

Illinois Alternate Assessment Mathematics Frameworks Priorities Grade 3

In the spring of 2006, a team of Illinois educators created the new Illinois Alternate Assessment (IAA) Frameworks. The purpose of the frameworks is to prioritize the skills and knowledge from the Illinois Learning Standards for students with the most significant cognitive disabilities, in order to develop a new Illinois Alternate Assessment. The Illinois State Board of Education (ISBE) contracted Pearson Educational Measurement (PEM), and their subcontractor partners, Beck Evaluation and Testing Associates, Inc. (BETA), and the Inclusive Large Scale Standards and Assessment (ILSSA) group, to develop the new IAA in grades three through eight and 11 for Reading and Mathematics; in grades four, seven, and 11 for Science; and in grades three, five, six, eight, and 11 for Writing. BETA's responsibilities include providing event-based assessment activities linked to the IAA Frameworks, developing the assessment rubric, and incorporating principles of Universal Design for Learning. ILSSA's responsibilities include facilitating the development of the IAA Frameworks and providing statewide staff development on how to access grade-level curriculum. Pearson Learning Group (PLG) is a division of PEM and their responsibilities include providing a customized online scoring tool along with training to use this feature.

During the framework development meetings, educators were divided into development teams based on both content area and grade level focus. Addressing reading, writing, mathematics, mathematics, and science, each content area had one development team for elementary school, one for middle school, and one for high school. Each team consisted of at least one general education teacher, one special education teacher, and one content expert. The process used by the development teams to create the Illinois Alternate Assessment Frameworks was as follows:

The development teams reviewed each of the assessment objectives (statements coded with numbers such as 6.3.01) in grades three through eight. For each assessment objective, the teams:

- Identified the critical function, or the main idea of the objective;
- Wrote an instructional activity that could be used to teach the skills needed to meet the assessment objective in the general education classroom;
- Wrote a modified instructional activity that could be used to teach students with the most significant cognitive disabilities the same skills; and
- Identified three assessment activities that could be used to assess students with the most significant cognitive disabilities on the skills described in the modified activity.

After the development teams examined the assessment objectives and wrote both instructional and assessment activities for each grade level, the teams prioritized the assessment objectives and selected the assessment objectives which are most suitable for students with the most significant cognitive disabilities. The leadership team at ISBE reviewed these priorities for further refinement. These pilot priorities will form the basis for the new IAA performance test items. Following the completion of the fall 2006 writing pilot, a review may be necessary in order to determine if the new IAA priorities are appropriate and provide a comparable assessment to the general statewide assessment.

Using grade-level curriculum as the focus, the development teams described the instructional and assessment supports, accommodations, and assistive technology required to ensure access to quality instruction. The descriptions produced by the development teams were summarized into a set of statements designed to provide consistency across the content frameworks. These statements are as follows:

- Appropriate instruction must occur prior to the assessment activity.
- All activities must provide appropriate support, accommodations, and/or assistive technology during both the instructional activities and the assessment process. This may include the following:
 - The use of prompting strategies, ranging from minimum prompts to full physical assistance in order to create a learning continuum for correct responses.
 - The use of assistive technology, ranging from low tech to high tech.
 - The reduction of breadth, depth, and/or complexity.
- Specific instructional strategies and the instructional environment for the individual student vary and should be determined by the student's IEP team.
- During assessment activities, the students should use the mode of communication that they used to learn and practice the skills during instructional activities.

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- Instruction should be presented to the student in a way that is authentic, accessible, and meaningful (e.g., tactile objects, picture symbols, or use of a text reader), to ensure the student has multiple opportunities to learn and demonstrate knowledge.
- Instruction should take place within the context of grade-level content, using age-appropriate activities and materials, regardless of the placement of the student.
- Instruction must incorporate age-appropriate activities and materials which represent the same grade level content as their peers without disabilities. However, the activities and materials may be adapted to meet the individual needs of the student (e.g., reduce the language requirements or difficulty of the task) as long as the context of the materials used by same age peers remains intact.

All instructional practices should occur using available resources and materials familiar to the learners.

Communication skills are essential to the assessment of students with significant cognitive disabilities. Symbolic communication skills form the foundation for reading, mathematics, and writing. Students with significant cognitive disabilities are very diverse in their communication ability. Some students communicate symbolically, while others communicate in highly individualized ways. There are some important considerations in the development of symbolic communication skills which include the following:

- All students communicate regardless of their level of symbolic language use.
- Students with the most significant cognitive disabilities can acquire generalized use of objects (or object selection) to communicate preferences (Hetzroni, Rubin, Konkol, 2002).
- Language learners must use symbols repeatedly, interactively, and generatively during meaningful and ongoing activities in language-rich environments (Goossens, Crain, & Elder, 1992; Cafiero, 1998; Goossens, et al., 1992; Romiski & Sevcik, 1996; Miller & Eller-Miller, 2002; Mirenda, 2003).
- Competent use of language for multiple purposes, audiences, and contexts facilitate the metalinguistic skills required for reading comprehension (Rankin, Harwood, & Mirenda, 1994).

The assessment activities in this document reflect three types of students who represent the continuum of communication skills within this student population.

- The first activity is designed for students who inconsistently respond to communication and inconsistently use words, objects, or gestures to communicate expressively.
- The second activity is for learners who are beginning to use understandable communication through gestures, pictures, objects/textures, points, etc., to clearly express a variety of intentions.
- The third activity is for students who are using verbal or written words, sign language, Braille, or any language-based augmentative system to request, initiate, and respond to questions, describe things or events, and express refusal.

Throughout the frameworks document, the suggested general education instructional and modified instructional activities are written in plural form, as instruction is typically provided to a whole class. However, the instruction for these activities may be provided in the context of whole class instruction, small group instruction, or individually based on student needs. Conversely, the assessment activities are written in the singular form, as the IAA is a standard assessment measuring individual performance.

The process of reviewing the frameworks and aligning the new IAA to the Illinois Learning Standards and regular assessment is an ongoing process. The activities in this document were created by Illinois teachers and are only suggested activities that may be used to teach the assessment objectives listed. The activities, materials, and techniques listed in the frameworks are just one possible way to teach these assessment objectives and should not to be considered the state-mandated strategy for teaching any given assessment objective. Teachers should feel comfortable in using other strategies, materials, or activities that may already be in place or familiar to the teacher. The IAA Frameworks and the IAA itself will continue to be reviewed and adjusted as changes occur with the Illinois Standards and/or the general assessment.

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State Goal 6: Number Sense

Representations and Ordering (Standard A)

- 6.3.01 Read, write, recognize, and model equivalent representations of whole numbers and their place values up to 100,000.
- 6.3.02 Identify and write (in words and standard form) whole numbers up to 100,000.
- 6.3.05 Order and compare whole numbers up to 10,000 using symbols ($>$, $<$, or $=$) and words (e.g., greater (more) than, less than, equal to, between).
- 6.3.07 Identify and locate whole numbers and halves on a number line.

Computation, Operations, Estimation, and Properties (Standards B and C)

- 6.3.09 Solve problems and number sentences involving addition and subtraction with regrouping.
- 6.3.10 Solve problems involving the value of a collection of bills and coins whose total value is \$10.00 or less, and make change.

State Goal 7: Measurement

Units, Tools, Estimation, and Applications (Standards A, B, and C)

- 7.3.01 Solve problems involving simple elapsed time in compound units (e.g., hours, minutes, days).
- 7.3.05 Compare and estimate length (including perimeter), area and weight/mass using referents.

State Goal 8: Algebra

Representations, Patterns, and Expressions (Standard A)

- 8.3.01 Determine a missing term in a pattern (sequence), describe a pattern (sequence), and extend a pattern (sequence) when given a description or pattern (sequence).

Writing, Interpreting, and Solving Equations (Standards C and D)

- 8.3.04 Solve one-step addition and subtraction equations that have a missing number or missing operation sign (e.g., $3 + \square = 5$, $6 \square 1 = 7$).

State Goal 9: Geometry

Properties of Single Figures and Coordinate Geometry (Standard A)

- 9.3.01 Identify, describe, and sketch two-dimensional shapes (triangles, squares, rectangles, pentagons, hexagons, and octagons) according to the number of sides, length of sides, and number of vertices.

Relationships Between and Among Multiple Figures (Standard B)

- 9.3.09 Predict the result of putting shapes together (composing) and taking them apart (decomposing).

State Goal 10: Data Analysis, Statistics, and Probability

Data Analysis and Statistics (Standards A and B)

- 10.3.01 Read and interpret data represented in a pictograph, bar graph, Venn diagram (with two circles), tally chart, or table.

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State Goal 6					
Representations and Ordering (Standard A)					
Read, Write, and Represent Numbers					
6.3.01 Read, write, recognize, and model equivalent representations of whole numbers and their place values up to 100,000.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Read, write, recognize, and model whole numbers.	The teacher will model whole numbers using manipulatives. Using pictures of base ten blocks, the teacher will model whole numbers. The students will identify the represented numbers.	The teacher will model whole numbers using manipulatives. Given numbers and manipulatives, the students will identify two-digit numbers.	Given a group of objects, the student will identify quantities between one and four.	Given a group of objects, the student will identify quantities between one and seven.	Given a group of objects, the student will identify quantities between one and ten.

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State Goal 6					
Representations and Ordering (Standard A)					
Read, Write, and Represent Numbers					
6.3.02 Identify and write (in words and standard form) whole numbers up to 100,000.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Identify and write whole numbers.	The teacher will model whole numbers using manipulatives. The students will use flashcards of number words and actual numerals to identify numerals and the corresponding number words.	The teacher will model whole numbers using manipulatives. The students will use annotated flashcards with number words, pictures and the numeral on the same card for numerals one to 20 to teach the correspondence.	Given a number word on a card, the student will choose the numeral that matches working on numerals from one to five.	Given a number word on a card, the student will choose the numeral that matches working on numerals from one to 10.	Given a number word on a card, the student will choose the numeral that matches working on numerals from one to 20.

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State Goal 6					
Representations and Ordering (Standard A)					
Order and Compare Numbers					
6.3.05 Order and compare whole numbers up to 10,000 using symbols (>, <, or =) and words (e.g., greater (more) than, less than, equal to, between).					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Order and compare whole numbers using symbols (<, >, or =) and words.	The teacher will use a number line and demonstrate how numbers are greater than, less than or equal to another number. Using number cards, the students will draw two random cards and create two-digit numbers. The students will then compare their number to that of a partner (more, less or equal). The person with the higher number wins the cards.	Same as suggested General Education Activity with necessary supports.	Given two numbers in a number statement without the symbol (5 ____ 3) and a number line, the student will indicate which symbol (>, <, or =) makes the statement true.	Given two numbers in a number statement without the symbol (5 ____ 3), the student will indicate which symbol (>, <, or =) makes the statement true.	Given two two-digit numbers in a number statement without the symbol (15 ____ 31) and a number line, the student will indicate which symbol (>, <, or =) makes the statement true.

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State Goal 6					
Representations and Ordering (Standard A)					
Number Line					
6.3.07 Identify and locate whole numbers and halves on a number line.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Identify and locate whole numbers and halves on a number line.	The teacher will model whole numbers and halves on a number line. Given a number line with $\frac{1}{2}$ " increments, the students will be able to identify the whole and half numbers on the line.	Same as suggested General Education Activity with necessary supports.	Given a whole number, the student will find the number on the number line.	Given a half number, the student will indicate whether or not the half number is between two whole numbers on the number line.	Given a half number, the student will place it on the number line.

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State Goal 6					
Computation, Operations, Estimation, and Properties (Standards B and C)					
Number Operations					
6.3.09 Solve problems and number sentences involving addition and subtraction with regrouping.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Solve problems and number sentences involving addition and subtraction with regrouping.	The teacher will model how to solve addition and subtraction problems. The class will work a few problems together. The students will solve addition problems with regrouping.	The teacher will demonstrate how to add and subtract with regrouping. The teacher will demonstrate how to use the correct function on the calculator for addition and subtraction with regrouping. The students will use a calculator or manipulatives, if needed, to solve addition and subtraction problems with regrouping.	Given an addition problem with regrouping, the student will solve the problem.	Given a subtraction problem with regrouping, the student will solve the problem.	Given addition and subtraction problems with regrouping, the student will solve the problem.

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State Goal 6					
Computation, Operations, Estimation, and Properties (Standards B and C)					
Number Operations					
6.3.10 Solve problems involving the value of a collection of bills and coins whose total value is \$10.00 or less, and make change.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Solve problems involving the value of money.	The teacher will model a monetary transaction and the students will solve for the purchase of an item and determine how much change, if any, will result.	Same as suggested General Education Activity with necessary supports.	Given the price of an item and a set of money, the student will determine if he or she has enough money to purchase the item.	Given a set of money and two prices, the student will determine which item costs the same amount as the money presented.	Given a specified amount, the student will provide the teacher with the correct amount of money requested.

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State Goal 7					
Units, Tools, Estimation, and Applications (Standards A, B, and C)					
Elapsed Time					
7.3.01 Solve problems involving simple elapsed time in compound units (e.g., hours, minutes, days).					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Determine the amount of elapsed time.	The teacher will model how to solve problems involving elapsed time. Using a representation of a clock and given a start and end time of an activity, the teacher will demonstrate how to determine how long the activity took to complete. The students will solve problems related to elapsed time.	The teacher will model how to solve problems involving elapsed time. Using a representation of a clock or an actual clock, and given a start and end time of an activity, the teacher will demonstrate how to determine how long the activity took to complete. The students will solve problems related to elapsed time.	Given an activity with start and stop times, the student will identify elapsed time from two given choices.	Given an activity with start and stop times, the student will identify elapsed time from three given choices.	Given starting and ending time, the student will identify elapsed time.

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State Goal 7					
Units, Tools, Estimation, and Applications (Standards A, B, and C)					
Estimation					
7.3.05 Compare and estimate length (including perimeter), area and weight/mass using referents.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Estimate/compare length, area, and mass/weight by referring to an object with known measurement.	The teacher will demonstrate how to estimate weight/mass when it is known for a similar object. Using a hands on approach, the students will find objects that weigh approximately the same as known object.	Same as suggested General Education Activity with necessary supports.	Given two objects, the student will identify which object is heavier or lighter.	Given an object and a choice of three more objects, the student will select the object of similar weight.	Given an object, the student will find two objects that weigh approximately the same as the given object.

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State Goal 8					
Representations, Patterns, and Expressions (Standard A)					
Patterns					
8.3.01 Determine a missing term in a pattern (sequence), describe a pattern (sequence), and extend a pattern (sequence) when given a description of the pattern (sequence).					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Understand basic patterns.	The teacher will demonstrate growing, repeating, and shrinking numerical or pictorial patterns. The students will solve problems related to growing and shrinking patterns.	Same as suggested General Education Activity with necessary supports.	Given a pictorial pattern and two choices, the student will determine the next value in the pattern.	Given an illustrated numerical pattern, the student will determine the next number in the pattern (e.g., 2, 4, 6, 8, <u> </u>).	Given an illustrated numerical pattern, the student will continue the pattern out three more places (e.g., 2, 4, 6, 8, <u> </u> , <u> </u> , <u> </u>).

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State Goal 8					
Writing, Interpreting, and Solving Equations (Standards C and D)					
Solve Equations and Inequalities					
8.3.04 Solve one-step addition and subtraction equations that have a missing number or missing operation sign (e.g., $3 + \square = 5$, $6 - \square = 7$).					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
<p>Solve one-step addition and subtraction equations with a missing part.</p> <p>Example: One unifix cube and a bag with unknown equals three $1 + ? = 3, ? = 2$).</p>	<p>The teacher will demonstrate, model, and discuss how to solve for the unknown with or without manipulatives. The students will solve equations for the unknown.</p>	<p>Same as suggested General Education Activity with necessary supports.</p>	<p>Given a number sentence, (such as $1 - \square = 2$) and a choice of two function signs, the student will select the function sign that completes the number sentence.</p>	<p>Given a number sentence, (such as $1 - \square = 2$), the student will provide the correct function sign to complete the number sentence.</p>	<p>Given an equation with a missing value, for example, Example: $5 - \square = 2$, the student will complete the sentence with the correct value to make a true statement.</p>

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State Goal 9					
Properties of Single Figures and Coordinate Geometry (Standard A)					
Properties of Single Figures					
9.3.01 Identify, describe, and sketch two-dimensional shapes (triangles, squares, rectangles, pentagons, hexagons, and octagons) according to the number of sides, length of sides, and number of vertices.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Understand characteristics of two-dimensional shapes.	The teacher will discuss the characteristics of two-dimensional shapes. The students will identify shapes based on their characteristics.	The teacher, using visuals, will discuss the characteristics of two-dimensional shapes. The students will identify shapes based on their characteristics.	Given a two-dimensional shape, the student will identify it.	Given at least three choices, the student will identify a named two-dimensional shape.	Given the name of a two-dimensional shape, the student will create the shape.

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State Goal 9					
Relationships Between and Among Multiple Figures (Standard B)					
Composing and Decomposing Figures					
9.3.09 Predict the result of putting shapes together (composing) and taking them apart (decomposing).					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
<p>Predict results of putting two shapes together and taking them apart.</p> <p>Example: Two triangles and a rectangle can be put together to make a parallelogram.</p>	<p>The teacher will model composing and decomposing shapes or figures. The students will use tangrams to construct and deconstruct shapes.</p>	<p>Same as suggested General Education Activity with necessary supports.</p>	<p>Given two triangles and two circles, the student will indicate which pair makes a square.</p>	<p>Given two triangles, the student will compose a square.</p>	<p>Given various shaped manipulatives, the student will compose at least two new shapes.</p>

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State Goal 10					
Data Analysis and Statistics (Standards A and B)					
Read and Interpret Displays					
10.3.01 Read and interpret data represented in a pictograph, bar graph, Venn diagram (with two circles), tally chart, or table.					
Critical Function	Suggested General Education Activity	Suggested Modified Instructional Activity	Possible Assessment Activity 1	Possible Assessment Activity 2	Possible Assessment Activity 3
Read and interpret various graphs.	The teacher will model how to read and interpret graphs. Given various graphs with keys, the teacher will explain how to read different types of graphs. While showing and explaining the graphs the teacher will ask questions related to the information contained on the graph. The students will answer questions about data on the graph.	Same as suggested General Education Activity with necessary supports.	Given a graph with a key, the student will answer “yes” or “no” questions about data on the graph.	Given a graph with a key, the student will answer multiple-choice questions about the data on the graph.	Given a graph with a key, the student will answer questions about data on the graph.