrational reading levels.
- B) interprets appropriately the results of standardized reading tests, including the State assessment.
- C) provides continuous monitoring of students' progress through observations, work samples, and various informal assessments.
- D) assesses students' reading attitudes, motivation, and interest through observations and other informal means.
- E) utilizes assessment information to plan instruction.
- F) encourages and supports students' evaluation of their reading ability.

j) The competent English language arts teacher plans, organizes, and manages reading instruction to create a positive environment that encourages independent reading.

1) Knowledge Indicators – The competent English language arts teacher:

- A) knows ways to encourage independent reading.
- B) knows ways to involve parents and communicates with them.
- C) knows how or when technology can contribute to a positive learning environment.

- D) recognizes when a student's reading problems justify referral to various special services and initiates referral.
- 2) Performance Indicators – The competent English language arts teacher:
- A) establishes a physical environment appropriate for the instructional strategies being used.
 - B) plans lessons that provide sufficient instructional time for all aspects of reading development and that are sufficiently varied to hold students' attention.
 - C) differentiates instruction to meet students' varying needs.
 - D) organizes students effectively by reading abilities and interests.
 - E) uses cooperative grouping techniques.
 - F) establishes a positive literacy environment that encourages interest and learning, and that highlights students' work and progress.
 - G) engages parents in the educational process within and outside the classroom.
 - H) summarizes evaluative information about children's learning and communicates it effectively to parents.
 - I) assigns appropriate homework that supports reading growth.
 - J) models independent reading.
- k) The competent English language arts teacher understands, models, and teaches how writers convey meaning through literary elements and techniques in a variety of genres and media.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) identifies characteristics and authors of various literary forms (e.g., short stories, novels, drama, fables, myths, biographies, autobiographies, essays, poetry, folk tales, legends, fiction, nonfiction, fantasy, documentaries).
 - B) identifies literary elements including character, plot, setting, theme, conflict, resolution, climax, and mood and explains their influence on the effectiveness of the literary piece.

- C) identifies point of view in a literary text (e.g., distinguishes between first and third person) and explains its effect on the reader.
 - D) identifies and explains ways in which an author uses language structure, literary form, word choice style, and format to convey the author's viewpoint and to elicit an emotional response from the reader.
 - E) identifies and describes a variety of literary techniques and devices (e.g., figurative language, allusion, foreshadowing, flashback, suspense, dialogue, description, word choice, dialect, characterization, narration, symbolism) in classic and contemporary literature representing a variety of genres and media.
- 2) Performance Indicators – The competent English language arts teacher:
- A) demonstrates competence in general skills and strategies for reading literature.
 - B) formulates inferences and conclusions about story elements (e.g., main and subordinate characters, setting, theme, missing details).
 - C) analyzes complex elements of plot (e.g., conflict and resolution).
 - D) analyzes devices used to develop characters in a variety of literary texts and genre (e.g., character traits, motivations, changes, and stereotypes).
 - E) analyzes and evaluates the development of form (e.g., short stories, essays, speeches, poetry, plays, novels), style, and point of view and their purpose in American, British, and world literature.
 - F) analyzes a variety of literary techniques, devices, and structures (e.g., figurative language, allusion, foreshadowing, flashback, suspense, dialogue, description, word choice, images, dialect, characterization, narration, symbolism, and stream of consciousness) in classic and contemporary literature representing a variety of genres and media.
- 1) The competent English language arts teacher reads and interprets a variety of literary works and genres.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) identifies and explains the defining characteristics of a variety of literary forms and genres (e.g., short stories, novels, drama, fables,

myths, biographies, autobiographies, essays, poetry, folk tales, legends, fiction, nonfiction, fantasy, documentaries).

- B) recognizes the importance of using a wide variety of print and electronic materials throughout the curriculum, including high-quality literature for children and adolescents and diverse expository materials appropriate to the age and developmental level of the learners.
 - C) identifies recurring themes across literary works from a variety of eras, cultures, traditions and genres.
 - D) recognizes the value of reading aloud to learners using a variety of genres.
 - E) recognizes the importance of providing time for reading of extended text for authentic purposes.
 - F) recognizes that literature can be a means for transmitting moral and cultural values within a community.
 - G) recognizes that people experience varying responses to literature.
- 2) Performance Indicators – The competent English language arts teacher:
- A) demonstrates a familiarity with selected literary works of enduring quality.
 - B) analyzes and expresses an interpretation of literary work from a variety of eras, cultures, traditions, and genres.
 - C) selects literature appropriate to the level and interests of the student.
 - D) creates a literature-rich environment.
 - E) provides opportunities for students to be exposed to various purposes for reading.
 - F) critiques ideas and impressions generated by oral, visual, written, and electronic materials.
 - G) reads aloud from a variety of genres to demonstrate appropriate interpretation and appreciation.

- H) models and teaches students to apply reading skills and strategies to analyze, comprehend, and appreciate a variety of literary genres (e.g., short stories, novels, drama, fables, myths, biographies, autobiographies, essays, poetry, folk tales, legends, fiction, nonfiction, fantasy, documentaries).
 - I) models and teaches students how to draw on experience, interaction with other readers and writers, word-identification strategies, knowledge of word meaning, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, and graphics) to better understand literature and electronic media.
 - J) models responses to literary material and teaches students to respond by making inferences; drawing conclusions; making comparisons from personal, creative, and critical points of view; and sharing responses with peers.
 - K) models responses and teaches students to respond to and interpret what they read in a constructive or transactional process.
 - L) reads and provides opportunities for students to read a wide variety of literature from many periods and genres to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.
 - M) designs and demonstrates a variety of examples and multiple learning activities to teach students to identify, explain, compare, and contrast common literary themes across various societies, eras, and genres and to identify recurring themes across literary works.
 - N) understands and teaches students to understand and relate literary works and their elements (characters, theme, setting, plot, conflict, and resolution) to current and historical events, people, perspectives, and personal experiences.
 - O) analyzes form, content, purpose, and major themes of American, British, and world literature in their historical perspectives.
 - P) applies knowledge gained from literature as a means of understanding contemporary and historical economic, social, and political issues and perspectives.
- m) The competent English language arts teacher understands, models, and teaches recognition of rhetorical sensibilities within the writing process.

- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) recognizes that different writing situations, as determined by varying purposes and audiences, call for different forms, organizational strategies, styles, formats, rules of evidence, and composing processes.
 - B) recognizes various response strategies for helping students revise texts for appropriateness in a variety of rhetorical situations.
 - C) understands how to compose writing assignments that challenge students to practice writing for a variety of rhetorical situations.
 - D) understands how technology may be used to enhance written documents for various and specific rhetorical situations.
- 2) Performance Indicators – The competent English language arts teacher:
 - A) models and teaches analysis of various and specific rhetorical situations.
 - B) models and teaches writing processes for a variety of writing modes (e.g., narrative, expository, and persuasive).
 - C) enables students to write for real or potentially real situations and audiences that dictate a variety of rhetorical analyses.
- n) The competent English language arts teacher understands, models, and teaches prewriting strategies necessary for the student to meet a variety of rhetorical situations.
 - 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the importance and value of prewriting as a component in the writing process.
 - B) recognizes that different writing situations, as determined by varying purpose and audiences, call for different prewriting strategies.
 - C) recognizes that learning styles of individual students are variable factors in using prewriting strategies within the writing process.
 - D) understands how to compose writing assignments that challenge students to practice a variety of prewriting strategies.

- E) understands the role of pre-composition in creating computer-generated documents.
- 2) Performance Indicators – The competent English language arts teacher:
- A) explains and reinforces the importance of prewriting as a component in the writing process.
 - B) explains the importance of pre-composition in creating computer-generated documents.
 - C) models and teaches a variety of prewriting strategies as a means of generating and organizing ideas within the writing process (e.g., mapping, listing, outlining, and drafting).
 - D) enables students to analyze learning styles and rhetorical situations and apply appropriate prewriting strategies.
- o) The competent English language arts teacher understands, models, and teaches strategies within the writing process that enable students to progress from prewriting to drafting documents for various and specific rhetorical situations.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) understands that drafting is an important, recursive component in the writing process.
 - B) commands knowledge of spelling and grammar conventions (e.g., capitalization, punctuation, appropriate use of the eight parts of speech, syntax, diction).
 - C) understands the elements of composition (i.e., thesis development, focus, organization, support and elaboration, paragraph unity, and coherence).
 - D) understands how to compose writing assignments that provide opportunities to practice drafting documents.
 - E) understands conference techniques that assist students with the drafting of documents.
- 2) Performance Indicators – The competent English language arts teacher:
- A) explains and reinforces the recursive nature of drafting within the writing process.

- B) models and teaches the elements of composition in a variety of rhetorical situations (e.g., short stories, essays, letters, and reports).
 - C) models and teaches strategies that enable students to spell frequently occurring words accurately.
 - D) enables students to write complete sentences and effective paragraphs using standard English conventions.
 - E) models and teaches the use of modifiers to expand ideas, transitions to produce an effective control of language and ideas, and effective paragraph organization.
 - F) enables students to write multi-paragraph documents that convey ideas and information in a clear and concise style.
 - G) enables students to discover and improve a distinct voice in their writing.
 - H) confers with students to help them with the drafting of written documents.
 - I) enables students to use technology to facilitate recursive drafting of composition.
- p) The competent English language arts teacher understands, models, and teaches strategies within the writing process that enable students to revise drafts of documents written for a variety of rhetorical situations.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the importance and value of revision as a recursive component of the writing process.
 - B) understands that English conventions, style, diction, voice, and rhetorical situation drive the revision component of the writing process.
 - C) commands knowledge of revision strategies appropriate to a variety of writing modes and rhetorical situations.
 - D) understands how to compose writing assignments that provide practice of revision techniques.
 - 2) Performance Indicators – The competent English language arts teacher:

- A) explains and reinforces the value of revision as an important, recursive component in the writing process.
 - B) models and teaches revision strategies affecting diction, syntax, transitions, organization, and point of view.
 - C) models and teaches revision strategies affecting paragraph coherence and organization.
 - D) models and teaches revision strategies addressing various and specific rhetorical situations.
 - E) models and teaches revision strategies using contemporary technology.
- q) The competent English language arts teacher understands, models, and teaches proofreading and editing techniques for documents that address various and specific rhetorical situations.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the importance and value of editing as a component in the writing process.
 - B) commands an understanding of standard English conventions including grammar, semantics, syntax, morphology, and phonology.
 - C) understands the application of language structure and conventions in the critiquing and editing of written documents.
 - D) commands an array of strategies used to comprehend, interpret, and evaluate written documents.
 - E) understands the value and practice of editing by writers and by their peers as strategies within the writing process.
 - F) understands how to compose writing assignments to provide students practice in editing techniques with a variety of documents.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) explains and emphasizes editing as an important component in the writing process.

- B) models and teaches proofreading and editing techniques for standard English conventions, clarity, and style in various and specific rhetorical situations.
 - C) models various strategies for creating written documents and for evaluating their effectiveness, including editing by writers and by their peers.
 - D) models and teaches editing techniques using contemporary technology.
- r) The competent English language arts teacher understands, models, and teaches the preparation of written documents for publication.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the importance and value of publishing as an integral component of the writing process.
 - B) understands the importance of providing hands-on experience with the technology required for preparing documents for publication.
 - C) understands specific formats required for publishing a variety of written documents for variable and specific rhetorical situations.
 - D) commands the technological awareness necessary to produce written documents suitable for submission or publication.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) explains and emphasizes the importance of preparing documents for submission or publication.
 - B) models and teaches text formats appropriate for submitting and publishing written documents.
 - C) models and teaches the use of contemporary technology to produce documents of publication quality.
 - D) enables students to produce grammatically correct documents using standard manuscript specifications for a variety of rhetorical situations.
 - E) provides students the opportunity to publish their written documents.

- s) The competent English language arts teacher recognizes the components of the communication process and understands the importance of effective communication in the classroom.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the communication process (speaker, listener, message, medium, feedback, and noise).
 - B) understands audience analysis.
 - C) knows the differences among oral, written, and electronic communication processes.
 - D) knows the role of feedback in communication.
 - E) knows the relationship between nonverbal and verbal communication.
 - F) knows different purposes for communicating.
 - G) understands the shared responsibilities of speakers and listeners.
 - H) understands stated and implied meanings of a message.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) models and teaches vocal qualities (pitch, rate, tone, volume, etc.) and nonverbal cues to create and interpret meaning.
 - B) models and teaches audience analysis to adapt message and communication behaviors to the audience and situation.
 - C) demonstrates and teaches the ability to focus attention on a speaker's message.
 - D) models and teaches appropriate and effective feedback.
 - E) models and teaches listening behaviors to accommodate the listening situation.
 - F) models and teaches differences among oral, written, and electronic communication.
- t) The competent English language arts teacher understands the influence presented by people, their relationship to each other, and the ability to adapt their

communications to the needs of their constituencies and the situations or settings in which they communicate.

- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the importance of adapting communication to the situation and setting.
 - B) understands strategies for appropriate and effective small-group communication, including components and group variables (roles, norms, and leadership).
 - C) understands the influence of context on communication.
 - D) knows the delivery types and their uses and impacts.
 - E) knows a variety of organizational formats appropriate for different speaking situations.
 - F) knows questioning skills for interviewing and gathering first-hand information.
 - G) knows problem-solving strategies that can be used in group situations.
 - H) knows how to use electronic media for effective communication.

- 2) Performance Indicators – The competent English language arts teacher:
 - A) models and teaches how to organize appropriate and effective messages to support a clearly stated thesis.
 - B) models and teaches how to adapt messages to fit the audience.
 - C) models and teaches selection of appropriate and effective supporting material considering topic, audience, occasion, and purpose.
 - D) models and teaches appropriate and effective participation in a problem-solving group discussion.
 - E) models and teaches the use of various electronic media and suggests modes of improvement.
 - F) models and teaches effective leadership of group discussion.

- G) models and teaches uses of electronic messaging and other Internet-based informational resources.
 - H) models and teaches uses of nonverbal techniques to enhance messages in personal, group, and public communication situations.
 - I) models and teaches how to adapt language for specific audiences and settings.
 - J) models and teaches uses of feedback to improve future communication.
- u) The competent English language arts teacher understands and is aware of diversity as he/she communicates.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands the concepts of individual, social, and cultural diversity and their impact on communication.
 - B) recognizes when others do not understand.
 - C) understands the role of self-concept, disclosure, and conflict in relationships.
 - D) recognizes the importance of diverse individual perceptions in interpersonal relationships.
 - E) understands the role of constructive criticism in interpersonal relationships.
 - F) understands strategies for analyzing audiences and how to use appropriate strategies in communicating with them.
 - G) understands the difference between supportive and non-supportive audiences.
 - H) knows various problem-solving strategies.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) models and teaches how information about audience members is used to create and deliver messages.
 - B) models and teaches the recognition of and response to cultural and social differences within audiences.

- C) models and teaches creation and use of messages that are culturally inclusive.
 - D) models and teaches appropriate and effective negotiation skills.
 - E) models and teaches use of constructive criticism.
 - F) models and teaches making adjustments in presentations to promote understanding.
- v) The competent English language arts teacher knows how to evaluate oral messages on the basis of their purpose, quality, and appropriateness.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) knows functions of communication and oral presentations (informing, influencing, relating, imagining, appreciating, and ritualizing).
 - B) understands criteria for selecting content and support for a given communication situation.
 - C) understands criteria (topic, context, and goals) for evaluating the content, organization, and support of communication strategies.
 - D) knows the various types and strengths of supporting materials.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) recognizes appropriately organized and supported presentations in various contexts.
 - B) recognizes strategies used in a given communication situation according to their function and appropriateness.
 - C) evaluates the short- and long-term effects of speaking by others in various communication contexts.
 - D) evaluates the quality of presentations by applying authoritative criteria.
- w) The competent English language arts teacher understands the role of communication in relation to ethical issues in a democratic society.
- 1) Knowledge Indicators – The competent English language arts teacher:

- A) understands the importance of freedom of speech in a democratic society.
 - B) understands the importance of ethical communication.
 - C) knows how to use inclusive language when addressing others.
 - D) understands the ethical responsibility to challenge harmful stereotypical or prejudicial communication.
 - E) knows the effects of his or her communication choices on others.
- 2) Performance Indicators – The competent English language arts teacher:
- A) models and teaches how to communicate in a manner that respects the rights of others.
 - B) models and teaches how to interpret the behaviors of others without making stereotypical or prejudicial judgments.
 - C) models and teaches the importance of accuracy and relevance of material to be quoted.
 - D) models and teaches how to cite sources of evidence accurately.
 - E) models and teaches modification of messages to remove stereotypical and prejudicial language.
- x) The competent English language arts teacher knows and uses oral messages that inform, clarify, persuade, and/or inspire while respecting differences in listeners' backgrounds.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) understands that communication choices should be sensitive to listeners' backgrounds.
 - B) understands how verbal and nonverbal messages clarify meaning, organization, and the goals of speaking.
- 2) Performance Indicators – The competent English language arts teacher:
- A) models and teaches a variety of effective presentations that meet standards of accuracy, timeliness, support, and clarity of explanation.

- B) models and teaches vivid, clear and concise communication of ideas.
 - C) models and teaches selection of language that is appropriate to the occasion, purpose, audience, and context.
 - D) models and teaches adaptation of messages according to feedback received.
 - E) models and teaches effective and interesting delivery techniques appropriate to the situation.
- y) The competent English language arts teacher manages or overcomes communication anxiety and helps assist students manage and control their anxiety.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands that anxiety is a normal response to many communication situations but may vary in impact among various communication contexts.
 - B) knows and understands strategies to help minimize and/or manage communication anxiety.
 - C) understands physiological and psychological reactions to anxiety.
 - D) understands the individual and social factors that may lead to communication anxiety.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) models and teaches strategies that can help alleviate communication anxiety.
 - B) models and teaches how to appear confident while speaking.
 - C) creates experiences for students to address, manage, or overcome their communication anxieties.
- z) The competent English language arts teacher uses appropriate and effective listening skills.
- 1) Knowledge Indicators – The competent English language arts teacher:

- A) knows various types and purposes of listening.
 - B) understands skills unique to each listening type and purpose.
 - C) understands the listener's role and responsibility in a communication situation.
 - D) understands appropriate and effective listening responses across a variety of communication situations.
- 2) Performance Indicators – The competent English language arts teacher:
- A) models and teaches skills appropriate to each type and purpose of listening.
 - B) models and teaches how to monitor his or her own listening behaviors.
 - C) demonstrates and teaches attentiveness through verbal and nonverbal behaviors.
 - D) models and teaches questioning, perception checking, summarizing, and paraphrasing to understand a message.
 - E) understands and teaches respect for the rights of others to have opposing viewpoints.
 - F) models and teaches evaluation of his or her own listening behavior.
- aa) The competent English language arts teacher identifies and manages barriers to listening.
- 1) Knowledge Indicators – The competent English language arts teacher:
- A) knows listening barriers such as bias, close-mindedness, preconceived attitudes, indifference, and emotional involvement in communication situations.
 - B) understands the effects of physical conditions and physiological ability on listening.
 - C) knows the effects of receiver apprehension on listening.
- 2) Performance Indicators – The competent English language arts teacher:

- A) models and teaches management of internal and external distractions.
 - B) models and teaches validation of others by listening to them.
- bb) The competent English language arts teacher understands how to locate, organize, and use information from resources representing diverse perspectives and a variety of media and modalities.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands methods for acquiring information, including a variety of sources such as books, interviews, CD-ROMs, web sites, library reference materials, etc.
 - B) understands organizational strategies (e.g., graphic organizers, sequencing, notes) in both print and electronic formats.
 - C) understands practical uses of information from a variety of sources.
 - D) understands how to relate to the needs of a diverse community of learners and various perspectives/approaches of sources.
 - E) recognizes diversity issues within reference materials, distinguishes among them, and addresses diverse student needs.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) demonstrates and teaches methods for identifying, formulating, and answering questions and for acquiring information from a variety of sources relative to a research topic.
 - B) illustrates and teaches the development of a research plan to aid in the solution of problems ranging from personal, to local, to global in nature.
 - C) models and teaches organization and integration of data from a variety of sources in an effective, efficient manner, as with graphic organizers to sequence, prioritize, and plan in both print and electronic formats.
 - D) illustrates and teaches the capacity to relate referenced information cohesively from and within many different genres, concepts, and situations into reports and projects.

- E) promotes and facilitates appropriate design and development of multi-faceted, student-driven projects based on contemporary issues.
 - F) promotes and provides a climate conducive to the presentation of a class or individual product to an academic, business, or community audience.
 - G) provides structure and support for the writing of a formal research product, including a thesis statement and synthesis of information in logical sequence.
- cc) The competent English language arts teacher understands the process of discriminating between types of information by analyzing and evaluating that information from a variety of sources and perspectives.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands methods of analysis and evaluation of research sources and information gathered from a variety of sources.
 - B) understands appropriate sources from a variety of locations and modalities.
 - C) understands the importance of discriminating between credible primary and secondary sources.
 - D) understands the ethical attributes of responsible research and reporting.
 - E) recognizes credible information that will enable the learner to distinguish between viable and flawed information.
 - 2) Performance Indicators – The competent English language arts teacher:
 - A) demonstrates and teaches the ability to select, analyze, and evaluate information and sources that aid in the solution of problems ranging from personal, to local, to global.
 - B) models and teaches the distinction between credible and non-credible research data, sources, and reports using critical analysis of information and sources.

- C) models and teaches discrimination among sources by evaluating the purpose, credibility, reliability, validity, perspectives of author, and content quality of the source.
 - D) demonstrates and teaches source citation format (works cited, bibliography) as appropriate to various genres and explains the importance of ethical standards when preparing research products in various situations.
 - E) demonstrates and teaches effective and efficient models of research analysis and evaluation using the integration of multiple forms of data.
 - F) promotes and provides for a climate conducive to honest and open critical analysis and evaluation.
- dd) The competent English language arts teacher understands the methodology for applying acquired information, concepts, and ideas to communicate in a variety of formats for various purposes and acknowledges the power and potential of print and non-print media in the understanding of contemporary culture.
- 1) Knowledge Indicators – The competent English language arts teacher:
 - A) understands practical application of information within the context of the intended task.
 - B) understands various modalities available for effective communication of documented information, including electronic media.
 - C) understands how to synthesize information gathered into letters, stories, reports, or other communicated products.
 - D) recognizes effective communication modes such as research papers, debates, narratives, expositions, and multi-media presentations.
 - E) recognizes critical attributes of effective oral and written communication.
 - F) distinguishes among different communication modalities and ascertains which modality will be most effective for different purposes.

- G) recognizes expectations for students' proficiency in technology skills such as word processing, Internet access and function, PowerPoint, Hyper Studio, etc.
- 2) Performance Indicators – The competent English language arts teacher:
- A) demonstrates and teaches the use of print, non-print, human, and technological resources to acquire and use information in the planning, composition, editing, and revision stages of a research product relating to real-life topics.
 - B) provides the opportunity for learners to recognize, acknowledge, and use diversity and related issues within reference materials, modalities, and individual experiences to strengthen and enrich the research product.
 - C) provides the opportunity for learners to support and defend a thesis statement using a variety of sources and expressive modalities.
 - D) provides multiple information acquisition and dissemination opportunities for student-designed products with support for oral, visual, and/or electronic formats.
 - E) designs a forum allowing students the opportunity to prepare for and participate in formal debates about contemporary issues using sound research skills.

Section 27.110 Reading

- a) The competent reading teacher has a deep understanding of reading and reading instruction.
 - 1) Knowledge Indicators – The competent reading teacher:
 - A) knows theoretical models and philosophies of reading education and their relevance to instruction.
 - B) knows the scope and sequences for reading instruction at all developmental levels, pre-K through grade 12.
 - C) knows the history of reading instruction and its relevance to current theory and practice.
 - D) is aware of trends, controversies, and issues in reading education.
 - E) understands the construction and psychometric properties of classroom reading tests, including the State assessment.

- F) understands, respects, and values cultural, linguistic, and ethnic diversity and knows how these differences can influence learning to read.
 - G) understands the differences between reading skills and strategies and the role each plays in reading development.
 - H) knows a wide range of quality literature for students.
- 2) Performance Indicators – The competent reading teacher:
- A) adjusts reading instruction to meet the needs of diverse learners (e.g., gifted students, students with limited English proficiency), as well as those who speak non-standard dialects.
 - B) locates, evaluates, and uses literature for readers of all abilities and ages.
 - C) uses various tools to estimate the readability of texts.
 - D) uses technology to support reading and writing instruction.
 - E) demonstrates ability to meet all the requirements set forth in Section 27.100(a) through (l) of this Part.
- b) The competent reading teacher understands how to diagnose reading disabilities and how to teach and support the education of students with reading disabilities.
- 1) Knowledge Indicators – The competent reading teacher:
- A) understands models of reading diagnosis that include students' proficiency with print conventions, word recognition and analysis, vocabulary, fluency, comprehension, self-monitoring, and motivation.
 - B) understands models of reading disabilities used in special education.
 - C) knows a wide variety of informal and formal assessments of reading, writing, spelling, and oral language.
 - D) understands the uses and limitations of informal and formal assessments.

- E) is aware of a variety of individualized and group instructional interventions or programs for students with reading problems.
 - F) knows models of and procedures for providing reading diagnosis and educational services to students with reading problems.
- 2) Performance Indicators – The competent reading teacher:
- A) screens classes to identify students in need of more thorough reading diagnosis.
 - B) determines strengths and needs of individual students in the areas of reading, writing, and spelling.
 - C) determines students' reading levels (independent, instructional, frustrational).
 - D) gathers and interprets information for diagnosis of the reading problems of individual students.
 - E) develops individual educational plans for students with severe learning problems related to literacy.
 - F) interprets and explains diagnostic information for classroom teachers, parents, and other specialists to assist them in planning instructional programs.
 - G) develops case study reports of students with reading problems.
 - H) designs, implements, and evaluates appropriate reading programs for small groups and individuals.
- c) The competent reading teacher participates in curriculum design and implementation.
- 1) Knowledge Indicators – The competent reading teacher:
- A) knows State and national educational standards that are relevant to reading education.
 - B) knows exemplary programs and practices in reading education.
 - C) is aware of guidelines for the evaluation of curriculum material and instructional technology.
- 2) Performance Indicators – The competent reading teacher:

- A) participates in the development and implementation of school improvement plans.
 - B) participates in and facilitates reading curriculum design, revision, and implementation efforts.
 - C) participates in the evaluation and selection of instructional materials, including textbooks, trade books, materials for students with special needs, and technology.
 - D) guides and trains paraprofessionals, tutors, and volunteers.
- d) The competent reading teacher communicates and works with the public and other professionals.
- 1) Knowledge Indicator – The competent reading teacher understands the value of community support for school reading programs.
 - 2) Performance Indicators – The competent reading teacher:
 - A) communicates effectively about reading to the general public.
 - B) facilitates home-school connections and parental participation in school reading programs.
- e) The competent reading teacher has high professional standards.
- 1) Knowledge Indicators – The competent reading teacher is aware of and adheres to ethical standards of professional conduct in reading education.
 - 2) Performance Indicators – The competent reading teacher:
 - A) reflects on teaching practices and conducts self-evaluation.
 - B) stays current with developments in reading education and literature for children and adolescents by reading professional journals and other publications and by attending professional conferences.
 - C) participates in local, State, or national professional organizations in reading education.

Section 27.120 Reading Specialist

- a) The competent reading specialist has a deep understanding of reading and reading instruction.

- 1) Knowledge Indicators – The competent reading specialist:
 - A) knows theoretical models and philosophies of reading education and their relevance to instruction.
 - B) knows the scope and sequences for reading instruction at all developmental levels, pre-K through grade 12.
 - C) knows the history of reading instruction and its relevance to current theory and practice.
 - D) is aware of trends, controversies, and issues in reading education.
 - E) understands the construction and psychometric properties of classroom reading tests, including the State assessment.
 - F) understands, respects, and values cultural, linguistic, and ethnic diversity and knows how such differences can influence learning to read.
 - G) understands the differences between reading skills and strategies and the role each plays in reading development.
 - H) knows a wide range of quality literature for students.
- 2) Performance Indicators – The competent reading specialist:
 - A) adjusts reading instruction to meet the learning needs of diverse learners (e.g., gifted students, students with limited English proficiency) as well as those who speak non-standard dialects.
 - B) locates, evaluates, and uses literature for readers of all abilities and ages.
 - C) uses various tools to estimate the readability of texts.
 - D) uses technology to support reading and writing instruction.
 - E) demonstrates ability to meet all the requirements set forth in Section 27.100(a) through (l) of this Part.
- b) The competent reading specialist understands how to diagnose reading disabilities and how to teach and support the education of students with reading disabilities.
 - 1) Knowledge Indicators – The competent reading specialist:

- A) understands a model of reading diagnosis that includes students' proficiency with print conventions, word recognition and analysis, vocabulary, fluency, comprehension, self-monitoring, and motivation.
- B) is aware of models of reading disabilities used in special education.
- C) knows a wide variety of informal and formal assessments of reading, writing, spelling, and oral language.
- D) understands the uses and limitations of informal and formal assessments.
- E) is aware of a variety of individualized and group instructional interventions or programs for students with reading problems.
- F) knows models of and procedures for providing reading diagnosis and educational services to students with reading problems.

2) Performance Indicators – The competent reading specialist:

- A) screens classes to identify students in need of more thorough reading diagnosis.
- B) determines strengths and needs of individual students in the areas of reading, writing, and spelling.
- C) determines students' reading levels (independent, instructional, frustrational).
- D) gathers and interprets information for diagnosis of the reading problems of individual students.
- E) develops individual educational plans for students with severe learning problems related to literacy.
- F) interprets and explains diagnostic information for classroom teachers, parents, and other specialists to assist them in planning instructional programs.
- G) develops case study reports of students with reading problems.
- H) designs, implements, and evaluates appropriate reading programs for small groups and individuals.

- c) The competent reading specialist understands how to interpret and use reading research.
- 1) Knowledge Indicators – The competent reading specialist:
 - A) understands the role that reading research should play in guiding pedagogical decisions.
 - B) understands the types of questions that can be answered by different types of research studies.
 - C) is aware of major research findings on reading instruction.
 - 2) Performance Indicators – The competent reading specialist:
 - A) searches and accesses research literature in a systematic way.
 - B) reads and interprets research findings and applies them to decisions about assessment, curriculum, instruction, selection of materials, and programs.
 - C) explains research findings to a variety of audiences.
 - D) collects, analyzes, and interprets State and local test data to describe achievement trends for districts, schools, and special populations.
 - E) designs and conducts small-scale, instructional research studies in regular classrooms and special instructional settings.
 - F) promotes and facilitates teacher research and classroom research.
- d) The competent reading specialist provides leadership in curriculum design and implementation.
- 1) Knowledge Indicators – The competent reading specialist:
 - A) knows State and national educational standards that are relevant to reading education.
 - B) knows exemplary programs and practices in reading education.
 - C) is aware of guidelines for the evaluation of curriculum material and instructional technology.
 - 2) Performance Indicators – The competent reading specialist:

- A) helps faculty and administrators to articulate a philosophy of reading instruction.
 - B) participates in the development and implementation of school improvement plans.
 - C) participates in and facilitates reading curriculum design, revision, and implementation efforts.
 - D) guides the evaluation and selection of instructional materials, including textbooks, trade books, materials for students with special needs, and technology.
 - E) collaborates with allied professionals in assessing, planning, adapting, and delivering reading instruction.
 - F) participates in the design and implementation of special programs such as early intervention, summer school, and after-school programs.
 - G) assists subject-area teachers in selecting appropriate textbooks, software, and other instructional materials.
- e) The competent reading specialist provides leadership in staff development.
- 1) Knowledge Indicators – The competent reading specialist:
 - A) knows models of staff development.
 - B) understands processes for consensus-building and conflict resolution.
 - 2) Performance Indicators – The competent reading specialist:
 - A) provides professional development support to classroom teachers, including teachers in mathematics, science, social studies, and other subjects.
 - B) demonstrates exemplary reading instruction with students in varied settings, including one-to-one, small group, and classroom.
 - C) designs staff development programs related to curricular goals.
 - D) presents professional staff development sessions.

- E) locates resources for staff development, including speakers, courses of study, technology, and workshops.
 - F) serves as a resource on reading to administrators and other policymakers.
 - G) guides and trains paraprofessionals, tutors, and volunteers.
 - H) uses multiple indicators of professional growth as the basis for planning and evaluating staff development.
- f) The competent reading specialist communicates and works with the public and other professionals.
- 1) Knowledge Indicators – The competent reading specialist:
 - A) knows resources and strategies for facilitating communication among school, home, and community.
 - B) understands the value of community support for school reading programs.
 - 2) Performance Indicators – The competent reading specialist:
 - A) provides professional presentations on reading curriculum and issues to school boards and community audiences.
 - B) communicates effectively about reading to media, policymakers, and the general public.
 - C) facilitates home-school connections and parental participation in school reading programs.
 - D) develops partnerships with community members, agencies, and universities.
 - E) advocates for public support of reading education.
 - F) is open to constructive peer evaluation and feedback.
- g) The competent reading specialist secures and manages instructional resources.
- 1) Knowledge Indicators – The competent reading specialist:
 - A) is aware of resources for supporting effective reading programs.

- B) knows funding sources and strategies for seeking support for reading programs.
- 2) Performance Indicators – The competent reading specialist:
 - A) secures instructional materials.
 - B) organizes and coordinates efficient access to instructional materials school-wide.
- h) The competent reading specialist has high professional standards.
 - 1) Knowledge Indicator – The competent reading specialist is aware of and adheres to ethical standards of professional conduct in reading education.
 - 2) Performance Indicators – The competent reading specialist:
 - A) reflects on his or her own teaching practices and conducts self-evaluation.
 - B) stays current with developments in reading education and literature for children and adolescents by reading professional journals and other publications and by attending professional conferences.
 - C) participates actively in local, State, or national professional organizations in reading education.

Section 27.130 Mathematics

- a) The competent teacher of mathematics communicates mathematical content and concepts.
 - 1) Knowledge Indicators – The competent teacher of mathematics:
 - A) understands the dynamics of working collaboratively with others.
 - B) understands learning styles and learning strategies.
 - 2) Performance Indicators – The competent teacher of mathematics:
 - A) communicates verbally and in written, visual, and symbolic forms using appropriate technology.
 - B) creates effective learning environments where students will be able to work collaboratively in one-to-one, small-group, and large-group contexts.

- C) analyzes the thinking and learning strategies of all students to extend mathematical knowledge.
- b) The competent teacher of mathematics develops and utilizes a variety of problem-solving techniques.
 - 1) Knowledge Indicator – The competent teacher of mathematics understands the many strategies for problem solving.
 - 2) Performance Indicators – The competent teacher of mathematics:
 - A) uses problem explorations and modeling to extend mathematical knowledge of all students.
 - B) generalizes results of problems and extends them to other problem situations.
- c) The competent teacher of mathematics recognizes a variety of reasoning techniques and applies appropriate techniques to concepts, procedures, and conjectures.
 - 1) Knowledge Indicator – The competent teacher of mathematics understands various ways of reasoning with respect to concepts, procedures, and conjectures.
 - 2) Performance Indicators – The competent teacher of mathematics:
 - A) applies mathematical reasoning and appropriate technologies in the development of concepts, procedures, and conjectures.
 - B) generalizes reasoning skills within the study of mathematics and applies or extends them to other contexts.
- d) The competent teacher of mathematics makes connections within and among the various branches of mathematics and other disciplines.
 - 1) Knowledge Indicators – The competent teacher of mathematics:
 - A) understands the connections within the mathematics curriculum.
 - B) understands mathematical connections to school curriculums and to other disciplines.
 - C) has knowledge of the historical development of mathematics that includes contributions of men and women from various cultures.

- 2) Performance Indicators – The competent teacher of mathematics:
 - A) develops the connections within and among the various branches of mathematics.
 - B) connects mathematics to other disciplines.

- e) The competent teacher of mathematics selects, integrates and uses appropriate technologies.
 - 1) Knowledge Indicators – The competent teacher of mathematics:
 - A) becomes familiar with the capabilities and benefits of current and emerging technologies.
 - B) understands the selection, integration, and utilization of appropriate technologies throughout the mathematics curriculum.
 - 2) Performance Indicators – The competent teacher of mathematics:
 - A) selects appropriate technologies for instruction.
 - B) integrates current technology as appropriate for instruction.

- f) The competent teacher of mathematics demonstrates, applies, and explains a knowledge and sense of number.
 - 1) Knowledge Indicator – The competent teacher of mathematics knows and understands the concepts of number, number theory, and numeration systems.
 - A) The early childhood or elementary school teacher:
 - i) understands number sense, including concepts of order, magnitude, mental math, estimation, and place value, and senses the reasonableness of results.
 - ii) understands decimals, fractions, ratios, proportions, and percents as ways to represent numbers and relationships.
 - iii) knows the properties of prime and composite numbers.
 - B) The middle school teacher knows and understands the content outlined in subsection (f)(1)(A) of this Section and has knowledge of complex numbers, modular systems, and matrices.

- C) The secondary school mathematics teacher knows and understands the content outlined in subsections (f)(1)(A) and (B) of this Section and understands polar and vector representations of complex numbers, algebraic structures, and topics from discrete mathematics.
- 2) Knowledge Indicator – The competent teacher of mathematics knows and understands algorithms of operations.
- A) The early childhood or elementary school teacher understands composition, decomposition, and recomposition of numbers, including place value of any base, factors and multiples, prime and composite numbers, inverses, and the application of these concepts.
 - B) The middle school teacher knows and understands the content outlined in subsection (f)(2)(A) of this Section, understands operations with algebraic expressions, and has knowledge of symbolic manipulators.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (f)(2)(A) and (B) of this Section and has knowledge of iterative processes as they relate to fractals and other applications.
- 3) Performance Indicator – The competent teacher of mathematics applies the concepts of number theory and numeration systems.
- A) The early childhood or elementary school teacher:
 - i) uses number sense to judge the reasonableness of results.
 - ii) applies proportional reasoning to solve problems.
 - iii) uses the properties of prime and composite numbers to determine greatest common factors and least common multiples to solve problems.
 - iv) performs operations in any base and converts between bases.
 - B) The middle school teacher demonstrates the competence outlined in subsection (f)(3)(A) of this Section and computes and interprets the results of computation using complex numbers, modular systems, and matrices.

- C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (f)(3)(A) and (B) of this Section and computes using polar and vector representations of complex numbers.
- 4) Performance Indicator – The competent teacher of mathematics models, explains, develops, and applies algorithms of operations.
 - A) The early childhood or elementary school teacher chooses appropriately from mental math, paper and pencil, manipulative, and technology to perform computations.
 - B) The middle school teacher demonstrates the competence outlined in subsection (f)(4)(A) of this Section and models, develops, and applies algorithms with technology.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (f)(4)(A) and (B) of this Section and uses numerical approximations as a basis for numerical integration and numerical-based proofs.
- g) The competent teacher of mathematics understands and applies the process of measurement.
 - 1) Knowledge Indicator – The competent teacher of mathematics knows customary, metric, and non-standard measurement.
 - A) The early childhood or elementary school teacher:
 - i) knows how to measure length, area, volume, capacity, time, temperature, angles, weight, and mass.
 - ii) has knowledge of non-standard and emerging units such as graphic screen pixels and font size.
 - B) The middle school teacher knows and understands the content outlined in subsection (g)(1)(A) of this Section and:
 - i) understands trigonometric ratios and relationships.
 - ii) understands how changing one measure of a multi-dimensional object may affect other measures.
 - iii) understands conversion factors as they apply to dimensional analysis.

- C) The secondary school mathematics teacher knows and understands the content outlined in subsections (g)(1)(A) and (B) of this Section and understands nonlinear scales.
- 2) Performance Indicator – The competent teacher of mathematics selects and applies appropriate units and tools for measuring, comparing, and ordering.
- A) The early childhood or elementary school teacher:
 - i) uses customary, metric, and non-standard measures.
 - ii) selects and uses appropriate tools to perform various measurements.
 - iii) estimates measurement.
 - iv) determines acceptable measures of accuracy and calculates relative error.
 - B) The middle school teacher demonstrates the competence outlined in subsection (g)(2)(A) of this Section and uses trigonometric ratios and their relationships to solve problems.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (g)(2)(A) and (B) of this Section and applies nonlinear scales (e.g., exponential and logarithmic).
- 3) Performance Indicator – The competent teacher of mathematics uses formulas and other procedures for computing or estimating the measure of multi-dimensional objects.
- A) The early childhood or elementary school teacher:
 - i) measures objects using both direct and indirect measurement.
 - ii) uses formulas to aid in indirect measurement.
 - iii) applies measurements and formulas to irregular shapes, regions, and solids.
 - iv) reads and interprets scale drawings.

- B) The middle school teacher demonstrates the competence outlined in subsection (g)(3)(A) of this Section and
 - i) explains how changing one measure of a multi-dimensional object affects other measurements.
 - ii) reads and interprets topographical maps and architectural drawings.

- C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (g)(3)(A) and (B) of this Section and:
 - i) applies dimensional analysis.
 - ii) uses modeling and visualization to hypothesize about and predict measurements.

- h) The competent teacher of mathematics demonstrates, applies and explains a knowledge and sense of algebra via patterns, functions, symbols, and models.
 - 1) Knowledge Indicator – The competent teacher of mathematics knows and understands applications of concepts, representations, and relationships of variables and patterns.
 - A) The early childhood or elementary school teacher:
 - i) understands the order of operations.
 - ii) understands the concept of variables.
 - iii) understands symbolic, numeric, and graphical representations of mathematical situations.
 - iv) understands the properties and operations of real numbers in an algebraic context.

 - B) The middle school teacher knows and understands the content outlined in subsection (h)(1)(A) of this Section and understands a wide range of modeling applications involving graphs, tree charts, and other visual representations of data with multiple dimensions.

 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (h)(1)(A) and (B) of this Section and understands variable relationships, logic, and concepts of discrete mathematics.

- 2) Knowledge Indicator – The competent teacher of mathematics knows and understands concepts and representations of relations and functions.
- A) The early childhood or elementary school teacher:
 - i) understands the symbolic, numeric, graphical, and verbal representations of relations and functions and the relationships among them.
 - ii) understands polynomial and exponential functions.
 - B) The middle school teacher knows and understands the content outlined in subsection (h)(2)(A) of this Section and understands logarithmic, parametric, trigonometric, rational, radical, and absolute value relations and their graphs.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (h)(2)(A) and (B) of this Section and understands linear algebra.
- 3) Performance Indicator – The competent teacher of mathematics knows and understands the development and applications of calculus.
- A) The early childhood or elementary school teacher:
 - i) understands concepts of rates of change and patterns that lead to limits.
 - ii) understands concepts of distance, area, volume, and shapes that lead to limits.
 - B) The middle school teacher knows and understands the content outlined in subsection (h)(3)(A) of this Section and:
 - i) knows the historical development of calculus.
 - ii) understands the concept of limits.
 - iii) understands the basic concepts of calculus and their applications.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (h)(3)(A) and (B) of this Section and understands the concepts of calculus and analytical geometry and their applications.

- 4) Knowledge Indicator – The competent teacher of mathematics knows and understands algebraic structures.
- A) The early childhood or elementary school teacher:
 - i) understands the properties of the real number systems.
 - ii) understands the properties of sets and Venn diagrams.
 - B) The middle school teacher knows and understands the content outlined in subsection (h)(4)(A) of this Section and understands the properties of complex and modular systems and their applications.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (h)(4)(A) and (B) of this Section and understands groups, rings, integral domains, and fields.
- 5) Performance Indicator – The competent teacher of mathematics applies concepts, representations, and relationships of variables and patterns.
- A) The early childhood or elementary school teacher:
 - i) applies the order of operations to numerical and algebraic expressions.
 - ii) identifies, completes, and extends patterns and sequences.
 - iii) represents mathematical situations symbolically, numerically, and graphically.
 - iv) applies properties and operations of real numbers in an algebraic context.
 - v) solves number sentences involving variables.
 - vi) translates word situations to algebraic sentences and solves them using algebra.
 - vii) uses equations and inequalities as a means of solving practical applications.
 - B) The middle school teacher demonstrates the competence outlined in subsection (h)(5)(A) of this Section and:

- i) uses a wide range of modeling applications involving graphs and tree charts.
 - ii) solves systems of linear equations graphically and algebraically (including matrices and determinants).
 - iii) solves systems of nonlinear equations and inequalities algebraically and graphically.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (h)(5)(A) and (B) of this Section and:
 - i) explains and applies symbolic logic.
 - ii) explains and applies induction and recursion.
 - iii) explains and applies sequences and series.
- 6) Performance Indicator – The competent teacher of mathematics uses concepts and representations of relations and functions and their applications.
 - A) The early childhood or elementary school teacher:
 - i) represents functions and relations in symbolic, numeric, graphical, and verbal forms.
 - ii) finds and uses slopes and intercepts to construct, analyze, and interpret graphs of equations and inequalities.
 - B) The middle school teacher demonstrates the competence outlined in subsection (h)(6)(A) of this Section and:
 - i) finds and uses slope, symmetry, roots, intercepts, critical points, and vertices to construct and interpret graphs of functions and relations.
 - ii) recognizes and uses the equations of lines, hyperbolas, parabolas, circles, ellipses, and nonlinear equations.
 - iii) formulates, explains, and solves problems involving nonlinear equations such as variation and exponential and logarithmic growth and decay.

- C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (h)(6)(A) and (B) of this Section and applies principles and properties of linear algebra.
- 7) Performance Indicator – The competent teacher of mathematics at the middle school or secondary level explains and uses the concepts of calculus and applications.
- A) The middle school teacher:
 - i) calculates and interprets basic limits.
 - ii) illustrates the basic concepts of calculus using concrete applications.
 - B) The secondary school mathematics teacher demonstrates the competence outlined in subsection (h)(7)(A) of this Section and uses differentiation, integration, and other concepts of calculus to solve problems and interpret results.
- i) The competent teacher of mathematics knows and uses geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.
- 1) Knowledge Indicator – The competent teacher of mathematics understands terminology, properties of two- and three-dimensional shapes, and the relationships among them.
 - 2) Knowledge Indicator – The competent teacher of mathematics knows Euclidean and non-Euclidean geometry, coordinate geometry, graph theory, and transformational geometry and the relationships among them.
 - 3) Knowledge Indicator – The competent teacher of mathematics understands the process of conjecturing, justifying, and proof.
 - A) The early childhood or elementary school teacher understands inductive and deductive reasoning.
 - B) The middle school teacher understands inductive and deductive reasoning and understands the appropriate uses of different types of proof.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsection (i)(3)(B) of this Section and extends the understanding of proof to finite and non-Euclidean settings.

- 4) Performance Indicator – The competent teacher of mathematics uses and applies the properties of geometry.
- A) The early childhood or elementary school teacher:
 - i) recognizes relationships and patterns in geometric figures.
 - ii) uses characteristics of geometric figures including symmetry, congruence, and similarity to recognize, identify, build, draw, describe, analyze, and categorize two- and three-dimensional figures and tessellation.
 - iii) applies geometric concepts to solve practical applications.
 - iv) explains the relationships between perimeter, area, and volume of similar figures.
 - B) The middle school teacher demonstrates the competence outlined in subsection (i)(4)(A) of this Section and uses trigonometry to solve practical applications.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (i)(4)(A) and (B) of this Section.
- 5) Performance Indicator – The competent teacher of mathematics identifies, analyzes, categorizes, and applies multi-dimensional figures using spatial visualization skills and modeling.
- A) The early childhood or elementary school teacher:
 - i) translates between two- and three-dimensional representations of the same figure including the use of coordinate geometry and graph theory.
 - ii) uses manipulative, Euclidean geometry, coordinate geometry, transformational geometry, and appropriate technology to model mathematical concepts and solve problems.
 - B) The middle school teacher demonstrates the competence outlined in subsection (i)(5)(A) of this Section and:
 - i) generates solids of revolution from two-dimensional figures.

- ii) gives examples of non-Euclidean geometry.
 - iii) applies recursion and iteration geometrically.
 - iv) recognizes and uses relationships that exist between algebra and geometry.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (i)(5)(A) and (B) of this Section and:
 - i) describes relationships of the planar sections of three-dimensional objects.
 - ii) explains relationships that exist between transformations (including matrix representations) as a geometric equivalence of the function concept.
- 6) Performance Indicator – The competent teacher of mathematics constructs convincing arguments and proofs.
 - A) The early childhood or elementary school teacher makes and identifies mathematical conjectures and provides justification to support or refute conjectures using manipulatives; constructions; algebraic, coordinate, and transformational methods; interactive technology; and paragraph and two-column proofs.
 - B) The middle school teacher demonstrates the competence outlined in subsection (i)(6)(A) of this Section, constructs inductive, deductive, and indirect arguments and explains the difference among them.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (i)(6)(A) and (B) of this Section and uses a formal axiomatic system to construct and analyze proofs.
- j) The competent teacher of mathematics demonstrates knowledge and application of probability, descriptive and inferential statistics.
 - 1) Knowledge Indicator – The competent teacher of mathematics understands how to collect, organize, and represent data to answer questions.
 - A) The early childhood or elementary school teacher:

- i) understands how to create tables, graphs, charts, pictures, and other visual representations of a set of data.
 - ii) understands simple random sampling and recognizes bias.
 - iii) understands line of best fit.
 - B) The middle school teacher knows and understands the content outlined in subsection (j)(1)(A) of this Section and understands data trends and curves of best fit.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (j)(1)(A) and (B) of this Section.
- 2) Knowledge Indicator – The competent teacher of mathematics understands summary statistics.
 - A) The early childhood or elementary school teacher:
 - i) understands measures of central tendency, variation, and position.
 - ii) understands common distributions.
 - B) The middle school teacher knows and understands the content outlined in subsection (j)(2)(A) of this Section.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsection (j)(2)(A) of this Section and understands additional measures of central tendency and variation.
- 3) Knowledge Indicator – The competent teacher of mathematics understands how to interpret and predict the results of data analysis.
 - A) The early childhood or elementary school teacher:
 - i) understands the design of observations and experiments to answer questions.
 - ii) understands the concept of reliability and validity.
 - B) The middle school teacher knows and understands the content outlined in subsection (j)(3)(A) of this Section and understands correlation and regression techniques.

- C) The secondary school mathematics teacher knows and understands the content outlined in subsections (j)(3)(A) and (B) of this Section and understands the design of experiments used in testing hypotheses.
- 4) Knowledge Indicator – The competent teacher of mathematics understands counting techniques and probability.
- A) The early childhood or elementary school teacher:
 - i) understands fundamental counting principles, combinations, and permutations.
 - ii) understands probability and odds of events.
 - iii) understands dependent and independent events.
 - B) The middle school teacher knows and understands the content outlined in subsection (j)(4)(A) of this Section and understands the use of random variables to solve problems.
 - C) The secondary school mathematics teacher knows and understands the content outlined in subsections (j)(4)(A) and (B) of this Section and understands the link between probability theory and inferential statistics.
- 5) Performance Indicator – The competent teacher of mathematics poses questions and collects, organizes, and represents data to answer those questions.
- A) The early childhood or elementary school teacher:
 - i) creates tables, graphs, charts, pictures, and other visual representations of a set of data.
 - ii) collects simple random samples and recognizes sample bias.
 - iii) uses visual techniques for finding, interpreting, and applying the line of best fit.
 - B) The middle school teacher demonstrates the competence outlined in subsection (j)(5)(A) of this Section and finds and applies appropriate curves of best fit using technology.

- C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (j)(5)(A) and (B) of this Section.
- 6) Performance Indicator – The competent teacher of mathematics calculates, explains, and interprets summary statistics.
- A) The early childhood, elementary, or middle school teacher:
 - i) uses measures of central tendency and variation to describe a set of data.
 - ii) uses common distributions as appropriate to solve problems.
 - B) The secondary school mathematics teacher demonstrates the competence outlined in subsection (j)(6)(A) of this Section and uses additional measures of central tendency and variation to describe a set of data.
- 7) Performance Indicator – The competent teacher of mathematics predicts, calculates, interprets, and applies the results of data analysis.
- A) The early childhood, elementary, or middle school teacher:
 - i) develops a hypothesis based on a question or problem of interest and devises a plan for the collection of data.
 - ii) uses simple survey and sampling techniques.
 - iii) collects, records, organizes, displays, summarizes, and interprets data.
 - B) The secondary school mathematics teacher demonstrates the competence outlined in subsection (j)(7)(A) of this Section and chooses an appropriate experimental design, selects and performs proper research procedures, and interprets results.
- 8) Performance Indicator – The competent teacher of mathematics demonstrates and uses counting techniques and probability.
- A) The early childhood or elementary teacher:
 - i) uses the fundamental counting principles, combinations, and permutations.

- ii) determines the probability and odds of events.
 - iii) analyzes problem situations (e.g., fairness of games, lotteries).
 - iv) creates simulations to analyze simple theoretical or experimental probabilities.
 - v) computes probabilities for dependent and independent events.
 - B) The middle school teacher demonstrates the competence outlined in subsection (j)(8)(A) of this Section and:
 - i) determines probabilities involving combinations and permutations.
 - ii) generates and interprets probability distributions for random variables.
 - C) The secondary school mathematics teacher demonstrates the competence outlined in subsections (j)(8)(A) and (B) of this Section and links probability to inferential statistics.
- k) The competent teacher of mathematics understands the process of reading and demonstrates instructional abilities to teach reading in the content area of mathematics.
- 1) Knowledge Indicators – The competent teacher of mathematics:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.

- F) understands the role of subject-area vocabulary in developing reading comprehension.
- G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
- H) understands the importance of the relationship between assessment and instruction in planning.

2) Performance Indicators – The competent teacher of mathematics:

- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, and synthesizing and summarizing material.
- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
- C) plans and models the use of comprehension strategies before, during, and after reading of text.
- D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
- E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
- F) plans and teaches lessons to help students develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
- G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
- H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.

- I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
- J) promotes the development of an environment that includes classroom libraries that foster reading.

Section 27.140 Science – A Common Core of Standards

All science teachers shall be required to demonstrate competence in the common core of science standards set forth in this Section. In addition, each science teacher shall be required to demonstrate competence in at least one of the science designation areas for which standards are described in Sections 27.150 through 27.190 of this Part: biology, chemistry, earth and space science, environmental science, and/or physics.

- a) Science as Inquiry - The competent science teacher understands scientific inquiry and has the ability to conduct scientific inquiry.
 - 1) Knowledge Indicators – The competent science teacher:
 - A) understands assumptions, processes, purposes, requirements, and tools of scientific inquiry.
 - B) understands mathematical processes and tools for collecting, managing, and communicating information.
 - C) understands different approaches to conducting scientific investigations.
 - 2) Performance Indicators – The competent science teacher:
 - A) plans and conducts scientific investigations using appropriate tools and technology.
 - B) applies mathematical and statistical methods to collect, analyze, and communicate results of investigations.
 - C) displays, illustrates, and defends the results of an investigation.
 - D) uses evidence and logic in developing proposed explanations that address scientific questions and hypotheses.
- b) Technological Design - The competent science teacher understands the concepts, principles and processes of technological design.
 - 1) Knowledge Indicators – The competent science teacher:

- A) understands the processes, capabilities, limitations and implications of technology and technological design and redesign.
 - B) understands technology and technological design as the use of tools throughout human history.
- 2) Performance Indicators – The competent science teacher:
- A) identifies real-world problems or needs to be solved through technological design.
 - B) addresses a problem situation by identifying a design problem, proposing a design solution, implementing the solution, evaluating the solution, revising the design upon evaluation, and communicating the design and the process.
 - C) identifies the inquiry process in the investigation of past, current, and potential technological designs.
- c) Molecular and Cellular Sciences - The competent science teacher understands and can apply concepts that explain the cell, the molecular basis of heredity, and biological evolution.
- 1) Knowledge Indicators – The competent science teacher:
- A) understands viral, sub-cellular and cellular structure and function.
 - B) understands the nature and function of the gene, with emphasis on the molecular basis of inheritance and gene expression.
 - C) understands the processes of change at the microscopic and macroscopic levels.
- 2) Performance Indicators – The competent science teacher:
- A) describes the processes of the cell cycle and analyzes the transmission of genetic information.
 - B) demonstrates an understanding of organelles, cells, tissues, organs, and organ systems and their functions.
 - C) identifies scientific evidence from various sources to demonstrate knowledge of theories about processes of biological evolution.

- D) demonstrates the ability to use instruments or to explain functions of the technologies used to study the life sciences at the molecular and cellular level.
- d) Organisms and Ecosystems - The competent science teacher understands and can apply concepts that describe how living things interact with each other and with their environment.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands how living and nonliving factors interact with one another and with their environment.
 - B) understands the strategies and adaptations used by organisms to obtain the basic requirements of life.
 - C) understands that all environments are comprised of interrelated dynamic systems.
 - D) understands the concepts of populations, communities, ecosystems, ecoregions, and the role of biodiversity in living systems.
 - E) understands that humans are living organisms who uniquely interact with the environment.
 - 2) Performance Indicators – The competent science teacher:
 - A) develops a model or explanation that shows the relationships within the environment.
 - B) demonstrates an understanding of how communities, ecosystems, and ecoregions change.
 - C) demonstrates an understanding of the human as a living organism comparable to other life forms and functions.
 - D) describes physical, ecological, and behavioral factors that influence homeostasis within an organism and interrelationships among organisms.
 - E) demonstrates the ability to use instruments or to explain functions of the technologies used to study the life sciences at the organism and ecosystem level.

- e) Matter and Energy - The competent science teacher understands the nature and properties of energy in its various forms, and the processes by which energy is exchanged and/or transformed.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the atomic and nuclear structure of matter and the relationship to chemical and physical properties.
 - B) understands the principle of conservation as it applies to mass, charge, momentum, and energy.
 - C) understands the cause and effect of chemical reactions in natural and manufactured systems.
 - D) understands the characteristics and relationships among thermal, acoustical, radiant, electrical, chemical, mechanical, and nuclear energies.
 - 2) Performance Indicators – The competent science teacher:
 - A) analyzes the properties of materials in relation to their chemical or physical structures and evaluates uses of the materials based on their properties.
 - B) explains conservation of mass and energy and explains interactions of energy with matter, including changes in state.
 - C) uses kinetic theory and the laws of thermodynamics to explain energy transformations.
 - D) analyzes atomic and nuclear reactions in natural and man-made energy systems.
 - E) demonstrates the ability to use instruments or to explain functions of the technologies used to study matter and energy.
- f) Force and Motion - The competent science teacher understands and applies the concepts that describe force and motion and the principles that explain them.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the concepts and interrelationships of position, time, velocity, and acceleration.

- B) understands the concepts and interrelationships of force (including gravity and friction), inertia, work, power, energy, and momentum.
 - C) understands the nature and properties of electricity and magnetism.
 - D) understands the nature and properties of mechanical and electromagnetic waves.
- 2) Performance Indicators – The competent science teacher:
- A) describes and predicts motions of bodies in inertial and accelerated frames of reference and in one and two dimensions in a physical system with association to the basic theories of force and motion.
 - B) analyzes and predicts motions and interactions involving forces within the context of conservation of energy and/or momentum.
 - C) describes the effects of gravitational, electromagnetic, and nuclear forces in real-life situations.
 - D) analyzes and predicts the behavior of mechanical and electromagnetic waves under varying physical conditions.
 - E) demonstrates abilities to use instruments or to explain functions of the technologies used to study force and motion.
- g) The Earth - The competent science teacher understands the dynamic nature of the Earth and recognizes that its features and structures result from natural processes.
- 1) Knowledge Indicators – The competent science teacher:
- A) understands the structure and composition of the Earth's land, water, and atmospheric systems.
 - B) understands the transfer of energy within and among Earth's land, water, and atmospheric systems.
 - C) understands the scope of geologic time and the continuing physical changes of the Earth through time.
 - D) understands the interrelationships between living organisms and Earth's resources.
- 2) Performance Indicators – The competent science teacher:

- A) analyzes and explains large-scale dynamic forces, events, and processes that affect the Earth's land, water, and atmospheric systems.
 - B) identifies and explains Earth's processes and cycles and cites examples in real-life situations.
 - C) evaluates scientific theories about Earth's origin and history and how those theories explain contemporary living systems.
 - D) identifies and evaluates the uses of Earth's resources.
 - E) demonstrates abilities to use instruments and/or to explain functions of the technologies used to study the earth sciences.
- h) The Universe - The competent science teacher understands and applies concepts that explain the composition, structure of, and changes in the universe and Earth's place in it.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the properties and dynamic nature of the solar system.
 - B) understands the properties and dynamics of objects external to the solar system.
 - C) understands the scientific theories dealing with the origin of the universe.
 - 2) Performance Indicators – The competent science teacher:
 - A) observes, describes, and explains the relative and apparent motions of objects in the sky.
 - B) compares and analyzes evidence relating to the origin and physical evolution of the universe.
 - C) compares the processes involved in the life cycle of objects within the galaxies, including their physical and chemical characteristics.
 - D) demonstrates the ability to use instruments or to explain functions of the technologies and tools used in the study of the space sciences.

- i) Practices of Science - The competent science teacher understands and applies accepted practices and implications of science in contemporary and historical contexts.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands that the nature of science is a human endeavor characterized as tentative, public, replicable, probabilistic, historic, unique, holistic, and empirical.
 - B) understands the definitions of hypotheses, predictions, laws, theories, and principles and the historic and contemporary development and testing of them.
 - C) understands research and reports examples of hypotheses, predictions, laws, theories, and principles and valid and biased thinking.
 - D) understands the basis for safety practices and regulations in the study of science.
 - 2) Performance Indicators – The competent science teacher:
 - A) researches and reports examples of creative and critical thinking skills in scientific research and technological innovation.
 - B) researches and reports examples of predictions, hypotheses, and theories in both valid and biased scientific thinking.
 - C) researches and reports examples of the development of science through time and the impact of societal values on the nature of science.
 - D) documents and practices safety rules and shows evidence of their necessity in the investigation of science.
 - E) demonstrates the ability to use instruments and is able to explain functions of appropriate safety equipment used to ensure and implement safe practices.
- j) Science, Technology, and Society - The competent science teacher understands the interaction among science, technology, and society, including historical and contemporary development of major scientific ideas and technological innovations.
- 1) Knowledge Indicators – The competent science teacher:

- A) understands the ways that science and technology affect people's everyday lives, societal values, and systems; the environment; new knowledge; and technologies throughout history.
 - B) understands the processes and effects of scientific and technological breakthroughs and their effect on other fields of study, careers, and job markets.
- 2) Performance Indicators – The competent science teacher:
- A) evaluates the efficacy of criteria for determining the effects of policies on local, State, national, and global scientific, environmental, and technological issues.
 - B) investigates and evaluates the credibility of scientific claims made in the media, during public debates, or in advertising or marketing campaigns.
 - C) investigates issues by defining and clearly articulating the scientific, technological, and societal connections to be investigated, as well as evaluating the consequences, implications, and potential options for resolution.
- k) Unifying Concepts - The competent science teacher understands the major unifying concepts of all sciences (systems, order, and organization; evidence, models, and explanation; constancy, change, and measurement; evolution and equilibrium; form and function), and how these concepts relate to other disciplines, particularly mathematics and the social sciences.
- 1) Knowledge Indicators – The competent science teacher:
- A) understands connections within and among the traditional scientific disciplines.
 - B) understands the fundamental comparability of the processes shared within and among the traditional scientific disciplines.
 - C) understands fundamental mathematical language, knowledge, and skills.
 - D) understands fundamental relationships among the sciences and the social sciences.
- 2) Performance Indicators – The competent science teacher:

- A) identifies and describes the application of the unifying concepts in real-life situations.
 - B) utilizes the unifying concepts from science, as well as concepts from mathematics, the social sciences, and other disciplines in his or her teaching.
 - C) expresses phenomenological relationships in the language of mathematics, solving simple algebraic equations, using scientific notation, constructing and interpreting graphs and using probabilities.
- l) Curriculum in Science - The competent science teacher understands how to develop learning outcomes for science instruction that incorporate State and national frameworks for teaching science and how to select appropriate curriculum materials to meet the standards-based outcomes.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the local, State and national goals and standards for science education.
 - B) understands the relationship of science concepts to the developmental level of students in classrooms.
 - C) understands how to articulate science instruction across units and from year to year.
 - 2) Performance Indicators – The competent science teacher:
 - A) identifies how an instructional design relates to local, State, and national goals and standards for science.
 - B) identifies appropriate curricular materials from a variety of sources and selects those that meet the developmentally appropriate, standards-led instructional outcomes.
 - C) demonstrates the ability to articulate learning across and among units of instruction, courses in science, and other disciplines.
- m) Planning for Instruction in Science - The competent science teacher understands how to plan learning experiences that utilize an appropriate variety of instructional methods and strategies that allow students to develop significant concepts in science and the ability to engage in scientific reasoning.
- 1) Knowledge Indicators – The competent science teacher:

- A) understands how to use materials from the students' environment to help them use inquiry strategies to build concepts.
 - B) understands the appropriate use of various strategies of direct instruction, concept development, inquiry and problem solving that lead to knowledge and skills in scientific reasoning.
 - C) understands how concepts are developed in students' minds and how to address misconceptions that students have developed from prior experiences.
- 2) Performance Indicators – The competent science teacher:
- A) plans instruction that allows students to develop understanding of significant concepts and skills in science through hands-on experiences with real materials.
 - B) plans instruction that incorporates a variety of methods and strategies for learning, including demonstrations, the laboratory, and out-of-class resources.
 - C) plans instruction utilizing instructional technology, instructional materials, and scientific equipment.
 - D) plans instructional activities that create opportunities for students to test, modify, and sometimes abandon previous ideas about science.
- n) Environment for Learning - The competent science teacher can design and manage safe and supportive learning environments in which all students can engage in scientific inquiry and concept development.
- 1) Knowledge Indicators – The competent science teacher:
- A) understands liability and negligence, especially as applied to science teaching.
 - B) understands procedures for safe and ethical use and care of animals for science instruction.
- 2) Performance Indicators – The competent science teacher:
- A) designs and assesses learning environments to utilize safe practices to prevent potential problems of liability and negligence regarding

the inventory, storage, and disposal of chemicals, resources, and equipment.

- B) develops a set of criteria to measure and assesses the optimum learning environment that promotes scientific inquiry and learning.
 - C) develops procedures to adapt learning environments to meet students' special needs.
- o) Teaching Science - The competent science teacher understands how to guide and facilitate learning using a variety of methods and strategies that encourage students' development of scientific inquiry skills and concepts.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the appropriate use of strategies for questioning, facilitating, and coaching to help students develop significant concepts, problem-solving skills, and scientific habits of mind.
 - B) understands the teacher's role in different teaching strategies, including concept development, inquiry, and direct instruction.
 - 2) Performance Indicators – The competent science teacher:
 - A) implements activities requiring students to collect data, reflect upon their findings, make inferences, and link new ideas to preexisting knowledge.
 - B) conducts instruction that has appropriate structure with flexibility to allow students to engage in productive inquiry as individuals and groups.
 - C) conducts instruction that encourages the curiosity, openness to new ideas and data, and skepticism that characterize science.
- p) Assessment - The competent science teacher understands standards-based science assessment designs, purposes, and analysis strategies, including technological collection capabilities and performance assessments.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands the alignment of student learning standards, instructional strategies, and local curriculum in the development of assessment tools and strategies.

- B) understands the value of assessment data in guiding and changing instruction in science classrooms.
 - C) understands the importance of communicating criteria for success to students.
 - D) understands the importance and impact of State and local assessment policies.
- 2) Performance Indicators – The competent science teacher:
- A) plans and conducts assessment to evaluate scientific inquiry assessment tasks in multiple disciplines.
 - B) plans and conducts assessment to evaluate technological design assessment tasks in multiple disciplines.
 - C) plans and conducts assessment to evaluate scientific case study/issue investigation assessment tasks in multiple disciplines.
 - D) plans and conducts assessment to evaluate student understanding using a variety of tools and strategies.
 - E) designs assessment tasks with clearly articulated criteria for student impact and program evaluation.
 - F) evaluates assessment data to propose responses to program evaluation and potential improvement.
- q) Connections in Teaching Science - The competent science teacher can relate science to the daily lives and interests of students as well as to the larger framework of human endeavor and to learning in other disciplines.
- 1) Knowledge Indicators – The competent science teacher:
- A) understands how students can identify and utilize science concepts in their daily lives.
 - B) understands the relationship of learning in science to learning in other disciplines.
- 2) Performance Indicators – The competent science teacher:
- A) engages students in the examination of science applications in their personal lives and interests and in the examination of local issues.

- B) assists students in relating knowledge of other disciplines, particularly mathematics and social sciences, to concepts of science in applications to their personal lives.
 - C) orients students to potential careers related to applications of scientific and technological knowledge.
- r) Learning Science and the Community - The competent science teacher can make effective use of human and institutional resources beyond the classroom.
- 1) Knowledge Indicators – The competent science teacher:
 - A) understands applications of science concepts and inquiry to the context of a community.
 - B) understands how parents and other community members and institutions support science learning in the classroom.
 - C) understands how to use the resources of the student's community to support inquiry.
 - 2) Performance Indicators – The competent science teacher:
 - A) uses data about a community in conducting learning activities in science.
 - B) conducts activities that involve parents and other members of the community in the science program.
 - C) utilizes individuals and agencies that provide science education in the community in the science program.
 - D) develops and tests a community resource inventory, including its non-formal learning opportunities, business/industry connections, and parent/community resources.
 - E) uses synchronous and asynchronous telecommunication capabilities to collaborate with community members and other experts as an integral component of projects.
- s) Content Reading - The competent science teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of science.
- 1) Knowledge Indicators – The competent science teacher:

- A) understands that the reading process is the construction of meaning through the interactions of the reader's background knowledge and experiences, the information in the text, and the purpose of the reading situation.
- B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
- C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
- D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
- E) understands the relationship between oral and silent reading.
- F) understands the role of subject-area vocabulary in developing reading comprehension.
- G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
- H) understands the importance of the relationship between assessment and instruction in planning.

2) Performance Indicators – The competent science teacher:

- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, and synthesizing and summarizing material.
- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
- C) plans and models use of comprehension strategies before, during, and after reading of text.
- D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.

- E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
- F) plans and teaches lessons to help students develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
- G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
- H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.
- I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
- J) promotes the development of an environment that includes classroom libraries that foster reading.

Section 27.150 Biology

In addition to the standards for all science teachers that are set forth in Section 27.140 of this Part, those who specialize in the teaching of biology shall be required to meet the standards described in this Section.

- a) The competent biology teacher applies an understanding of the concepts of cell biology.
 - 1) Knowledge Indicators – The competent biology teacher:
 - A) understands the structural and functional aspects of nucleic acids, proteins, carbohydrates, lipids, and enzyme kinetics and reactivity.
 - B) understands the utilization and synthesis of organic materials by living systems and the relationship of these processes to energy production and utilization at the cellular level.
 - C) understands the basic methods and processes used in cellular and molecular biology research.
 - D) understands the mechanisms and genetics of cellular differentiation to form specialized tissues, organs, and the organism.

- 2) Performance Indicators – The competent science teacher:
 - A) designs and/or describes models that represent nuclear and cellular chemical reactions at the microscopic and macroscopic levels.
 - B) demonstrates the use and application of the technologies and instruments used to study biological phenomena at the cellular level for both prokaryotes and eukaryotes.
 - C) delineates the historical progression of the studies of cellular biology, emphasizing the changes in knowledge from advances in technology and the resulting societal implications.
 - D) develops, selects, and implements safe and appropriate laboratory, field, and classroom activities to develop students' understanding of cell biology.
- b) The competent biology teacher applies an understanding of the molecular basis of heredity and the associated mathematical probabilities of pedigrees.
 - 1) Knowledge Indicators – The competent biology teacher:
 - A) understands the nature and function of the gene, with an emphasis on the molecular basis of inheritance and gene expression.
 - B) understands the processes involved in gene sequencing and the technologies that did/will contribute to advances in this field.
 - C) understands genetic and mathematical explanations associated with the probabilities of the transmission of traits and defects in organisms.
 - D) understands the basis and impact of the concepts of mutations and extinction.
 - E) understands the concepts, technologies, and consequences associated with recombinant DNA applications.
 - 2) Performance Indicators – The competent science teacher:
 - A) schematically explains the technologies associated with various gene sequencing strategies and manipulations.
 - B) designs physical and mathematical models of varying degrees of sophistication that explain the nature of the gene and its predicted expression(s) in various organisms.

- C) demonstrates the use and application of the instruments used in biotechnology studies.
 - D) delineates the historical progression of the studies of biotechnology, emphasizing the changes in knowledge from advances in technology and the resulting societal implications.
 - E) develops, selects, and implements safe and appropriate laboratory, field, and classroom activities to develop students' understanding of biotechnology.
- c) The competent biology teacher applies an understanding of biological evolution.
- 1) Knowledge Indicators – The competent biology teacher:
 - A) understands biological diversity, with an emphasis on the evolutionary relationships among the major groups.
 - B) understands the processes of natural selection and speciation by which entire and portions of phyla, classes, orders, genus and species of organisms have evolved or become extinct over time.
 - C) understands the evidence from comparative anatomy, behavior, embryology, genetics, paleontology, and physiological studies that contribute to the explanations of the theory of evolution.
 - 2) Performance Indicators – The competent science teacher:
 - A) cites and describes examples of evolutionary evidence from the geological, biochemical, genetic, embryologic, and fossil records.
 - B) compares and contrasts cellular and sub-cellular structures and molecular processes among the major groups of organisms.
 - C) describes recent findings or research associated with the testing of the theory of evolution and its mechanisms.
 - D) delineates the historical progression of the studies of evolution, emphasizing the changes in knowledge from advances in technology and the resulting societal implications.
 - E) develops, selects, and implements appropriate classroom activities to develop students' understanding of evolution.

- d) The competent biology teacher applies an understanding of organismal biology and diversity.
- 1) Knowledge Indicators – The competent biology teacher:
 - A) understands biochemical and molecular biology of the processes fundamental to the metabolic function of the various systems of living organisms.
 - B) understands how organisms recognize and localize various signals to maintain homeostasis throughout and beyond the whole organism.
 - C) understands biological diversity that encompasses the structure, function, and nomenclature of the major groups of organisms on the local, regional, and global levels.
 - D) understands the processes and requirements necessary for the maintenance and continuation of life, including humans.
 - 2) Performance Indicators – The competent science teacher:
 - A) designs and explains models that demonstrate how organisms react to stimuli within and beyond the organism.
 - B) analyzes the interrelationships among the functions of the various organismal systems.
 - C) demonstrates the use of various instruments and technologies that enable the study of organisms on the microscopic and macroscopic levels.
 - D) develops, selects, and implements appropriate laboratory, field, and classroom activities and strategies to develop students' understanding of the biology of organisms and their diversity.
- e) The competent biology teacher applies an understanding of ecology.
- 1) Knowledge Indicators – The competent biology teacher:
 - A) understands the categories of interactions and interdependence by organisms in the various ecosystems, including the environmental influences and limiting factors that affect them.
 - B) understands the concepts and impact of population dynamics on environments and communities.

- C) understands the human impact on the environment, as well as the impact of the environment on humans.
 - D) understands the effect of abiotic factors on the location of different biotic communities.
- 2) Performance Indicators – The competent science teacher:
- A) analyzes the impact of climate, altitude, geography, etc., on the location of plant communities and animal habitats.
 - B) explains the concepts of survival techniques by organisms in varying environments and how this knowledge can be applied in altered circumstances.
 - C) analyzes the risk/cost/benefit factors in environmental impact studies.
 - D) conducts field studies to detect the presence of various indicator species that mark the health of the ecosystem.
 - E) demonstrates the use of various instruments, technologies, and strategies in the research of the ecology.
 - F) develops, selects, and implements safe and appropriate laboratory, field, and classroom activities to develop students' understanding of the local, regional, and global ecosystems.
- f) The competent biology teacher applies an understanding of the matter, energy, and organization in living systems.
- 1) Knowledge Indicators – The competent biology teacher:
- A) understands the flow of energy in biological systems and the physical environment.
 - B) understands the distribution and abundance of organisms and populations in ecosystems as limited by the availability of matter and energy.
 - C) understands the reciprocity between consumers and producers and the biochemical pathways that cause energy to be transferred.

- D) understands the need for obtaining, transforming, transporting, releasing, and eliminating matter and energy as accommodated by the varying complexity and organization of organisms.
- 2) Performance Indicators – The competent science teacher:
- A) designs models that demonstrate the building and breakdown of obvious molecules in biological reactions.
 - B) describes the transformation of energy in various biological reactions.
 - C) analyzes the distribution and abundance of organisms within an ecosystem limited by the availability of matter and energy.
 - D) demonstrates the use of instruments, technologies, and strategies that analyze the composition of the matter, energies, and degrees of organization in organisms.
 - E) develops, selects, and implements safe and appropriate laboratory, field, and classroom activities that develop students' understanding of the physical and chemical factors associated with living systems.

Section 27.160 Chemistry

In addition to the standards for all science teachers that are set forth in Section 27.140 of this Part, those who specialize in the teaching of chemistry shall be required to meet the standards described in this Section.

- a) The competent chemistry teacher possesses basic scientific and mathematical skills, utilizes safe laboratory practices, and is aware of issues of public concern.
 - 1) Knowledge Indicators – The competent chemistry teacher:
 - A) understands the appropriate mathematical skills for solving problems; is aware of methods used in collecting, analyzing, and reporting data, including basic statistical and computational concepts, and the use of technology in the learning process.
 - B) understands the appropriate experimental procedures and common scientific equipment for measurement and determination of chemical reactions and properties.
 - C) understands chemical hygiene plans, safe and proper use of equipment, and materials commonly used in chemistry

laboratories, including proper waste disposal and procedures for preventing and dealing with accidents and injuries in the laboratory.

D) understands the role of chemistry in daily life, including ways in which basic research and the development of new technology affect society.

2) Performance Indicators – The competent chemistry teacher:

A) solves simple algebraic operations, uses scientific notation, and plots and interprets graphs.

B) uses computer programs to organize data and indicate relationships.

C) selects appropriate instrumentation and methods of chemical analysis.

D) implements an appropriate chemical hygiene plan as part of the process of setting up and running a safe and effective chemistry laboratory course.

E) relates chemistry and technology to issues of societal importance.

b) The competent chemistry teacher understands and applies the concepts of the nature of matter at the atomic level.

1) Knowledge Indicators – The competent chemistry teacher:

A) understands the chemical constitution of matter as elements, compounds, and mixtures and the distinction between physical and chemical changes.

B) understands the development and central concepts of atomic theory and atomic structure, including the quantum mechanical model.

C) understands the names and electronic structure of common elements and their ions.

D) understands the periodic nature of the elements and the relationship between their electron configuration and the periodic table.

E) understands the description of the energy of an electron in an atom or ion in terms of the four quantum numbers.

- F) understands the properties of an atomic nucleus that affect its stability.
 - G) understands nuclear decay sequences and products.
- 2) Performance Indicators – The competent chemistry teacher:
- A) applies basic separation techniques based on differences in the properties of matter.
 - B) describes the historical progression in the development of the theory of the atom, including the contributions of Dalton, Thomson, Rutherford, and Bohr.
 - C) uses applicable principles to show the ground state electronic configuration of the elements and their ions.
 - D) explains the chemical and physical properties of the elements in terms of electron configuration.
 - E) explains the stability versus instability of specified nuclei and their decay products.
 - F) shows strategies for writing and balancing equations for nuclear reactions.
- c) The competent chemistry teacher understands the combination of elements to form bonds and the geometry and properties of the resulting compounds.
- 1) Knowledge Indicators – The competent chemistry teacher:
- A) understands the transfer of electrons in the formation of ionically bonded materials, the sharing of electrons in covalently bonded compounds, and the polarity of compounds in terms of electronegativity differences.
 - B) understands the concepts of hybridization, Valence Shell Electron Pair Repulsion, and Lewis structures to describe molecular geometry and bonding.
 - C) understands general features and properties of compounds of metals, nonmetals, and transition elements and materials derived from them.

- D) understands general features of three-dimensional structures, bonding, molecular properties, and reactivity of organic molecules.
- 2) Performance Indicators – The competent chemistry teacher:
- A) categorizes compounds as ionic, polar covalent, and nonpolar covalent.
 - B) draws Lewis structures and describes the geometry of specified compounds.
 - C) describes geometry of coordination compounds based on hybridization of the central atom.
 - D) uses molecular models and predicts properties of organic molecules based on bonding and structure.
- d) The competent chemistry teacher understands the nature and properties of molecules in the gaseous, liquid, and solid states.
- 1) Knowledge Indicators – The competent chemistry teacher:
- A) understands the kinetic molecular theory and its description of solids, liquids, and gases.
 - B) understands the combined gas laws, the ideal gas law, Dalton's Law of Partial Pressures, and Graham's Law of Diffusion.
 - C) understands intermolecular forces that explain the physical properties of elements and compounds in all states of matter, classifying by type of unit attraction.
- 2) Performance Indicators – The competent chemistry teacher:
- A) explains the transitions between solids, liquids, and gases using phase diagrams.
 - B) describes the behavior of gases and demonstrates proper and effective lab techniques for working with gases under various conditions.
 - C) explains liquid properties in terms of intermolecular forces.
 - D) classifies unknown solids as molecular, metallic, ionic, and covalent network solids according to their physical and chemical properties.

e) The competent chemistry teacher understands interactions of particles in solution.

1) Knowledge Indicators – The competent chemistry teacher:

- A) understands concentrations and appropriate procedures for preparing solutions.
- B) understands the mechanisms of the solution process, including effects of temperature and pressure on solubility of liquids and gases.
- C) understands the colligative properties of solutions.

2) Performance Indicators – The competent chemistry teacher:

- A) prepares solutions of specific concentrations (molality, molarity, normality, mole fraction, and percent by weight).
- B) selects appropriate solvents for dissolution or purification of solid compounds.
- C) applies colligative properties to practical solutions of technological problems.

f) The competent chemistry teacher understands acid-base chemistry.

1) Knowledge Indicators – The competent chemistry teacher:

- A) understands Arrhenius, Bronsted-Lowry, and Lewis concepts of acids and bases.
- B) understands the relationship between acid and base strength and molecular structure.
- C) understands how the chemical equilibrium of weak acids explains buffered solutions.

2) Performance Indicators – The competent chemistry teacher:

- A) uses the Arrhenius, Bronsted-Lowry, and Lewis concepts to explain the pH of various solutions.
- B) prepares standardized solutions and conducts acid/base titrations.

- C) explains how to prepare a buffer of a specified pH if given a list of the K_a of various acids, and a standardized NaOH solution.
- g) The competent chemistry teacher understands the laws of thermodynamics and can apply them to chemical systems.
- 1) Knowledge Indicators – The competent chemistry teacher:
- A) understands the relationships between enthalpy, entropy, Gibbs free energy, and the equilibrium constant.
 - B) understands the kinetic and thermodynamic dynamics that move a reversible reaction to a position of chemical equilibrium.
 - C) understands LeChatelier's Principle and its application to a reversible reaction.
 - D) understands oxidation/reduction reactions and their relationship to standard reduction potentials.
 - E) understands electrolysis reactions.
- 2) Performance Indicators – The competent chemistry teacher:
- A) evaluates the energy potential of a variety of fuels in terms of maximum possible useful work.
 - B) evaluates the thermodynamic feasibility of various reactions and performs appropriate thermodynamic calculations.
 - C) demonstrates the implications of LeChatelier's Principle on a variety of aqueous and gaseous equilibria.
 - D) balances redox equations.
 - E) devises and builds an electrochemical cell.
- h) The competent chemistry teacher understands the mechanisms of chemical reactions and the theory and practical applications of reaction rates.
- 1) Knowledge Indicators – The competent chemistry teacher:
- A) understands the classification of types of chemical reactions.
 - B) understands common rate terms and experimental determination of reaction rates as a function of concentration and time.

- C) understands the basics of collision and transition-state theories and the significance of the Arrhenius equation.
 - D) understands rate laws and their importance to mechanisms; rate laws associated with common reactions and catalyzed reactions.
- 2) Performance Indicators – The competent chemistry teacher:
- A) writes balanced equations to describe chemical reactions.
 - B) experimentally determines and analyzes rate data and applies them to mechanisms.
 - C) explains how reactions occur, what factors are involved in determining how fast a reaction proceeds, and the effects of temperature on rates.
 - D) uses kinetics to determine reaction mechanisms and explains catalysis.
- i) The competent chemistry teacher understands major aspects of organic chemistry.
- 1) Knowledge Indicators – The competent chemistry teacher:
- A) understands the functional group classification and nomenclature of organic compounds and general characteristics and reactions of each group.
 - B) understands the concepts and mechanisms of substitution, addition, elimination, and other reactions of organic molecules.
 - C) understands the importance and use of chromatography in the separation and spectroscopy in the characterization of organic molecules.
 - D) understands the general structure, properties and uses of organic polymers, pharmaceuticals, pesticides, and other practical products.
 - E) understands the structure, properties, and function of common biological molecules (carbohydrates, lipids, proteins and nucleic acids) and how these biomolecules are used in processes necessary for life.
- 2) Performance Indicators – The competent chemistry teacher:

- A) recognizes functional groups and predicts reactions thereof.
- B) writes simple mechanisms of organic reactions.
- C) sets up appropriate separation, purification, and identification schemes for organic molecules.
- D) demonstrates and discusses practical organic materials.
- E) explains the overall biological function of common types of biomolecules.

Section 27.170 Earth and Space Science

In addition to the standards for all science teachers that are set forth in Section 27.140 of this Part, those who specialize in the teaching of earth and space science shall be required to meet the standards described in this Section.

- a) The competent earth and space science teacher understands the dynamic geological nature of the Earth and the evidence in its features.
 - 1) Knowledge Indicators – The competent earth and space science teacher:
 - A) understands the dynamics and processes that shape the surface and interior of the Earth through geologic time.
 - B) understands the basic rock and mineral types and the processes that form them.
 - C) understands the scope and scale of geologic time and research technologies that determine and depend upon it.
 - D) understands the paleontological, paleoclimatological, and paleogeological evidence that shows the evolution of Earth and life on it through geologic time.
 - E) understands the historical progression in the human understanding of the science and technologies of geology.
 - F) understands the human economic, social, and environmental dependence on geologic resources.
 - G) understands the effects of earth processes on human societies through time.

- 2) Performance Indicators – The competent earth and space science teacher:
 - A) creates and explains interpretive models that correlate various Earth features with the tectonic processes that shape the Earth's surface and interior, accessing the research from various technologies.
 - B) demonstrates and explains strategies that are used to identify and classify rocks and minerals.
 - C) develops strategies to explain the scope of geologic time and comparisons to human-time scale observations.
 - D) demonstrates the use of schematics for the use of various technologies used by geologists.
 - E) evaluates and cites evidence of scientific theories that explain how life originated from processes that have taken place in the atmosphere, on land, and in the oceans.
 - F) describes how rock strata and fossils can lead to inferences about depositional environments and climatic conditions in Earth's history.
 - G) interprets a geologic column to describe the geologic history of a particular area.
- b) The competent earth and space science teacher understands the meteorological nature of the Earth and the dependence of life upon it.
 - 1) Knowledge Indicators – The competent earth and space science teacher:
 - A) understands the nature of water and its influence upon the shape of the land, atmospheric conditions, and oceanic environments.
 - B) understands the physical and chemical characteristics of and the cyclic interchange of elements and compounds through the lithosphere, hydrosphere, biosphere, and atmosphere.
 - C) understands the effect of the variables (including humans) of the natural Earth systems on weather and climate and the past, current, and future inferences associated with these effects.
 - 2) Performance Indicators – The competent earth and space science teacher:

- A) designs models, using the latest technological data sources, that show evidence of the cyclic interchange of elements and compounds through the Earth's atmospheric, hydrospheric, and lithospheric systems.
 - B) demonstrates use of the various historic and current technologies and tools associated with data collection and interpretation of meteorologic and climatologic research and predictions.
 - C) collects/accesses, analyzes and explains daily meteorologic data using various technologies and media.
 - D) designs models that demonstrate how human activities impact short-term and long-term weather and climate.
 - E) accesses and analyzes various sources of data that interpret the total water supply of Earth and the projections about the protection and conservation of this resource.
- c) The competent earth and space science teacher understands the Earth's place in the solar system and the universe.
- 1) Knowledge Indicators – The competent earth and space science teacher:
 - A) understands the physical and chemical atmospheric and geologic characteristics and orbital factors of the sun and its planets.
 - B) understands the characteristics, visibility, appearance, and orbital nature of comets, asteroids, and meteoroids.
 - C) understands the scientific basis for understanding various atmospheric, solar, and celestial phenomena, such as eclipses, seasons, phases, apparent motion of objects, auroras, etc.
 - D) understands the various theories of cosmogony, cosmology and the formation of galaxies.
 - E) understands the scientific and mathematical research that explains stellar evolution, including the types and fates of stars as a function of mass.
 - F) understands the historical progression of understanding the science of astronomy, the physical laws that govern it, and the technologies that explain it.

- G) understands the technologies associated with the understanding of the science of astronomy and the limitations associated with these Earth-based technologies.
 - H) understands the scope and scale of astronomical time and distance.
- 2) Performance Indicators – The competent earth and space science teacher:
- A) cites evidence from current and historic scientific observations that support or disconfirm various theories of cosmology and cosmogony.
 - B) demonstrates the technological analysis of star light used to explain the star's chemical composition and motion.
 - C) analyzes the relative correctness of the various historic models of the solar system.
 - D) uses and/or explains remote sensing technologies to explain solar, planetary, and galactic research.
 - E) identifies constellations and their brightest stars for the various seasons, using simple star charts, binoculars, telescopes, and various computer technologies.
 - F) designs and explains models that demonstrate various celestial and astronomic phenomena.
- d) The competent earth and space science teacher understands the fundamental earth-sky-human relationships through time.
- 1) Knowledge Indicators – The competent earth and space science teacher:
- A) understands the historical technologies used to determine distance and time and their direct impact on civilization and progress.
 - B) understands the relationship between latitude and the positions/motion of celestial objects.
 - C) understands the scientific laws and applications that interplay for orbital, sub-orbital, and space flight and exploration.
 - D) understands the historical progression of exploration that has led to planetary and space research.
- 2) Performance Indicators – The competent earth and space science teacher:

- A) demonstrates the use of various simple technologies and observations used historically to determine solar and seasonal time and locations, both during the day and at night.
- B) constructs models that explain the requirements for orbital and sub-orbital flight.
- C) designs flow charts that show the historic progression of space flight and exploration.
- D) analyzes the international cooperation and competition associated with space flight, research, and the anticipated economic possibilities of resulting products.
- E) compares and contrasts cultural/historic interpretations of astronomical phenomena.

Section 27.180 Environmental Science

In addition to the standards for all science teachers that are set forth in Section 27.140 of this Part, those who specialize in the teaching of environmental science shall be required to meet the standards described in this Section.

- a) The competent environmental science teacher understands the Earth as a physical system, the living environment, humans and their societies, and human-environment interactions.
 - 1) Knowledge Indicators – The competent environmental science teacher:
 - A) understands the cycling of matter and flow of energy through the biotic and abiotic components of various ecosystems.
 - B) understands the interactions and interdependence of Earth's biotic and abiotic systems.
 - C) understands how the complex relationships among social, cultural, political, and economic systems affect local, regional, and global environments.
 - D) understands the ecological implications of human activities and communities.
 - 2) Performance Indicators – The competent environmental science teacher:

- A) describes how the laws of thermodynamics apply to habitats, individual organisms, and community dynamics.
 - B) analyzes carbon dioxide/oxygen, hydrologic, and nitrogen cycles and their effects at local, regional, and global levels.
 - C) compares and contrasts biotic and abiotic factors in the environment and describes the interrelatedness of organisms to each other and to their environment.
 - D) analyzes how carrying capacity, population dynamics, principles of natural selection, and human activity determine the biodiversity and distribution of organisms in various environments.
 - E) makes inferences about population sizes using sampling techniques.
 - F) analyzes how economic, political, cultural, and social processes interact to shape environmental issues.
 - G) analyzes the ways in which the environment has been changed by natural occurrences and human intervention, differentiating between short- and long-term effects.
- b) The competent environmental science teacher has an understanding of environmental issues and possesses the skills to address these issues.
- 1) Knowledge Indicators – The competent environmental science teacher:
 - A) understands the steps involved in conducting investigations of environmental issues in a social and political context.
 - B) understands the societal, economic, and cultural influences on the environmental decision-making process.
 - C) understands internationally accepted positions regarding citizens' environmental rights and responsibilities and the historical basis for their development.
 - D) understands trends in national and global societies that relate to environmental quality.
 - E) understands the connection between environmental awareness and environmental decision-making and action.
 - 2) Performance Indicators – The competent environmental science teacher:

- A) evaluates the validity of information sources related to environmental issues by identifying bias and boundaries of evidence.
 - B) applies research and analytical skills necessary for the investigation of local, regional, and global environmental issues.
 - C) identifies and evaluates differing interpretations of environmental issues and alternative ways to consider their cultural and ecological impacts.
 - D) guides students to develop abilities to identify, evaluate, and clarify their own values and positions related to discrete environmental issues and their associated solutions.
 - E) evaluates proposed or implemented citizen actions with respect to their influence on achieving and/or maintaining a dynamic equilibrium between quality of life and quality of the environment.
- c) The competent environmental science teacher understands and can apply scientific processes and concepts to the study of environmental phenomena.
- 1) Knowledge Indicators – The competent environmental science teacher:
 - A) understands the strategies and research bases used to propose, analyze, and evaluate environmental studies as a form of scientific inquiry.
 - B) understands established criteria used to evaluate sources of environmental information and educational materials.
 - C) understands Illinois, United States, and world environmental history.
 - D) understands the actual and potential impact of local, State, national, and global policies on environmental issues.
 - 2) Performance Indicators – The competent environmental science teacher:
 - A) develops, modifies, clarifies, and explains questions that guide explorations of environmental phenomena of various types.
 - B) designs safe and appropriate field and classroom studies for community-based action research investigations.

- C) creates, uses, and evaluates algebraic, geometric, and computer models and simulations to understand environmental phenomena.
- D) uses the equipment and technologies necessary to conduct safe and appropriate studies of environmental phenomena.
- E) uses national, State and local criteria to evaluate and select environmental education materials.
- F) evaluates degrees of bias in claims derived from scientific studies used in advertising and marketing strategies.
- G) compares and contrasts how individuals, and governments contend with the prevention and correction of health-threatening environmental problems.

Section 27.190 Physics

In addition to the standards for all science teachers that are set forth in Section 27.140 of this Part, those who specialize in the teaching of physics shall be required to meet the standards described in this Section.

- a) The competent physics teacher understands the essential knowledge and skills needed to practice physics and understands the broad applicability of its principles to real-world situations.
 - 1) Knowledge Indicators – The competent physics teacher:
 - A) understands scientific processes and principles of experimentation.
 - B) understands methods and equipment used in scientific measurement.
 - C) understands the collection and analysis of data and methods used for reporting results.
 - D) understands how demonstration materials may be used to exhibit and explain a wide variety of physical phenomena.
 - E) understands safe and proper use of equipment and materials commonly used in physics classrooms and laboratories.
 - F) understands the growth of physics knowledge from a historical perspective.
 - 2) Performance Indicators – The competent physics teacher:

- A) provides examples of the applicability of physics in daily life, including career opportunities and avocations in physics and technology.
 - B) explains ways in which basic research and the development of new technologies affect society.
 - C) utilizes basic equipment to demonstrate physical principles and phenomena.
 - D) incorporates the use of calculator- and computer-based technology, including graphical and statistical procedures, in the collection, analysis, and interpretation of data.
 - E) uses mathematical concepts, strategies, and procedures, up to and including procedures of differential and integral calculus, to derive and manipulate formal relationships between physical quantities.
 - F) sets up appropriate laboratory investigations addressing the principles and applications of physics.
- b) The competent physics teacher understands particle and rigid body motion in its qualitative and quantitative dimensions.
- 1) Knowledge Indicators – The competent physics teacher:
 - A) understands translational, rotational, and periodic motion of particles, systems of particles, and rigid bodies.
 - B) understands inertia and moments of inertia, momentum and angular momentum, and forces and torques as they apply to linear and circular motions, respectively.
 - C) understands how physical quantities may be represented as vectors, vector sums, and vector products.
 - D) understands force and friction and their applications to statics, kinematics, and dynamics.
 - E) understands conservation laws as they apply to momentum and energy in one and two dimensions.
 - 2) Performance Indicators – The competent physics teacher:

- A) predicts the position of particles undergoing linear, curvilinear, or periodic motion given initial conditions.
 - B) applies the concept of gravitational force to problems involving the law of universal gravitation, free fall, and projectile motion.
 - C) applies Newton's laws of motion to characterize and explain the disposition of forces acting on a given body and its resultant motion.
 - D) applies conservation principles to analyze motion within a system of particles or rigid bodies when no external forces are applied.
 - E) uses the relationship between work and energy to analyze the motions of physical systems acted upon by conservative and/or non-conservative forces.
- c) The competent physics teacher understands the nature, properties, and behavior of mechanical and electromagnetic waves and how electromagnetic waves interact with matter.
- 1) Knowledge Indicators – The competent physics teacher:
 - A) understands types, properties, motions, and interactions of waves.
 - B) understands characteristics and behavior of sound and the processes by which sound is produced and transmitted.
 - C) understands the nature and properties of electromagnetic radiation and the processes by which it is produced and transmitted and interacts with matter.
 - D) understands the basic principles of geometrical and physical optics.
 - 2) Performance Indicators – The competent physics teacher:
 - A) identifies components and characteristics of the electromagnetic spectrum by both frequency and wavelength.
 - B) analyzes and predicts interactions of waves with objects and other waves as a function of position and time.
 - C) analyzes and predicts the behavior of electromagnetic radiation as it interacts with matter.

- D) analyzes and predicts the behavior of light in relation to optical equipment and the human eye.
 - E) distinguishes between the physical and physiological properties of sound.
- d) The competent physics teacher understands heat and matter.
- 1) Knowledge Indicators – The competent physics teacher:
 - A) understands basic concepts of heat and temperature as they relate to temperature measurement and temperature-dependent properties of matter.
 - B) understands the laws of thermodynamics as they relate to temperature, work, energy, and entropy.
 - C) understands the relationship between heat and work as it pertains to thermodynamic systems.
 - D) understands kinetic-molecular theory of thermodynamic behavior in gases, solids, and liquids.
 - 2) Performance Indicators – The competent physics teacher:
 - A) explains the laws of thermodynamics, giving appropriate examples.
 - B) identifies allowed and disallowed physical processes through application of the laws of thermodynamics.
 - C) measures and analyzes changes in thermodynamic variables in physical systems for various thermodynamic processes.
 - D) uses the kinetic-molecular models of thermodynamics to describe the thermal properties and behaviors of solids, liquids, and gases.
 - E) analyzes the relationship between heat and work in heat engines.
- e) The competent physics teacher understands electricity and magnetism and the relationship between them.
- 1) Knowledge Indicators – The competent physics teacher:
 - A) understands the characteristics and behavior of electric charges, their fields, and potentials.

- B) understands the characteristics and behavior of both AC and DC electrical current in different media.
 - C) understands the behavior of series and parallel electrical circuits, the symbols used to denote their components, and the methods of diagramming them.
 - D) understands the effect of magnetic fields on electric charges, including the direction and magnitude of the force on a moving charge or a current-carrying conductor.
 - E) understands the effect of current-carrying wire, straight and coiled, on the direction of the magnetic field and the effect of current strength on magnetic field.
 - F) understands electromagnetic induction.
- 2) Performance Indicators – The competent physics teacher:
- A) identifies characteristics and demonstrates applications of magnets and magnetic fields in daily living.
 - B) identifies principles and applications of electromagnetism in daily living.
 - C) predicts the influence of static distributions of charges or of electric fields in space on electric charges.
 - D) designs and sets up DC and AC electrical circuits using basic circuit elements and analysis.
 - E) illustrates the concepts of charge, fields, potentials, and currents using visual demonstrations and/or computer simulations.
 - F) explains the operation of electric generators and motors.
- f) The competent physics teacher understands atomic and nuclear structure.
- 1) Knowledge Indicators – The competent physics teacher:
- A) understands models of atomic structure in both qualitative and quantitative forms.
 - B) understands the relationship of electron energy level changes to atomic spectra.

- C) understands the characteristics of subatomic particles, including basic quark theory.
 - D) understands the basic principles of radioactive decay.
- 2) Performance Indicators – The competent physics teacher:
- A) balances partial equations on nuclear reactions using the appropriate conservation laws.
 - B) identifies applications of radioactivity in science and technology.
 - C) uses the appropriate equipment to detect radioactive decay.
 - D) analyzes the interaction between atomic radiation and living organisms.
- g) The competent physics teacher understands the basic elements and implications of special relativity, quantum mechanics, and solid-state physics.
- 1) Knowledge Indicators – The competent physics teacher:
- A) understands the implications of special relativity as they relate to time, space, and mass.
 - B) understands the wave-particle duality of radiation and matter.
 - C) understands the quantum mechanical nature of the interaction between radiation and matter.
 - D) understands the quantum mechanical nature of matter as it applies to electronic behavior in conductors, semiconductors, and insulators.
- 2) Performance Indicators – The competent physics teacher:
- A) calculates changes in physical parameters related to relativistic motion and explains their origin.
 - B) develops and uses simple theoretical models to describe and explain properties of matter and the interaction of matter and energy.
 - C) describes the importance of energy quantization and how it affects the atomic and electronic behavior of matter.

Section 27.200 Social Science – A Common Core of Standards

All social science teachers shall be required to demonstrate competence in the common core of social science standards. In addition, each social science teacher shall be required to demonstrate competence in at least one of the social science areas for which standards are described in Sections 27.210 through 27.260 of this Part: economics, geography, history, political science, psychology, and/or sociology and anthropology.

- a) The competent social science teacher understands the connections among the behavioral sciences, economics, geography, history, political science, and other learning areas.
 - 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the structure, purpose, and methodology of the social sciences.
 - B) understands the interdependence of the social science disciplines.
 - C) understands the use of social science concepts to interpret human actions.
 - D) understands the relationship between the social sciences and other learning areas.
 - 2) Performance Indicators – The competent social science teacher:
 - A) explains the methods social scientists employ to answer questions about the human experience.
 - B) integrates concepts from the social sciences in constructing discipline-specific lessons and units.
 - C) develops interdisciplinary approaches to the teaching of general social science.
- b) The competent social science teacher understands the use of analysis, interpretation, and evaluation.
 - 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the value of informed opinion based on systematic analysis of evidence.

- B) understands the strengths and weaknesses of primary and secondary sources of evidence.
 - C) understands the importance of multiple sources of information.
 - D) understands the complexity of causation.
 - E) understands the tentative nature of interpretations about human actions.
 - F) understands the difference between fact and conjecture and between evidence and assertion.
- 2) Performance Indicators – The competent social science teacher:
- A) demonstrates the ability to compare and contrast.
 - B) differentiates between facts and interpretations.
 - C) analyzes cause-and-effect relationships.
 - D) compares competing narratives and multiple perspectives.
 - E) identifies the central questions addressed in a narrative.
 - F) analyzes data from a variety of sources before reaching a general conclusion or interpretation.
- c) The competent social science teacher understands how to use the tools of social science inquiry to conduct research and interpret findings.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands the tools of social science research.
 - B) understands the use of research in reaching conclusions and developing interpretations.
 - C) understands ethical approaches for conducting research and interpreting findings.
- 2) Performance Indicators – The competent social science teacher:
- A) gathers data, using appropriate methods and technology.

- B) assesses the credibility and authority of sources and research findings.
 - C) formulates appropriate questions by observing and analyzing evidence.
 - D) organizes and presents findings in an appropriate format.
- d) The competent social science teacher understands basic political concepts and systems.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands concepts used in the study of government and politics.
 - B) understands the basic purposes and functions of government (e.g., executive, legislative, and judicial).
 - C) understands the types of political systems (e.g., democracy, oligarchy, monarchy - limited and unlimited).
 - 2) Performance Indicators – The competent social science teacher:
 - A) explains the basic concepts used in the study of government and politics (e.g., political socialization, representation, and authority).
 - B) explains why governments exist and the basic functions they perform.
 - C) compares the characteristics of democracy, autocracy, oligarchy, monarchy, and totalitarianism.
- e) The competent social science teacher understands the formation and implementation of public policy in the United States and other nations.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the role played by officials in the legislative, executive, judicial, and administrative branches of government.
 - B) understands the role played by interest groups, political parties and candidates, public opinion, and the mass media.
 - 2) Performance Indicators – The competent social science teacher:

- A) analyzes public policy issues from the perspectives of different groups, individuals, and government officials.
 - B) explains how public policy is formed and carried out at local, State, and national levels.
 - C) evaluates the role of political parties, interest groups, and the media in public policy debate.
 - D) identifies examples of political leadership influencing public policy.
- f) The competent social science teacher understands the principles of constitutional government in the United States and Illinois.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the historical development of United States and Illinois constitutional government.
 - B) understands the principles of representative government that form the foundation of constitutional democracy.
 - 2) Performance Indicators – The competent social science teacher:
 - A) explains how historical events and significant individuals have affected the development of United States constitutional government.
 - B) analyzes the fundamental principles (e.g., separation of powers, checks and balances, individual rights, and federalism) that led to the development of democratic government in the United States and Illinois.
- g) The competent social science teacher understands the organization and functions of government at national, State, and local levels in the United States.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the organizational structure of national, State, and local government.
 - B) understands the operations of the executive, legislative, and judicial branches of government.

- C) understands the functions of national, State, and local governments.
- 2) Performance Indicators – The competent social science teacher:
- A) explains how and why powers of the national government are distributed, shared, and limited in a federal system.
 - B) analyzes the relationships among national, State, and local governments.
- h) The competent social science teacher understands the rule of law and the rights and responsibilities of individual citizens in a democratic society, with an emphasis on the United States and Illinois.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands the sources, purposes, and functions of law (e.g., basic legal rights and responsibilities).
 - B) understands the rights extended to citizens through the Bill of Rights and other amendments.
 - C) understands the role of the Supreme Court in defining, expanding, and limiting individual rights.
 - D) understands the role of responsible citizenship.
- 2) Performance Indicators – The competent social science teacher:
- A) evaluates the rights and responsibilities of the individual in relation to his or her family, social groups, community, and nation.
 - B) evaluates historical and current issues regarding the judicial protection of individual rights (e.g., landmark court decisions and amendments).
 - C) examines the implications of responsible citizenship (e.g., decision-making, volunteerism, and voting).
- i) The competent social science teacher understands the purposes and functions of international organizations and global connections, with an emphasis on the role of the United States.
- 1) Knowledge Indicators – The competent social science teacher:

- A) understands the function and global impact of major international and multinational organizations.
 - B) understands the development and implementation of United States foreign policy.
- 2) Performance Indicators – The competent social science teacher:
- A) analyzes the influence of international organizations on world affairs.
 - B) identifies examples of individuals and interest groups that influence United States foreign policy.
- j) The competent social science teacher understands economic concepts, terms, and theories.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands the impact of scarcity and opportunity cost on the allocation of resources.
 - B) understands the effects of supply and demand on economic decisions.
 - C) understands that cost/benefit analysis influences economic decision-making.
 - D) understands the role of money in an economic system.
- 2) Performance Indicators – The competent social science teacher:
- A) analyzes how allocation of scarce resources affects a society's standard of living.
 - B) uses supply and demand theory to analyze production, consumption, prices, and the market value of labor.
 - C) uses marginal analysis to analyze the costs and benefits of voluntary exchange and to evaluate historical and contemporary social issues.
 - D) analyzes the characteristics and functions of money and applies an understanding of money to personal finance and consumer decisions.

- k) The competent social science teacher understands various types of economic systems.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the differences among various economic systems.
 - B) understands the role of government in an economic system.
 - C) understands the importance of financial institutions in a market economy.
 - 2) Performance Indicators – The competent social science teacher:
 - A) compares the characteristics of command, traditional, and market economic systems and assesses how values and beliefs influence economic decisions in different societies.
 - B) evaluates the costs and benefits of government policies and how they affect decisions by consumers and producers.
 - C) explains how banks and other financial institutions facilitate saving, borrowing, and investment.
- l) The competent social science teacher understands the components and operation of the United States economy.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the basic principles of free enterprise, including entrepreneurship.
 - B) understands the roles of the federal government and the Federal Reserve System in the U.S. economy.
 - C) understands the impact of government policies on economic decision-making.
 - D) understands the impact of economic problems such as inflation and unemployment.
 - 2) Performance Indicators – The competent social science teacher:
 - A) explores the impact of competition and monopoly on businesses and households.

- B) analyzes the relationships among households, firms, and government agencies in a market economy.
 - C) evaluates the effects of taxes, subsidies, income transfers, interest rates, and other policies on the decisions of consumers and producers.
 - D) analyzes economic problems (e.g., inflation and unemployment).
- m) The competent social science teacher understands international economic structures, processes, and relationships.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the interconnectedness of comparative advantage, specialization, and trade.
 - B) understands the effects of economic interdependence and free trade.
 - C) understands the impact of availability of resources on economic growth and stability.
 - D) understands the global effects of resource supply and demand.
 - 2) Performance Indicators – The competent social science teacher:
 - A) analyzes how specialization and comparative advantage affect global production, consumption, voluntary trade, and economic interdependence.
 - B) evaluates trade incentives and disincentives such as subsidies and quotas, and examines how the availability of resources affects specialization and trade among nations and regions.
- n) The competent social science teacher understands historical concepts, terms, and theories.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands chronological thinking and periodization.
 - B) understands cause and effect.
 - C) understands change and continuity.

- D) understands historical context.
- 2) Performance Indicators – The competent social science teacher:
 - A) places historical events in the proper chronological framework and compares alternative models of periodization.
 - B) analyzes the causes and effects of historical events.
 - C) explains patterns of historical succession and duration, continuity, and change.
 - D) explains events in relationship to historical setting.
- o) The competent social science teacher understands major political developments and compares patterns of continuity and change in different regions of the world.
 - 1) Knowledge Indicators – The competent social science teacher:
 - A) understands 19th and 20th century ideologies and their global influence (e.g., liberalism, republicanism, socialism, Marxism, nationalism, communism, fascism, nazism).
 - B) understands the nature and significance of modern revolutions.
 - C) understands the origins and impact of exploration and imperialism.
 - D) understands the development of representative government.
 - 2) Performance Indicators – The competent social science teacher:
 - A) explains the effect of European political ideologies on other regions and nations of the world.
 - B) describes the causes and effects of modern political revolutions.
 - C) evaluates the impact of colonization and decolonization on colonizers and colonized.
 - D) describes the origins and development of a representative government.
- p) The competent social science teacher understands major social and cultural developments and compares patterns of continuity and change in different regions of the world.

- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the evolution and distinctive characteristics of major Asian, African, and American pre-Columbian societies and cultures.
 - B) understands the philosophical and cultural legacies of ancient Greece and Rome.
 - C) understands the origins, central ideas, and influence of major religious and philosophical traditions such as Buddhism, Islam, Confucianism, Judaism, and Christianity.
 - D) understands the culture and ideas of the Medieval, Renaissance, and Reformation periods.
 - E) understands the culture and ideals of the modern world since the Age of Enlightenment.
- 2) Performance Indicators – The competent social science teacher:
 - A) describes changing relations among social classes, ethnic groups, religious denominations, and genders.
 - B) explains the process of cultural diffusion.
 - C) explains the effect of religious diversity on global society.
 - D) analyzes the effects of ethnic diversity within a society.
- q) The competent social science teacher understands major scientific, geographic, and economic developments and compares patterns of continuity and change in different parts of the world.
 - 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the connections among civilizations accelerated by changing means of transportation and communication.
 - B) understands the major landmarks in the use of the environment from the Paleolithic Period through the transformation from agricultural to industrial societies.
 - C) understands the effect of technology on the environment.

- D) understands the origins and impact of capitalism and other economic systems.
- 2) Performance Indicators – The competent social science teacher:
- A) describes the connections between transportation and communication and their effects on civilizations throughout the course of world history.
 - B) describes the progression from hunter-gatherer societies to agricultural and industrial societies.
 - C) evaluates the effect of technology on the environment over time.
 - D) describes the effect of globalization of the world economy since 1500 AD (sometimes also referred to as “CE”).
- r) The competent social science teacher understands major political developments and compares patterns of continuity and change in the United States and the State of Illinois.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands the evolution of American democracy, including its ideas, institutions, and practices, from the colonial period to the present.
 - B) understands the evolution of United States foreign policy and its relationship to domestic affairs and policy.
 - C) understands the development of political institutions in Illinois.
- 2) Performance Indicators – The competent social science teacher:
- A) describes the origins and development of democracy in the United States.
 - B) explains the emergence of the United States as a world power.
 - C) describes the influence of domestic affairs on foreign policy.
 - D) describes the development of government in Illinois.
- s) The competent social science teacher understands major social and cultural developments and compares patterns of continuity and change in the United States and the State of Illinois.

- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the characteristics of migration and settlement of people who came to America from different regions from prehistory to the present.
 - B) understands the importance of family and local history and their relation to the larger context of American development.
 - C) understands the changing character of American society, culture, arts and letters, education, religion, and values.
 - 2) Performance Indicators – The competent social science teacher:
 - A) analyzes migration patterns and movement of people to and within the United States and Illinois.
 - B) identifies examples of continuity and change in American culture, arts and letters, education, religion, and values.
 - C) explains the concept of “e pluribus unum.”
- t) The competent social science teacher understands the major scientific, geographic, and economic developments and compares patterns of continuity and change in the United States and the State of Illinois.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the development of the United States and Illinois economies, including the agricultural, industrial, and service sectors.
 - B) understands the relationship between geography and economic developments.
 - 2) Performance Indicators – The competent social science teacher:
 - A) describes the impact of technological change and urbanization in the United States and Illinois.
 - B) describes the changing role of labor in the United States and Illinois.
 - C) describes the development and impact of capitalism in the United States and Illinois.

- D) explains the changing role of the United States economy within the global economy.
- u) The competent social science teacher understands geographic representations, tools, and technologies and how to use them to obtain information about people, places, and environments on Earth.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the use of mental and other maps.
 - B) understands the use of aerial photographs and satellite images.
 - C) understands the advantages and disadvantages of various geographic representations, tools, and technologies.
 - 2) Performance Indicators – The competent social science teacher:
 - A) describes ways that mental and other maps influence human decisions about location, settlement, and public policy.
 - B) uses geographic tools and technologies such as aerial photographs and satellite images to pose and answer questions about spatial distributions and patterns on Earth.
 - C) evaluates the application of geographic tools and supporting technologies to solve problems (e.g., urban planning, location of commercial establishments).
- v) The competent social science teacher understands how culture and experience influence human perceptions of people, places, and regions.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands that culture and technology affect perceptions of places and regions.
 - B) understands that places and regions serve as cultural symbols for people.
 - C) understands the relationships between cultural change and changing perceptions of places and regions.
 - 2) Performance Indicators – The competent social science teacher:

- A) identifies ways culture and technology influence perceptions of places and regions.
 - B) explains how cultural processes (e.g., gender roles, resource use, transportation, and communication) shape the features of places and regions.
 - C) assesses the relationship between cultural change and the perception and use of places and regions.
- w) The competent social science teacher understands the physical and human characteristics of places and regions.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the elements and types of places and regions.
 - B) understands changes in places and regions over time.
 - C) understands the connections among places and regions.
 - 2) Performance Indicators – The competent social science teacher:
 - A) analyzes human and physical processes to determine their role in the creation of different types of places and regions.
 - B) identifies human and physical changes in places and regions and explains the factors that contribute to those changes.
 - C) explains the significance of connections among places and regions over space and time.
- x) The competent social science teacher understands how physical processes and human activities influence spatial distributions.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands the trends and issues in world population patterns.
 - B) understands the impact of human migration on physical and human systems.
 - C) understands that cooperation and conflict influence spatial patterns on Earth.

- D) understands that physical processes contribute to different spatial distributions.
- 2) Performance Indicators – The competent social science teacher:
- A) analyzes population trends, issues, and patterns.
 - B) explains the causes of, and the spatial patterns that result from, cooperation and conflict among groups and societies.
 - C) explains how human migration affects physical and human systems.
 - D) analyzes different spatial patterns to determine the influence of various physical processes.
- y) The competent social science teacher understands the role of science and technology in the modification of physical and human environments.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands that human actions coupled with technology result in modifications to the physical environment.
 - B) understands the functions, sizes, and spatial arrangement of human environments (e.g., cities).
 - C) understands the changes affecting physical and human environments.
- 2) Performance Indicators – The competent social science teacher:
- A) explains how technology expands human capability to modify human and physical environments.
 - B) explains the global impact of human action on the physical environment.
 - C) proposes solutions to environmental problems.
- z) The competent social science teacher understands the consequences of global interdependence on spatial patterns.
- 1) Knowledge Indicators – The competent social science teacher:

- A) understands the causes and effects of increased global interdependence.
 - B) understands that the spatial distribution of resources affects the location and distribution of economic activities.
 - C) understands the spatial implications of international economic issues and problems.
- 2) Performance Indicators – The competent social science teacher:
- A) explains the primary causes for and effects of increased global interdependence.
 - B) analyzes how the distribution of resources affects the location of economic activities.
 - C) explains how international economic issues, opportunities, and problems result from increased global interdependence.
- aa) The competent social science teacher understands concepts, terms, and theories related to human behavior and development.
- 1) Knowledge Indicators – The competent social science teacher:
- A) understands basic psychological concepts (e.g., cognition, development, personality).
 - B) understands fundamental theories of learning, motivation, and development.
 - C) understands cognitive, biological, and emotional influences on behavior.
 - D) understands main theories of personality (e.g., psychoanalytic, trait, behaviorism, humanism) and various types of psychological disorders.
- 2) Performance Indicators – The competent social science teacher:
- A) explains how physiology, learning, emotions, and motivation influence behavior.
 - B) applies knowledge of human development to examine physical, cognitive, social, emotional, and moral changes associated with different stages of life.

- C) applies main concepts of personality theory and psychological disorders to explain behavior.
- bb) The competent social science teacher understands concepts, terms, and theories related to the study of cultures, the structure and organization of human societies, and the process of social interaction.
- 1) Knowledge Indicators – The competent social science teacher:
 - A) understands basic sociological and anthropological concepts (e.g., acculturation, ethnocentrism, institutions).
 - B) understands social organization in various time periods (e.g., ancient, pre-industrial, industrial, postindustrial).
 - C) understands the impact of social customs, cultural values, and norms on behavior.
 - D) understands the influence of social class on life decisions.
 - E) understands sociological approaches to conformity and deviancy.
 - 2) Performance Indicators – The competent social science teacher:
 - A) applies a behavioral science point of view to general social phenomena and specific social situations.
 - B) analyzes interactions among individuals and groups within various social institutions (e.g., educational, religious, military).
 - C) explains the role played by tradition, the arts, and social institutions in the development and transmission of culture.
 - D) analyzes ways in which common values and beliefs develop within societies.
 - E) analyzes conformity and deviancy from a sociological perspective.
- cc) The competent social science teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of social science.
- 1) Knowledge Indicators – The competent social science teacher:

- A) understands that the reading process is the construction of meaning through the interactions of the reader's background knowledge and experiences, the information in the text, and the purpose of the reading situation.
- B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
- C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
- D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
- E) understands the relationship between oral and silent reading.
- F) understands the role of subject-area vocabulary in developing reading comprehension.
- G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
- H) understands the importance of the relationship between assessment and instruction in planning.

2) Performance Indicators – The competent social science teacher:

- A) plans and teaches lessons to help students develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, and synthesizing and summarizing material.
- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
- C) plans and models use of comprehension strategies before, during, and after reading of text.
- D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.

- E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
- F) plans and teaches lessons to help students develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
- G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
- H) provides continuous monitoring of student progress through observations, work samples, and various informal reading assessments.
- I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
- J) promotes the development of an environment that includes classroom libraries that foster reading.

Section 27.210 Economics

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of economics shall be required to meet the standards described in this Section.

- a) The competent economics teacher understands economic concepts, terms and theories.
 - 1) Knowledge Indicators – The competent economics teacher:
 - A) understands the difference between positive and normative economics.
 - B) understands the law of increasing opportunity costs.
 - C) understands the characteristics of various economic systems (command, traditional, market, and mixed).
 - D) understands price elasticity.
 - E) understands the impact of transaction costs.
 - F) understands that market failures affect economic decision-making.

- G) understands the theory of comparative advantage.
- H) understands that changes in supply or demand cause relative changes in price.
- I) understands that economic decisions may have unintended consequences.
- J) understands the role of interest rates in economic decision-making.
- K) understands economic theories that have influenced economic systems, both past and contemporary.

2) Performance Indicators – The competent economics teacher:

- A) demonstrates the difference between analyzing economic realities and predicting economic outcomes.
- B) uses charts and graphs to explain and analyze production possibilities.
- C) analyzes the extent to which various economic systems and national economies rely on government directives and/or private markets to allocate scarce resources.
- D) analyzes the relationship between price elasticity and consumer decisions.
- E) computes elasticity of demand and supply.
- F) explains how transaction costs affect overall production costs and prices.
- G) explains how positive and negative externalities may result in over- or under-production of goods and services.
- H) analyzes the role of public goods and services.
- I) applies the theory of comparative advantage to an analysis of benefits of trade.
- J) describes how price floors and price ceilings may distort price signals to producers and consumers.
- K) explains non-price determinants of supply and demand.

- L) examines the economic effects of government policies.
 - M) explains the difference between nominal and real interest rates.
 - N) analyzes how savings, investment, and consumer decisions are related to changes in interest rates.
 - O) analyzes theories of past and present economists (e.g., Smith, Marx, Keynes, Friedman).
- b) The competent economics teacher understands economic structures and processes.
- 1) Knowledge Indicators – The competent economics teacher:
 - A) understands the role of self-interest in competitive markets.
 - B) understands that people respond to incentives in order to allocate scarce resources in ways that provide them with the highest possible returns.
 - C) understands various market structures (monopoly, oligopoly, perfect competition, monopolistic competition).
 - D) understands the components of gross domestic product.
 - E) understands different methods for classifying income distribution.
 - F) understands the causes and effects of unemployment.
 - G) understands the causes and effects of inflation.
 - 2) Performance Indicators – The competent economics teacher:
 - A) explains that profit maximization occurs when marginal benefits exceed marginal costs.
 - B) describes the factors that encourage competition (e.g., ease of entry, availability of consumer information, quantity of substitute goods and services).
 - C) demonstrates how technology and entrepreneurship affect competition, choice, and prices.
 - D) applies game theory to analyze how collusion reduces competition in a market.

- E) demonstrates the limitations of gross domestic product as a reflection of a society's standard of living.
 - F) describes how gross domestic product, technology, public policy, and supply and demand in the labor market can influence personal income.
 - G) explains the difference between personal income distribution and functional income distribution.
 - H) compares and contrasts frictional, structural, cyclical, and seasonal unemployment.
 - I) explains that the costs of inflation are different for different groups of people.
- c) The competent economics teacher understands the components and operation of the United States economy.
- 1) Knowledge Indicators – The competent economics teacher:
 - A) understands the characteristics of a market economy.
 - B) understands the components of fiscal policy.
 - C) understands the tools of monetary policy.
 - D) understands the effects of incorporation on investment and economies of scale.
 - E) understands the components of money supply.
 - F) understands the role of government in the transfer of income.
 - G) understands the applications of economic indicators.
 - H) understands the difference between a budget deficit and the national debt.
 - 2) Performance Indicators – The competent economics teacher:
 - A) explains the importance of property rights, contract enforcement, standards for weights and measures, and liability rules in providing incentives for production.

- B) examines the impact of public policy decisions on prices, job opportunities, and profits.
 - C) analyzes the impacts of taxes and government spending on economic growth and stability.
 - D) analyzes the impacts of interest rates and money supply on economic growth and stability.
 - E) explains the role of the Federal Reserve in determining monetary policy.
 - F) compares the tools of monetary policy (e.g., purchases and sales of government securities, changes in the discount rate, increases or decreases in the reserve requirement).
 - G) analyzes the effects of government transfers of income (e.g., Social Security, Temporary Aid to Needy Families).
 - H) analyzes the relationship between economic indicators (e.g., unemployment claims, stock prices, money supply, changes in inventories, personal income, orders for new equipment) and economic decisions.
 - I) examines the impact of economic growth.
 - J) explains that when the government runs a budget deficit, it must borrow to finance that deficit.
 - K) analyzes the impact of continuing national debt on economic growth and stability.
- d) The competent economics teacher understands global economic interdependence.
- 1) Knowledge Indicators – The competent economics teacher:
 - A) understands that differences in the availability of resources affect international trade.
 - B) understands the impact of exchange rates on economic decision-making.
 - C) understands the effect of public policy decisions (e.g., incentives and subsidies or quotas and other trade barriers) on the exercise of free trade.

- D) understands that the theory of comparative advantage affects nations' decisions to trade.
 - E) understands the role of international economic structures.
- 2) Performance Indicators – The competent economics teacher:
- A) compares and contrasts global resource allocation.
 - B) analyzes the impact of production costs (e.g., labor, taxes, materials) on global prices.
 - C) computes the cost of U.S. goods and services in other countries.
 - D) computes the dollar cost of goods and services produced in other countries.
 - E) analyzes the costs and benefits (to citizens of the U.S. and other countries) of public policy decisions made in the United States and in other countries.
 - F) calculates benefits of trade.
 - G) evaluates decisions by international economic structures (e.g., World Bank, International Monetary Fund, European Union).

Section 27.220 Geography

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of geography shall be required to meet the standards described in this Section.

- a) The competent geography teacher understands how to use maps and other geographic representations, tools, and technologies to acquire and use information about people, places, and environments on Earth.
 - 1) Knowledge Indicators – The competent geography teacher:
 - A) understands how to use maps and other graphic representations to depict geographic problems.
 - B) understands how to use technologies to represent and interpret Earth's physical and human systems.
 - C) understands how to use geographic representations and tools to analyze, explain, and solve geographic problems.

- 2) Performance Indicators – The competent geography teacher:
 - A) produces, interprets, and evaluates maps and other graphic representations to solve geographic problems.
 - B) uses maps and other geographic representations to analyze world events and suggest solutions to world problems.
 - C) uses geographic tools and technologies to pose and answer questions about spatial distributions and patterns on Earth.
 - D) uses technologies (e.g., satellite images, aerial photographs, Geographic Information Systems, Global Positioning Systems) to represent, interpret, and analyze Earth's physical and human systems.

- b) The competent geography teacher is able to use mental maps to organize information about people, places, and environments in a spatial context.
 - 1) Knowledge Indicators – The competent geography teacher:
 - A) understands how to use mental maps of physical and human features of the world to answer complex geographic questions.
 - B) understands how mental maps reflect the human perception of places.
 - C) understands how mental maps influence spatial and environmental decision-making.

 - 2) Performance Indicators – The competent geography teacher:
 - A) uses mental maps to analyze physical and human systems and answer complex geographic questions.
 - B) identifies the ways in which mental maps influence human decisions about location, settlement, and public policy.
 - C) analyzes ways in which people's mental maps reflect an individual's attitudes toward places.
 - D) explains how mental maps influence spatial and environmental decision-making.

- c) The competent geography teacher is able to analyze spatial information about people, places, and environments on Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the generalizations that describe and explain spatial interaction.
 - B) understands the models that describe patterns of spatial organization.
 - C) understands the spatial behavior of people.
 - D) understands how to apply concepts and models of spatial organization to make decisions.
 - 2) Performance Indicators – The competent geography teacher:
 - A) applies concepts of spatial interaction (e.g., complementarity, intervening opportunities, distance decay, connections) to account for patterns of movement on Earth.
 - B) analyzes and explains patterns of land use in urban, suburban, and rural areas using terms such as distance, accessibility, and connections.
 - C) uses models of spatial organization to analyze relationships in and between places.
 - D) applies concepts and models of spatial organization to make decisions.
- d) The competent geography teacher understands the physical and human characteristics of places.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the meaning and significance of places.
 - B) understands the changing physical and human characteristics of places.
 - C) understands how relationships between humans and the physical environment lead to the formation of places and to a sense of personal and community identity.

- 2) Performance Indicators – The competent geography teacher:
 - A) describes and interprets physical processes that shape places.
 - B) explains how social, cultural, and economic processes shape the features of places.
 - C) analyzes how technology shapes the physical and human characteristics of places.
 - D) evaluates how humans interact with physical environments to form places.

- e) The competent geography teacher understands the concept of regions and how regions are used to interpret Earth's complexity.
 - 1) Knowledge Indicators – The competent geography teacher:
 - A) understands how multiple criteria can be used to define a region.
 - B) understands the structure of regional systems.
 - C) understands the ways in which physical and human regional systems are interconnected.

 - 2) Performance Indicators – The competent geography teacher:
 - A) identifies and explains the changing criteria that are used to define regions.
 - B) analyzes the connections and interactions within and among the parts of regional systems to develop solutions to spatial problems.
 - C) analyzes places and regions in different time periods to identify human and physical changes and to explain the factors that have contributed to those changes.
 - D) analyzes regional systems and alliances (e.g., newspaper circulation, airline service areas, European Union) to explain how they are interconnected and to determine their spatial impact (e.g., movement of people and goods in Europe).
 - E) explains how the regionalization process is used to analyze geographic issues (e.g., locating a new shopping center).

- f) The competent geography teacher understands how culture and experience influence people's perceptions of places and regions.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands why places and regions serve as symbols for individuals and society.
 - B) understands why different groups of people within a society view places and regions differently.
 - C) understands how changing perceptions of places and regions reflect cultural change.
 - 2) Performance Indicators – The competent geography teacher:
 - A) evaluates the characteristics of places and regions from a variety of points of view.
 - B) explains how technology affects the ways in which cultural groups perceive and use places and regions.
 - C) analyzes human perceptions of people, places, and regions to determine the impact of different cultures and experiences.
 - D) explains why places and regions are important to individual human identity and as symbols for unifying or fragmenting society.
 - E) analyzes the ways in which people's changing views of places and regions reflect cultural change.
 - F) explains how human experiences (e.g., wedding customs, funerals, social functions) in various places and regions of the world may be interpreted differently by different cultural groups.
- g) The competent geography teacher understands the physical processes that shape the patterns of Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the dynamics of the four basic components of Earth's physical systems: the atmosphere, biosphere, lithosphere, and hydrosphere.
 - B) understands the interaction of Earth's physical systems.

- C) understands the spatial variation in the consequences of physical processes across Earth's surface.
- 2) Performance Indicators – The competent geography teacher:
- A) analyzes physical processes to identify and explain spatial patterns in the physical environment.
 - B) analyzes regions of Illinois, the United States, and the world to determine how they have been shaped by different physical processes.
 - C) explains how earth-sun relationships affect Earth's physical processes and create physical patterns.
 - D) predicts the consequences of a specific physical process operating on Earth's surface.
 - E) explains the ways in which Earth's physical processes are dynamic and interactive.
- h) The competent geography teacher understands the characteristics and spatial distribution of ecosystems on Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
- A) understands the distribution and characteristics of ecosystems.
 - B) understands the bio-diversity and productivity of ecosystems.
 - C) understands the importance of ecosystems in people's understanding of environmental issues.
- 2) Performance Indicators – The competent geography teacher:
- A) analyzes the distribution of ecosystems by interpreting relationships between soil, climate, and plant and animal life.
 - B) evaluates the concept of ecosystems to understand and solve problems regarding environmental issues.
 - C) explains the spatial distribution of ecosystems from local to global scales.
 - D) identifies and explains how knowledge of ecosystems informs human decisions about environmental issues.

- i) The competent geography teacher understands the characteristics, distribution, and migration of human populations on Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands trends in world population numbers and patterns.
 - B) understands the impact of human migration on physical and human systems.
 - C) understands the reasons for spatial variations in population distribution.
 - D) understands the types and historical patterns of human migration.
 - 2) Performance Indicators – The competent geography teacher:
 - A) predicts trends in the spatial distribution of human population on Earth.
 - B) analyzes population issues and proposes probable solutions to population problems.
 - C) explains the economic, political, and social factors that contribute to human migration.
 - D) evaluates the impact of human migration on physical and human systems.
- j) The competent geography teacher understands the characteristics, distribution, and complexity of Earth's cultural mosaics.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the spatial distribution of culture at different scales, local to global.
 - B) understands the spatial characteristics of the processes of cultural convergence and divergence.
 - C) understands how cultures shape the character of a region.
 - 2) Performance Indicators – The competent geography teacher:

- A) explains the spatial processes of cultural convergence and divergence.
 - B) describes and explains the significance of patterns of cultural diffusion in the creation of Earth's varied cultural mosaics.
 - C) identifies and explains how different communities, including those affected by migrant populations, reflect the cultural background of their inhabitants.
 - D) analyzes how culture influences the characteristics of regions.
- k) The competent geography teacher understands the patterns and networks of economic interdependence on Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the classification, characteristics, and spatial distribution of economic systems.
 - B) understands how places of various size function as centers of economic activity.
 - C) understands the increasing economic interdependence of the world's countries.
 - D) understands the geographic causes and consequences of world trade.
 - 2) Performance Indicators – The competent geography teacher:
 - A) classifies and describes the spatial distribution of major economic systems and evaluates their relative merits in terms of productivity and the social welfare of workers.
 - B) identifies and evaluates the spatial aspect of economic systems, e.g., market areas around major business establishments.
 - C) analyzes and evaluates international economic issues from a spatial point of view.
 - D) identifies and explains the primary geographic causes for world trade.
- l) The competent geography teacher understands the processes, patterns, and functions of human settlement.

- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the functions and internal structure of cities.
 - B) understands the differing characteristics of settlements in developing and developed countries.
 - C) understands the processes that change the function and internal structure of cities.
 - D) understands the evolving forms of present-day urban areas.
 - 2) Performance Indicators – The competent geography teacher:
 - A) analyzes the functions, internal structure, and shape of cities in Illinois, the United States, and the world.
 - B) analyzes the characteristics of urban settlements in developing and developed countries.
 - C) evaluates the physical and human impacts of emerging urban forms (e.g., edge cities, metropolitan corridors, megalopoli) in Illinois, the United States, and the world.
 - D) explains the causes and consequences of urbanization in Illinois, the United States, and the world.
 - E) describes the nature, causes, and spatial impact of change in urban areas.
- m) The competent geography teacher understands how the forces of cooperation and conflict among people influence the division and control of Earth's surface.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands why and how cooperation and conflict are involved in shaping the distribution of social, political, and economic spaces on Earth.
 - B) understands the divisions on Earth's surface at different scales, local to global.
 - 2) Performance Indicators – The competent geography teacher:

- A) analyzes how cooperation and conflict influence the development and control of social, political, and economic entities on Earth.
 - B) explains why people cooperate but also engage in conflict to control Earth's surface.
 - C) analyzes divisions on Earth's surface at different scales to identify examples of similar uses of political space at local, State, national, and international levels.
- n) The competent geography teacher understands how human actions modify the physical environment.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands the role of technology in the capacity of the physical environment to accommodate human modification.
 - B) understands the significance of the global impacts of human modification of the physical environment.
 - C) understands how to apply appropriate models and information to understand environmental problems.
 - 2) Performance Indicators – The competent geography teacher:
 - A) evaluates the ways in which technology has expanded the human capability to modify the physical environment.
 - B) analyzes and develops possible solutions to scenarios of environmental change induced by human modification of the physical environment.
 - C) analyzes and evaluates the global impacts of human changes in the physical environment.
- o) The competent geography teacher understands how physical systems affect human systems.
- 1) Knowledge Indicators – The competent geography teacher:
 - A) understands how changes in the physical environment can diminish its capacity to support human activity.
 - B) understands how different physical environments provide opportunities for or place constraints on human activities.

- C) understands how natural hazards affect human spatial activities.
- 2) Performance Indicators – The competent geography teacher:
- A) analyzes examples of changes in the physical environment that have reduced the capacity of the environment to support human activity.
 - B) explains how the characteristics of different physical environments affect human activity in Illinois, the United States, and the world.
 - C) describes the effects of natural hazards on human systems in Illinois, the United States and the world.
- p) The competent geography teacher understands the changes that occur in the meaning, use, distribution, and importance of resources.
- 1) Knowledge Indicators – The competent geography teacher:
- A) understands how the spatial distribution of resources affects patterns of human settlement.
 - B) understands how resource development and use change over time.
 - C) understands the geographic results of policies and programs for resource use and management.
- 2) Performance Indicators – The competent geography teacher:
- A) analyzes the relationships between the spatial distribution of settlement and resources.
 - B) explains the relationship between resources and the exploration, colonization, and settlement of different regions of the world.
 - C) evaluates policy decisions regarding the use of resources in different regions of the United States and the world.
 - D) evaluates policies and programs related to the use of resources in different regions of the United States and the world.
- q) The competent geography teacher is able to apply geography to interpret the past and present and to plan for the future.
- 1) Knowledge Indicators – The competent geography teacher:

- A) understands the processes of spatial change over time.
 - B) understands how to derive solutions to local and regional problems that have a spatial dimension.
 - C) understands the interaction between physical and human systems that have led to current conditions on Earth.
 - D) understands multiple points of view with respect to contemporary geographic issues.
 - E) understands how to use geographic questions in past, present, and future contexts.
 - F) understands how to use the Five Themes of Geography to study Earth and its people.
- 2) Performance Indicators – The competent geography teacher:
- A) explains how the processes of spatial change (e.g., the spatial diffusion of a phenomenon such as the bubonic plague or the diffusion of tobacco use) have affected United States and world history.
 - B) proposes plans to solve local and regional problems that have spatial dimensions (e.g., safeguarding people and property during natural disasters, solving mass-transit problems, deciding where to locate new commercial establishments).
 - C) analyzes the interaction between physical and human systems to understand possible causes and effects of current conditions on Earth.
 - D) integrates multiple points of view to analyze and evaluate contemporary geographic issues.
 - E) asks and answers geographic questions and acquires, organizes, and analyzes geographic information about past, present, and future events.
 - F) uses the Five Themes of Geography to develop different approaches to the study of Earth and its people.

Section 27.230 History

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of history shall be required to meet the standards described in this Section.

- a) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in United States history from the colonial era through the growth of the American republic.
 - 1) Knowledge Indicators – The competent history teacher:
 - A) understands the interaction of European and Native American societies through the mid-19th century.
 - B) understands the development of political, religious, and socioeconomic institutions in the American colonies.
 - C) understands the role of the American Revolution in the development of United States society.
 - D) understands the impact of the industrial revolution, the institution of slavery, and westward expansion on regional and national development.
 - 2) Performance Indicators – The competent history teacher:
 - A) identifies political ideas that influenced the development of U.S. constitutional government.
 - B) assesses factors that contributed to the Age of Exploration and evaluates the consequences of the Columbian Exchange.
 - C) explains the social, economic, and political tensions that led to the American Revolution.
 - D) explains the factors that accounted for the differences between societies in New England, the mid-Atlantic, and the lower South.
 - E) explains the effect of the revolution on social, political, and economic relations in the new nation.
 - F) explains the evolution of the two-party system.
- b) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in United States history from the Civil War through World War I.

- 1) Knowledge Indicators – The competent history teacher:
 - A) understands events that contributed to the U.S. Civil War.
 - B) understands the role of reconstruction in rebuilding the nation.
 - C) understands the role of big business in the transformation of U.S. society in the late 19th century.
 - D) understands the influences of Populism and Progressivism on U.S. society in the late 19th and early 20th centuries.
 - E) understands the composition and significance of late 19th century immigration.
 - F) understands the role of the U.S. in world affairs through World War I.

- 2) Performance Indicators – The competent history teacher:
 - A) explains the effects of the Civil War on U.S. society.
 - B) evaluates reconstruction policies and their impact on U.S. society.
 - C) identifies the effects of industrialization and urbanization on the U.S.
 - D) traces the patterns of immigration settlement in different regions of the country.
 - E) describes the obstacles, opportunities, and contributions of immigrants.
 - F) assesses the relationship between business and labor.
 - G) explains the political, social, cultural, and economic contributions of Populism and Progressivism.
 - H) explains the causes of World War I and the reasons for U.S. involvement in the war.

- c) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in United States history in the twentieth century and beyond.
 - 1) Knowledge Indicators – The competent history teacher:

- A) understands the effects of the Great Depression on the United States.
 - B) understands the relationship between the New Deal and the development of welfare policies after 1932.
 - C) understands the origins of World War II and of U.S. involvement in the war.
 - D) understands the social transformation of the post-war United States.
 - E) understands the origins of the Cold War and its impact on the United States.
 - F) understands the significance of landmark events in foreign and domestic policies since 1945.
 - G) understands United States involvement in the Vietnam War.
- 2) Performance Indicators – The competent history teacher:
- A) evaluates the causes of the Great Depression and its impact on the United States.
 - B) explains reasons for U.S. participation in World War II.
 - C) evaluates the role of the United States in World War II and the impact of the war on the United States.
 - D) explains the origins of the Cold War and its impact on the United States.
 - E) identifies the origins and the course of post-1945 social movements, particularly the Civil Rights Movement.
 - F) explains the relationship between U.S. domestic and foreign policies in the 20th century.
 - G) assesses the U.S. military engagement in Vietnam and its effect on the United States.
- d) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in world history from prehistory to the Age of Exploration.

- 1) Knowledge Indicators – The competent history teacher:
 - A) understands the transition from prehistory to early civilizations, including non-western empires and tropical civilizations.
 - B) understands the development of classical civilizations from 1000 BC to 500 AD (sometimes also referred to as “BCE” and “CE”, respectively).
 - C) understands the fragmentation and interaction of civilizations from 500 to 1000 AD.
 - D) understands the centralization of power in different regions from 1000 to 1500 AD.

- 2) Performance Indicators – The competent history teacher:
 - A) describes the populating of major world regions by human communities.
 - B) identifies and compares centralized and decentralized states.
 - C) explains the major achievements of Greek and Roman civilizations.
 - D) identifies factors contributing to the break-up of the Roman Empire.
 - E) explains the role of feudalism in the growth of European monarchies and city states.
 - F) describes major political, social, and economic developments in non-western states.

- e) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in world history from the Age of Exploration to the present.
 - 1) Knowledge Indicators – The competent history teacher:
 - A) understands cultural encounters, global change, and revolution from 1450 to 1850.
 - B) understands imperialism and its effects from 1850 to 1914.

- C) understands the ideas, institutions, and cultural legacies of the twentieth century.
 - D) understands the causes and courses of the world wars.
 - E) understands the motivations and effects of decolonization.
- 2) Performance Indicators – The competent history teacher:
- A) describes the origins and consequences of encounters between Europeans and peoples of Africa, Asia, and the Americas.
 - B) identifies the cultural and religious significance of the scientific revolution.
 - C) describes the relationship between political and industrial revolutions on social and cultural change.
 - D) explains the causes and effects of European, American, and Asian imperial expansion.
 - E) describes the causes and consequences of 20th century wars.
 - F) describes the causes and global consequences of economic development.
 - G) describes the causes and consequences of the Holocaust.
 - H) describes the independence movements related to decolonization.
- f) The competent history teacher understands major trends, key turning points, and the roles of influential individuals and groups in the State of Illinois from the colonial era to the present.
- 1) Knowledge Indicators – The competent history teacher:
- A) understands the evolution of political ideas, institutions, and practices and their role in Illinois.
 - B) understands the influence of geography, technology, agriculture, urbanization, industry, and labor on the development of the Illinois economy.
 - C) understands the effects of migration of people and cultures and several religious traditions that have shaped Illinois.

- D) understands the roles of family and local history in their relation to the larger context of U.S. and global history.
- 2) Performance Indicators – The competent history teacher:
- A) describes the development of political ideas, institutions, and practices in Illinois.
 - B) traces the development of the Illinois economy.
 - C) assesses the impact of cultural migration and religious traditions on Illinois.
 - D) relates Illinois family and local history to U.S. and world history.
- g) The competent history teacher understands comparative history.
- 1) Knowledge Indicators – The competent history teacher:
- A) understands methods of comparative history.
 - B) understands effects of broad historical developments (e.g., industrialization, modernization, imperialism, globalization) on diverse cultures.
 - C) understands different meanings and implications of broad historical developments on diverse cultures.
 - D) understands differences and similarities from one generation to the next within the same culture.
- 2) Performance Indicators – The competent history teacher:
- A) identifies similarities and differences within and between cultures.
 - B) evaluates the impact of broad historical developments on diverse cultures.
 - C) assesses the different meanings and implications of historical developments on diverse cultures.
 - D) describes continuities and changes within and among generations.
- h) The competent history teacher understands the major interpretations in the field of history.

- 1) Knowledge Indicators – The competent history teacher:
 - A) understands the various and changing definitions of history.
 - B) understands the origins and interpretative frameworks of significant theories of history.
 - C) understands the tentative nature of historical interpretation.
- 2) Performance Indicators – The competent history teacher:
 - A) differentiates among and evaluates various definitions of history.
 - B) employs and assesses interpretive frameworks in analyzing historical events.
 - C) evaluates major debates among historians.

Section 27.240 Political Science

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of political science shall be required to meet the standards described in this Section.

- a) The competent political science teacher understands the scope and major issues in the academic discipline of political science.
 - 1) Knowledge Indicators – The competent political science teacher:
 - A) understands the major subjects of study in political science (e.g., constitutional law, political history, political philosophy, and political sociology).
 - B) understands the ideas and impact of major figures in the history of political philosophy (e.g., Aristotle, Locke, Madison, Marx, Mill).
 - 2) Performance Indicators – The competent political science teacher:
 - A) explains the multiple perspectives associated with political philosophy.
 - B) demonstrates political science skills (e.g., opinion measurement, issue analysis, and constitutional interpretation).
- b) The competent political science teacher understands the essential elements of various political systems.

- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands the development of democratic, authoritarian, and totalitarian systems, with an emphasis on the 20th century.
 - B) understands the similarities and differences between the United States political system and those of other nations.
 - 2) Performance Indicators – The competent political science teacher:
 - A) explains the nature and purpose of constitutions in various democratic, authoritarian, and totalitarian political systems.
 - B) evaluates the arguments regarding the strengths and weaknesses of federal, confederate, and unitary systems.
- c) The competent political science teacher understands the development of the United States and Illinois Constitutions.
- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands amendments and other developments since the ratification of the United States Constitution and Bill of Rights affecting basic principles (e.g., separation of power, judicial review, federalism, selection of officials, and the rights of persons).
 - B) understands amendments and other developments since the ratification of the Illinois Constitution.
 - 2) Performance Indicators – The competent political science teacher:
 - A) explains the historic background, political principles, major events, basic issues, and significant individuals associated with the writing and ratification of the United States Constitution.
 - B) explains the changes made in the Illinois Constitution in 1970.
- d) The competent political science teacher understands the organization and functions of government at the national, State, and local levels.
- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands the organization and financing of governmental functions at local, State, and national levels.

- B) understands the sharing of governmental functions between the various levels of government by means of intergovernmental relations.
 - C) understands the organization and function of courts at all levels.
- 2) Performance Indicators – The competent political science teacher:
- A) analyzes the role of government in the society and the economy.
 - B) identifies important events that changed significantly the regulatory, welfare, and other functions of government.
 - C) analyzes the impact of court rulings on local, State, and national governments.
- e) The competent political science teacher understands the elements that shape public policy in the United States and other nations.
- 1) Knowledge Indicators – The competent political science teacher:
- A) understands governmental agencies' role in implementing and developing public policy.
 - B) understands the multiple roles of the president of the United States and State governors and the role of heads of government in other countries in setting policy.
 - C) understands the policy-setting role of legislatures and their committees in the United States in contrast to other countries.
 - D) understands the policy role of courts in the United States in contrast with the role of courts in other countries.
 - E) understands the influence of active citizens, interest groups, and political partisans on formation of public policy.
 - F) understands the influence of public opinion and the mass media in the development of public policy.
- 2) Performance Indicators – The competent political science teacher:
- A) analyzes the influence of individuals and groups on the formation and implementation of public policy.

- B) evaluates the shaping of public policy in terms of basic principles (e.g., representation, democracy, and public interest).
- f) The competent political science teacher understands political parties, civic participation, and the electoral process in the United States.
- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands the history of political parties.
 - B) understands the laws affecting registration and voting, organization of political parties, and campaign finance.
 - C) understands the opportunities for participation in government and politics (e.g., political parties, campaigns, and involvement in groups concerned with public policy).
 - 2) Performance Indicators – The competent political science teacher:
 - A) evaluates motivations for participation and non-participation in civic affairs.
 - B) identifies important events, groups, and individuals in the evolution of American political parties.
- g) The competent political science teacher understands the rule of law and the rights and responsibilities of citizens.
- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands the degree to which citizens' rights have been expanded over time by constitutional means.
 - B) understands the categories of the law (e.g., common, civil, and criminal).
 - C) understands landmark documents and events in the development of the rule of law.
 - 2) Performance Indicators – The competent political science teacher:
 - A) identifies ways a competent, responsible citizen functions in a democratic society.

- B) analyzes historic and current issues regarding the balance between rights and responsibilities, and between personal freedom and community needs and laws.
- h) The competent political science teacher understands international relations and organizations and America's global connections.
- 1) Knowledge Indicators – The competent political science teacher:
 - A) understands international organizations and American involvement with them.
 - B) understands the influence of national political systems and domestic politics on foreign policy with an emphasis on the United States.
 - 2) Performance Indicators – The competent political science teacher:
 - A) analyzes the conditions, actions, and motivations that contribute to conflict and cooperation among nations.
 - B) identifies major events in the emergence of the United States as a world leader.

Section 27.250 Psychology

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of psychology shall be required to meet the standards described in this Section.

- a) The competent psychology teacher understands the various concepts related to human development.
 - 1) Knowledge Indicator – The competent psychology teacher understands commonly accepted theories related to cognitive, emotional, and social development.
 - 2) Performance Indicators – The competent psychology teacher:
 - A) analyzes the interrelationship among theories of development (e.g., cognitive, emotional, and social).
 - B) explains and applies theories of cognitive, emotional, and social development.

- b) The competent psychology teacher understands and applies ideas associated with mental and emotional health.
 - 1) Knowledge Indicators – The competent psychology teacher:
 - A) understands factors that contribute to and damage one's mental health.
 - B) understands various treatments of disorders.
 - 2) Performance Indicator – The competent psychology teacher analyzes issues related to mental health and behavioral disorders in contemporary society.
- c) The competent psychology teacher understands personality theory from a variety of perspectives.
 - 1) Knowledge Indicators – The competent psychology teacher:
 - A) understands factors associated with the construction, revision, and development of a self-concept and identity.
 - B) understands how families, groups, peers, and communities contribute to the development of self and identity.
 - C) understands the role of perception, attitude, values, and beliefs in the development of self and identity.
 - 2) Performance Indicator – The competent psychology teacher analyzes the impact of forces on the development of self and identity (e.g., family, peer group, values, beliefs).
- d) The competent psychology teacher understands the relationship between physiology and human behavior.
 - 1) Knowledge Indicator – The competent psychology teacher understands the relationship between physiology, thinking, memory, perception, personality, development, and behavior.
 - 2) Performance Indicator – The competent psychology teacher analyzes issues related to how nature and nurture contribute to personality and behavior.
- e) The competent psychology teacher understands theories and concepts related to explaining individual differences.

- 1) Knowledge Indicators – The competent psychology teacher:
 - A) understands how individual differences are influenced by different stages of life and through personal and environmental situations.
 - B) understands factors associated with personality and individual differences.
 - C) understands factors associated with human adjustment and coping behaviors in various situations.
 - 2) Performance Indicator – The competent psychology teacher analyzes individual differences based on psychological theories and concepts.
- f) The competent psychology teacher understands various methods of classifying, assessing, and interpreting personality.
- 1) Knowledge Indicator – The competent psychology teacher understands the various tools used to describe, classify, assess, and interpret personality.
 - 2) Performance Indicator – The competent psychology teacher explains various tools used to describe, classify, assess, and interpret personality.
- g) The competent psychology teacher understands the relationships between the individual and the group.
- 1) Knowledge Indicators – The competent psychology teacher:
 - A) understands how situations, places, time, events, and social/cultural environments influence individual behavior.
 - B) understands how individual behavior influences situations, places, time, events, and social/cultural environments.
 - 2) Performance Indicator – The competent psychology teacher creates situations illustrating the relationships between the individual and the group.

Section 27.260 Sociology and Anthropology

In addition to the standards for all social science teachers that are set forth in Section 27.200 of this Part, those who specialize in the teaching of sociology and anthropology shall be required to meet the standards described in this Section.

- a) The competent sociology and anthropology teacher understands culture and cultural diversity.

- 1) Knowledge Indicators – The competent sociology and anthropology teacher:
 - A) understands the ways groups, societies, and cultures address human needs and concerns.
 - B) understands how data and experiences may be interpreted by people from diverse cultural perspectives and frames of reference.
 - C) understands societal patterns for preserving and transmitting culture while adapting to environmental and social change.
 - D) understands the importance of cultural unity and diversity within and across groups.
 - E) understands specific cultural responses to persistent human issues.
 - F) understands the ways in which science and technology influence central societal values, beliefs, and attitudes and how societal attitudes shape scientific and technological change.
 - G) understands societal changes resulting from science and new technologies.
 - 2) Performance Indicators – The competent sociology and anthropology teacher:
 - A) explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns.
 - B) interprets patterns of behavior reflecting values and attitudes that contribute or pose obstacles to cross-cultural understanding.
- b) The competent sociology and anthropology teacher understands individual development and identity.
- 1) Knowledge Indicators – The competent sociology and anthropology teacher:
 - A) understands the ways cultural influences contribute to the sense of self (e.g., religion, gender, ethnicity, socioeconomic status).
 - B) understands the interactions of ethnic, national, or cultural influences in specific situations or events.

- 2) Performance Indicator – The competent sociology and anthropology teacher evaluates the impact of stereotyping, conformity, altruism, and other behaviors on individuals and groups.
- c) The competent sociology and anthropology teacher understands groups and institutions.
- 1) Knowledge Indicators – The competent sociology and anthropology teacher:
 - A) understands the concepts of role, status, and social class.
 - B) understands sociological theories related to the formation, types, and stages of social movements.
 - C) understands major sociological theoretical perspectives (e.g., structural-functional, conflict, symbolic, interactionist).
 - 2) Performance Indicators – The competent sociology and anthropology teacher:
 - A) analyzes group and institutional influences on people, events, and elements of culture in a variety of settings.
 - B) explains the various forms institutions take and how they develop and change.
 - C) analyzes how groups and institutions meet individual and societal needs.
- d) The competent sociology and anthropology teacher understands social inequities.
- 1) Knowledge Indicator – The competent sociology and anthropology teacher understands relationships of social class, group relations, gender, race, ethnicity, and age to social inequities.
 - 2) Performance Indicator – The competent sociology and anthropology teacher explains and applies ideas, theories, and modes of inquiry drawn from anthropology and sociology in the examination of persistent issues and social problems.
- e) The competent sociology and anthropology teacher understands cultural conformity and deviancy.
- 1) Knowledge Indicators – The competent sociology and anthropology teacher:

- A) understands the sociological approach to explaining deviancy.
 - B) understands sociological theories used to explain deviancy.
- 2) Performance Indicators – The competent sociology and anthropology teacher:
- A) assists learners in identifying and analyzing examples of tensions between expressions of individuality and efforts used to promote social conformity by groups and institutions (family, religion, government).
 - B) explores the relationship between inequity and deviancy.
- f) The competent sociology and anthropology teacher understands major principles of anthropology.
- 1) Knowledge Indicators – The competent sociology and anthropology teacher:
- A) understands the cultural developments of prehistoric people, the influences of ancient civilizations on modern cultures, and the cultural differences among nations.
 - B) understands ways in which cultures determine groupings (age, class, voluntary family and kinship systems).
- 2) Performance Indicators – The competent sociology and anthropology teacher:
- A) explains ways culture organizes family and kinship.
 - B) explains how technology, environment, religion, art, and culture have affected personality and behavior.

Section 27.270 Physical Education

- a) The competent physical education teacher applies principles of health-related fitness and training.
- 1) Knowledge Indicators – The competent physical education teacher:
- A) understands major principles, concepts, assumptions, and misconceptions of health-related physical fitness and training.

- B) explains principles and applications of the components of health-related fitness.
 - C) identifies concepts of health-related fitness and how to incorporate them into various physical activities.
 - D) names and describes organic, skeletal, and neuromuscular structures of the human body, how these systems adapt to physical activity, and how they contribute to health-related fitness.
- 2) Performance Indicators – The competent physical education teacher:
- A) describes and applies health-related fitness concepts and principles to physical activity.
 - B) identifies program elements for health-related fitness and develops an appropriate curriculum.
 - C) evaluates the effects of conditioning and training on body systems.
 - D) analyzes the relationship between health-related fitness and personal well-being.
- b) The competent physical education teacher applies techniques and procedures for developing and assessing health-related fitness.
- 1) Knowledge Indicators – The competent physical education teacher:
- A) recognizes typical developmental progressions, ranges of individual variation, and levels of readiness for health-related fitness.
 - B) knows developmentally appropriate assessment strategies and instruments to assess students' performance against health-related fitness standards.
 - C) understands that assessment is an integral part of instruction to provide feedback to learners.
- 2) Performance Indicators – The competent physical education teacher:
- A) incorporates learners' performance data to shape instructional design.
 - B) assesses learners' progress in developing health-related fitness.

- C) schedules activities to develop specific aspects of health-related fitness.
 - D) applies techniques to motivate students to enhance health-related fitness levels.
 - E) evaluates health-related fitness goal setting, activity selection, and personal health-related fitness programs for students.
- c) The competent physical education teacher understands human movement, motor skills, and their developmental sequence.
- 1) Knowledge Indicators – The competent physical education teacher:
 - A) understands and differentiates critical elements and sequencing of basic motor skills.
 - B) detects developmental progressions, ranges of individual variation, and levels of readiness.
 - C) describes principles and activities for developing locomotor, non-locomotor, manipulative, rhythmic, and dance movements.
 - D) knows basic principles of biomechanics, motor learning, and motor development.
 - 2) Performance Indicators – The competent physical education teacher:
 - A) applies principles of movement concepts and patterns.
 - B) demonstrates basic motor skills and physical activities with competence.
 - C) identifies critical elements of basic motor skills and develops appropriate sequences to teach motor skills.
 - D) identifies, selects, and implements developmentally appropriate learning/practice opportunities based on learners' motivation and skill level.
- d) The competent physical education teacher organizes activities and techniques for developing motor skills.
- 1) Knowledge Indicators – The competent physical education teacher:

- A) recognizes appropriate instructional cues and prompts to elicit basic motor skills.
 - B) understands developmental progressions, ranges of individual variation, and levels of readiness.
- 2) Performance Indicators – The competent physical education teacher:
- A) designs a variety of developmentally appropriate opportunities for practice.
 - B) applies performance concepts and principles to skillful movement and physical activity.
 - C) implements developmentally appropriate instruction to teach basic motor skills.
 - D) uses a variety of formal and informal assessment techniques to evaluate learners' progress in developing motor skills.
- e) The competent physical education teacher guides the dynamic interaction between individuals and within groups while they are engaged in activities for personal and social development.
- 1) Knowledge Indicators – The competent physical education teacher:
- A) understands developmental progressions in the cognitive and affective domains.
 - B) recognizes the socio-cultural benefits of participation in a variety of activities.
 - C) identifies aesthetic and creative aspects of skilled performance.
- 2) Performance Indicators – The competent physical education teacher:
- A) plans activities that aid in the development of problem-solving and critical thinking skills.
 - B) evaluates students' progress in personal expression and the development of interpersonal skills during physical activity.
 - C) plans activities that aid in developing positive personal behaviors.
 - D) plans activities that aid in promoting positive social attitudes and behaviors in group settings.

- f) The competent physical education teacher applies techniques, skills, strategies, basic rules, etiquette, and safety practices for individual and group sports.
- 1) Knowledge Indicators – The competent physical education teacher:
 - A) understands techniques, skills, strategies, and skill progressions of individual and group sports.
 - B) recognizes basic rules, etiquette, and safety practices associated with individual and group sports.
 - 2) Performance Indicators – The competent physical education teacher:
 - A) selects verbal and non-verbal cues as appropriate in the teaching of physical activity.
 - B) selects developmentally appropriate assessment strategies and instruments congruent with physical education learning goals.
 - C) demonstrates techniques, skills, and progressions of a variety of individual and group sports.
 - D) articulates basic rules, etiquette, and safety practices associated with individual and group sports.
 - E) uses a variety of formal and informal assessment techniques to assess learners' progress.
- g) The competent physical education teacher applies techniques, skills, strategies, basic rules, etiquette, and safety practices associated with lifelong sports, creative movement, dance, non-competitive activities, and cooperative activities.
- 1) Knowledge Indicators – The competent physical education teacher:
 - A) knows techniques, skills, strategies, and skill progressions of lifelong sports.
 - B) knows techniques, steps, and activities involving dance and creative movement.
 - C) understands concepts, strategies, and safety issues in the development of noncompetitive activities and cooperative activities.

- D) understands basic rules, strategies, etiquette, and safety practices associated with lifelong sports.
 - E) is aware of verbal and non-verbal cues as appropriate in the teaching of physical activity.
 - F) recognizes developmentally appropriate assessment strategies and instruments congruent with physical activity learning goals.
- 2) Performance Indicators – The competent physical education teacher:
- A) demonstrates techniques, skills, and progressions of a variety of lifelong sports.
 - B) teaches steps and activities involving dance and creative movement.
 - C) directs noncompetitive activities and cooperative activities.
 - D) articulates etiquette and safety practices associated with creative movement, dance, noncompetitive activities, and cooperative activities.
 - E) helps learners facilitate problem-solving and critical thinking strategies in the process of becoming physically educated persons.
 - F) asks questions and poses scenarios to stimulate interactive learning opportunities.
 - G) uses a variety of formal and informal assessment techniques to assess learners' progress.
- h) The competent physical education teacher incorporates the historical, philosophical, and social contexts of physical education.
- 1) Knowledge Indicators – The competent physical education teacher:
- A) identifies historical events and key leaders associated with the field.
 - B) recognizes the influence of social and philosophical trends in physical education.
- 2) Performance Indicators – The competent physical education teacher:

- A) examines the historical and philosophical trends of physical education as they affect the goals and components of instructional programs and as they relate to current issues in the field.
 - B) remains current with social, political, and economic issues influencing the physical education profession and their impact on instructional programs at the local, State, national, and global levels.
- i) The competent physical education teacher recognizes issues that influence the development and evaluation of the physical education program.
- 1) Knowledge Indicators – The competent physical education teacher:
 - A) understands value orientations, goals, and models of curriculum design.
 - B) recognizes environmental factors affecting curriculum design.
 - C) recognizes assessment procedures for program evaluation.
 - D) understands factors affecting the preparation of a budget to support the instructional program.
 - 2) Performance Indicators – The competent physical education teacher:
 - A) constructs lesson plans, unit plans, and a curricular scope and sequence following a given model.
 - B) follows accepted steps in creating curricula.
 - C) is a member of recognized State and national professional organizations and reads publications from those bodies.
 - D) plans for and manages necessary equipment and resources for instruction.
 - E) establishes appropriate criteria and selects tools for evaluation of a given program.
 - F) revises programs based on a needs assessment or other appropriate evaluative criteria.
- j) The competent physical education teacher uses concepts and strategies for effective instruction in the physical education program.

- 1) Knowledge Indicators – The competent physical education teacher:
 - A) understands principles and philosophies of physical education.
 - B) recognizes principles for organizing and administering a comprehensive physical education curriculum for all student populations.
 - C) knows effective classroom management procedures in physical education.

- 2) Performance Indicators – The competent physical education teacher:
 - A) designs instruction to accommodate the learning style strength of students to enhance both knowledge and skill development.
 - B) identifies students with special needs.
 - C) follows measurement concepts including validity, reliability and bias.
 - D) identifies a variety of assessment procedures for student and instructional evaluation.
 - E) conducts appropriate physical education instruction in a variety of curricular offerings and settings.
 - F) selects and implements developmentally appropriate instruction that is sensitive to the needs, learning styles and experiences of learners.
 - G) uses different types of assessment with a variety of teaching styles and strategies.

- k) The competent physical education teacher follows safety practices, principles of emergency first aid, and equipment maintenance procedures.
 - 1) Knowledge Indicators – The competent physical education teacher:
 - A) has knowledge of equipment, materials, and human and technological resources to enhance learning in a safe environment.
 - B) understands safety issues when planning and implementing instruction.
 - C) knows principles of emergency first aid in given situations.

- D) recognizes appropriate use, maintenance, and storage of equipment.
- 2) Performance Indicators – The competent physical education teacher:
 - A) uses managerial and instructional routines that create safe environments.
 - B) applies disciplinary and pedagogical knowledge in developing safe learning experiences.
 - C) applies first aid procedures in given situations.
- 1) The competent physical education teacher recognizes legal and ethical issues that influence physical education programs.
 - 1) Knowledge Indicators – The competent physical education teacher:
 - A) understands unique characteristics of physical education related to legal issues.
 - B) recognizes State and federal laws and guidelines regarding gender equity, special education, religious issues, privacy, and other aspects of students' rights.
 - 2) Performance Indicators – The competent physical education teacher:
 - A) discusses ethical guidelines for decision-making in various physical education settings.
 - B) follows codes of professional conduct and current legal directives.
 - C) follows school policy and procedures regarding professional responsibilities when working with students, colleagues, and families.

Section 27.280 Health Education

- a) The competent health education teacher understands the components and functions of human body systems and is able to apply that knowledge to the promotion of social, emotional, physical, mental, and environmental health.
 - 1) Knowledge Indicators – The competent health education teacher:

- A) understands human body systems as they pertain to health, growth, and human development.
 - B) understands health-related data about social and cultural environments.
 - C) understands social, mental, physical, emotional, and environmental health issues as they apply to the content areas of mental and emotional health, personal health, family life, consumer health, nutrition, substance use and abuse, environmental health, prevention and control of disease, injury prevention and safety, and community health.
 - D) understands the social, mental, physical, emotional, and environmental health issues as they apply to the “Youth Risk Behaviors” identified by the Centers for Disease Control and Prevention: tobacco use; dietary patterns contributing to disease and sedentary lifestyle; sexual behaviors that result in HIV infection/other sexually transmitted diseases and unintended pregnancy; alcohol and other drug use; and behaviors that result in intentional and unintentional injury.
- 2) Performance Indicators – The competent health education teacher:
- A) selects and is able to use valid sources of information about human body systems and social, emotional, mental, physical, and environmental health issues as they affect the health of individuals across the life span.
 - B) describes the effects of health-related actions and environmental factors on body systems, including but not limited to behaviors related to nutrition, family living, HIV/AIDS and other sexually transmitted diseases, substance use and abuse, personal health, mental and emotional health, consumer health, environmental health, injury prevention and safety, and community health.
 - C) explains and predicts immediate and long-term effects of health-related behaviors on body systems.
- b) The competent health education teacher understands the theories and principles of health promotion and disease prevention.
- 1) Knowledge Indicators – The competent health education teacher:
- A) understands health behavior theories.

- B) comprehends the processes of health promotion and disease prevention.
 - C) understands the effects of cultural and economic factors on the health of individuals and society.
 - D) knows how individual and community actions and policies influence the health of the community and environment.
 - E) knows how public health policies function to prevent illness and promote public health and well-being.
- 2) Performance Indicators – The competent health education teacher:
- A) obtains data about factors that affect health behaviors.
 - B) prioritizes needs as identified by health data.
 - C) selects health promotion practices consistent with current theory and data.
- c) The competent health education teacher understands the process and is able to apply the knowledge needed to conduct an effective health education needs assessment.
- 1) Knowledge Indicators – The competent health education teacher:
- A) knows valid sources of information about health needs and information.
 - B) understands strategies for utilizing computerized sources of health-related information.
 - C) recognizes appropriate and relevant data-gathering instruments.
 - D) understands the role of learning and affective experience in shaping patterns of health-related behavior.
- 2) Performance Indicators – The competent health education teacher:
- A) interprets data from needs assessments.
 - B) determines priority areas of need for health education.

- d) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to plan effective comprehensive school health education.
- 1) Knowledge Indicators – The competent health education teacher:
 - A) understands how to involve key personnel and agencies in the planning of comprehensive school health education.
 - B) knows how to develop a scope and sequence plan for comprehensive school health education.
 - C) comprehends measurable cognitive, affective, and behavioral objectives in comprehensive school health education.
 - D) knows a wide range of teaching strategies and learning activities for a diverse group of learners in comprehensive school health education.
 - 2) Performance Indicators – The competent health education teacher:
 - A) develops strategies for involving key personnel and agencies for support and assistance in planning comprehensive school health education.
 - B) develops a logical scope and sequence plan for comprehensive school health education.
 - C) formulates appropriate measurable cognitive, affective, and behavioral objectives for comprehensive school health education.
- e) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to implement comprehensive school health education.
- 1) Knowledge Indicators – The competent health education teacher:
 - A) understands the efficacy of various curricular models pertaining to the ten key content areas of health instruction and risk factors identified by the Centers for Disease Control and Prevention.
 - B) comprehends various educational methods and techniques capable of addressing the needs and concerns of diverse learners.
 - C) understands strategies for incorporating technology and other educational media into the health instruction process.

- 2) Performance Indicators – The competent health education teacher:
 - A) develops and modifies instructional strategies that adhere to national, State, and professional standards.
 - B) selects instructional strategies that best facilitate the attainment of program goals and objectives.
 - C) designs instructional strategies that enhance students' goal-setting, communication, conflict-resolution, and decision-making skills.
 - D) designs instructional strategies that enhance the students' ability to critically evaluate the impact of family, culture, media, and technology upon health.
 - E) designs instructional strategies that enhance students' ability to locate and select valid and reliable sources of health information.
 - F) designs instructional strategies that enhance students' ability to develop skills in fostering personal, family, and community health.

- f) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to evaluate comprehensive school health education.
 - 1) Knowledge Indicators – The competent health education teacher:
 - A) understands valid and reliable tests, survey instruments, and evaluation methods pertinent to school health instruction.
 - B) comprehends techniques for measuring students' performance in school health education.
 - C) understands techniques for measuring the effectiveness of elements of the health instruction program.

 - 2) Performance Indicators – The competent health education teacher:
 - A) designs or selects appropriate program evaluation techniques.
 - B) develops or selects a variety of student assessment techniques that address the needs of diverse learners.
 - C) analyzes and interprets results of instructional program evaluation.

- D) suggests appropriate program improvements based on instructional program evaluation results.
- g) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to work with educational and community constituents in the promotion of coordinated school health programs.
- 1) Knowledge Indicators – The competent health education teacher:
 - A) knows the recognized model of coordinated school health programs.
 - B) is aware of the educational and community resources available for the promotion of health education.
 - C) comprehends the strategies for facilitating collaboration in coordinated school health programs.
 - D) understands the social and cultural forces influencing public perception and acceptance of health education.
 - 2) Performance Indicators – The competent health education teacher:
 - A) solicits appropriate educational and community participants who could aid in the design, implementation, and evaluation of coordinated school health programs.
 - B) chooses effective conflict reduction and resolution techniques to be used when working with key personnel involved in the assessment, planning, implementation, and evaluation of coordinated school health programs.
- h) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to act as a resource person.
- 1) Knowledge Indicators – The competent health education teacher:
 - A) knows about agencies, programs, and constituencies involved in health promotion at the local, State and national levels.
 - B) understands the resources and materials available for faculty, staff, students, parents, and community members regarding the promotion of health and health education.
 - C) is aware of appropriate instruments and technology networks as sources of health information and services.

- D) comprehends the parameters of effective consultative relationships among educational and community personnel involved in health promotion and education.
- 2) Performance Indicators – The competent health education teacher:
- A) uses computerized health information retrieval systems and databases effectively.
 - B) evaluates techniques for the dissemination of valid health information and services to diverse populations.
 - C) recommends appropriate health resources and services to address a variety of health issues.
- i) The competent health education teacher understands the processes and is able to apply the knowledge and skills necessary to communicate health education needs, concerns, and resources.
- 1) Knowledge Indicators – The competent health education teacher:
- A) understands concepts, purposes, and theories of communication.
 - B) ensures effective communication techniques in providing health and health education information and services to diverse constituents.
 - C) is aware of techniques for recruiting support and assistance in communicating health and health education needs, concerns, and resources to diverse constituents.
- 2) Performance Indicators – The competent health education teacher:
- A) applies health theories and concepts in selecting effective communication techniques.
 - B) demonstrates proficiency in communicating about health and health education needs, concerns, and resources to a variety of audiences.
 - C) selects personnel and decision-makers who can assist in communicating health and health education needs, concerns, and resources.

- j) The competent health education teacher understands and applies the ethics of the health education profession to school health practice.
- 1) Knowledge Indicator – The competent health education teacher understands the code of ethics of the health education profession.
 - 2) Performance Indicators – The competent health education teacher:
 - A) applies the code of ethics of the health education profession to specific health education situations.
 - B) adheres to school policies and procedures when working with students, staff, administration, faculty, and community members.
- k) The competent health education teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of health education.
- 1) Knowledge Indicators – The competent health education teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.
 - F) understands the role of subject-area vocabulary in developing reading comprehension.
 - G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
 - H) understands the importance of the relationship between assessment and instruction in planning.

- 2) Performance Indicators – The competent health education teacher:
- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing, and summarizing material.
 - B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
 - C) plans and models use of comprehension strategies before, during, and after reading of text.
 - D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
 - E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
 - F) plans and teaches lessons for students to develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
 - G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
 - H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.
 - I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries that foster reading.

Section 27.300 Dance

- a) The competent dance teacher possesses knowledge of the basic vocabulary of dance, including elements, organizational principles, expressive qualities, processes, and body and mind as the primary tools for dance.
- 1) Knowledge Indicators – The competent dance teacher:
 - A) understands elements of dance - body (actions, shapes, and relationships); space (level, direction, pathway, and range); time (tempo, rhythm, and beat); and movement quality, i.e., the way energy factors (flow, weight, time, and spatial attitude) are combined.
 - B) understands organizational principles - repetition, contrast, sequence, variety, rhythm, transition, balance, unity, harmony, and climax.
 - C) understands expressive qualities - emotion, mood, and dynamics.
 - D) understands processes - creating (improvising, exploring, composing, choreographing), performing, responding.
 - E) understands body and mind as primary tools for dance.
 - 2) Performance Indicators – The competent dance teacher:
 - A) defines the basic vocabulary of dance.
 - B) analyzes and evaluates dance events using the basic vocabulary of dance.
 - C) describes how the body and mind are used as tools for dance.
- b) The competent dance teacher possesses the knowledge and skills needed to create dance using the organizational principles, processes, and structures of dance (choreography).
- 1) Knowledge Indicators – The competent dance teacher:
 - A) understands organizational principles - repetition, contrast, sequence, variety, rhythm, transition, balance, unity, harmony, and climax.
 - B) understands choreographic processes - reordering, chance, exploring, improvising, perceiving, and analyzing.

- C) understands structures - (choreographic forms) AB, ABA, rondo, canon, theme and variation, call and response, and narrative.
- 2) Performance Indicators – The competent dance teacher:
- A) identifies and describes organizational principles of dance.
 - B) describes processes to consider in choreography.
 - C) describes choreographic forms.
- c) The competent dance teacher possesses the knowledge and skills needed to perform dance expressively and with technical accuracy within the school setting.
- 1) Knowledge Indicators – The competent dance teacher:
- A) understands performance techniques from various dance styles and forms (e.g., ballet, modern, jazz, tap, folk, and social).
 - B) understands major skeletal structures and proper alignment; basic principles of kinesiology and movement analysis; common dance injuries and injury prevention.
- 2) Performance Indicators – The competent dance teacher:
- A) demonstrates use of movement elements, expressive qualities, and technical proficiency in performing dance.
 - B) identifies and describes performance techniques from various dance styles and forms.
 - C) applies basic principles of kinesiology to analyze types of movement.
 - D) describes common types and causes of dance injuries and methods for preventing injury.
- d) The competent dance teacher possesses the knowledge needed to produce dance.
- 1) Knowledge Indicators – The competent dance teacher:
- A) understands the ways the design elements (scenery, costumes, lighting, props), modern media, and technologies enhance dance.
 - B) understands careers related to the production of dance.

- 2) Performance Indicators – The competent dance teacher:
 - A) describes ways the design elements (scenery, costumes, lighting, and props), modern media, and technologies enhance dance.
 - B) describes the careers related to the production of dance.
- e) The competent dance teacher understands and analyzes the role of dance within a variety of cultures and from different historical periods.
 - 1) Knowledge Indicators – The competent dance teacher:
 - A) understands how dance shapes and reflects ideas, issues, or themes in a variety of cultures.
 - B) understands how technology and societal changes have influenced dance.
 - 2) Performance Indicators – The competent dance teacher:
 - A) describes the role and function of dance and movement in various cultures from different historical periods (e.g., ritual, celebration).
 - B) describes important influences, developments, and innovations in the history of various dance styles and forms.
- f) The competent dance teacher is able to relate knowledge and skills within and across the arts.
 - 1) Knowledge Indicators – The competent dance teacher:
 - A) understands the function of dance as an art form.
 - B) understands the relationship of dance to other art forms.
 - C) understands the relationship of dance to other subject areas.
 - 2) Performance Indicators – The competent dance teacher:
 - A) describes the functions of dance as an art form.
 - B) describes the relationship of dance to other art forms.
 - C) integrates dance with other subject areas.

- g) The competent dance teacher understands and is able to apply pedagogical knowledge and skills appropriate to the teaching of dance in a school setting.
- 1) Knowledge Indicators – The competent dance teacher:
 - A) understands child development and the psychological principles of learning.
 - B) understands current age-appropriate methods and materials in all fields and levels of dance education.
 - C) understands the need for continuing study, self-evaluation, and professional growth.
 - 2) Performance Indicators – The competent dance teacher:
 - A) articulates a logical rationale for the role of dance in the school curriculum, including philosophical and social foundations for dance education.
 - B) develops age- and needs-appropriate learning experiences, applies techniques for assessing students’ aptitudes and skills, and integrates dance with other art forms/subject areas.
 - C) sets personal goals and standards for improvement.

Section 27.310 Drama/Theatre Arts

- a) The competent drama/theatre arts teacher possesses knowledge of the basic vocabulary of theatre, including elements, processes, and tools.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the sensory elements, organizational principles, and expressive qualities of drama/theatre:
 - i) sensory elements - movement and sound spectacle;
 - ii) organizational principles - plot and conflict, setting, character, language, rhythm, and unity;
 - iii) expressive qualities - emotion, mood, ideas, and dynamics.
 - B) understands artistic process of drama/theatre:
 - i) comprehension - perceiving and responding;

- ii) translation - imaging and creating;
 - iii) performance - communicating and evaluating.
 - C) understands tools of drama/theatre: body, voice, and mind.
 - D) understands support tools in drama/theatre: costume, set, lights, props, makeup, and sound.
- 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) identifies and applies elements, processes, and tools within story-making, improvisation, and pantomime.
 - B) identifies and applies the elements, processes, and tools within acting.
 - C) identifies and applies the elements, processes, and tools within directing.
 - D) identifies and applies the elements, processes, and tools within designing and craft.
 - E) identifies and applies the elements, processes, and tools within playwriting.
- b) The competent drama/theatre arts teacher possesses knowledge and skills needed to create the informal and formal processes utilizing elements of theatre.
 - 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands voice production.
 - B) understands the principles of acting.
 - C) understands the principles of improvisation and pantomime.
 - D) understands creative drama, process drama, and story making.
 - E) understands the expressive qualities of mood, emotion, and ideas in a dramatic performance and production.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) analyzes the development of voice and movement techniques.

- B) applies voice techniques.
 - C) analyzes and applies characterization techniques and procedures.
 - D) analyzes and applies the principles of improvisation and pantomime.
 - E) applies creative and process drama and story-making techniques.
 - F) identifies factors and techniques in writing, selecting, and producing plays for performance.
 - G) analyzes and applies the use of sensory elements in dramatic performance and production.
 - H) analyzes and applies skills and techniques used in movement and stage blocking.
- c) The competent drama/theatre arts teacher possesses knowledge and skills needed to perform theatre within the given educational drama setting.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the principles of design in a technical production.
 - B) understands theatre facilities and their characteristics.
 - C) understands directing techniques and procedures.
 - D) understands principles and techniques of auditioning, casting, and crew selection.
 - E) understands theatre auditorium management skills and concerns.
 - F) understands appropriate safety procedures and relevant legal requirements in a theatrical setting.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) applies directing skills in stage movement and blocking.
 - B) applies actor-coaching skills.
 - C) applies oral interpretation skills.

- D) applies skills in designing and constructing scenery.
 - E) applies skills and techniques in theatrical lighting and sound.
 - F) applies make-up skills and procedures.
 - G) applies costuming skills and procedures.
 - H) analyzes dramatic material for a theatrical production.
- d) The competent drama/theatre arts teacher possesses knowledge and skills needed to evaluate theatre using theatrical assessment criteria.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the evaluation of students’ theatrical performance.
 - B) understands specialized theatre arts instruction.
 - C) understands professional resources for theatre arts.
 - D) understands the assessment and interpretation of students’ theatrical performance.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) designs assessment strategies appropriate to specialized theatre arts instruction.
 - B) identifies and uses professional resources for theatre arts.
- e) The competent drama/theatre arts teacher understands and analyzes the role of theatre and dramatic literature within a culture.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the basic principles of theatre.
 - B) understands theatre and drama criticism.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) analyzes the organizational principles of dramatic literature.
 - B) identifies types of dramatic literature.

- C) analyzes the use of literary techniques in dramatic literature.
- f) The competent drama/theatre arts teacher understands and analyzes the developments in and distinguishing characteristics of historical and contemporary theatrical works by style and period in a variety of cultures.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the distinguishing characteristics of period and style found throughout the historical development of drama in a variety of cultures.
 - B) understands the historical development of theatrical performance and production.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) analyzes the historical development of drama through characteristics of period and style.
 - B) analyzes the historical development of theatrical performance and production.
- g) The competent drama/theatre arts teacher understands and analyzes major works and playwrights from historical and contemporary periods within a variety of cultures.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands theatre of the Classical Greek and Roman periods.
 - B) understands theatre of the Medieval, Elizabethan, and Jacobean periods.
 - C) understands theatre of the Renaissance.
 - D) understands theatre from the Restoration through 1800.
 - E) understands theatre of the 19th and 20th centuries.
 - F) understands contemporary American and world theatre.
 - G) understands theatrical traditions and dramatic literature of Asia, the Middle East, Africa, and Latin America.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:

- A) analyzes the historical development of drama.
 - B) identifies the major works of playwrights throughout the historical development of drama.
 - C) analyzes the historical development of theatrical performance and production.
 - D) analyzes how the functions of theatre shape and reflect ideas, issues, or themes in a variety of cultures.
- h) The competent drama/theatre arts teacher is able to relate knowledge and skills within and across the arts.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands the function of theatre as an art form.
 - B) understands the relationship of theatre to other art forms.
 - C) understands the relationship of theatre to other subject areas.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:
 - A) analyzes the function of theatre as an art form.
 - B) analyzes the relationship of theatre to other art forms.
 - C) identifies ways to integrate theatre with other subject areas.
- i) The competent drama/theatre arts teacher understands and is able to apply pedagogical knowledge and skills appropriate to the teaching of the fine arts.
- 1) Knowledge Indicators – The competent drama/theatre arts teacher:
 - A) understands child development and the psychological principles of learning as they apply to drama/theatre education.
 - B) understands current age-appropriate and special needs methods and materials in all fields and levels of drama/theatre education.
 - C) understands the need for continuing study, self-evaluation, and professional growth.
 - 2) Performance Indicators – The competent drama/theatre arts teacher:

- A) articulates a logical rationale for the role of drama/theatre in the school curriculum, including philosophical and social foundations for drama/theatre education.
- B) identifies and applies techniques for assessing students' backgrounds, aptitudes, skills, interests, and special needs appropriate to a school drama/theatre program.
- C) develops age-appropriate learning experiences to meet identified needs.
- D) identifies and applies teaching methods for integrating drama/theatre with other art forms and other subject areas at age-appropriate levels.
- E) identifies and applies technology appropriate for a school drama/theatre program at age-appropriate levels.

Section 27.320 Music

- a) The competent music teacher possesses knowledge and skills in the use of the basic vocabulary of music.
 - 1) Knowledge Indicators – The competent music teacher:
 - A) understands elements of music:
 - i) rhythm - beat, meter, and rhythmic patterns;
 - ii) melody - melodic structure, intervals, and scales;
 - iii) harmony - chordal structure and progressions, texture (tonal, atonal, modal);
 - iv) form - compositional forms and devices;
 - v) tone color - vocal, instrumental, environmental, electronic, and ethnic.
 - B) understands expressive qualities - dynamics, tempo, articulation, embellishments, and mood.
 - C) understands musical notation - clefs, key and time signatures, note/rest values, expressive terms and symbols.

- D) understands styles and genres - historical and cultural/national.
- 2) Performance Indicators – The competent music teacher:
- A) defines the basic vocabulary of music.
 - B) uses the symbols of musical notation to communicate musical sound.
 - C) identifies examples of the vocabulary of music within the context of written and aural music.
- b) The competent music teacher understands the processes and is able to apply the knowledge and skills necessary to create and perform music.
- 1) Knowledge Indicators – The competent music teacher:
- A) understands creating music – composing, improvising, arranging, and orchestrating.
 - B) understands performing music – vocal technique, instrumental technique, piano or other accompanying instruments, conducting, and performance practices.
 - C) understands criteria for evaluating musical performances and compositions.
- 2) Performance Indicators – The competent music teacher:
- A) performs music expressively and with technical accuracy through solo performance, small ensemble performance, and large ensemble performance.
 - B) conducts small and large ensembles.
 - C) devises and applies criteria using appropriate music vocabulary for evaluation of musical performances and compositions.
- c) The competent music teacher understands and analyzes the role of music within a variety of cultures and historical periods and its impact on society.
- 1) Knowledge Indicators – The competent music teacher:
- A) understands how music shapes and reflects ideas, issues, or themes in a particular culture (e.g., popular, folk, and ethnic music of the United States).

- B) understands how musicians and their works shape culture and increase understanding of societies, past and present (e.g., analyzes the relationships between music and other aspects of a period's culture).
- C) understands a variety of musical styles from various regions of the world.
- D) understands the developments in and distinguishing characteristics of historical and contemporary musical works by style and period.
- E) understands composers and works of Western art music, including those from under-represented groups, and from major historical and contemporary periods (e.g., Baroque, Classical, Romantic, and Modern).
- F) understands how music is expanding and developing based on new technologies and societal changes.
- G) understands how music functions in commercial applications (e.g., movies and commercials).
- H) understands careers and jobs in music.

2) Performance Indicators – The competent music teacher:

- A) analyzes how music shapes and reflects ideas, issues, or themes in a particular culture (e.g., popular, folk, and ethnic music of the United States).
- B) analyzes how musicians and their works shape culture and increase understanding of societies, past and present (e.g., analyzes the relationships between music and other aspects of a period's culture).
- C) identifies a variety of musical styles from various regions of the world.
- D) analyzes the developments in and distinguishing characteristics of historical and contemporary musical works by style and period.
- E) identifies composers and works of Western art music, including those from under-represented groups, and from major historical and contemporary periods (e.g., Baroque, Classical, Romantic, Modern).

- F) analyzes how music is expanding and developing based on new technologies and societal changes.
 - G) analyzes how music functions in commercial applications (e.g., movies and commercials).
 - H) identifies careers and jobs in music.
- d) The competent music teacher is able to relate various types of musical knowledge and skills within and across the arts.
- 1) Knowledge Indicators – The competent music teacher:
 - A) understands similarities and differences in the meaning of common terms used in the various arts.
 - B) understands the ways in which the principles and subject matter of other disciplines taught in school are interrelated with those of music (e.g., the science of vibrations and pitch, and the study of patterns and forms).
 - C) understands the aesthetic principles of music.
 - 2) Performance Indicators – The competent music teacher:
 - A) identifies similarities and differences in the meaning of common terms used in the various arts.
 - B) identifies the ways in which the principles and subject matter of other disciplines taught in school are interrelated with those of music.
 - C) applies aesthetic principles of music within and across the arts.
- e) The competent music teacher understands and is able to apply pedagogical knowledge and skills appropriate to the teaching of music, including issues of diversity, gender equity, and the needs of gifted students.
- 1) Knowledge Indicators – The competent music teacher:
 - A) understands the rationale for music as a basic component of general education.
 - B) understands teaching methods for elementary general music education (PreK-5).

- C) understands teaching methods for middle school/secondary choral music education. (6-12).
- D) understands teaching methods for middle school/secondary general music education (6-12).
- E) understands teaching methods for middle school/secondary instrumental music education (6-12).
- F) understands teaching methods for students with special educational needs.
- G) understands teaching methods for integrating music into other areas of the curriculum.
- H) understands characteristics of appropriate music education materials and literature for a variety of music education settings.
- I) understands characteristics of the developing human voice from early childhood to late adolescence.
- J) understands the characteristics of wind, string, and percussion instruments.
- K) understands the characteristics of rhythmic, harmonic, and melodic instruments (including ethnic instruments) used in the classroom.
- L) understands the techniques of accompanying classroom and performing ensembles.
- M) understands types and characteristics of music technology appropriate for the school music program.
- N) understands techniques of composing (including improvisation), scoring, and arranging music appropriate for a variety of instruments and voices within the school music program.
- O) understands techniques of conducting appropriate to school performing ensembles.
- P) understands techniques for assessing students' aptitude and achievement appropriate to the school music program.

2) Performance Indicators – The competent music teacher:

- A) articulates a logical rationale for the role of music in the school curriculum.
- B) identifies and applies teaching methods for elementary general music education (PreK-5).
- C) identifies and applies teaching methods for middle school/secondary choral music education (6-12).
- D) identifies and applies teaching methods for middle school/secondary general music education (6-12).
- E) identifies and applies teaching methods for middle school/secondary instrumental music education (6-12).
- F) identifies and applies teaching methods for students with special educational needs.
- G) identifies and applies teaching methods for integrating music into other areas of the curriculum.
- H) identifies characteristics of appropriate music education materials and literature for a variety of music education settings.
- I) identifies vocal classifications and ranges and the stages of vocal maturation from early childhood to late adolescence.
- J) identifies characteristics, principles, and techniques of tone production on wind, string, and percussion instruments.
- K) identifies and performs on rhythmic, harmonic, and melodic instruments (including ethnic instruments) used in the classroom.
- L) applies the techniques of accompanying classroom and performing ensembles.
- M) identifies and uses music technology appropriate for the school music program.
- N) identifies and applies techniques of composing (including improvisation), scoring, and arranging appropriate for a variety of instruments and voices with the school music program.
- O) applies techniques of conducting appropriate to school performing ensembles.

- P) identifies and applies techniques for assessing students' aptitude and achievement appropriate to the school music program.

Section 27.330 Visual Arts

- a) The competent visual arts teacher understands the sensory elements, organizational principles, and expressive qualities of the visual arts.
 - 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands the elements of design: color, form, line, shape, space, texture, and value.
 - B) understands the principles of design: balance, contrast, harmony, movement, pattern, repetition, rhythm, and unity.
 - C) understands the expressive qualities and communication of ideas.
 - D) understands properties of two- and three-dimensional space and of the fourth dimension, time.
 - 2) Performance Indicators – The competent visual arts teacher:
 - A) analyzes and demonstrates the elements and principles of design.
 - B) analyzes and demonstrates how aesthetic qualities (e.g., elements, principles, and expressive ideas) are used in art works.
 - C) analyzes and evaluates (critiques) artworks for how aesthetic qualities are used to convey intent, expressive ideas, and/or meaning.
- b) The competent visual arts teacher understands the commonalities, distinctions, and connections in and among the fine arts.
 - 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands how to compare and contrast elements, principles, and tools in two or more visual artworks.
 - B) understands how to compare and contrast artworks in two or more fine arts that share processes, expressive ideas, similar themes, historical periods, or societal contexts.
 - C) understands how different art forms combine to create an interrelated artwork (e.g., musical theatre, and cinematography).

- 2) Performance Indicators – The competent visual arts teacher:
 - A) collaborates with other arts specialists in developing interrelated artworks.
 - B) analyzes and evaluates similar and distinctive characteristics of artworks in and among the arts.
- c) The competent visual arts teacher understands the process and production of the visual arts.
 - 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands media and tools and how to use them in a safe and responsible manner.
 - B) understands a minimum of five artistic processes (e.g., printmaking, fiber arts, photography, sculpture, and electronic media).
 - 2) Performance Indicators – The competent visual arts teacher:
 - A) describes how the selection of tools/techniques and processes creates specific effects.
 - B) analyzes and evaluates how the selection of media, tools, technologies, and processes is used to support and influence the communication of ideas.
- d) The competent visual arts teacher will be able to apply knowledge and skills necessary to create expressively and with technical proficiency in a range of media and processes.
 - 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands the manipulative skills necessary to draw and build works of art, using creative processes to express ideas.
 - B) understands how to communicate clear and focused ideas based on planning and problem-solving techniques in creating visual arts.
 - 2) Performance Indicators – The competent visual arts teacher:
 - A) creates artworks in two and three dimensions and in the time arts.

- B) creates artworks that are realistic, abstract, conceptual, functional, and decorative.
 - C) demonstrates manipulative skills to draw and build works of art in a range of media.
 - D) creates artwork that demonstrates the process of problem-solving and creative exploration.
- e) The competent visual arts teacher will be able to analyze how the visual arts function in history, society and everyday life.
- 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands how the visual arts function in a cultural and societal context.
 - B) understands how visual arts function in commercial applications (e.g., mass media, environmental and product design).
 - C) understands how the function of the visual arts changes over time.
 - D) understands how careers and jobs in the visual arts vary based on historical and societal changes.
 - 2) Performance Indicators – The competent visual arts teacher:
 - A) analyzes how the visual arts have contributed over time to communication, celebrations, occupations, recreation, politics and entertainment.
 - B) analyzes how the visual arts are and have been used to inform and persuade.
 - C) analyzes the function of the visual arts in various eras and cultures.
- f) The competent visual arts teacher understands how the visual arts shape and reflect history, society, and everyday life.
- 1) Knowledge Indicators – The competent visual arts teacher:
 - A) understands the distinguishing characteristics of historical and contemporary artwork from a variety of periods and cultures.
 - B) understands how the visual arts change in response to the changes in society.

- C) understands how popular media and the visual arts influence society.
- 2) Performance Indicators – The competent visual arts teacher:
- A) analyzes and classifies the distinguishing characteristics of historical and contemporary artwork from a variety of periods and cultures.
 - B) analyzes how the arts shape and reflect ideas, issues, or themes in a variety of cultures and historical periods.
- g) The competent visual arts teacher understands and is able to apply pedagogical knowledge and skills appropriate to the teaching of the visual arts.
- 1) Knowledge Indicators – The competent visual arts teacher:
- A) understands child development and the psychological principles of learning and how they apply to visual arts education.
 - B) understands a variety of current age-appropriate instructional strategies and their applications.
 - C) understands the ongoing process of curriculum development, taking into account local, State, and national standards.
 - D) understands how to organize the instructional environment to maximize students' learning.
 - E) understands the role of assessment in measuring students' learning and curriculum development.
 - F) understands different assessment methods and their application in visual arts education.
 - G) understands the need for continuing study, self evaluation, and professional growth.
- 2) Performance Indicators – The competent visual arts teacher:
- A) adapts instructional strategies and assessment methods to the needs of individual students, allowing for students' learning styles, cultural backgrounds, and special needs.
 - B) develops a comprehensive and sequenced visual arts curriculum.

- C) effectively uses resources (technology, materials, and physical environment) to facilitate students' learning.
- D) uses a variety of assessment methods to analyze and report students' learning.
- E) identifies and applies teaching methods for integrating visual arts with other art forms and other subject areas.
- F) articulates a logical rationale for the role of the visual arts in the school curriculum, including philosophical and social foundations for visual arts education.
- G) advances his or her knowledge of current developments in the field by participating in professional development activities (e.g., coursework, professional organizations, and workshops).

Section 27.340 Foreign Language

- a) The competent foreign language teacher comprehends the processes involved in acquiring another language.
 - 1) Knowledge Indicators – The competent foreign language teacher:
 - A) comprehends the processes involved in developing listening skills in a second language.
 - B) comprehends the processes involved in developing speaking skills in a second language.
 - C) comprehends the processes involved in developing reading comprehension skills in a second language.
 - D) comprehends the processes involved in developing writing skills in a second language.
 - 2) Performance Indicators – The competent foreign language teacher:
 - A) applies knowledge about second language acquisition by designing a simple activity to promote listening skills.
 - B) applies knowledge about second language acquisition by critiquing an activity for developing speaking skills.

- C) applies knowledge about second language acquisition by designing an appropriate comprehension activity for a selected reading.
 - D) applies knowledge about second language acquisition by designing a simple writing activity.
- b) The competent foreign language teacher understands oral communication and interacts appropriately in the target language in various settings.
 - 1) Knowledge Indicator – The competent foreign language teacher has the ability to understand the main idea and details of oral and audio presentations unsupported by visual aids.
 - 2) Performance Indicators – The competent modern foreign language teacher:
 - A) participates in conversations on familiar topics related to daily activities and the personal environment with a high degree of grammatical accuracy.
 - B) initiates, sustains, and brings to a close uncomplicated communicative exchanges in response to a given situation.
 - C) makes oral presentations in academic, social, or work situations.
 - D) approximates native-like pronunciation, intonation, and inflection.
 - 3) Performance Indicators – The competent classical language teacher:
 - A) uses the target language with a high degree of grammatical accuracy.
 - B) initiates, sustains, and brings to a close uncomplicated communicative exchanges in a classroom context.
 - C) uses the target language in academic, social, or work situations.
 - D) uses appropriate pronunciation, intonation, and inflection.
- c) The competent foreign language teacher understands and creates written materials in the target language for a variety of purposes and audiences.
 - 1) Knowledge Indicator – The competent foreign language teacher comprehends the main message, supporting details, and cultural context of complex materials.

- 2) Performance Indicators – The competent foreign language teacher:
 - A) uses printed information obtained from various sources, including electronic media.
 - B) creates written materials that include description, definition, and analysis.

- d) The competent foreign language teacher is able to use the target language to explain its structure in a manner understandable to a variety of learners.
 - 1) Knowledge Indicators – The competent foreign language teacher:
 - A) has a thorough understanding of the grammar and syntax of the target language.
 - B) is aware that differences exist in language use among different groups in such areas as vocabulary, pronunciation, and level of formality.

 - 2) Performance Indicators – The competent foreign language teacher:
 - A) organizes parts of speech into grammatically and syntactically correct sentences.
 - B) analyzes linguistic structures of the target language.
 - C) compares and contrasts distinctions among standard and non-standard varieties of the target language.

- e) The competent foreign language teacher understands manners, customs, and ranges of cultural expression of various societies that use the target language.
 - 1) Knowledge Indicator – The competent foreign language teacher understands cultural practices of one or more areas where the target language is spoken.

 - 2) Performance Indicators – The competent foreign language teacher:
 - A) identifies and models culturally appropriate social behaviors (e.g., greeting rituals, gestures, etc.) in a variety of contexts.
 - B) compares and contrasts cultural practices and social roles (e.g., bartering, ceremonies, interpersonal relationships, etc.) among various countries where the target language is spoken.

- f) The competent foreign language teacher demonstrates general knowledge of expressive forms (e.g., music, dance, folk art, visual art, drama, and architecture) related to various societies that use the target language.
- 1) Knowledge Indicators – The competent foreign language teacher:
 - A) knows the essential target language vocabulary referring to tools, processes, and products (e.g., art materials, painting, portraits, etc.) in one or more of the art forms.
 - B) understands the cultural and historical significance of characteristic art forms of a society that uses the target language.
 - 2) Performance Indicators – The competent foreign language teacher:
 - A) uses the essential target language vocabulary referring to tools, processes, and products in one or more of the art forms.
 - B) explains the cultural and historical significance of characteristic art forms of a society that uses the target language.
 - C) describes characteristics and origins of various art forms, using target language vocabulary.
- g) The competent foreign language teacher understands representative types of literature and various media of societies that use the target language.
- 1) Knowledge Indicators – The competent foreign language teacher:
 - A) understands literary themes and perspectives across authors and genres.
 - B) comprehends meaning and implications drawn from various target language media.
 - 2) Performance Indicators – The competent foreign language teacher:
 - A) compares and analyzes literary themes and perspectives across authors and genres.
 - B) explains the influence of historical context on form and point of view for a variety of literary works.
 - C) compares and analyzes topics as presented in various media (e.g., television, radio, CD-ROM, software, films, Internet sites, periodicals, inscriptions, graffiti, and other text).

- h) The competent foreign language teacher understands the history, geography, social institutions, and contemporary events of various societies that use the target language.
- 1) Knowledge Indicators – The competent foreign language teacher:
 - A) understands the significance of key figures (e.g., scientists, mathematicians, inventors, leaders,) and events, both past and present.
 - B) understands geographical aspects (e.g., natural resources, weather/climate, population distribution, and main economic activities) and how they relate to the development of at least two of the countries where the target language is spoken (if applicable).
 - C) understands social structures, roles and attitudes (e.g., class, gender, population, family, work, leisure) of at least two of the countries where the target language is spoken (if applicable).
 - D) understands political systems and institutions (e.g., government, education, law, and justice) of at least two of the countries where the target language is spoken (if applicable).
 - 2) Performance Indicators – The competent foreign language teacher:
 - A) uses maps, charts, graphs, electronic images, and other geographical representations to describe and discuss countries where the target language is used.
 - B) identifies and describes significant social institutions, roles, and perspectives of the cultures that use the target language.
 - C) compares and contrasts the impact of key figures and events on the development of countries that use the target language.
 - D) analyzes different perspectives of historical and contemporary events of countries that use the target language, using a variety of media and technology.
- i) The competent foreign language teacher uses the target language to reinforce and further the knowledge of other disciplines.
- 1) Knowledge Indicator – The competent foreign language teacher understands connections among various disciplines and the target language.

- 2) Performance Indicators – The competent foreign language teacher:
 - A) solves math problems and analyzes data (e.g., based on timetables, schedules, charts and graphs) in the target language.
 - B) describes and compares nutrition, physical fitness, sports, and leisure activities in areas where the target language is spoken.
 - C) identifies the currency, principal agricultural and manufactured products, and systems of trade and exchange (e.g., bargaining and bartering) of countries where the target language is spoken.
 - D) analyzes scientific issues from more than one cultural perspective.

- j) The competent foreign language teacher uses the target language to demonstrate knowledge and understanding of a variety of career options.
 - 1) Knowledge Indicator – The competent foreign language teacher is aware of various occupations and career opportunities for people who are proficient in the target language.
 - 2) Performance Indicators – The competent foreign language teacher:
 - A) explains advantages of target language proficiency for careers in the global marketplace.
 - B) identifies, describes, and compares occupations in situations where the target language is spoken.
 - C) uses print, electronic, and other resources to obtain information on careers (e.g., roles, status, and qualifications) in which a second language is an asset.

Section 27.350 General Curricular Standards for Special Education Teachers

This Section establishes standards relative to the general curriculum that shall apply to the issuance of special education teaching endorsements pursuant to Article 21B of the School Code [105 ILCS 5/Art. 21B]. The standards set forth in this Part shall apply both to candidates for the respective endorsements and to the programs that prepare them. Beginning July 1, 2005, approval of any teacher preparation program in special education shall be based on the congruence of that program's or course's content with the standards identified in this Section, and beginning on October 1, 2006, the examinations required for issuance of a special education teaching endorsement shall cover the standards included in this Section.

- a) Mathematics

The competent special education teacher demonstrates proficiency in the use of mathematics; understands, communicates, and connects the major concepts, procedures, and reasoning processes of mathematics that define number systems and number sense, geometry, measurement, statistics, probability and algebra; and promotes all students' ability to apply, interpret, and construct mathematical thinking skills in a variety of situations.

- 1) Knowledge Indicators – The competent special education teacher:
 - A) understands various approaches used (estimation, mental mathematics, manipulative modeling, numerical/geometric/algebraic pattern recognition and technology) to analyze mathematical ideas, solve problems and investigate real-world situations.
 - B) understands approaches used (estimation, mental mathematics, manipulative modeling, numerical/geometric/algebraic pattern recognition and technology) to interpret and communicate mathematical information, reasoning, concepts, applications and procedures.
 - C) understands concepts of math including numeration, geometry, measurement, statistics/probability and algebra.
- 2) Performance Indicators – The competent special education teacher:
 - A) demonstrates proficiency in mathematics.
 - B) selects and uses a wide range of manipulatives, instructional resources and technologies to support the learning of mathematics.
 - C) develops appropriate lesson plans that incorporate curriculum and instructional strategies with individualized education goals and benchmarks.
 - D) evaluates general curricula and determines the scope and sequence of the academic content area of mathematics.
 - E) utilizes resources and materials that are developmentally and functionally valid.
 - F) applies principles of instruction for generalized math skills to teaching domestic, community, school, recreational or vocational skills that require mathematics.
 - G) plans and implements individualized, systematic instructional programs to teach priority mathematic skills.

- H) incorporates the Illinois Learning Standards in areas of mathematics in the development of instruction and IEPs.

b) Reading

The competent special education teacher has a general understanding of reading and reading instruction and knows how to assess, teach and support the education of students with disabilities.

1) Knowledge Indicators – The competent special education teacher:

- A) knows theoretical models and philosophies of reading education and their relevance to instruction.
- B) knows the scope and sequences for reading instruction at all developmental levels.
- C) understands, respects and values cultural, linguistic and ethnic diversity and knows how these differences can influence learning to read.
- D) understands the differences between reading skills and strategies and the role each plays in reading development.
- E) knows a wide range of high-quality literature for students.
- F) understands models of reading diagnosis that include students' proficiency with print conventions, word recognition and analysis, vocabulary, fluency, comprehension, self-monitoring and motivation.
- G) knows a wide variety of informal and formal assessments of reading, writing, spelling and oral language.
- H) is aware of a variety of individualized and group instructional interventions or programs for students with reading problems.
- I) plans and models the use of comprehension strategies across content areas.

2) Performance Indicators – The competent special education teacher:

- A) adjusts reading instruction to meet the needs of diverse learners (e.g., gifted students, those for whom English is a second language, those with disabilities, and those who speak non-standard dialects).

- B) locates, evaluates, and uses literature for readers of all abilities and ages.
 - C) uses various tools to estimate the readability of texts.
 - D) uses technology to support reading and writing instruction.
 - E) determines strengths and needs of individual students in the areas of reading, writing and spelling.
 - F) determines students' reading levels (independent, instructional, frustrational).
 - G) gathers and interprets information for diagnosis of the reading problems of individual students.
 - H) develops individual educational plans for students with severe learning problems related to literacy.
 - I) interprets and explains diagnostic information for classroom teachers, families and other specialists to use in planning instructional programs.
 - J) designs, implements and evaluates appropriate reading programs for small groups and individuals.
 - K) incorporates the Illinois Learning Standards in areas of reading in the development of instruction and IEPs.
- c) Natural and Social Sciences
The competent special education teacher understands the fundamental concepts and principles related to the natural and social sciences.
- 1) Knowledge Indicators – The competent special education teacher:
 - A) understands scientific investigation and inquiry skills across the sciences to conduct experiments and solve problems.
 - B) understands principles and procedures, including safety practices, related to the design and implementation of scientific investigations and the application of inquiry skills and processes to develop explanations of natural phenomena.
 - C) understands the relationship among the social science disciplines.

- D) understands that science is a process involving observation, inference, and experimentation.
 - E) understands the relationship between the social sciences and other learning areas.
- 2) Performance Indicators – The competent special education teacher:
- A) demonstrates and uses appropriate strategies to engage students in acquiring new knowledge through the use of scientific thinking and reasoning.
 - B) selects and uses a wide range of instructional resources, modes of inquiry and technologies to support learning in the natural and social sciences.
 - C) develops appropriate lesson plans that incorporate curriculum and instructional strategies with individualized education goals and benchmarks.
 - D) models the rights and responsibilities of citizenship in a democratic society.
 - E) models and teaches the appropriate use of scientific methods (e.g., gathering, organizing, mapping, interpreting, and analyzing).
 - F) incorporates the Illinois Learning Standards in areas of natural and social science in the development of instruction and IEPs.

(Source: Amended at 40 Ill. Reg. 12438, effective August 9, 2016)

SUBPART C: ADDITIONAL TEACHING FIELDS

Section 27.400 Agricultural Education

- a) The competent agricultural education teacher understands the foundations of work, the career development process, occupational skill standards, and workplace skill requirements.
 - 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands the history, organization, and future of work and how work relates to needs and functions of the economy and society.
 - B) understands career development concepts, the relationship between work and learning, and the career planning process.

- C) understands the use of the relevant Illinois Occupational Skill Standards in the development of curriculum (see “Agriculture Machinery Service Technician” (2001), “Agriculture Sales and Marketing Cluster” (2001), “Floristry Cluster” (1997), “Greenhouse/Nursery Cluster” (1997), “Landscape Technician Cluster” (2002), “Swine Production Cluster” (2000), “Retail Garden Center Cluster” (1997), and “Row Crop Production Cluster” (2000), all published by the Illinois Occupational Skill Standards and Credentialing Council, 2450 Foundation Drive, Springfield IL 62703-5432; no later editions or revisions are incorporated).
- 2) Performance Indicators - The competent agricultural education teacher:
- A) relates workplace cultural expectations to workplace skills.
 - B) develops partnerships with members of the business community to provide learning opportunities for students.
 - C) provides advice in the career planning process.
 - D) selects appropriate skill standards for the program areas.
- b) The competent agricultural education teacher demonstrates the ability to plan, deliver, and evaluate instruction based upon knowledge of subject matter in the field; student organizations; student, community and work needs; curriculum goals; and findings of educational research.
- 1) Knowledge Indicators – The competent agricultural education teacher:
- A) understands pedagogy unique to the discipline.
 - B) understands the rationale for integrating student organizations’ activities into the curriculum.
 - C) understands professional literature relating to specific content area and to workplace needs.
 - D) understands economic/socio-economic conditions, patterns of business development, and changing labor and career opportunities and their impact on the relevancy of classroom instruction.
- 2) Performance Indicators - The competent agricultural education teacher:

- A) utilizes appropriate pedagogy unique to the individual discipline within career and technical education.
 - B) creates learning environments and classroom activities that develop life/workplace skills and knowledge in the discipline.
 - C) identifies and utilizes educational research findings that justify teaching strategies.
 - D) applies curricular content and processes in order to achieve the goals of student organizations.
 - E) applies post-secondary admission standards and occupational skill standards when designing curriculum and assessment.
 - F) designs appropriate assessment plans for students.
 - G) develops collaborative partnerships with students, colleagues, community members, business/industry, and parents to maximize resources.
 - H) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.
 - I) plans, organizes, and manages laboratories/technical facilities for instruction that meet diverse needs of students (i.e., safety, inventory, filing, requisitioning equipment and materials, maintenance, budgeting).
 - J) implements laws and policies relating to safe environments and incorporates appropriate safety standards, healthy practices, and ergonomic needs.
- c) The competent agricultural education teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of agricultural education.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.

- B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
- C) understands how to design, select, modify and evaluate materials in terms of the reading needs of the learner.
- D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
- E) understands the relationship between oral and silent reading.
- F) understands the role of subject-area vocabulary in developing reading comprehension.
- G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
- H) understands the importance of the relationship between assessment and instruction in planning.

2) Performance Indicators - The competent agricultural education teacher:

- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing, and summarizing material.
- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
- C) plans and models use of comprehension strategies before, during, and after reading of text.
- D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
- E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
- F) plans and teaches lessons to help students develop study strategies that include previewing and preparing to read text effectively,

recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.

- G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
 - H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.
 - I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries that foster reading.
- d) The competent agricultural education teacher understands the curriculum in the area of agricultural science.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands scientific principles and the scientific method of investigation.
 - B) understands biological concepts and principles in the animal sciences.
 - C) understands biological concepts and principles of agronomic crops.
 - D) understands characteristics, components, and properties of soil.
 - 2) Performance Indicators - The competent agricultural education teacher:
 - A) directs students' experimentation, following the scientific method of investigation.
 - B) applies biological concepts and principles to agricultural management practices for animals.
 - C) applies biological concepts and principles to agricultural management practices for plants.
 - D) applies characteristics, components, and properties of soil to management practices of drainage, irrigation, soil testing, and conservation.

- e) The competent agricultural education teacher understands the curriculum in the area of agricultural mechanization.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands agricultural power.
 - B) understands agricultural surveying.
 - C) understands agricultural electricity.
 - D) understands agricultural structures.
 - E) understands agricultural machinery.
 - F) understands agricultural construction processes.
 - G) understands agricultural technology.
 - 2) Performance Indicators - The competent agricultural education teacher:
 - A) applies concepts of agricultural power to the repair of engines and machinery.
 - B) uses surveying equipment in agricultural applications.
 - C) applies knowledge of electricity to installation and repair of electrical systems.
 - D) applies knowledge of structures to agricultural applications.
 - E) applies skills in repairing and maintaining agricultural machinery.
 - F) applies skills in carpentry, masonry, and plumbing to agricultural construction.
 - G) uses technology in agricultural applications.
- f) The competent agricultural education teacher understands the curriculum in the area of agricultural business.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands agricultural marketing and economics.

- B) understands the concepts of agricultural sales and service.
 - C) understands principles of entrepreneurship.
 - D) understands economic policies and how they influence agriculture.
- 2) Performance Indicators - The competent agricultural education teacher:
- A) applies principles of marketing and economics in agricultural business operations.
 - B) applies strategies for effective sales and service in agricultural applications.
 - C) applies entrepreneurship principles to the development and operation of an agricultural business.
 - D) analyzes economic policies and their influence on agriculture.
- g) The competent agricultural education teacher understands the curriculum in the area of horticulture.
- 1) Knowledge Indicators – The competent agricultural education teacher:
- A) understands plant systems.
 - B) understands plant propagation.
 - C) understands integrated pest management.
 - D) understands greenhouse management.
 - E) understands fruit and vegetable crops.
 - F) understands floral design.
 - G) understands landscaping.
 - H) understands turf management.
- 2) Performance Indicators - The competent agricultural education teacher:
- A) applies principles of plant growth and reproduction to the cultivation of horticultural plants.
 - B) uses approved procedures for propagating horticultural plants.

- C) uses integrated pest management practices to control horticultural plant pests.
 - D) operates a greenhouse facility for the production of plants.
 - E) uses proven methods for the production of fruit and vegetable crops.
 - F) applies principles of floral design to create floral arrangements.
 - G) applies principles of landscaping to design, plant, and maintain landscaped areas.
 - H) applies principles of turf management to the production and maintenance of turf.
- h) The competent agricultural education teacher understands the curriculum in the area of agricultural resources.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands the relationship among agriculture, the environment, and society.
 - B) understands the role of forest and agricultural management in protecting habitats and species.
 - C) understands land-use issues in agriculture.
 - 2) Performance Indicators - The competent agricultural education teacher:
 - A) applies principles of ecology in agricultural resource management.
 - B) applies principles of conservation in protecting habitats and species.
 - C) applies knowledge of land use to agricultural applications.
- i) The competent agricultural education teacher is able to develop and implement a comprehensive agriculture program reflective of student, community, and industry interaction.
- 1) Knowledge Indicators – The competent agricultural education teacher:

- A) understands the development and effective use of advisory councils in the agriculture program.
 - B) understands agricultural literacy programs from kindergarten through the adult level.
 - C) understands the development of partnerships with constituent support groups.
 - D) understands students' and industry's needs in career and technical education.
- 2) Performance Indicators - The competent agricultural education teacher:
- A) establishes an active advisory council for the agriculture program.
 - B) conducts agricultural literacy activities for K-adult populations.
 - C) develops partnerships with constituent support groups.
 - D) develops programs to meet students' and industry's needs in career and technical education.
- j) The competent agricultural education teacher understands the principles of leadership and applies that knowledge through the activities of the Future Farmers of America (FFA), an agricultural education students' organization.
- 1) Knowledge Indicators – The competent agricultural education teacher:
- A) understands the development of student development activities in the FFA.
 - B) understands the development of chapter development activities in the FFA.
 - C) understands the development of community development activities in the FFA.
- 2) Performance Indicators - The competent agricultural education teacher:
- A) advises students in planning and conducting student development activities.
 - B) advises students in planning and conducting chapter development activities.

- C) advises students in planning and conducting community development activities.
- k) The competent agricultural education teacher understands and provides individual career experiences through experiential learning in Supervised Agricultural Experiences (SAEs).
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands that SAEs are to be planned and comprehensive.
 - B) understands that SAEs are linked to the curriculum and a career.
 - C) understands that SAEs are individualized and student-managed.
 - D) understands that SAEs are documented by using recordkeeping and analysis.
 - E) understands that SAEs allow students to receive recognition.
 - 2) Performance Indicators - The competent agricultural education teacher:
 - A) assists students in developing planned and comprehensive SAEs.
 - B) assists students in selecting an SAE linked to the curriculum and a career.
 - C) assists students in managing their individualized SAEs.
 - D) supervises SAEs and assists with recordkeeping and analysis.
 - E) provides opportunities for recognition of student SAEs.
- l) The competent agricultural education teacher understands appropriate instructional strategies for integrating the unique components of a comprehensive agricultural education program, including FFA, SAE, classroom and laboratory instruction, and adult education.
- 1) Knowledge Indicators – The competent agricultural education teacher:
 - A) understands the methods and strategies used in teaching the unique instructional areas of agriculture education, including FFA and SAE.
 - B) understands the references and resources used in teaching agricultural education.

- C) understands the development of effective adult education programs.
- 2) Performance Indicators - The competent agricultural education teacher:
- A) uses a variety of methods and strategies in teaching agriculture.
 - B) develops a library of references and resources for teaching agriculture.
 - C) develops an effective adult education program.

Section 27.410 Business, Marketing, and Computer Education

- a) The competent business, marketing, and computer education teacher understands the foundations of work, the career development process, occupational skill standards, and workplace skill requirements.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
- A) understands the history, organization, and future of work and how work relates to needs and functions of the economy and society.
 - B) understands career development concepts, the relationship between work and learning, and the career planning process.
 - C) understands the use of the relevant Illinois Occupational Skill Standards in the development of curriculum (see “Accounting Services Cluster” (2001), “Administrative Support Cluster” (1999), “Court Reporter/Captioner” (2000), “Information Processing Cluster” (1997), “Insurance Cluster” (2001), “Legal Office Cluster” (1998), and “Medical Office Cluster” (1998), all published by the Illinois Occupational Skill Standards and Credentialing Council, 2450 Foundation Drive, Springfield IL 62703-5432; no later editions or revisions are incorporated).
- 2) Performance Indicators - The competent business, marketing, and computer education teacher:
- A) relates workplace cultural expectations to workplace skills.
 - B) develops partnerships with members of the business community to provide learning opportunities for students.

- C) provides advice in the career planning process.
 - D) selects appropriate skill standards for the program areas.
- b) The competent business, marketing, and computer education teacher demonstrates the ability to plan, deliver, and evaluate instruction based upon knowledge of subject matter in the field; student organizations; student, community and work needs; curriculum goals; and findings of educational research.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands pedagogy unique to the discipline.
 - B) understands the rationale for integrating student organizations’ activities into the curriculum.
 - C) understands professional literature relating to specific content area and to workplace needs.
 - D) understands economic/socio-economic conditions, patterns of business development, and changing labor and career opportunities and their impact on the relevancy of classroom instruction.
 - 2) Performance Indicators - The competent business, marketing, and computer education teacher:
 - A) utilizes appropriate pedagogy unique to the individual discipline within career and technical education.
 - B) creates learning environments and classroom activities that develop life/workplace skills and knowledge in the discipline.
 - C) identifies and utilizes educational research findings that justify teaching strategies.
 - D) applies curricular content and processes in order to achieve the goals of student organizations.
 - E) applies post-secondary admission standards and occupational skill standards when designing curriculum and assessment.
 - F) designs appropriate assessment plans for and by students.
 - G) develops collaborative partnerships with students, colleagues, community, business/industry, and parents to maximize resources.

- H) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.
 - I) plans, organizes, and manages laboratories/technical facilities for instruction that meet diverse needs of students (i.e., safety, inventory, filing, requisitioning equipment and materials, maintenance, budgeting).
 - J) implements laws and policies relating to safe environments and incorporates appropriate safety standards, healthy practices, and ergonomic needs.
- c) The competent business, marketing, and computer education teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of business, marketing, and computer education.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.
 - F) understands the role of subject-area vocabulary in developing reading comprehension.
 - G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
 - H) understands the importance of the relationship between assessment and instruction in planning.

- 2) Performance Indicators - The competent business, marketing, and computer education teacher:
- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing, and summarizing material.
 - B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
 - C) plans and models use of comprehension strategies before, during, and after reading of text.
 - D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
 - E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
 - F) plans and teaches lessons to help students develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
 - G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
 - H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.
 - I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries that foster reading.
- d) The competent business, marketing, and computer education teacher understands computational and accounting principles and practices.

- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands the various steps of the accounting cycle for a proprietorship, partnership, and corporation.
 - B) understands assets, liabilities, and owner's equity according to generally accepted accounting principles.
 - C) understands accounting principles as they apply to ownership, payroll, income taxation, and managerial systems.
 - D) understands computational and algebraic operations.
 - 2) Performance Indicators - The competent business, marketing, and computer education teacher:
 - A) prepares, interprets, and analyzes financial statements using manual and computerized systems.
 - B) applies appropriate accounting principles to various forms of ownership payroll, income taxation, and managerial systems.
 - C) uses planning and control principles to evaluate the performance of an organization and applies differential analysis and present value concepts to make decisions.
 - D) uses statistical analysis to interpret consumer and business data to solve problems.
- e) The competent business, marketing, and computer education teacher understands content related to economics and consumer economics.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands the basic features of different economic systems.
 - B) understands the major features of the U.S. economy.
 - C) understands the role of exchange and money in an economic system.
 - D) understands the role of government in an economic system, especially the role of government in the U.S. economy.

- E) understands the role of international trade and investment and international monetary relations in the global economy.
 - F) understands the different consumer agencies that address consumer issues and concerns.
- 2) Performance Indicators - The competent business, marketing, and computer education teacher:
- A) identifies opportunity costs and trade-offs involved in making choices about how to use scarce economic resources.
 - B) explains why societies develop economic systems.
 - C) describes the effect of interdependence on economic activity.
 - D) describes different types of competitive structures and illustrates the role of competitive markets in the U.S. and other economies.
 - E) examines the importance of economic relationships among nations.
 - F) applies problem-solving skills to consumer economic principles of purchasing auto, health, and life insurance, food, clothing, and recreation.
 - G) demonstrates financial decision making in the areas of budgeting and investing (stock market, precious metals, jewelry, and collectibles), and taxes.
 - H) chooses among checking and savings options offered by banks and credit unions.
- f) The competent business, marketing, and computer education teacher understands the principles of marketing, entrepreneurship, management, law, and international business.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
- A) understands external business factors' impact on marketing.
 - B) understands the principles of the four Ps of marketing (product, price, place, promotion).
 - C) understands the role of marketing and its impact on individuals, businesses, and society.

- D) understands the basic tenets of management theories and why they are important.
 - E) understands the importance of the basic tenets of management theories in the successful operation of the organization.
 - F) understands various organizational structures and the advantages and disadvantages of each.
 - G) understands the role of organized labor and its influences on government and business.
 - H) understands the relevance of generally accepted operations management principles and procedures in order to be able to design an operations plan.
 - I) understands the relationship between ethics and the law, the sources of the law, the structure of the court system, the different classifications of procedural law, and the different classifications of substantive law.
 - J) understands the relationships among contract law, law of sales, and consumer law.
 - K) understands the role and importance of agency law and employment law as they relate to the conduct of business in the national and international marketplaces.
 - L) understands legal rules that apply to personal property and real property.
 - M) understands the advancements in computer technology and how they affect areas such as property law, contract law, criminal law, and international law.
 - N) understands international business related to ethics, finance, management, marketing, import/export trade concepts, communication/culture, and the environment.
- 2) Performance Indicators - The competent business, marketing, and computer education teacher:
- A) develops a marketing plan using the principles of the four Ps of marketing.

- B) applies forecasting principles to marketing data.
 - C) illustrates how the functions of management are implemented and explains why they are important.
 - D) analyzes financial data influenced by internal and external factors in order to make long-term and short-term management decisions.
 - E) describes the activities of human resource managers.
 - F) develops and uses general managerial skills such as time management, technology, networking, and entrepreneurial thinking.
 - G) applies the ethical considerations in education to various issues confronted by businesses.
 - H) identifies unique characteristics of an entrepreneur and evaluates the degree to which one possesses those characteristics.
 - I) applies economic concepts when making decisions for an entrepreneurial venture.
 - J) develops a business plan for an entrepreneurial venture.
- g) The competent business, marketing, and computer education teacher understands the principles of business communications and is able to apply them in oral, written, and electronic forms.
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands principles of appropriate oral, written, and electronic communications.
 - B) understands the effects of non-verbal communication.
 - 2) Performance Indicators - The competent business, marketing, and computer education teacher:
 - A) communicates in a clear, courteous, concise, and correct manner on personal and professional levels.
 - B) applies basic social communication skills in personal and professional situations.

- C) uses technology to enhance the effectiveness of communications.
 - D) demonstrates proficiency in written and oral communication using manual and electronic methods.
- h) The competent business, marketing, and computer education teacher understands and applies basic concepts of keyboarding and computer applications.
- 1) Knowledge Indicator – The competent business, marketing, and computer education teacher understands learning principles as related to psychomotor skill development when learning keyboarding and computer applications.
 - 2) Performance Indicators - The competent business, marketing, and computer education teacher:
 - A) demonstrates keyboarding skills to enter and manipulate text and data with acceptable speed and accuracy, using appropriate techniques.
 - B) formats business documents according to industry standards.
 - C) selects and uses word processing, desktop publishing, database, spreadsheet, and presentation software.
 - D) uses computer systems to run software to access, generate, and manipulate data and to publish results.
 - E) evaluates the performance of hardware and software components of computer systems.
 - F) applies basic troubleshooting strategies as needed.
 - G) applies tools for enhancing professional growth and productivity.
 - H) uses technology in communicating, collaborating, conducting research, and solving problems.
 - I) plans and participates in activities that encourage lifelong learning and promote equitable, ethical, and legal use of computer/technology resources.
 - J) uses computers and related technologies to support instruction.

- K) plans and delivers instructional units that integrate a variety of software applications and learning tools, all reflecting effective grouping and assessment strategies for diverse populations.
- i) In addition to the standards for all business, marketing, and computer education teachers set forth in this Section, those who specialize in the teaching of business computer programming shall be required to understand and demonstrate competence in computer technology, systems, and programming as specified in this subsection (i).
- 1) Knowledge Indicators – The competent business, marketing, and computer education teacher:
 - A) understands the logic and abstraction of programming.
 - B) understands the societal issues of computing.
 - C) understands computer architecture and operating systems.
 - D) understands the theory of networking.
 - E) understands database management concepts.
 - 2) Performance Indicators - The competent business, marketing, and computer education teacher:
 - A) designs, codes, enters, runs, and debugs computer programs.
 - B) differentiates among generations of programming languages.
 - C) analyzes the impact of computers on society and the environment.
 - D) configures, installs, and upgrades computer systems.
 - E) installs, upgrades, and customizes application software.
 - F) diagnoses and solves problems with various types of operating systems.
 - G) compares and contrasts network topologies.
 - H) plans and designs communication systems.
 - I) applies knowledge of protocol standards to solve connectivity problems.

- J) creates, edits, adds, and deletes records using database management software.
- K) performs queries and create reports using database management software.

Section 27.420 English as a New Language (ENL)

As used in this Section "ENL teacher" refers to bilingual education teachers and teachers of English as a second language.

- a) Content Knowledge – The competent ENL teacher has a comprehensive command of the language of instruction, subject matter, methods of inquiry, and structure of the disciplines and creates learning experiences that make the content meaningful to all students while building on the students' linguistic and cultural diversity.
 - 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands the main concepts, assumptions, debates, principles and theories central to the teaching of students for whom English is a new language.
 - B) understands how students' conceptual frameworks and previous experiences relate to a domain of knowledge and can influence their learning.
 - C) understands the relationship between content-area domains and instruction for ENL learners.
 - D) understands the process involved in second language acquisition and in learning content through a second language (ESL and bilingual teachers) and in learning content through a non-English language (bilingual teacher).
 - E) understands the relationship between proficiency in English and the non-English language to life and career applications.
 - F) understands the structure of the English language (ESL and bilingual teachers) and the structure of the non-English language (bilingual teachers).
 - 2) Performance Indicators – The competent ENL teacher:
 - A) evaluates teaching resources and curriculum materials for their comprehensibility, inclusivity, accuracy and appropriateness for

students for whom English is a new language.

- B) uses differing viewpoints, theories, "ways of knowing," methods of inquiry, complexities of language and choices of language (bilingual teacher) in teaching subject matter concepts.
 - C) engages students in generating and testing knowledge using a variety of methods that are appropriate for students for whom English is a new language.
 - D) designs learning experiences to promote students' skills in the use of appropriate technologies in all areas of study.
 - E) anticipates and adjusts instruction to facilitate optimal learning for all students, deliberately attempting to challenge all students and holding them to high expectations.
 - F) uses a variety of instructional strategies, including language scaffolding and various modalities of learning to help students develop in-depth conceptual understanding and applications of subject matter.
 - G) facilitates learning experiences that make connections to English, students' proficiency in two or more languages, other content areas and life and career experiences.
 - H) considers the students' native language, prior knowledge and educational background in the design, planning and delivery of instruction for ENL learners.
 - I) facilitates students' transfer of knowledge and strategies from one language to another.
- b) Human Development – The competent ENL teacher understands how individuals grow, develop, and learn and provides effective learning opportunities that support the intellectual, social, linguistic and personal development of all students.
- 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands that students construct knowledge, acquire skills and develop habits of mind through the use of their native language and through a second language.
 - B) understands that factors such as the students' cultures, socioeconomic status, previous experiences and emotional and

cognitive development can influence learning.

- C) understands that human development, the neural system and the range of individual variation within each domain are mediated by language and culture.
- D) understands how the acculturation process affects students' development.
- E) understands that educational systems vary and that differences in approaches to learning and performance interact with development.
- F) understands how to include student development factors and the students' social, cultural and educational backgrounds in order to make appropriate instructional decisions and promote a multicultural school climate.

2) Performance Indicators – The competent ENL teacher:

- A) analyzes individual and group performance in order to design instruction that meets learners' current needs.
- B) provides opportunities for students to reflect and build upon their prior knowledge to gain in-depth academic knowledge, concepts, skills, cultural competence and language proficiency in English and the non-English language.
- C) introduces concepts and principles at different levels of competency, taking into consideration language and culture so that the concepts and principles are meaningful to students at their varying levels of development and need.
- D) incorporates students' home language and culture in the design, planning, and implementation of a multicultural school climate.

c) Diversity – The competent ENL teacher understands how students differ in their approaches to learning based on their cultural backgrounds and individual experiences and creates instructional opportunities that are adapted to diverse learners.

1) Knowledge Indicators – The competent ENL teacher:

- A) understands various disabilities as they may affect the learning of students from culturally diverse backgrounds.
- B) understands how individual experiences, talents, prior knowledge,

language, culture and family and community values influence students' learning.

- C) understands differences in approaches to learning and performance, including different learning styles, multiple intelligences and performance modes.
- D) understands cultural dynamics and community diversity through a well-grounded framework.
- E) understands the process of acculturation and the instructional strategies that can be used to facilitate the learning of culture for all students.

2) Performance Indicators – The competent ENL teacher:

- A) creates a learning community in which individual and cultural differences are respected and celebrated.
- B) uses multiple cultural perspectives and individual students' experiences to inform and enrich instruction.
- C) makes appropriate provisions (in terms of time and circumstances for work, tasks assigned, communication, and response modes) for all students based on their individual learning differences or needs.
- D) seeks and uses information about students' families, culture and communities as a basis for connecting instruction to students' experiences.
- E) identifies when and how to access appropriate services or resources to assist students with exceptional learning needs.
- F) uses strategies to mediate cross-cultural conflicts and teach collaborative skills to students.
- G) evaluates and uses appropriate materials that feature multiple perspectives and authentic information and that are free of bias.
- H) implements instructional experiences that facilitate students' adaptation to U.S. society while validating and maintaining the students' own cultures.

- d) Planning and Instruction – The competent ENL teacher understands instructional planning and designs instruction based upon knowledge of the discipline, educational materials, technology, diversity of the community and curriculum

goals.

- 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands the Illinois Learning Standards (see 23 Ill. Adm. Code 1.Appendix D), curriculum development, subject-area content, learning theory, language acquisition and student development and knows how to incorporate this knowledge in planning and instruction.
 - B) understands how to develop short- and long-range plans consistent with curriculum goals, learners' diversity (including linguistic and cultural aspects) and learning theory.
 - C) understands how to take into account the students' language proficiency, interests and career needs in planning instruction.
 - D) understands when and how to adjust plans based on students' responses and other contingencies, such as prior content-area knowledge and level of English proficiency.
 - E) understands how to integrate technology into classroom instruction and student assessment.
 - F) understands how to review and evaluate instructional materials.
 - G) understands that a student's native language is a valuable tool for advancing learning.
 - H) understands how to use the student's native language to advance learning (bilingual teacher).
- 2) Performance Indicators – The competent ENL teacher:
 - A) establishes high expectations for students' learning in content areas, in English (ESL and bilingual teacher) and in the non-English language (bilingual teacher).
 - B) applies principles of scope and sequence when planning curriculum and instruction.
 - C) creates short- and long-term plans to achieve expectations for student learning.
 - D) creates multiple learning activities that allow for variation in students' learning styles, performance modes and levels of English

language proficiency.

- E) incorporates students' multicultural experiences into instructional practices that relate to the students' current life experiences and to future career and work experiences.
 - F) creates approaches to learning that are interdisciplinary and address various modalities of learning.
 - G) develops plans based on students' responses and provides for different pathways based on students' needs.
 - H) uses teaching resources and materials that are inclusive and non-biased and that have been evaluated for accuracy and usefulness.
 - I) accesses and uses a wide range of information, instructional technologies, and approaches in assessment and instruction.
 - J) creates the opportunity for meaningful communication that allows students to interact with subject matter while building proficiency in English (ESL and bilingual teachers) and the non-English language (bilingual teachers).
 - K) uses content as a means for language learning and language development.
 - L) creates real-world experiences for students.
 - M) provides meaningful classroom experiences that are developmentally appropriate for ENL students who have exceptional needs.
- e) Learning Environment – The competent ENL teacher understands the use of individual and group motivation and behavior to establish a caring, inclusive, safe and linguistically and culturally rich community of learning.
- 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands principles of and strategies for effective classroom management by minimizing inter- and intra-group friction and fostering understanding and respect among all cultural groups.
 - B) understands how individuals influence groups and how groups function in a multicultural environment.
 - C) understands how to help students work cooperatively and

productively in groups so that all students feel empowered.

- D) understands cultural and linguistic factors that influence motivation and engagement in the learning process to help students become self-motivated.

2) Performance Indicators – The competent ENL teacher:

- A) creates an atmosphere where students from linguistically and culturally diverse backgrounds feel welcomed, valued, respected, confident and challenged.
- B) uses strategies to create a smoothly functioning learning community in which culturally and linguistically diverse students assume responsibility for themselves and one another, participate in decision making, work collaboratively and independently, use appropriate technology, and engage in purposeful learning activities.
- C) analyzes the classroom environment to enhance social relationships, students' motivation, mutual respect, cooperation and support for students from linguistically and culturally diverse backgrounds.
- D) organizes, allocates, and manages time, materials, and physical space in order to engage all students in productive tasks.

f) Instructional Delivery – The competent ENL teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving and performance skills in the learning of both content and languages.

1) Knowledge Indicators – The competent ENL teacher:

- A) understands the cognitive processes associated with various kinds of learning and how these processes can be encouraged in students for whom English is a new language.
- B) understands principles, advantages and limitations of various instructional strategies as applied to all content areas and learning styles.
- C) understands how to facilitate learning through the use of a wide variety of materials as well as human and technological resources for ENL students.

- D) understands the disciplinary and interdisciplinary approaches to learning as applied to individual instruction and how they relate to life and career experiences for ENL students.
- 2) Performance Indicators – The competent ENL teacher:
- A) evaluates how to achieve learning goals and make instructional modifications to meet students' needs.
 - B) uses appropriate teaching and learning strategies in English (ESL and bilingual teacher) and the students' native language (bilingual teacher) to engage students in active learning opportunities that promote the development of critical thinking, problem solving and performance capabilities that help students assume responsibility for identifying and using learning resources.
 - C) monitors and adjusts strategies in response to learners' feedback.
 - D) varies his/her role in the instructional process as instructor, facilitator, coach or audience in relation to the content and purposes of instruction and the needs of students.
 - E) diversifies instruction to meet the needs of a culturally and linguistically diverse student body.
 - F) uses a wide range of appropriate technologies to enhance students' learning and to build students' competencies and confidence in the use of these devices.
 - G) develops curriculum that demonstrates an interconnection among subject areas, English proficiency and students' bilingualism that reflects life and career possibilities.
- g) Communications – The competent ENL teacher uses knowledge of effective written, verbal, nonverbal and visual communication techniques to foster active inquiry, collaboration and supportive interaction in the classroom.
- 1) Knowledge Indicators – The competent ENL teacher:
- A) understands communication theory, language development and the role of language learning as it pertains to first and second language acquisition.
 - B) understands how cultural and gender differences can affect communication in the classroom.

- C) understands the social, intellectual and political implications of language use.
 - D) understands the importance of audience and purpose when selecting ways to communicate appropriately in both academic and social settings.
 - E) understands that literacy is a developmental process and a necessary aspect of first and second language learning.
 - F) understands approaches, methodologies and strategies that promote first and second language acquisition.
 - G) understands that language acquisition is a constructive process and that language learning is an interactive process.
- 2) Performance Indicators – The competent ENL teacher:
- A) models accurate, effective communication when conveying ideas and information and when asking questions and responding to students in the language of instruction.
 - B) develops and effectively uses appropriate levels of instruction.
 - C) uses effective questioning techniques and stimulates discussion using the language of instruction for specific instructional purposes.
 - D) creates and modifies the learning environment to enable linguistically diverse students to use effective written, verbal, nonverbal and visual communication in English (ESL and bilingual teacher) and the non-English language (bilingual teacher).
 - E) models culturally sensitive behavior when practicing effective listening, conflict resolution and group-facilitation skills.
 - F) uses a variety of communicative tools to make language comprehensible and to lower anxiety when eliciting student expression.
 - G) provides learning experiences that use conventional and technological means of communication.
- h) Assessment – The competent ENL teacher understands various formal and informal assessment strategies and uses them to support the continuous development of all students.

- 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands how to assess how well students are meeting the Illinois Learning Standards (see 23 Ill. Adm. Code 1.Appendix D).
 - B) understands the purposes, characteristics and limitations of different kinds of assessments for students for whom English is a new language.
 - C) understands measurement theory and assessment-related issues such as validity, reliability, bias and scoring.
 - D) understands how to use assessment results to reflect on and modify teaching.
 - E) understands how to select, construct and use assessment strategies and instruments for diagnosis and evaluation of learning and instruction in English (ESL and bilingual teacher) and the non-English language (bilingual teacher).
- 2) Performance Indicators – The competent ENL teacher:
 - A) appropriately uses assessment results to diagnose learning difficulties and design teaching strategies to meet the learning needs of students for whom English is a new language.
 - B) uses a variety of formal and informal assessments to evaluate the understanding, progress and performance of the individual student and the class as a whole.
 - C) involves students in self-assessment activities to help them become aware of their strengths and needs and encourage them to establish goals for learning.
 - D) maintains useful and accurate records of students' work and performance and communicates students' progress knowledgeably and responsibly to students, parents and colleagues.
 - E) uses appropriate technologies to monitor and assess students' progress.
 - F) involves students in appropriate instructional activities that allow for the assessment and development of social skills.

- i) Collaborative Relationships – The competent ENL teacher understands the role of

the community in education and develops and maintains collaborative relationships with colleagues, parents/guardians, and the community to support students' learning and well-being.

1) Knowledge Indicators – The competent ENL teacher:

- A) understands the community the school serves to better communicate with parents.
- B) understands the benefits, barriers and techniques involved in establishing and fostering relationships with parents/families.
- C) understands school- and work-based learning environments and the need for collaboration with community businesses and agencies to promote cooperation among educational partners.
- D) understands collaborative skills that are necessary to interact on behalf of students.

2) Performance Indicators – The competent ENL teacher:

- A) fosters collaboration with others who affect the ways the system meets students' needs.
- B) creates forums and two-way communication vehicles to foster home and school links that build effective learning climates for ENL students and their families.
- C) seeks opportunities and develops relationships with parents, guardians, and extended family to acquire an understanding of the students' lives and culture.
- D) joins collaborative groups that form partnerships with local businesses and agencies to seek equitable learning opportunities for students.
- E) uses a variety of means to communicate educational goals, standards and implications of instructional activities and student assessment results to parents, students, colleagues, collaborative partners, and the educational community at large.
- F) works with colleagues in an interdisciplinary manner to develop an integrative, pluralistic learning environment that values the background of all students.

j) Reflection and Professional Growth – The competent ENL teacher is a reflective

practitioner who continually evaluates how his/her choices and actions affect culturally and linguistically diverse students and their parents and therefore seeks opportunities to grow professionally from interactions with students, their parents and other professionals.

1) Knowledge Indicators – The competent ENL teacher:

- A) understands that reflection is an integral part of professional growth and improvement of instruction.
- B) understands how his/her own philosophy, culture and experiences affect the instruction of culturally and linguistically diverse learners.
- C) understands a variety of self-assessment strategies.
- D) understands the research in the field of ESL and bilingual education on language learning and on the cognitive/academic development of ENL learners.
- E) understands where to find resources for professional development in the field.
- F) understands the need to continually analyze, evaluate, and use research-based best practices.

2) Performance Indicators – The competent ENL teacher:

- A) uses classroom observation, ongoing assessment, pedagogical knowledge and research as sources for reflection, evaluation and revision of practice.
- B) examines and evaluates his/her own strengths and weaknesses and employs that knowledge in planning for instruction.
- C) analyzes varied perspectives and keeps abreast of significant developments and debates in the field of teaching ENL learners.
- D) interacts with other professionals, explores new resources, studies the professional literature, participates in advanced educational programs, and contributes to the advancement of the profession of teaching ENL learners.

k) Professional Conduct and Leadership – The competent ENL teacher understands education as a profession, maintains standards of professional conduct, and provides leadership to improve the learning and well-being of students for whom

English is a new language.

- 1) Knowledge Indicators – The competent ENL teacher:
 - A) understands the unique characteristics of the bilingual/ESL education profession and the ethical considerations that apply to educators.
 - B) understands the goals of diverse programs and services, how they are organized and how they operate within the local school context for ENL students.
 - C) understands school and district policies and procedures for serving ENL students.
 - D) understands the Illinois mandate for assessing and providing services to ENL learners.
 - E) understands the importance of active participation and leadership in professional education organizations.

- 2) Performance Indicators – The competent ENL teacher:
 - A) provides leadership to administrators and instructional staff on ways to meet the needs of ENL learners for academic success and comfort in their new educational and social setting.
 - B) espouses the value of multilingualism and serves as an advocate for the appropriate use of the non-English language in the school setting.
 - C) seeks to ensure that proper identification, assessment, placement, referral and reclassification procedures are followed and that ENL students receive appropriate and equitable services and meaningful instruction.
 - D) advocates for equal access to extracurricular and enrichment activities for ENL learners and participates in and leads student organizations.
 - E) engages families of ENL learners in ways that enable and empower them to advocate on their own behalf.
 - F) reviews existing structures and policies; challenges ideas, requirements, and curricular assumptions that may inhibit effectiveness, equity, school quality, and learning; and initiates and

develops curricular and staff development projects and programs that enhance learning for ENL students.

- G) contributes knowledge and expertise about teaching ENL learners to the profession and actively influences norms in the school, encouraging collaboration and professionalism within a multicultural context.
- H) meets with local education agencies, professional organizations, and/or community organizations to advocate for ENL learners.
- I) follows codes of professional conduct, school policy and procedures, respecting the boundaries of professional responsibilities when working with students, families, colleagues and community organizations.

Section 27.425 English as a Second Language (ESL) and Bilingual Education (Beginning September 1, 2018)

No later than September 1, 2018, all approved teacher preparation programs that offer coursework and clinical experiences leading to the receipt of an ESL/bilingual education endorsement shall submit the course of study for ESL and/or bilingual education with evidence that the program's or course's content is congruent with the standards identified in this Section. An application for approval of a new preparation program or course of study submitted on or after September 1, 2018 shall provide evidence of congruence with the standards identified in this Section.

- a) The standards set forth in this subsection (a) shall apply to ESL.
 - 1) ESL Language and Literacy Domain
 - A) Language as a System – The competent ESL teacher:
 - i) demonstrates an understanding of social and academic language to support English Learners (ELs) in their acquisition of English language and literacy across the content areas.
 - ii) demonstrates understanding of language as a system, including phonology, morphology, semantics, syntax, discourse and pragmatics.
 - B) Language Acquisition and Development – The competent ESL teacher understands and applies theories and research in first and second language acquisition to support his or her ELs' English language and literacy development across content areas.

- C) Language in Society – The competent ESL teacher is reflective and responsive regarding both his or her own beliefs and common assumptions about how policies and power shape and mutually interact with language use, attitudes and societal norms, and ultimately affect education for ELs.

2) ESL Culture Domain

- A) Culture Research and Theory – The competent ESL teacher demonstrates and applies knowledge of current research, principles and theories of culture applied to the context of teaching and learning.
- B) Cultural Awareness – The competent ESL teacher demonstrates an awareness of and reflects on his or her personal beliefs, socioeconomic and cultural background, and intercultural experiences.
- C) Cultural Responsive Instruction – The competent ESL teacher understands the differences between home and school cultures and builds connections between them by implementing culturally and linguistically responsive strategies to support student achievement.
- D) Culture and Language – The competent ESL teacher continually learns about his or her students' languages and the language variations and builds instruction on the cultural assets and backgrounds that students bring from their homes and communities.
- E) Effects of Discrimination – The competent ESL teacher demonstrates and applies knowledge about the negative effects of prejudice, stereotyping and discrimination on teaching and learning.

3) ESL Instruction Domain

- A) Planning for Standards-based ESL and Content Instruction – The competent ESL teacher:
 - i) demonstrates knowledge of and applies concepts, research and best practices to plan classroom instruction in a supportive learning environment for ELs.
 - ii) demonstrates understanding of diverse international approaches to teaching language and content.

- iii) plans age appropriate instruction for classrooms with students of various language proficiency levels and diverse cultural and academic backgrounds.
 - iv) utilizes appropriate pedagogy to plan instruction for students.
 - v) demonstrates how to access and incorporate students' prior knowledge and experiences, including students' primary language, for instructional purposes.
- B) Implementing and Managing Standards-based ESL and Content – The competent ESL teacher:
- i) Implements a variety of second language teaching strategies and approaches (guided by national and State ESL language learning standards) for developing and integrating academic English language in the listening, speaking, reading and writing domains.
 - ii) Understands and provides access to the core curriculum, including through the use of the student's primary language.
- C) Using Resources Effectively in ESL Instruction – The competent ESL teacher:
- i) Evaluates, selects and adapts a wide range of materials, resources and technologies that meet the content and language needs of ELs.
 - ii) Uses materials, methods and approaches that are culturally responsive, linguistically and academically rigorous, and developmentally appropriate, including the use of primary language resources.
- 4) ESL Assessment Domain
- A) Issues of Assessment for ELs – The competent ESL teacher demonstrates knowledge and understanding of various assessment issues that affect ELs, such as accountability, reliability, validity, bias, special education testing, primary and target language proficiency, language supports, and accommodations in all assessment situations.

- B) Language Proficiency Assessment – The competent ESL teacher demonstrates knowledge, understanding and application of a variety of language proficiency assessments to document students' language development, to inform teacher instruction, and to identify, place and reclassify ELs.
 - C) Content Subject and Classroom-based Assessments – The competent ESL teacher demonstrates knowledge, understanding and application of a variety of assessment tools and techniques that are valid and reliable for ELs in order to measure students' academic achievement, including accommodations for ELs' language proficiency levels, and inform teachers' content and language instruction in the classroom.
- 5) ESL Professionalism Domain
- A) ESL Research and History – The competent ESL teacher:
 - i) demonstrates knowledge of history, research and current policies and practices in the field of EL education and applies this knowledge to meeting the needs of ELs.
 - ii) demonstrates knowledge of both additive and subtractive theories of bilingual education and understands the effects of these practices on students, families and communities.
 - B) Professional Development, Partnerships and Advocacy – The competent ESL teacher participates in professional growth opportunities, collaborates and builds partnerships with other professionals and community organizations, and advocates for ELs.
 - C) Partnerships and Advocacy with Families – The competent ESL teacher:
 - i) demonstrates understanding of the benefits of multilingualism and incorporates ELs' cultural and linguistic assets into their practice in order to help ELs be socially and academically successful.
 - ii) demonstrates understanding of how to work collaboratively with families of ELs and communities to improve the learning environment, provide support, and advocate for ELs and their families.

- D) Empowerment – The competent ESL teacher demonstrates an understanding of the relationship between language and power.
- b) In addition to the standards listed in subsection (a), the standards set forth in this subsection (b) shall apply to bilingual education.
- 1) **Bilingual Language and Literacy Domain**
The competent bilingual education teacher demonstrates social and academic language competencies in both languages in order to maximize biliteracy and bicultural development in their students.
 - 2) **Bilingual Instruction Domain**
Planning for Standards-based ESL and Content Instruction – The competent bilingual education teacher:
 - A) demonstrates the ability to properly assess content instruction in the primary and target language in order to make appropriate instructional decisions.
 - B) demonstrates knowledge, understanding and application of a variety of assessment tools and techniques that are valid and reliable in the primary language of the student.
 - C) knows and understands research-based models of bilingual education and their features, including components, goals, benefits, limitations, and factors that determine the implementation of a particular bilingual program in a school or district.
 - D) is able to teach literacy in the primary language while developing the EL's literacy in the target language by making appropriate instructional modifications across the curricula.
 - E) demonstrates knowledge of selection of instructional materials for the bilingual classroom and ensures materials and resources are appropriate for the program model and local context.
 - 3) **Bilingual Assessment Domain**
Issues of Assessment for ELs – The competent bilingual education teacher:
 - A) demonstrates the ability to properly assess content instruction in the primary and target language in order to make appropriate instructional decisions.

- B) demonstrates knowledge, understanding and application of a variety of assessment tools and techniques that are valid and reliable in the primary language of the student.

Section 27.430 Family and Consumer Sciences

- a) The competent family and consumer sciences teacher understands the foundations of work, the career development process, occupational skill standards, and workplace skill requirements.
 - 1) Knowledge Indicators – The competent family and consumer sciences teacher:
 - A) understands the history, organization, and future of work and how work relates to needs and functions of the economy and society.
 - B) understands career development concepts, the relationship between work and learning, and the career planning process.
 - C) understands the use of the relevant Illinois Occupational Skill Standards in the development of curriculum (see “Foodservice Cluster” (1997), “Housekeeping Management Cluster” (2000), “Lodging Cluster” (2000), and “Meeting Professional Cluster” (2002), all published by the Illinois Occupational Skill Standards and Credentialing Council, 2450 Foundation Drive, Springfield IL 62703-5432; no later editions or revisions are incorporated).
 - 2) Performance Indicators - The competent family and consumer sciences teacher:
 - A) relates workplace cultural expectations to workplace skills.
 - B) develops partnerships with members of the business community to provide learning opportunities for students.
 - C) provides advice in the career planning process.
 - D) selects appropriate skill standards for the program areas.
- b) The competent family and consumer sciences teacher demonstrates the ability to plan, deliver, and evaluate instruction based upon knowledge of subject matter in the field; student organizations; student, community and work needs; curriculum goals; and findings of educational research.
 - 1) Knowledge Indicators – The competent family and consumer sciences teacher:

- A) understands pedagogy unique to the discipline.
 - B) understands the rationale for integrating student organizations' activities into the curriculum.
 - C) understands professional literature relating to specific content area and to workplace needs.
 - D) understands economic/socio-economic conditions, patterns of business development, and changing labor and career opportunities and their impact on the relevancy of classroom instruction.
- 2) Performance Indicators - The competent family and consumer sciences teacher:
- A) utilizes appropriate pedagogy unique to the individual discipline within career and technical education.
 - B) creates learning environments and classroom activities that develop life/workplace skills and knowledge in the discipline.
 - C) identifies and utilizes educational research findings that justify teaching strategies.
 - D) applies curricular content and processes in order to achieve the goals of student organizations.
 - E) applies post-secondary admission standards and occupational skill standards when designing curriculum and assessment.
 - F) designs appropriate assessment plans for students.
 - G) develops collaborative partnerships with students, colleagues, community, business/industry, and parents to maximize resources.
 - H) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.
 - I) plans, organizes, and manages laboratories/technical facilities for instruction that meet diverse needs of students (i.e., safety, inventory, filing, requisitioning equipment and materials, maintenance, budgeting).

- J) implements laws and policies relating to safe environments and incorporates appropriate safety standards, healthy practices, and ergonomic needs.
- c) The competent family and consumer sciences teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of family and consumer sciences.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.
 - F) understands the role of subject-area vocabulary in developing reading comprehension.
 - G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
 - H) understands the importance of the relationship between assessment and instruction in planning.
 - 2) Performance Indicators - The competent family and consumer sciences teacher:
 - A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing, and summarizing material.

- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
 - C) plans and models use of comprehension strategies before, during, and after reading of text.
 - D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
 - E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
 - F) plans and teaches lessons for students to develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
 - G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
 - H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.
 - I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries that foster reading.
- d) Comprehensive Standard for Family and Consumer Sciences Educators: The competent family and consumer sciences teacher guides learners to develop their abilities in identifying, creating, and evaluating goals and alternative solutions to significant recurring issues of everyday life. In addition to competencies in family relationships, parenting-interpersonal relationships, consumer and resource management, and human/child development, standards must also be met in at least one of the following three areas: nutrition, wellness and hospitality, apparel and textiles, or living environments.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher:

- A) comprehends the work of the family, which involves resolution of the everyday situations faced by families, including maintaining adequate nutrition, meeting clothing and textile needs, providing a positive physical and emotional environment for family members, and balancing the requirements of employment and family life.
 - B) comprehends critical and creative thinking skills to address the significant recurring issues of everyday life for individuals and families.
 - C) comprehends the variety of family structures that contribute to the optimal development of individual members.
 - D) comprehends management processes for individual and family resource utilization, including food, clothing, shelter, utilities, health care, recreation, and transportation.
 - E) comprehends the principles of human development throughout the life span.
 - F) comprehends factors that contribute to personal and family wellness in both physical and mental dimensions.
 - G) comprehends the influence of public policy on family well-being.
 - H) comprehends the unique perspective of family and consumer sciences, which integrates the knowledge of resource utilization (clothing, food, housing, money, time, and other resources related to daily needs of families) with the knowledge of human development to enhance family well-being.
 - I) comprehends the value of human worth and accepting responsibility for one's actions for success in family and work life.
 - J) comprehends the use of Family, Career and Community Leaders of America (FCCLA) to promote students' learning, chapter leadership, and community activities and services.
- 2) Performance Indicators - The competent family and consumer sciences teacher:
- A) demonstrates the ability to apply knowledge of family systems of action to a family- or consumer-oriented issue.

- B) integrates family and consumer sciences knowledge to address everyday situations faced by families in different circumstances.
 - C) analyzes the impact of family as a system on individuals and society.
 - D) demonstrates appreciation for diverse perspectives, needs, and characteristics of individuals and families.
 - E) applies the unique perspective of family and consumer sciences, which integrates knowledge of resource utilization (clothing, food, housing, money, time, and other resources related to daily needs of families) with knowledge of human development to enhance family well-being.
 - F) creates unique solutions for everyday situations based on unique family circumstances and structures.
 - G) evaluates mechanisms for developing public policies that will have a positive impact on family and individual well-being.
 - H) displays skills in responsible citizenship and leadership for improving the family, community, and work environments.
 - I) applies technology to carry out functions of the family and career responsibilities.
 - J) demonstrates the use of FCCLA student learning and development activities, chapter development activities and projects, and community services and activities.
- e) Family Relationships, Parenting, and Interpersonal Relationships - The competent family and consumer sciences teacher understands significant recurring issues that establish and enhance family well-being.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher:
 - A) comprehends the significance of family and its impact on the well-being of individuals and society.
 - B) comprehends strategies which integrate knowledge, skills, and practices required for roles and relationships in the family, community, and workplace.

- C) comprehends the impact of parenting roles and responsibilities on strengthening the well-being of individuals and families.
 - D) comprehends career paths in family and human services.
- 2) Performance Indicators - The competent family and consumer sciences teacher:
- A) identifies societal conditions and cultural differences that affect family, parenting, and interpersonal relationships across the life span.
 - B) examines the impact of various stages of the family life cycle on interpersonal relationships.
 - C) analyzes functions and expectations of various types of relationships.
 - D) examines factors and processes needed to build and maintain healthy family, parenting, and interpersonal relationships.
 - E) examines skills and conditions needed to create an environment that encourages and respects the ideas, perspectives, and contributions of all group members in the family, workplace, and community.
 - F) evaluates parenting practices that maximize human growth and potential.
 - G) determines consequences of parenting practices for the individual, family, and society.
 - H) evaluates external support systems, community resources, and public policies and human services that provide services for parents and families.
- f) Consumer and Resource Management - The competent family and consumer sciences teacher utilizes knowledge of the interrelatedness between the family and its environments in addressing significant recurring issues in the management and allocation of resources.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher:
- A) comprehends policies that support consumer rights and responsibilities.

- B) comprehends the impact of technology on individual and family resources.
 - C) comprehends interrelationships between the economic system and consumer actions.
 - D) comprehends that management of human and non-human resources can help individuals and families meet goals across the life span.
 - E) comprehends principles of money management, including comparison shopping, installment purchasing, budgeting, saving, investing, and retirement planning.
 - F) comprehends career paths within consumer and financial service industries.
- 2) Performance Indicators - The competent family and consumer sciences teacher:
- A) manages individual and family resources, including food, clothing, shelter, utilities, health care, recreation, and transportation.
 - B) analyzes policies that support consumer rights and responsibilities.
 - C) analyzes interrelationships between the economic system and consumer actions.
 - D) applies management processes for human and non-human resources in meeting the goals of individuals and families across the life span.
 - E) evaluates the principles of money management, including comparison shopping, installment purchasing, budgeting, saving, investing, and retirement planning and use of financial services.
- g) Human and Child Development - The competent family and consumer sciences teacher understands and is able to address issues that affect human growth and development across the life span within the family context and in educational services.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher:

- A) comprehends the principles of physical, emotional, social, and intellectual growth and development across the life span and the interrelationship among them.
 - B) comprehends the impact of biological, social, economic, and technological conditions that influence human growth and development.
 - C) comprehends the effects of gender, ethnicity, culture, family relationships, and life events on individual development needs.
 - D) comprehends the principles and procedures of conflict resolution.
 - E) comprehends career paths in human and child development and educational and human services.
- 2) Performance Indicators - The competent family and consumer sciences teacher:
- A) analyzes principles of physical, emotional, social, and intellectual growth and development across the life span and the interrelationship among them.
 - B) analyzes the impact of biological, social, economic, and technological conditions that influence human growth and development.
 - C) analyzes the effects of gender, ethnicity, culture, family relationships, and life events on individual development needs.
 - D) explores career paths in human and child development and educational and human services.
- h) Nutrition, Wellness, and Hospitality - The competent family and consumer sciences teacher understands and applies advanced expertise in nutrition, wellness, and hospitality when addressing significant recurring issues relating to nutrition, wellness, and food practices that enhance individual, consumer, and family well-being.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher who teaches nutrition, wellness, and hospitality:
- A) comprehends the factors that influence nutrition and wellness practices across the human life span.

- B) comprehends the principles for acquiring, handling, preparing, and serving foods to meet the nutrition and wellness needs of individuals and families across the life span.
 - C) comprehends food safety and sanitation practices from production through consumption.
 - D) comprehends the impact of science and technology on food composition, safety, and other issues.
 - E) comprehends career paths in the nutrition, food, and hospitality industries and services.
- 2) Performance Indicators - The competent family and consumer sciences teacher who teaches nutrition, wellness, and hospitality:
- A) evaluates the nutritional needs of individuals and families in relation to health and wellness across the life span.
 - B) demonstrates ability to acquire, handle, prepare, and use foods to meet nutrition and wellness needs of individuals and families across the life span.
 - C) evaluates safety and sanitation practices from production through consumption.
 - D) applies scientific and technological principles to the areas of food composition, safety, and other issues.
 - E) evaluates knowledge, skills, and practices required for careers in the nutrition, food, and hospitality industries.
- i) Apparel and Textiles - The competent family and consumer sciences teacher understands and applies advanced expertise in textiles and apparel when addressing significant recurring issues relating to apparel and textiles to enhance the individual's and family's near environment.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher who teaches apparel and textiles:
- A) comprehends the properties, characteristics, and uses of fibers and textiles.
 - B) comprehends the elements of textile and apparel production and merchandising.

- C) comprehends the principles, factors, and conditions that influence textile and apparel needs of individuals and families across the life span.
 - D) comprehends the impact of technology, globalization, and environmental issues on textile and apparel availability, selection, and use.
 - E) comprehends career paths within the textile and apparel industries, including wholesale/retail and design operations.
- 2) Performance Indicators - The competent family and consumer sciences teacher who teaches apparel and textiles:
- A) creates a pleasing work environment that provides safety and security.
 - B) evaluates apparel and textile principles, processes, and quality.
 - C) applies processes needed to construct, alter, care for, and repair textile products and apparel.
 - D) analyzes apparel and textile principles and processes in family and commercial settings.
 - E) examines the impact of technology, globalization, and environmental issues on textile and apparel availability, selection, and use.
 - F) analyzes career paths within the textile and apparel design industries, including wholesale/retail operations.
- j) Living Environments - The competent family and consumer sciences teacher understands and applies advanced expertise in living environments when addressing significant recurring issues relating to housing, interiors, and furnishings to enhance quality of life.
- 1) Knowledge Indicators – The competent family and consumer sciences teacher who teaches living environments:
- A) comprehends housing alternatives in relation to individual and family needs and available resources.
 - B) comprehends the use of housing and interior furnishings and products in meeting individual and family needs.

- C) comprehends historical, cultural, economic, and technological influences on architectural and furniture design and development.
 - D) comprehends the effect of principles and elements of design in housing and interiors.
 - E) comprehends career paths within the housing, interiors, and furnishings industry.
- 2) Performance Indicators - The competent family and consumer sciences teacher who teaches living environments:
- A) critiques housing alternatives in relation to individual and family needs and available resources.
 - B) selects appropriate housing and interior furnishings and products to meet individual and family needs.
 - C) analyzes historical, cultural, economic, and technological influences on architectural and furniture design and development.
 - D) evaluates clients' needs, goals, and resources in creating design plans for housing, interiors, and furnishings.
 - E) analyzes career paths within the housing, interiors, and furnishings industries, including wholesale/retail operations.

Section 27.440 Health Careers

- a) The competent health careers teacher understands the foundations of work, the career development process, occupational skill standards, and workplace skill requirements.
 - 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands the history, organization, and future of work and how work relates to needs and functions of the economy and society.
 - B) understands career development concepts, the relationship between work and learning, and the career planning process.
 - C) understands the use of the relevant Illinois Occupational Skill Standards in the development of curriculum (see “Clinical Laboratory Science/Biotechnology Cluster” (1998), “Medical Office Cluster” (1998), “Nursing Cluster” (1998), “Occupational Therapy Cluster” (2001), “Physical Therapist Assistant Cluster”

(1999), and “Surgical Technologist” (1999), all published by the Illinois Occupational Skill Standards and Credentialing Council, 2450 Foundation Drive, Springfield IL 62703-5432; no later editions or revisions are incorporated).

- 2) Performance Indicators - The competent health careers teacher:
 - A) relates workplace cultural expectations to workplace skills.
 - B) develops partnerships with members of the business community to provide learning opportunities for students.
 - C) provides advice in the career planning process.
 - D) selects appropriate skill standards for the program areas.

- b) The competent health careers teacher demonstrates the ability to plan, deliver, and evaluate instruction based upon knowledge of subject matter in the field; student organizations; student, community and work needs; curriculum goals; and findings of educational research.
 - 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands pedagogy unique to the discipline.
 - B) understands the rationale for integrating student organizations’ activities into the curriculum.
 - C) understands professional literature relating to specific content area and to workplace needs.
 - D) understands economic/socio-economic conditions, patterns of business development, and changing labor and career opportunities and their impact on the relevancy of classroom instruction.

 - 2) Performance Indicators - The competent health careers teacher:
 - A) utilizes appropriate pedagogy unique to the individual discipline within career and technical education.
 - B) creates learning environments and classroom activities that develop life/workplace skills and knowledge in the discipline.
 - C) identifies and utilizes educational research findings that justify teaching strategies.

- D) applies curricular content and processes in order to achieve the goals of student organizations.
 - E) applies post-secondary admission standards and occupational skill standards when designing curriculum and assessment.
 - F) designs appropriate assessment plans for and by students.
 - G) develops collaborative partnerships with students, colleagues, community, business/industry, and parents to maximize resources.
 - H) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.
 - I) plans, organizes, and manages laboratories/technical facilities for instruction that meet diverse needs of students (i.e., safety, inventory, filing, requisitioning equipment and materials, maintenance, budgeting).
 - J) implements laws and policies relating to safe environments and incorporates appropriate safety standards, healthy practices, and ergonomic needs.
- c) The competent health careers teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of health careers education.
- 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.

- F) understands the role of subject-area vocabulary in developing reading comprehension.
- G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
- H) understands the importance of the relationship between assessment and instruction in planning.

2) Performance Indicators - The competent health careers teacher:

- A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing and summarizing material.
- B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.
- C) plans and models use of comprehension strategies before, during, and after reading of text.
- D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
- E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
- F) plans and teaches lessons for students to develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
- G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
- H) provides continuous monitoring of students' progress through observations, work samples, and various informal reading assessments.

- I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries that foster reading.
- d) The health careers teacher shall be currently registered, licensed, or certified to practice in the specific health profession for which he/she has been educated.
- 1) Knowledge Indicator – The competent health careers teacher understands the body of knowledge necessary to fulfill requirements for obtaining a license, certificate, or registration to practice in a specific health career.
 - 2) Performance Indicator - The competent health careers teacher demonstrates the expertise required to obtain a license, certificate, or registration in a specific health career.
- e) The competent health careers teacher understands the basic concepts and issues in health care.
- 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands the concepts of wellness and illness and basic health maintenance practices.
 - B) understands career development concepts, understands career ladders and occupational restrictions within the health field.
 - 2) Performance Indicators - The competent health careers teacher:
 - A) exhibits workplace skills and relates workplace cultures/expectations.
 - B) demonstrates the ability to develop partnerships with individuals and agencies in health care systems to provide access to learning opportunities.
- f) The competent health careers teacher understands human biology, growth, and development.
- 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands basic functions of and relationships among the systems of the human body.

- B) understands human physical, cognitive, emotional, and social growth and development.
 - 2) Performance Indicator - The competent health careers teacher recognizes how human biology affects growth and development.
- g) The competent health careers teacher explains health maintenance and disease prevention.
 - 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands nutritional principles, nutritional requirements, and health problems involving nutrition.
 - B) understands the impact of stress and the need for exercise, rest, relaxation, and sleep.
 - C) understands causes and prevention of communicable diseases.
 - D) understands non-communicable diseases, hereditary diseases, chronic diseases, disabilities, and terminal illnesses.
 - E) understands social pathologies including violence, child and spousal abuse, sexual abuse, and substance abuse.
 - F) understands causes and treatments of mental illness.
 - G) understands community and societal health.
 - 2) Performance Indicators - The competent health careers teacher:
 - A) promotes healthy habits.
 - B) assists students and clients to model principles of health maintenance and disease prevention.
- h) The competent health careers teacher demonstrates fundamental procedures in patient care and safety precautions in health situations.
 - 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands fundamental patient care procedures.
 - B) understands standard transmission (universal) and OSHA standards.

- 2) Performance Indicators - The competent health careers teacher:
 - A) executes fundamental procedures in patient care and safety precautions in health-related situations.
 - B) demonstrates emergency medical procedures and procedures for preventing, reporting, and reacting to fires, accidents, and natural disasters.
- i) The competent health careers teacher describes the current health care industry.
 - 1) Knowledge Indicators – The competent health careers teacher:
 - A) understands the current health care industry.
 - B) understands career options and requirements in health care.
 - 2) Performance Indicators - The competent health careers teacher:
 - A) demonstrates ability to work in a health care setting.
 - B) demonstrates ability to work within a system.

Section 27.450 Library Information Specialist

- a) Information Access and Delivery - The library information specialist provides equitable intellectual and physical access to information and ideas in support of the curriculum for a diverse community of learners.
 - 1) Knowledge Indicators – The competent library information specialist:
 - A) knows current and developmentally appropriate resources and the strategies for guiding the intellectual access to information.
 - B) recognizes the principles of flexible and equitable physical access to information and resources at time and point of need.
 - C) understands centralized systems for bibliographic control, materials, equipment circulation, and information distribution.
 - D) recognizes the need for policies and procedures and knows strategies for developing and evaluating the collection of materials and equipment needed to support a curriculum that meets the diverse learning needs of students and teachers.

- E) is committed to intellectual freedom and recognizes legal guidelines and professional ethics in regard to information access and use.
 - F) recognizes the importance of a positive learning climate in creating appropriate and attractive environments.
- 2) Performance Indicators - The competent library information specialist:
- A) anticipates and responds effectively to requests for assistance in using ideas and information.
 - B) works cooperatively with the technology coordinator and other educators to provide flexible access to resources, spaces, and technology systems to individuals and groups at time of need, within or outside of regular classroom hours, as appropriate.
 - C) catalogs, classifies, and arranges information resources in various forms and media according to recognized standards.
 - D) maintains centralized systems for bibliographic control of materials, equipment, and electronic information distribution systems, including computer networks and distance learning facilities.
 - E) ensures that policies on information use and distribution are reviewed and approved by appropriate governing bodies.
 - F) creates and maintains inviting, attractive physical spaces that encourage a positive learning climate.
- b) Information Access and Delivery - The library information specialist plans and implements the access to and delivery of a full range of information resources and services through the library media program.
- 1) Knowledge Indicators – The competent library information specialist:
- A) teaches and directs students' and staff's use of information resources available within the library resource area, including print, non-print, electronic retrieval storage systems, the Internet, on-line databases, and access to the local and regional library collection holdings for possible inter-library loan requests.
 - B) uses and implements distance learning delivery systems including computer, audio and video conferencing, cable TV, and satellite communications to instruct and inform.

- 2) Performance Indicators - The competent library information specialist:
 - A) provides equitable access to multiple media resources with current and appropriate equipment for all students, staff, and the community through extended library hours before and after school.
 - B) implements courses and content for students using distance learning technologies as available.
- c) Teaching and Learning - The library information specialist demonstrates knowledge and mastery of information literacy standards for student learning by creating and maintaining a program for a broad learning community.
 - 1) Knowledge Indicators – The competent library information specialist:
 - A) understands information literacy, efficient and effective access to information, critical and competent evaluation of information, and accurate and creative use of information.
 - B) understands, encourages, and promotes opportunities for independent learning and understands various learning styles.
 - C) understands social and ethical behavior in regard to information and information technology.
 - 2) Performance Indicators - The competent library information specialist:
 - A) teaches and demonstrates to students how to structure a search across a variety of sources and formats to locate the best information to meet a particular need.
 - B) guides the student to distinguish among facts, points of view, and opinions.
 - C) encourages and guides the student to produce and communicate information and ideas in appropriate formats using critical thinking and problem-solving skills.
 - D) provides opportunities for students to seek information for personal interest and self-improvement.
 - E) presents information creatively in a variety of formats so that students can learn to develop creative products in a variety of formats.

- F) provides an environment that assists students with multiple learning styles.
 - G) encourages and assists students to seek information from diverse sources, contexts, disciplines, and cultures through equitable access to information.
 - H) teaches and encourages students to respect the principles of intellectual freedom, to respect copyrights and intellectual property rights, and to value the responsible use of technology.
 - I) encourages collaboration with the technology specialist and others, both in person and through the use of various technologies, to design, develop, and evaluate information products and solutions.
- d) Teaching and Learning - The library information specialist encourages and engages students in reading, viewing, and listening for understanding and enjoyment. The collection and functions of the library media program respond to various developmental levels, physical and intellectual disabilities, special gifts and talents, diverse cultural backgrounds, and different styles of accessing and processing information.
- 1) Knowledge Indicators – The competent library information specialist:
 - A) knows methods of collaboration with the other members of the learning community to ensure that the school library media program is able to meet the individual learning needs of students.
 - B) knows literature and methodologies to provide reading, listening, and viewing guidance to students and others in the learning community.
 - 2) Performance Indicators - The competent library information specialist:
 - A) recommends appropriate resources and activities to meet individual learning needs.
 - B) collaborates with other members of the learning community to ensure that the school library information program is able to meet the individual learning needs of students.
 - C) models the effective and enthusiastic use of print and non-print materials as sources of pleasure and information.
 - D) facilitates students' development of information literacy skills.

- E) provides reading, listening, and viewing guidance to students and others in the learning community.
- e) Teaching and Learning - The library information specialist will plan and provide instruction in the five cross-disciplinary abilities as they apply to the Illinois Learning Standards (see 23 Ill. Adm. Code 1. Appendix D).
- 1) Knowledge Indicators – The competent library information specialist:
 - A) understands that the library media program is essential to learning and teaching and must be fully integrated into the curriculum to promote students' achievement of learning goals.
 - B) models and promotes collaborative planning and curriculum development that includes creative, effective, and collaborative teaching.
 - 2) Performance Indicators - The competent library information specialist:
 - A) creates and implements the library media program.
 - B) contributes to the school curriculum by attending school and district curriculum meetings.
 - C) collaborates with classroom teachers in the creation of integrated classroom assignments and projects.
 - D) plans and teaches the latest research techniques and strategies that are applicable to the content area and assignment.
 - E) co-teaches and mentors along with the classroom teacher on projects and assignments for students.
 - F) serves as a reference person, teacher, and mentor who may help students with issues relating to learning.
 - G) collaborates with classroom teachers in the creation and implementation of their content-area standards, goals, and visions.
- f) Teaching and Learning - The library information specialist is knowledgeable about information, instruction, and production-based technologies that enhance learning and teaching. He or she is knowledgeable about both the access to information and the operation of the devices that deliver, produce, and manage that information.
- 1) Knowledge Indicators – The competent library information specialist:

- A) has knowledge of selection, installation, management, and maintenance of technologies applicable to the library information center and the larger learning community.
 - B) understands how to use word processing, databases, spreadsheets, presentation software, graphics, and production software to support students' learning.
 - C) understands the importance of appropriate planning and purchasing to address issues of software and hardware compatibility.
 - D) applies effective methods and strategies for teaching the use of technological tools.
- 2) Performance Indicators - The competent library information specialist:
- A) communicates effectively with the technology specialist and other educators about learning technology needs of the students who use the library information center.
 - B) collaborates with the technology specialist on issues of software and hardware compatibility.
 - C) develops facility plans to include learning technology systems to meet students' needs in the library information center. These include but are not limited to video/playback production units, CD-ROM towers and servers, electronic card catalogues, and on-line reference resources.
 - D) works with student learners, assisting them with production application questions and resource analysis, for use in word processing and graphic presentations.
 - E) collaborates with the technology specialist to plan budgets and purchases software and hardware that meet the school curriculum needs and support the library information center, the classroom, and individual learning needs of students.
 - F) teaches uses of computers and other technological tools and the application of technology-based resources to support instruction.
- g) Teaching and Learning - The library information specialist demonstrates leadership in curricular planning and assessment.

- 1) Knowledge Indicator – The competent library information specialist has knowledge of curriculum in all subject areas and levels, State and national learning standards, and a variety of assessment strategies.
 - 2) Performance Indicators - The competent library information specialist:
 - A) assists teachers and other educational staff in developing connections among subjects, standards, and strategies for learning.
 - B) assists teachers in developing interdisciplinary connections using a variety of resources and technologies.
 - C) assists teachers and learners in developing appropriate activities for assessing the effectiveness of the curriculum.
- h) Communication - The library information specialist communicates effectively with students, faculty, staff, administrators, parents, and the community.
- 1) Knowledge Indicators – the competent library information specialist:
 - A) is aware of a variety of strategies for communicating with various constituencies.
 - B) understands the relationship between school climate and effective teaching and learning.
 - C) understands the role of the central administration and the school board in communicating the importance of the library information program to teaching and learning.
 - D) recognizes the role that parents play in developing students' lifelong learning skills.
 - E) is aware of the importance of community groups in maintaining support for the library information program.
 - 2) Performance Indicators - the competent library information specialist:
 - A) uses a variety of strategies to build collaborative teams for interdisciplinary teaching and learning.
 - B) identifies examples that demonstrate the library information program's relationship to improved student achievement.
 - C) builds support for the role of the library media program in teaching and learning through the effective use of influence strategies.

- D) regularly communicates to the central administration and the board the involvement of the library information program in the school curriculum.
 - E) maintains a positive teaching and learning climate in the library media center.
 - F) involves parents in library information center activities, suggests learning activities for parents and children to do together, and uses a variety of communication devices to keep parents informed about the program.
 - G) communicates with the community the relationship of library media programs to students' achievement and lifelong learning for everyone.
 - H) establishes and maintains ties with information resources and services within the wider community.
- i) Communication - The library information specialist uses active listening skills to assist learners in locating, evaluating, and using information.
- 1) Knowledge Indicators – the competent library information specialist:
 - A) knows strategies for eliciting information needs from students and other learners.
 - B) is aware of developmental growth patterns of children and youth and their influence upon reference and search processes.
 - 2) Performance Indicators - the competent library information specialist:
 - A) uses probing questions to clarify information needs.
 - B) uses reflective listening strategies to help students develop metacognitive skills.
 - C) uses appropriate strategies to guide reference and search processes with students and learners of all ages.
- j) Communication - The library information specialist plans instruction collaboratively with teachers and other members of the learning community.
- 1) Knowledge Indicators – the competent library information specialist:

- A) is aware of elements essential to collaborative work, including time, trust, climate, and resources.
 - B) knows the differences among coordination, cooperation, and collaboration.
 - 2) Performance Indicators - the competent library information specialist:
 - A) establishes effective interpersonal relationships that demonstrate an understanding of curriculum objectives, effective listening, and negotiation of responsibility for activities.
 - B) participates in collaborative planning of interdisciplinary instruction and uses the level of involvement appropriate to the learning activity and goal.
- k) Communication - The library information specialist serves as an educational leader and as a catalyst for improving the learning community.
 - 1) Knowledge Indicators – the competent library information specialist:
 - A) understands the structure of the school learning community and the leverage points for influence.
 - B) understands the process of reforming educational systems and structures and the needs of the individual in relation to these processes.
 - C) understands the variety of motivational, coaching, and guidance strategies necessary to assist in school reform efforts.
 - 2) Performance Indicators - the competent library information specialist:
 - A) uses knowledge of schools' mission, goals, and policies along with their structure and culture to advocate for necessary change.
 - B) participates as a partner and change agent in curriculum development at the building and district levels.
 - C) demonstrates leadership in evaluating the effectiveness of the library media program in improving teaching and learning.
- l) Administration - The library information specialist plans and efficiently administers a program that makes a significant contribution to students' learning. He or she leads, collaborates, and applies technology skills in designing and managing a program that is integrated into the school's curriculum and supports

the development of effective users and communicators of ideas and information within a lifelong, independent learning process.

- 1) Knowledge Indicators – the competent library information specialist:
 - A) provides an effective library resource program that supports the mission, goals, and objectives of the school.
 - B) establishes, maintains, and supervises the school's library resource program and library information program support personnel.
 - C) stays current with new information and trends in technologies and dissemination strategies to effectively plan, implement, and assess the effectiveness of the school's library information program.

- 2) Performance Indicators - the competent library information specialist:
 - A) develops and implements a mission statement, goals, objectives, policies, and procedures that reflect the mission, goals, and objectives of the school.
 - B) organizes information resources that align the library information program and information literacy standards for students' learning with the school's goals and integrates these standards into the curriculum.
 - C) uses collaborative strategies that encourage administrators and teachers to integrate the library information program into the school's instructional program.
 - D) reports the results of program assessment on a regular basis to teachers, students, administrators, and other community members.
 - E) participates on the school's curricular decision-making body.
 - F) analyzes instructional and technological requirements and other features of the school to recommend appropriate staffing and training necessary to meet the learning and information needs of the students and to ensure the effectiveness of the program.
 - G) collaborates and communicates with all staff, and particularly the technology specialist, to identify and use the full range of learning technologies required to meet students' informational needs.
 - H) provides equitable access for staff, students, and the community to the school library information center as needed to support the

integration of the information literacy standards for student lifelong learning.

- I) administers a program that provides for learning experiences utilizing technology and resources accessed from classrooms or other locations outside of the library information center. Assists teachers and students in finding, evaluating, and developing these additional resources.
- J) supervises support staff and plans for and implements an effective program that is fundamental to students' learning and is based upon the school's instructional programs, services, facilities, size, and numbers of students and teachers.
- K) supervises, schedules, and administers all aspects of the operation of the school library information program.
- L) develops a budget and locates sources of funding that provide for purchasing and upkeep of all resources required for an effective school library information program.
- M) plans, develops and maintains a management system for print and non-print resources, equipment, and other learning technology resources that are inventoried and circulated through the library information center.
- N) participates on committees charged with developing and implementing strategic plans for the school, including school improvement plans, technology plans, and curriculum development plans.
- O) updates personal competencies in information literacy, learning and teaching, information access and delivery, technology utilization, and administration and supervision.
- P) models continuous learning through activities such as membership in district, regional, State and national organizations that support library information programs and participation in staff development programs.
- Q) uses the results of quantitative and qualitative data analysis to make decisions and develop plans and policies for the continuous improvement of the school's library information program.

- R) develops action plans in conjunction with the technology specialist to accommodate changes in critical areas such as the utilization of new resources and technologies.

Section 27.460 Technology Education

- a) The competent technology education teacher understands the foundations of work, the career development process, occupational skill standards, and workplace skill requirements.
 - 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands the history, organization, and future of work and how work relates to needs and functions of the economy and society.
 - B) understands career development concepts, the relationship between work and learning, and the career planning process.
 - C) understands the use of the relevant Illinois Occupational Skill Standards in the development of curriculum (see “Architectural Drafting Cluster” (2000), “Automotive Technician” (2000), “Chemical Process Technical Operators” (1998), “Entry-Level Truck Driver” (2001), “Finishing and Distribution Cluster” (2000), “HVAC/R Technician Cluster” (2001), “Imaging/Pre-Press Cluster” (2000), “Machining Skills Cluster” (1997), “Mechanical Drafting Cluster” (2000), “Metal Stamping Skills Cluster” (1998), “Plastics Molding Cluster” (2001), and “Press Operations Cluster” (2000), all published by the Illinois Occupational Skill Standards and Credentialing Council, 2450 Foundation Drive, Springfield IL 62703-5432; no later editions or revisions are incorporated).
 - 2) Performance Indicators - the competent technology education teacher:
 - A) relates workplace cultural expectations to workplace skills.
 - B) develops partnerships with members of the business community to provide learning opportunities for students.
 - C) provides advice in the career planning process.
 - D) selects appropriate skill standards for the program areas.
- b) The competent technology education teacher demonstrates the ability to plan, deliver, and evaluate instruction based upon knowledge of subject matter in the field; student organizations; student, community and work needs; curriculum goals; and findings of educational research.

- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands pedagogy unique to the discipline.
 - B) understands the rationale for integrating student organizations' activities into the curriculum.
 - C) understands professional literature relating to the specific content area and to workplace needs.
 - D) understands economic/socio-economic conditions, patterns of business development, and changing labor and career opportunities and their impact on the relevancy of classroom instruction.

- 2) Performance Indicators - the competent technology education teacher:
 - A) utilizes appropriate pedagogy unique to the individual discipline within career and technical education.
 - B) creates learning environments and classroom activities that develop life/workplace skills and knowledge in the discipline.
 - C) identifies and utilizes educational research findings that justify teaching strategies.
 - D) applies curricular content and processes in order to achieve the goals of student organizations.
 - E) applies post-secondary admission standards and occupational skill standards when designing curriculum and assessment.
 - F) designs appropriate assessment plans for students.
 - G) develops collaborative partnerships with students, colleagues, community, business/industry, and parents to maximize resources.
 - H) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.
 - I) plans, organizes, and manages laboratories/technical facilities for instruction that meet diverse needs of students (i.e., safety, inventory, filing, requisitioning equipment and materials, maintenance, budgeting).

- J) implements laws and policies relating to safe environments and incorporates appropriate safety standards, healthy practices, and ergonomic needs.
- c) The competent technology education teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of technology education.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands that the reading process is the construction of meaning through the interactions of the reader’s background knowledge and experiences, the information in the text, and the purpose of the reading situation.
 - B) recognizes the relationships among the four language arts (reading, writing, listening, and speaking), and knows how to provide opportunities to integrate these through instruction.
 - C) understands how to design, select, modify, and evaluate materials in terms of the reading needs of the learner.
 - D) understands the importance of and encourages the use of literature for adolescents in the curriculum and for independent reading.
 - E) understands the relationship between oral and silent reading.
 - F) understands the role of subject-area vocabulary in developing reading comprehension.
 - G) understands the importance of the unique study strategies required of the specific content area in developing reading comprehension.
 - H) understands the importance of the relationship between assessment and instruction in the planning process.
 - 2) Performance Indicators - the competent technology education teacher:
 - A) plans and teaches lessons for students that develop comprehension of content-area materials through instructional practices that include analyzing critically, evaluating sources, synthesizing, and summarizing material.
 - B) plans and teaches lessons on how to monitor comprehension and correct confusions and misunderstandings that arise during reading.

- C) plans and models use of comprehension strategies before, during, and after reading of text.
 - D) provides opportunities for students to develop content-area vocabulary through instructional practices that develop connections and relationships among words, use of context clues, and understanding of connotative and denotative meaning of words.
 - E) plans and teaches lessons that encourage students to write about the content read in order to improve understanding.
 - F) plans and teaches lessons for students to develop study strategies that include previewing and preparing to read text effectively, recognizing organizational patterns unique to informational text, and using graphic organizers as an aid for recalling information.
 - G) plans and teaches units that require students to carry out research or inquiry using multiple texts, including electronic resources.
 - H) provides continuous monitoring of student progress through observations, work samples, and various informal reading assessments.
 - I) analyzes and evaluates the quality and appropriateness of instructional materials in terms of readability, content, length, format, illustrations, and other pertinent factors.
 - J) promotes the development of an environment that includes classroom libraries.
- d) The competent technology education teacher demonstrates fundamental knowledge of the history and nature of technology in connection with other fields of study.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands that technology involves the generation of knowledge and processes to develop products and systems that solve problems and extend human capabilities.
 - B) understands that throughout history technology has been one of the most powerful social, cultural, and economic forces; in turn, these same forces have influenced the development of technology.

- C) understands that historical data help the technologist and the social scientist determine possible scenarios for the future.
- D) understands that the rate of technological development and diffusion is accelerating.
- E) understands that technology includes a combination of “knowing” and “doing.” The “knowing” component includes technological knowledge as well as the ability to apply knowledge from other fields of study to technological activity; the “doing” component includes the ability to apply this diverse knowledge to technological processes.
- F) understands that outcomes of technological research are sometimes the result of specific, goal-directed activity (e.g., putting a human on the moon), while some outcomes are not intended or planned (e.g., Post-it notes and spin-offs).
- G) understands that technological endeavors often replace older forms of technology, resulting in social and environmental consequences.
- H) understands that technology has economic, political, and environmental connections with culture and society.
- I) understands that designing, developing, producing, inventing, innovating, and problem solving are fundamental concepts in technological activity. (These concepts are human activities that are purposely directed toward meeting needs and wants.)
- J) understands that systems are the building blocks in technology. These systems vary in complexity of working knowledge from very little to substantial technological knowledge to use or operate.
- K) understands that the stability of a system is influenced by all of its components, especially those in the feedback loop.
- L) understands that the nature of technological knowledge and activity are related to information, energy, or physical technologies.
- M) understands that a variety of symbols and languages are used to communicate information and that some are universally applied across technologies (e.g., standardized measurement systems and the metric system), while others are unique to various contexts and technologies (e.g., electrical symbols and computer nomenclature).

- N) understands that technology influences careers by changing the way work is performed, thus creating new types of jobs, modifying current jobs, and reducing the numbers of others.
 - O) understands that technology has its own body of knowledge and processes that are connected within that field, as well as to other fields of study.
 - P) understands that connections among technological topics are valuable and useful in relating procedures to one another and building new knowledge bases.
 - Q) understands that technological knowledge and activity promote advances in science and mathematics; in other cases, advances in science and mathematics have led to advances in technology.
 - R) understands that science and technology utilize similar techniques to investigate and obtain information. These techniques include inquiry, modeling, and forecasting.
 - S) understands that mathematical models, scientific principles, and computer-generated models are used to develop and produce products and systems.
 - T) understands that engineering concepts and principles are used in the development and use of products and systems.
 - U) understands that technological transfer occurs within a technology, between technologies, across other fields, and between countries.
- 2) Performance Indicators - the competent technology education teacher:
- A) communicates the relationship of the systems in technological development via timelines, paradigms, and taxonomies.
 - B) identifies measurement techniques utilizing appropriate representatives of technology, math, science, and engineering.
 - C) communicates career information related to a changing workforce and instills the importance of portfolio development and lifelong learning.
 - D) determines the significance of a variety of symbols and languages, both universal and unique, that are used to communicate information from technology to technology, technology to human, or human to technology.

- E) develops curricula integrating technology education with other fields of study.
 - F) develops scenarios depicting how technological change affects human endeavors in the social, cultural, and economic arenas.
 - G) analyzes and describes technological transfer that occurs within a technology, between technologies, across other fields, and between other countries.
- e) The competent technology education teacher understands and is able to design technology.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands that the quality and value of a design depends on how clearly it meets a need, fits its purpose, uses resources appropriately, and addresses constraints (e.g., economic, environmental, aesthetic, and political).
 - B) understands that designing a product, device, process, or system requires considering how it will be developed, managed, used, and assessed for its impact and consequences.
 - C) understands how to balance design tradeoffs, since there is no perfect design that meets all criteria, such as the safest, most reliable, least expensive, and most efficient.
 - D) understands the general developmental process of design and that the design process is iterative and not linear and includes generating ideas; considering constraints such as cost and criteria; and communicating processes and results.
 - E) understands the value and importance of testing in the evaluation of good design.
 - F) understands the roles of documentation and communication and their impact on quality design.
 - G) understands design decision criteria and their use in determining whether a design solution should be developed. These criteria may include personal, social, cultural, economic, political, and environmental issues.
 - 2) Performance Indicators - the competent technology education teacher:

- A) demonstrates the ability to identify practical problems deriving from human needs or wants.
 - B) demonstrates the ability to develop and use design briefs with proper specifications.
 - C) demonstrates the ability to investigate, generate, and select ideas to plan an optimum design that takes into account knowledge of constraints and criteria obtained from research.
 - D) demonstrates the ability to select, plan, and implement the best possible solution that takes into consideration the many tradeoffs and reaches the best compromise.
 - E) demonstrates the ability to design ways to produce products by mass production.
 - F) demonstrates the ability to evaluate a selected design solution and make modifications based on that evaluation.
 - G) demonstrates the ability to use verbal and graphic means to communicate processes, observations, and the results of the entire design process.
 - H) demonstrates the ability to use feedback to consider design steps and to redesign in light of public concern or comment.
 - I) demonstrates the ability to use standards of quality in the design and production of consumer goods.
 - J) demonstrates the ability to use marketing criteria in creating a design (e.g., value and function).
- f) The competent technology education teacher understands and is able to develop technology.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands that developing and producing a product or system involves learning the safe and proper use of resources following instructions and troubleshooting to determine if a design works or if there is a need for redesign.
 - B) understands that resource management involves procurement, inventory, warehousing, waste disposal, energy use, and time and

people management, which affect the development of products and systems.

- C) understands that a prototype is a working model used to test design concepts by making actual observations and necessary adjustments.
- D) understands that problem-solving strategies, such as working backward or asking probing questions, provide a systematic means for exploring a variety of development and production methods that help enable successful solutions.
- E) understands that optimization is a procedure used to make a system or design as effective or functional as possible and typically involves a process of experimentation, trial and error, testing, and development.
- F) understands that quality, safety, and ergonomic design principles (e.g., enhancement of quality of life, productivity, safety, and convenience) influence the development of products and systems.
- G) understands that teamwork, responsibility, and interpersonal dynamics play a significant role in the success of production and development activities.

2) Performance Indicators - the competent technology education teacher:

- A) develops a systematic set of procedures and uses them to produce a prototype or model.
- B) refines a design by using prototypes and testing to ensure quality, efficiency, and productivity of the final production process.
- C) selects and uses a variety of resources to optimize the development of a production process or system.
- D) develops and produces a product or system using the criteria and constraints noted in previous trials and tests.
- E) modifies or develops tools, materials, machines, flow controls, or system operations to meet production constraints.
- F) implements the appropriate safety precautions for his or her personal safety and the safety of others.

- G) recognizes that humans are a valuable resource in managing information, energy, and physical technologies.
 - H) documents and communicates processes and procedures using appropriate techniques (e.g., flow charts, drawings, graphics, symbols, spread sheets, graphs, and time charts) in oral and written presentations for different audiences.
- g) The competent technology education teacher understands and is able to manage technology.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands that operations manuals, owner's manuals, documented protocols, and general directions are essential to ensure the proper use and management of a product or system.
 - B) understands that instrumentation and control of systems and products rely on proper functioning of open- or closed-loop systems, calibration of human or machine-controlled products and systems, and proper interpretation of their use.
 - C) understands that systems analysis requires an understanding of the overall operation of a system, as well as the subsystems and components.
 - D) understands that connecting micro-systems to macro-systems can potentially be used as a means to solve more complex problems.
 - E) understands that problem solving is often required in order to use and operate technology systems because systems do not always work as designed.
 - F) understands that facilitating human efforts can result in appropriate management of capital, time, information, knowledge, energy, materials, and tools necessary to properly use or apply technology.
 - G) understands that computers and electronic media are primary means of communication.
 - H) understands basic internal configuration and component identification of computer stations and their network abilities.
 - I) understands proper methods of computer software installation and computer set-up.

- 2) Performance Indicators - the competent technology education teacher:
 - A) interprets the documentation contained in operations and owner's manuals in order to follow protocols and specific directions.
 - B) safely operates and manages systems according to the function for which they have been designed.
 - C) analyzes systems to determine how the various components work together to function as a whole system in order to understand how to change the system.
 - D) monitors, adjusts, and maintains system processes in order to ensure the system's proper function and precision.
 - E) troubleshoots, diagnoses problems, and maintains technological systems to ensure proper operation.
 - F) applies knowledge and experiences gained from using systems as input for design improvements and to solve different problems.
 - G) develops plans for implementing educational technology in classrooms and labs.
 - H) creates a vision for technological growth in regards to professional development and instructional technology in his or her school district.
 - I) safely and effectively upgrades and maintains both an independent and networked computer workstation.
 - J) loads and maintains computer software.
 - K) locates, analyzes, retrieves, and distributes electronic data (i.e., uses the Internet and/or other electrical forms of media distribution).
 - L) develops and demonstrates scale models of technological informational systems.
 - M) develops a means of mass communication.
- h) The competent technology education teacher understands and is able to assess the effects of the use of technology.
 - 1) Knowledge Indicators – the competent technology education teacher:

- A) understands when the development and application of technology have a role in shaping personal, social, and environmental perspectives and values.
 - B) understands that assessment is an evaluation technique, involving steps and procedures that are iterative and require making trade-offs, analyzing risks, and choosing a best course of action.
 - C) understands acceptance or rejection of the development of technology that correlates directly with the personal, social, political, and economic assessment of the value of technology.
 - D) understands that human factors, including the principles of safety, health, and comfort, are important in evaluating the impact and consequences of technology.
 - E) understands that trend analysis and patterns of development provide a means for understanding technological and environmental changes, including the resulting impacts and consequences.
 - F) understands that the impact and consequences of technology influence local, national, and global issues.
- 2) Performance Indicators - the competent technology education teacher:
- A) determines the significance of technological trends for individuals, families, communities, and the world.
 - B) uses historical case studies, when appropriate, to develop a perspective on the impact and consequences of technology.
 - C) investigates technology's impact and consequences on social, cultural, and environmental issues using historical and current events and forecasting techniques.
 - D) uses technology assessment procedures to alter and refine products and systems.
 - E) communicates results of technological assessment to a wide variety of audiences (e.g., peers, family, and community) in order to explain a viewpoint on technology.

- i) The competent technology education teacher understands and is able to demonstrate the application of technological context related to information, energy, and physical technologies.
 - 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands the relationship between facts, data, information, knowledge, logic, and wisdom within the structure of information.
 - B) understands ways in which data and information can be stored and retrieved.
 - C) understands that there are many ways of presenting and transmitting information, such as using graphic and electronic processes and tools.
 - D) understands that data and information are communicated using symbols, icons, graphic images, and languages through a variety of visual, auditory, and tactile stimuli.
 - E) understands that informational technology communication systems utilize a closed-loop system.
 - F) understands that the knowledge and information provided through informational technology systems can shape personal views and concepts of reality.
 - G) understands that cross-cultural values are transmitted at the local, regional, national, and global levels, using various systems of informational technology.
 - H) understands that information has become a commodity for exchange valued by society.
 - I) understands that informational technology systems are used in commercial enterprises (e.g., broadcasting companies and the Internet).
 - 2) Performance Indicators - the competent technology education teacher:
 - A) develops a means to communicate information through the use of graphics (e.g., printing, film, and drafting).
 - B) accesses, retrieves, organizes, processes, maintains, interprets, and evaluates information from a variety of sources in order to solve a practical problem.

- C) stores information for retrieval at a later time using various formats such as digital, analog, and graphics.
 - D) in order to understand the communication process, uses computers to communicate information from human to human, machine to human, human to machine, and machine to machine.
 - E) creates a message that includes symbols in order to communicate to a person.
 - F) utilizes informational technology systems in order to communicate over distance and to large, diverse populations.
 - G) researches and develops a means to overcome interference in order to improve the communication process.
 - H) uses mathematical knowledge to encode data into a binary form.
 - I) evaluates the quality of information received in the communications process through such methods as comparing and contrasting sources, examining relevancy, and investigating the background of experts.
 - J) researches ways that the mass media (e.g., newspaper, broadcast and cable channels, and the Internet) transmit messages to the public.
- j) The competent technology education teacher understands and is able to demonstrate knowledge and the application of technological context related to information, energy, and physical technologies.
- 1) Knowledge Indicators – the competent technology education teacher:
 - A) understands how materials, resources, and energy are used as inputs in physical technology systems in order to produce materials and products, transport products and humans, and transform energy into power.
 - B) understands that manufacturing and construction planning and design techniques can reduce costs and produce better products.
 - C) understands that tools, machines, and instrumentation are used to change materials into new forms through the processes of separating, forming, and combining.

- D) understands the nature of materials and their uses as a prerequisite for efficient and sustainable use of resources.
 - E) understands that trade-offs must be made in selecting the best materials and resources for the production process.
 - F) understands that the language of industry involves the use of symbols and signs to identify potential hazards, specific technological data, and environmental conditions.
 - G) understands that the management of physical resources is a determining factor in the success of commercial applications of products and systems.
 - H) understands that the optimization of production systems helps to conserve resources, manage waste, and reduce the negative effects that technology has on the natural world.
 - I) understands that the processes associated with transportation systems include receiving, holding/storing, loading, transporting/moving, unloading, and delivering.
 - J) understands that solutions to complex transportation problems must be developed in order to diminish pollution, congestion, accidents, deaths, and over-consumption of fuel.
 - K) understands how power systems transform energy from one form to another.
 - L) understands that the efficiency of power systems is important for conserving energy and producing maximum effectiveness with minimal environmental harm.
 - M) understands that transforming materials from one form to another requires knowledge of materials and processes.
- 2) Performance Indicators - the competent technology education teacher:
- A) designs, develops, operates, and assesses a production system that produces products in quantity.
 - B) selects and safely uses appropriate tools, machines, and equipment to process materials and to produce useful products.

- C) assesses transportation systems for moving people and products, taking into account such factors as speed, cost, safety, and environmental impacts.
- D) designs, develops, and tests an energy system for the future that is efficient and does not pollute the environment.
- E) tests and experiments with a variety of materials to conform to criteria and constraints of a physical technology system.
- F) applies physical science concepts (e.g., force, motion, mechanical advantage, efficiency, and friction) when working with physical technology systems.
- G) uses a computer to maintain and control a physical technology system.
- H) evaluates and optimizes an existing transportation, power, or production system.
- I) predicts the life expectancy of selected components, using knowledge of materials and testing the function of the components over time.
- J) identifies emerging physical technologies using trends and research techniques.
- K) communicates the results of his or her knowledge and activities in physical technology to others in an effective manner.
- L) researches, prototypes, and tests new energy and power systems that can be used in the future.
- M) incorporates maintenance considerations when designing, using, and monitoring systems.

Section 27.470 Technology Specialist

- a) Teaching Methodology - The technology specialist will effectively plan, deliver, and assess students' mastery of concepts and skills relevant to learning technologies and technological literacy across the curriculum. The technology specialist will apply effective methods and strategies for teaching these concepts and skills to students, educators, and administrators in various educational settings.
 - 1) Knowledge Indicators – The competent technology specialist:

- A) understands how to plan, deliver, and assess students' mastery of skills relevant to learning technologies.
- B) understands the concepts and skills relevant to learning technologies and technological literacy across the curriculum.

2) Performance Indicators - The competent technology specialist:

- A) designs and practices methods and strategies for teaching concepts and skills related to learning technologies, including keyboarding, information access, and delivery tools in classroom, lab, and administrative settings.
- B) designs and practices methods and strategies for teaching concepts and skills that apply classroom and administrative productivity tools.
- C) designs and practices methods and strategies for teaching problem-solving principles and skills using technology resources.
- D) designs and practices methods for teaching hypermedia development and scripting resources in a problem-solving context in a school environment encompassing pre-kindergarten through grade 12 (P-12).
- E) designs and practices methods and strategies for heterogeneous grouping and collaboration using learning technologies.
- F) identifies, designs and practices strategies for using learning technologies with diverse populations such as at-risk students and students with disabilities.
- G) identifies and supports the implementation and revision of computer/technology literacy curriculum to reflect on-going changes in technology.
- H) designs and implements integrated technology classroom activities that involve teamwork and/or small-group collaboration.
- I) demonstrates methods for teaching uses of media and on-line tools from sources such as the World Wide Web (Internet), television, audio, print media, and graphics.

- J) describes student guidance resources, career awareness resources, and student support activities related to computing and technology as a career option for students.
 - K) identifies professional organizations, groups, and resources that support the field of educational computing and technology.
 - L) designs a set of evaluation strategies and methods that will assess the effectiveness of instructional units that integrate computers/technology.
 - M) designs and practices methods for teaching social, ethical, and legal issues surrounding the responsible use of technology.
- b) Hardware/Software Selection, Installation and Maintenance - The technology specialist will demonstrate knowledge of selection, installation, management, and maintenance of the infrastructure in a classroom setting.
- 1) Knowledge Indicator – The competent technology specialist understands how to select, install, manage, and maintain the infrastructure of technology in the classroom setting.
 - 2) Performance Indicators - The competent technology specialist:
 - A) develops plans to configure computer/technology systems and related peripherals in laboratory, classroom cluster, and other appropriate instructional arrangements.
 - B) identifies and describes strategies to support the development of school/laboratory policies, procedures, and practices related to use of computers and other learning technologies.
 - C) researches, evaluates, and develops recommendations for purchasing instructional software to support and enhance the school curriculum.
 - D) researches, evaluates, and develops recommendations for purchasing learning technology systems.
 - E) designs and recommends procedures for the organization, management, and security of hardware and software.
 - F) identifies strategies for troubleshooting and maintaining various hardware/software configurations.

- G) identifies and describes network software packages used to operate a computer network system.
 - H) configures a computer system and one or more software packages.
- c) Research and Theory - The technology specialist will identify and apply educational and technology-related research, the psychology of learning, and instructional design principles in guiding use of computers and technology in education.
 - 1) Knowledge Indicator – The competent technology specialist understands educational and technology-related research, the psychology of learning, and instructional design principles in guiding use of computers and technology in education.
 - 2) Performance Indicators - The competent technology specialist:
 - A) summarizes and applies principles and practices of educational research in educational technology.
 - B) summarizes major research findings and trends related to the use of technology in education to support integration of technology in an elementary and/or secondary environment.
 - C) applies theories of learning, teaching, and instructional design and their relationship to the use of technology to support learning.
 - D) describes the social and historical foundations of education, including educational reform efforts, and how they relate to the use of technology in schools.
 - E) identifies research related to human and equity issues concerning the use of computers and related technologies in education.
 - F) designs a research project that includes evaluating the use of a specific technology in a P-12 environment.
- d) Instructional Design and Product Development - The technology specialist will develop curricular plans and teaching aids based on local, State and national standards for the use of computers and other associated learning technologies, integrating these across subject and content areas.
 - 1) Knowledge Indicator – The competent technology specialist understands how to develop curricular plans and teaching aids based on standards for use of computers and other learning technologies (see “National Educational Technology Standards for Teachers” (2000), published by the

International Society for Technology in Education, 400 Charnelton Street, Eugene OR 97401-2626; no later editions or revisions are incorporated).

- 2) Performance Indicators - The competent technology specialist:
 - A) designs and practices methods for teaching at least one modern authoring tool to colleagues and students.
 - B) describes, designs, and practices the characteristics and uses of current authoring environments and evaluates their appropriateness for classroom applications.
 - C) identifies and uses local, State, and national guidelines to develop curricular plans for integrating technology into the curriculum in the P-12 environment.
 - D) applies instructional design principles to the design of screens, text, graphics, audio, and video in instructional products under development.
 - E) describes and practices strategies for testing and evaluating instructional products designed.
 - F) applies instructional design principles to develop substantive, interactive, multimedia, and computer-based instructional products.
 - G) describes, designs, and practices accepted principles of strategic planning to facilitate curriculum design for teaching with computers and related technologies.
- e) Information Access and Delivery - The technology specialist will implement information access and delivery resources in P-12 schools to support the curriculum.
 - 1) Knowledge Indicator – The competent technology specialist has knowledge of information access and delivery resources in P-12 schools to support the curriculum.
 - 2) Performance Indicators - The competent technology specialist:
 - A) identifies and uses information access and telecommunication tools to support research and instruction throughout the curriculum.
 - B) uses and implements distance learning delivery systems, including computer, audio, and video conferencing.

- C) creates multimedia presentations using advanced features of a presentation tool and delivers them using computer projection systems.
 - D) installs, configures, and uses local mass storage devices and media to store and retrieve information and resources.
 - E) describes issues related to selecting, installing, and maintaining Wide Area Networks for school districts.
- f) Information Access and Delivery - The technology specialist will install, customize, and configure the operating systems of computers and computer networks in school settings.
- 1) Knowledge Indicator – The competent technology specialist understands how to install, customize, and configure the operating systems of computers and computer networks in school settings.
 - 2) Performance Indicators - The competent technology specialist:
 - A) identifies and describes the major operating systems associated with computing platforms found in P-12 schools.
 - B) identifies and manipulates preferences, defaults, and other selectable features of operating systems commonly found in P-12 schools.
 - C) uses and manipulates networking software to effectively manage the operation of a Local Area Network.
 - D) evaluates, troubleshoots, installs, and maintains computer operating systems for classrooms and laboratories.
- g) Software/Hardware Selection, Installation, and Maintenance - The technology specialist will identify and implement software in both classroom and administrative environments. He or she will investigate issues related to school/site planning, purchasing, and integration of technology.
- 1) Knowledge Indicator – The competent technology specialist is aware of software in both classroom and administrative environments.
 - 2) Performance Indicators - The competent technology specialist:
 - A) identifies and describes software used in classroom and administrative settings, including productivity tools, information

access/telecommunications tools, multimedia/hypermedia tools, school management tools, evaluation/portfolio tools, and computer-based instruction.

- B) investigates and recommends purchasing strategies and procedures for acquiring administrative and instructional software for educational settings.
 - C) describes evaluation criteria for software and identifies reliable sources of software evaluations.
 - D) identifies and implements methods of installation, maintenance, inventory, and management of software libraries.
 - E) develops and implements ethical and legal procedures for maintaining software libraries.
 - F) identifies and classifies assistive technology for students and teachers with special needs and locates sources to assist in their procurement and implementation.
- h) Instructional Program Development - The technology specialist will develop an instructional program based on local, State, and national standards for the use of computers and other associated learning technologies, integrating these plans across subject and content areas.
- 1) Knowledge Indicators – The competent technology specialist understands how to develop an instructional program based on local, State, and national standards for the use of computers and other associated learning technologies, integrating these plans across subject and content areas.
 - 2) Performance Indicators - The competent technology specialist:
 - A) describes and analyzes accepted principles of strategic planning to facilitate curriculum design for teaching with computers and related technologies.
 - B) identifies and uses local, State, and national guidelines to develop curricular plans for integrating technology in the P-12 environment.
- i) Staff Development - The technology specialist will demonstrate knowledge of issues and models related to leadership in staff development. The technology specialist will identify resources, plan, and design staff development activities to support professional growth in learning technologies.

- 1) Knowledge Indicators – The competent technology specialist:
 - A) has knowledge of issues and models related to leadership in staff development.
 - B) understands how to design staff development activities that support professional growth in learning technologies.
 - 2) Performance Indicators - The competent technology specialist:
 - A) plans and designs staff development programs.
 - B) describes and identifies resources for staff development.
 - C) plans and customizes staff development based on differing audiences, including school and district decision-makers and the larger school community.
- j) Facilities and Resource Management - The technology specialist will demonstrate knowledge of issues related to facilities and resource management.
- 1) Knowledge Indicator – The competent technology specialist understands the issues related to facilities and resource management.
 - 2) Performance Indicators - The competent technology specialist:
 - A) describes and uses budget planning and management procedures related to educational computing and technology facilities and resources.
 - B) identifies funding sources available at local, State, and/or national levels and collaborates on development of a grant proposal.
 - C) plans, develops, implements, and evaluates strategies and procedures for resource acquisition and management of technology-based systems, including hardware and software.
 - D) identifies, describes, and analyzes procedures related to basic troubleshooting, preventive maintenance, and procurement of system-wide technological maintenance services.
 - E) describes and maintains current information involving facilities planning issues related to computers and related technologies.

- F) designs and develops policies and procedures concerning staffing, scheduling, and security for managing computers/technology in a variety of instructional and administrative school settings.
- k) Managing the Change Process within Educational Reform Efforts - The technology specialist will demonstrate knowledge of strategies for and issues related to managing the change process as part of overall educational reform efforts in schools and districts.
- 1) Knowledge Indicator – The competent technology specialist has knowledge of strategies for and issues related to managing the change process as part of overall educational reform efforts in schools and districts.
 - 2) Performance Indicators - The competent technology specialist:
 - A) evaluates school and district technology plans and recommends improvements.
 - B) discusses issues relating to building collaborations, alliances, and partnerships involving educational technology initiatives.
 - C) demonstrates knowledge of effective group process skills.
 - D) discusses and develops issues related to local education reform efforts and recommends building-level changes and professional development strategies (such as block scheduling, cross-subject units of instruction, etc.) to facilitate the integration of technology into all content areas.
 - E) uses evaluation findings to recommend modifications in technology implementations.
- l) Professional Development - The technology specialist will participate in professional development experiences that allow him or her to observe the use of technology to support instruction, the management of technological resources in educational settings, and the evaluation of the effectiveness of technological resources in teaching and learning; and to apply technological resources to support instruction in classroom settings.
- 1) Knowledge Indicators – The competent technology specialist:
 - A) understands the value of professional development experiences in observing the use of technology.

- B) has knowledge of how to manage, evaluate, and apply technological resources to support instruction in classroom settings.
- 2) Performance Indicators - The competent technology specialist:
- A) observes and compares methods and strategies used in educational technology in a variety of authentic educational settings (i.e., elementary, middle, secondary, adaptive/assistive classrooms, labs).
 - B) develops and teaches a series of lessons that apply technological resources to support instruction.
 - C) documents and assesses a significant site-based activity involving experiences in instructional program development, staff development, facilities and resource management, or managing change related to technology use in schools.
 - D) documents and assesses experiences in implementing a P-12 building-based LAN (Local Area Network) and/or WAN (Wide Area Network) with Internet connectivity.

Section 27.480 Work-Based Learning Teacher/Coordinator

An individual who holds an endorsement in agricultural education, business, marketing, and computer education, family and consumer sciences, health careers, or technology education may qualify for designation as a Work-Based Learning Teacher/Coordinator by meeting the additional standards set forth in this Section.

- a) The competent work-based learning teacher/coordinator understands work-based learning and interprets it to administrators, faculty, students, parents, employers, and community members.
 - 1) Knowledge Indicators – The competent work-based learning teacher/coordinator:
 - A) understands the rationale for integrating work-based learning activities into the curriculum.
 - B) understands career awareness/exploration, employment acquisition (including electronic processes), job retention, basic skills development, and leadership development.
 - C) understands the roles and responsibilities of students, school, and work site in the work-based learning experience.

- D) understands local, State, and national programs for work-based learning.
 - E) understands liability, risk management, and labor laws and regulations: OSHA requirements, work site safety and child labor and wage laws, and liability provisions (school, employer, student).
 - F) understands the role of work-site supervisor.
- 2) Performance Indicators - The competent work-based learning teacher/coordinator:
- A) articulates differences among work-based learning opportunities, including job shadowing, internship, cooperative work experience, and apprenticeship, as they relate to local resources and needs.
 - B) develops collaborative partnerships with students, colleagues, community, business/industry, unions, and parents to maximize resources.
 - C) markets work-based learning programs to appropriate constituents.
 - D) secures and develops work-based learning sites.
 - E) supports and instructs others in school-to-work connecting activities.
 - F) has been employed in the workforce in an occupation other than teaching.
- b) The competent work-based learning teacher/coordinator demonstrates the ability to plan, develop, implement, supervise, and evaluate work-based learning activities and programs.
- 1) Knowledge Indicators – The competent work-based learning teacher/coordinator:
- A) understands pedagogy and educational research relating to content and work-based learning.
 - B) understands the relationship among workforce studies, labor market data, public and private sector statistics, educational research, and work-based learning.

- 2) Performance Indicators - The competent work-based learning teacher/coordinator:
- A) develops training plans, training agreements, and training evaluation instruments.
 - B) designs connecting activities that reinforce school-based learning.
 - C) integrates workplace skill instruction into all work-based learning curriculum.
 - D) uses labor market information, the Illinois Learning Standards (see 23 Ill. Adm. Code 1. Appendix D), the Illinois Occupational Skill Standards (see Sections 27.400(a)(1)(C), 27.410(a)(1)(C), 27.430(a)(1)(C), 27.440(a)(1)(C), and 27.460(a)(1)(C) of this Part), advisory committee input, and appropriate resource materials in developing curriculum.
 - E) places students in work sites aligned with their career objective.
 - F) keeps records on students' attendance, performance, and achievement of competencies.
 - G) adheres to liability, risk management, and labor laws and regulations: OSHA requirements, work site safety and child labor and wage laws, and liability provisions (school, employer, student).
 - H) relates to workplace issues and problems, i.e., ethics, stakeholder values, sexual harassment.
 - I) conducts occupational/job analysis.
 - J) mentors and provides career guidance to individual students.
 - K) assesses students' performance using a variety of methods.
 - L) promotes student organizations.
 - M) evaluates the effectiveness of program efforts and makes necessary program changes based upon evaluation findings.
 - N) assures that work-site supervisors/mentors, through training, are able to work with students, use training plans, and conduct student evaluations.

- O) participates in appropriate professional organizations and develops a plan for continued personal and professional growth.

Section 27.490 Gifted Education Teacher

- a) The competent gifted education teacher, recognizing the learning and developmental differences of gifted and talented students, promotes ongoing self-understanding, awareness of his or her students' needs, and cognitive and affective growth of these students in school, home and community settings to ensure specific student outcomes. The competent gifted education teacher:
 - 1) collects and develops tools and techniques to engage the full range of profiles of gifted and talented students, including students with special needs (e.g., students with disabilities (twice exceptional), English language learners, creatively gifted, visual-spatial learners, profoundly gifted) in identifying their interests, strengths and gifts;
 - 2) assists gifted and talented students in developing pride in their gifts and growing their passion for their areas of interest;
 - 3) develops activities that can be tailored easily to match each student's developmental level and culture-based learning needs or to compensate for areas of deficit;
 - 4) provides a variety of research-based grouping practices for use with gifted and talented students that allow them to interact with individuals of various gifts, talents, abilities and strengths;
 - 5) models respect for individuals with diverse abilities, strengths and goals, including those students with atypical gifted profiles;
 - 6) provides role models (e.g., through mentors, bibliotherapy) for gifted and talented students that match their abilities and interests (i.e., students with special needs);
 - 7) identifies extracurricular learning opportunities that match students' abilities and interests, and works to remove barriers to their taking advantage of these opportunities;
 - 8) collaborates with families in accessing resources to develop their child's gifts and talents;
 - 9) provides interventions for students to develop cognitive and affective growth that is based on research of effective practices;

- 10) develops specialized intervention services for underachieving gifted and talented students to accommodate their deficits, remediate their barriers to achievement, leverage their gifts and build their community with other gifted students;
 - 11) enables students to identify their preferred approaches to learning, accommodates the students' preferences and expands them;
 - 12) provides students with college and career guidance that is consistent with their strengths; and
 - 13) implements a scope and sequence of the curriculum that contains personal and social awareness and adjustment, academic planning, and vocational and career awareness.
- b) The competent gifted education teacher has a deep understanding of assessment and its ability to provide information about identification, learning progress and outcomes, and evaluation of programming for gifted and talented students in all domains. The competent gifted education teacher:
- 1) identifies gifted and talented students, including those students with special needs who may be underserved;
 - 2) develops environments and instructional activities that accommodate the full range of learning and performing among gifted populations, and encourages students to express diverse characteristics and behaviors that are associated with giftedness;
 - 3) possesses current knowledge of student exceptionalities and collects assessment data while adjusting curriculum and instruction to address each student's developmental level and aptitude for learning;
 - 4) provides parents and guardians with information in their native language regarding diverse behaviors and characteristics that are associated with giftedness, including unique characteristics that are associated with gifted students with special needs;
 - 5) provides parents and guardians with information in their native language that explains the nature and purpose of gifted programming options;
 - 6) uses current, research-based assessment strategies that accurately measure the progress of all gifted and talented students, including students with special needs;
 - 7) uses differentiated pre- and post-performance-based assessments to measure the progress of gifted and talented students;

- 8) uses differentiated product-based assessments to measure the progress of students with gifts and talents;
 - 9) uses and interprets qualitative and quantitative assessment information to develop a profile of the strengths and weaknesses of each student to plan appropriate intervention;
 - 10) communicates and interprets assessment information to students and their parents or guardians;
 - 11) possesses an understanding of the emotional and attitudinal profiles of gifted and talented students and identifies when a child is in crisis and in need of additional supports; and
 - 12) possesses an understanding of the difference between high-achieving students and gifted and talented students, and is able to address the needs of both within a single, unified program.
- c) The competent gifted education teacher applies the theory and research-based models of curriculum and instruction for gifted and talented students and responds to the needs of his or her students by planning, selecting, adapting and creating culturally relevant curriculum materials or curricula and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes. The competent gifted education teacher:
- 1) uses local, State and national standards to align and expand curriculum and instructional plans;
 - 2) adapts, modifies or replaces the core or standard curriculum to meet the needs of gifted and talented students, including those students with special needs;
 - 3) designs differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive and complex content that can be modified to meet the needs of all gifted and talented students, including those students with special needs;
 - 4) uses a balanced assessment system, including pre-assessment and formative assessment, to identify students' needs, develop differentiated education plans and adjust plans based on continual progress monitoring;
 - 5) ensures that assessment measures are sensitive to the needs of students with special needs;

- 6) uses pre-assessments and paces and differentiates instruction based on the learning rates and needs of each gifted and talented student, including those with special needs, accelerating and compacting learning, as appropriate;
- 7) uses information and technologies, including assistive technologies, to individualize instruction for gifted and talented students, including those who are twice exceptional;
- 8) collaborates with school support personnel and special educators to design and deliver curricula in cognitive, affective, aesthetic, social and leadership domains that are challenging and effective for gifted and talented students, including those students with special needs;
- 9) uses meta-cognitive models to meet the needs of gifted and talented students;
- 10) selects, adapts and uses a repertoire of instructional strategies and materials that differentiate instruction for gifted and talented students and respond to diversity;
- 11) uses school and community resources that support differentiation;
- 12) provides opportunities for gifted and talented students to explore, develop or research their areas of interest and/or talent;
- 13) uses critical-thinking strategies to meet the needs of gifted and talented students;
- 14) uses open-ended creative-thinking strategies to meet the needs of gifted and talented students;
- 15) uses problem-solving model strategies to meet the needs of gifted and talented students;
- 16) uses inquiry models to meet the needs of gifted and talented students;
- 17) develops and uses challenging, culturally responsive curriculum materials or curricula to engage all gifted and talented students;
- 18) integrates career exploration experiences into learning opportunities for gifted and talented students (e.g., biography study, speakers);
- 19) uses curriculum materials or curricula for deep explorations of cultures, languages and social issues related to diversity; and

- 20) demonstrates the ability to identify and leverage sources for high-quality resources and materials that are appropriate for gifted and talented students.
- d) The competent gifted education teacher creates learning environments that foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes. The competent gifted education teacher:
- 1) maintains high expectations for all gifted and talented students as evidenced by meaningful cognitively and creatively challenging activities;
 - 2) recognizes, accommodates and helps to remediate the limitations of gifted students with special needs in meeting production demands;
 - 3) provides opportunities for self-exploration, development and pursuit of interests, and development of identities supportive of achievement (e.g., through mentors and role models);
 - 4) creates environments that support trust among diverse learners;
 - 5) provides feedback that focuses on effort, evidence of potential to meet high standards and mistakes as learning opportunities;
 - 6) provides examples of positive coping skills and opportunities to apply them;
 - 7) understands the needs of gifted and talented students for both solitude and social interaction;
 - 8) provides opportunities for gifted and talented students to interact with intellectual and artistic and creative peers, as well as with chronological-age peers;
 - 9) provides students with special needs with opportunities to interact with both intellectual and emotional-age peers and with other gifted and talented students with special needs;
 - 10) assesses and provides instruction on social skills needed for school, community and the world of work;
 - 11) establishes a safe and welcoming climate for addressing social issues and developing personal responsibility;
 - 12) provides environments for developing many forms of leadership and leadership skills;

- 13) promotes opportunities for leadership in community settings to effect positive change;
 - 14) models appreciation for and sensitivity to students' diverse backgrounds and languages;
 - 15) censures discriminatory language and behavior and models appropriate strategies;
 - 16) provides structured opportunities to collaborate with diverse peers on a common goal;
 - 17) provides opportunities for advanced development and maintenance of first and second languages;
 - 18) provides resources to enhance oral, written and artistic forms of communication, recognizing students' cultural context; and
 - 19) ensures access to advanced communication tools, including assistive technologies, and use of these tools for expressing higher-level thinking and creative productivity.
- e) The competent gifted education teacher is aware of empirical evidence regarding the cognitive, creative and affective development of gifted and talented students, and programming that meets their concomitant needs. Competent teachers use this expertise systematically and collaboratively to develop, implement and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes. The competent gifted education teacher:
- 1) regularly uses multiple alternative approaches to accelerate learning;
 - 2) regularly uses enrichment options to extend and deepen learning opportunities within and outside of the school setting;
 - 3) regularly uses multiple forms of grouping, including clusters, resource rooms, special classes or special schools;
 - 4) regularly uses individualized learning options, such as mentorships, internships, online courses and independent study;
 - 5) regularly uses current technologies, including online learning options and assistive technologies, to enhance access to high-level programming;

- 6) collaborates with educators in gifted, general and special education programs, as well as those in specialized areas, to collaboratively plan, develop and implement services for gifted and talented students;
 - 7) regularly engages families and community members for purposes of planning, programming, evaluating and advocating;
 - 8) provides professional guidance and counseling for individual students' strengths, interests and values; and
 - 9) facilitates mentorships, internships and vocational programming experiences that match student interests and aptitudes.
- f) The competent gifted education teacher formally assesses professional development needs related to standards, develops and monitors development plans, systematically engages in training to meet identified needs, and demonstrates mastery of standards through the assessment of relevant student outcomes. The competent gifted education teacher:
- 1) participates in ongoing, research-supported professional development that addresses the foundations of gifted education, education of gifted students with special needs, characteristics of students with gifts and talents, assessment, curriculum planning and instruction, learning environments and programming;
 - 2) stays current regarding key issues affecting gifted and talented students, such as anti-intellectualism, and trends in gifted education, such as equity and access;
 - 3) expands the support system for gifted and talented students and their families by connecting them to organizations and publications relevant to gifted education;
 - 4) participates in ongoing professional development to support the social and emotional needs of gifted and talented students, and shares resources and perspective with students and their families;
 - 5) assesses his or her instructional practices on an ongoing basis and, based on these assessments, continues his or her professional development related to gifted education through the school district's staff development, professional organizations and higher education settings;
 - 6) assesses evidence of the impact of new instructional approaches both on teacher practice and student learning;

- 7) leverages multiple modes of delivering professional development, including online courses, online gifted-related communities, workshops, professional learning communities and book "talks";
- 8) identifies and addresses areas in his or her professional development plans for personal growth in the teaching of gifted and talented students;
- 9) responds to cultural and personal frames of reference when teaching gifted and talented students; and
- 10) complies with rules, policies and standards of ethical practice.

Section 27.495 Gifted Education Specialist

- a) The competent gifted education specialist, recognizing the learning and developmental differences of students with gifts and talents, promotes ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home and community settings to ensure specific student outcomes. The competent gifted education specialist:
 - 1) collects and develops tools and techniques to engage the full range of profiles of gifted and talented students, including students with special needs (e.g., students with disabilities (twice exceptional), English language learners, creatively gifted, visual-spatial learners, profoundly gifted), in identifying their interests, strengths and gifts;
 - 2) assists gifted and talented students in developing their pride in their gifts and talents and encouraging their passion in their areas of interest;
 - 3) develops activities that can be easily tailored to match each student's developmental needs and culture-based learning needs or to compensate for areas of deficit, to include students with special needs;
 - 4) provides a variety of research-based grouping practices for use with gifted and talented students that allow them to interact with individuals of various gifts, talents, abilities and strengths;
 - 5) models respect for individuals with diverse abilities, strengths and goals, including those with atypical gifted profiles (i.e., students with special needs);
 - 6) provides role models (e.g., through mentors, bibliotherapy) for gifted and talented students that match their abilities and interests;

- 7) identifies extracurricular learning opportunities that match students' abilities and interests, and works to remove barriers to their taking advantage of these opportunities;
 - 8) collaborates with families in accessing resources to develop their child's talents;
 - 9) designs interventions for students to develop cognitive and affective growth that is based on research of effective practices;
 - 10) develops specialized intervention services for underachieving gifted and talented students to accommodate their deficits, remediate barriers to achievement, leverage their gifts and build their community with other gifted and talented students;
 - 11) enables students to identify their preferred approaches to learning, accommodates the students' preferences and expands them;
 - 12) provides students with college and career guidance that is consistent with their strengths; and
 - 13) implements a scope and sequence of the curriculum that contains personal and social awareness and adjustment, academic planning and vocational and career awareness.
- b) The competent gifted education specialist has a deep understanding of assessment and its ability to provide information about identification, learning progress and outcomes, and evaluation of programming for students with gifts and talents in all domains. The competent gifted education specialist:
- 1) identifies gifted and talented students, including those students with special needs who may be underserved;
 - 2) develops environments and instructional activities that accommodate the full range of learning and performing found among gifted populations, and encourages students to express diverse characteristics and behaviors that are associated with giftedness;
 - 3) uses current, research-based assessment strategies appropriate for accurately measuring the progress of all gifted and talented students, including students with special needs;
 - 4) establishes comprehensive, cohesive and ongoing procedures for identifying and serving gifted and talented students; these provisions include informed consent, committee review, student retention, student

reassessment, student exiting, and appeals procedures for both entry and exit from gifted program services;

- 5) selects and uses multiple assessments that measure diverse abilities, talents and strengths that are based on current theories, models and research;
- 6) selects assessments that provide qualitative and quantitative information from a variety of sources, including "off-level" testing (i.e., not designed for the grade level of the student), and are nonbiased and equitable, and technically adequate for the purpose;
- 7) possesses knowledge of student exceptionalities and collects assessment data while adjusting curriculum and instruction to learn about each student's developmental level and aptitude for learning;
- 8) interprets multiple assessments in different domains and understands the uses and limitations of the assessments in identifying the needs of gifted and talented students, including those students with special needs;
- 9) informs all parents and guardians about the identification process, obtains parental or guardian permission for assessments, uses culturally sensitive checklists, and elicits evidence regarding the child's interests and potential outside of the classroom setting;
- 10) selects and uses non-biased and equitable approaches for identifying gifted and talented students, which may include using locally developed norms or assessment tools in the child's native language or in nonverbal formats;
- 11) understands and implements district and State policies designed to foster equity in gifted programming and services;
- 12) provides parents and guardians with information in their native language regarding diverse behaviors and characteristics that are associated with giftedness, including unique characteristics associated with gifted students with special needs;
- 13) provides parents and guardians with information in their native language that explains the nature and purpose of gifted programming options;
- 14) uses differentiated pre- and post-performance-based assessments to measure the progress of gifted and talented students;
- 15) uses differentiated product-based assessments to measure the progress of gifted and talented students;

- 16) uses off-level standardized assessments to measure the progress of gifted and talented students;
 - 17) uses and interprets qualitative and quantitative assessment information to develop a profile of the strengths and weaknesses of each gifted and talented student to plan appropriate intervention;
 - 18) communicates and interprets assessment information to gifted and talented students and their parents or guardians;
 - 19) ensures that the assessments used in the identification and evaluation processes are reliable, are sensitive to the needs of special populations, are valid for each instrument's purpose, allow for above grade-level performance and allow for diverse perspectives;
 - 20) ensures that the assessment of the progress of gifted and talented students uses multiple indicators that measure mastery of content, higher-level thinking skills, achievement in specific program areas and affective growth;
 - 21) assesses the quantity, quality and appropriateness of the programming and services provided for gifted and talented students by disaggregating assessment data and yearly progress data and making the results public;
 - 22) provides the necessary time and resources to implement an annual evaluation plan developed by personnel with expertise in program evaluation and gifted education;
 - 23) ensures that the evaluation plan is purposeful and evaluates how student-level outcomes are influenced by one or more of the following components of gifted education programming: identification, curriculum, instructional programming and services, ongoing assessment of student learning, counseling and guidance programs, teacher qualifications and professional development, parent and guardian and community involvement, programming resources, and programming design, management, and delivery; and
 - 24) disseminates results of the program evaluation, orally and in written form, and explains how results will be used.
- c) The competent gifted education specialist applies the theory and research-based models of curriculum and instruction for gifted and talented students and responds to his or her students' needs by planning, selecting, adapting and creating culturally relevant curriculum materials or curricula and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes. The competent gifted education specialist:

- 1) uses local, State and national standards to align and expand curriculum materials or curricula and instructional plans;
- 2) designs and uses a comprehensive and continuous scope and sequence to develop differentiated plans for gifted and talented students in prekindergarten through grade 12;
- 3) adapts, modifies or replaces the core or standard curriculum to meet the needs of gifted and talented students and those with special needs;
- 4) designs differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive and complex content that can be modified to meet the needs of all gifted and talented students, including students with special needs;
- 5) uses a balanced assessment system, including pre-assessment and formative assessment, to identify students' needs, develop differentiated education plans and adjust plans based on continual progress monitoring;
- 6) uses pre-assessments and paces and differentiates instruction based on the learning rates and needs of each gifted and talented student, accelerating and compacting learning as appropriate;
- 7) uses information and technologies, including assistive technologies, to individualize instruction for gifted and talented students, including those who are twice-exceptional;
- 8) collaborates with school service personnel and special educators to design and deliver curricula in cognitive, affective, aesthetic, social and leadership domains that are challenging and effective for gifted and talented students, including students with special needs;
- 9) uses meta-cognitive models to meet the needs of gifted and talented students;
- 10) selects, adapts and uses a repertoire of instructional strategies and materials that differentiate instruction for gifted and talented students and respond to diversity;
- 11) uses school and community resources that support differentiation;
- 12) provides opportunities for gifted and talented students to explore, develop or research their areas of interest and/or talent;

- 13) uses critical-thinking strategies to meet the needs of gifted and talented students;
 - 14) uses creative-thinking strategies to meet the needs of gifted and talented students;
 - 15) uses problem-solving model strategies to meet the needs of gifted and talented students;
 - 16) uses open-ended inquiry models to meet the needs of gifted and talented students;
 - 17) develops and uses challenging, culturally responsive curriculum materials or curricula to engage all gifted and talented students;
 - 18) integrates career exploration experiences into learning opportunities for gifted and talented students (e.g., biography study, speakers);
 - 19) uses curriculum materials or curricula for deep explorations of cultures, languages and social issues related to diversity; and
 - 20) demonstrates the ability to identify and leverage sources for high-quality resources and materials that are appropriate for gifted and talented students.
- d) The competent gifted education specialist creates learning environments that foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes. The competent gifted education specialist:
- 1) maintains high expectations for all gifted and talented students, as evidenced in meaningful cognitively and creatively challenging activities;
 - 2) recognizes, accommodates and helps to remediate the limitations of gifted students with special needs in meeting production demands;
 - 3) provides opportunities for self-exploration, development and pursuit of interests and development of identities supportive of achievement (e.g., through mentors and role models);
 - 4) creates environments that support trust among diverse learners;
 - 5) provides feedback that focuses on effort, evidence of potential to meet high standards and mistakes as learning opportunities;

- 6) provides examples of positive coping skills and opportunities to apply them;
- 7) understands the needs of gifted and talented students for both solitude and social interaction;
- 8) provides opportunities for gifted and talented students to interact with intellectual and artistic and creative peers, as well as with chronological-age peers;
- 9) provides students with special needs with opportunities to interact with both intellectual and emotional-age peers and with other gifted and talented students with special needs;
- 10) assesses and provides instruction on social skills needed for school, community and the world of work;
- 11) establishes a safe and welcoming climate for addressing social issues and developing personal responsibility;
- 12) provides environments for developing many forms of leadership and leadership skills;
- 13) promotes opportunities for leadership in community settings to effect positive change;
- 14) models appreciation for and sensitivity to students' diverse backgrounds and languages;
- 15) censures discriminatory language and behavior, and models appropriate strategies for addressing social issues, including discrimination and stereotyping;
- 16) provides structured opportunities to collaborate with diverse peers on a common goal;
- 17) provides opportunities for advanced development and maintenance of first and second languages;
- 18) provides resources to enhance oral, written and artistic forms of communication, recognizing students' cultural context; and
- 19) ensures access to advanced communication tools, including assistive technologies, and use of these tools for expressing higher-level thinking and creative productivity.

- e) The competent gifted education specialist is aware of empirical evidence regarding the cognitive, creative and affective development of gifted and talented students, and programming that meets their concomitant needs. Competent teachers use this expertise systematically and collaboratively to develop, implement and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes. The competent gifted education specialist:
- 1) regularly uses multiple alternative approaches to accelerate learning;
 - 2) regularly uses enrichment options to extend and deepen learning opportunities within and outside of the school setting;
 - 3) regularly uses multiple forms of grouping, including clusters, resource rooms, special classes or special schools;
 - 4) regularly uses individualized learning options, such as mentorships, internships, online courses and independent study;
 - 5) regularly uses current technologies, including online learning options and assistive technologies, to enhance access to high-level programming;
 - 6) demonstrates support for gifted programs through equitable allocation of resources and demonstrated willingness to ensure that gifted and talented students receive appropriate educational services;
 - 7) collaborates with educators in gifted, general and special education programs, as well as those in specialized areas, to collaboratively plan, develop and implement services for gifted and talented students;
 - 8) regularly engages families and community members for the purposes of planning, programming, evaluating and advocating;
 - 9) tracks expenditures at the school level to verify appropriate and sufficient funding for gifted programming and services;
 - 10) develops thoughtful, multi-year program plans in talent areas relative to students in prekindergarten through grade 12;
 - 11) creates policies and procedures to guide and sustain all components of the program, including assessment, identification, acceleration practices and grouping practices, that are built on an evidence-based foundation in gifted education;
 - 12) provides professional guidance and counseling for individual student strengths, interests and values; and

- 13) facilitates mentorships, internships and vocational programming experiences that match student interests and aptitudes.
- f) The competent gifted education specialist formally assesses professional development needs related to standards, develops and monitors development plans, systematically engages in training to meet identified needs and demonstrates mastery of standards through the assessment of relevant student outcomes. The competent gifted education specialist:
- 1) participates in ongoing, research-supported professional development that addresses the foundations of gifted education, education of gifted students with special needs, characteristics of students with gifts and talents, assessment, curriculum planning and instruction, learning environments and programming;
 - 2) provides professional development for teachers that models how to develop environments and instructional activities that encourage students to express diverse characteristics and behaviors that are associated with giftedness;
 - 3) stays current regarding key issues affecting gifted students, such as anti-intellectualism, and trends in gifted education, such as equity and access;
 - 4) provides human and material resources needed for professional development in gifted education (e.g., release time, funding for continuing education, substitute support, webinars, mentors);
 - 5) expands the support system for gifted and talented students and their families by connecting them to organizations and publications relevant to gifted education;
 - 6) assesses his or her instructional practices on an ongoing basis and, based on these assessments, continues his or her professional development related to gifted education through the school district's staff development, professional organizations and higher education settings;
 - 7) assesses evidence of the impact of new instructional approaches both on teacher practice and student learning;
 - 8) leverages multiple modes of delivering professional development, including online courses, online gifted-related communities, workshops, professional learning communities and book "talks";
 - 9) identifies and addresses areas in his or her professional development plans for personal growth in the teaching of gifted and talented students;

- 10) responds to cultural and personal frames of reference when teaching gifted and talented students; and
- 11) complies with rules, policies and standards of ethical practice.