ILLINOIS STATE BOARD OF EDUCATION

SCIENCE HIGH SCHOOL

Theory of Action: Academic standards represent a collective commitment around what students should learn each year. The state assessment asks students to demonstrate their knowledge, skills, and understanding related to these standards using a common measure. The resulting data allows us to see patterns in performance that should guide school and district improvement, helping identify areas of strength and opportunity.

Role of Performance Level Descriptors in Defining Proficiency: Performance level descriptors bridge the state assessment to classroom instruction and the systems of formative assessments that guide local instruction and choices about individual students. ***Academic proficiency represents a range of observable student performance characteristics***. There are multiple pathways to proficiency, and students rely upon their strengths differently within that range of performance.

Proficiency and Difficulty: A student's ability to demonstrate proficiency is influenced by the complexity of the texts or stimuli presented, tasks they're asked to complete, and the contexts in which they are engaged. As student performance improves, students are typically able to handle more challenging texts/stimuli, tasks, and contexts, and are able to demonstrate their skills and knowledge more accurately and consistently.

Proficiency in high school science generally includes an ability to integrate all three dimensions (Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts) of the standards at a grade-appropriate level to meet performance expectations. Students are expected to demonstrate application of knowledge that can be applied across the science disciplines.

Interpretation of Data *Student performance indicates the ability to…*

Claim 1	Below Proficient	Approaching Proficient	Proficient	Above Proficient
	• Identify a singular piece of data within a simple or complex data presentation or identify basic information from a textual description of a simple or complex data presentation. • Identify basic features of a table, graph, or diagram such as units of measure. • Understand basic scientific terminology. • Select an accurate description of how the values of variables change as the value of another variable changes in a simple data presentation.	• Describe how the values of variables change as the value of another variable changes in a simple data presentation. • Select data from a complex data presentation (e.g., a phase diagram). • Compare or combine data from a simple data presentation (e.g., order or sum data from a table). • Translate information into a table, graph, or diagram. • Perform a simple interpolation or simple extrapolation using data in a table or graph.	• Compare or combine data from two or more simple data presentations or a single complex data presentation (e.g., categorize data from a table using a scale from another table). • Describe how the values of variables change as the value of another variable changes in a complex data presentation. • Determine and/or use a simple (e.g., linear) mathematical relationship that exists between data. • Analyze presented information when given new, simple information.	• Compare or combine data from two or more complex data presentations. • Determine and/or use a complex (e.g., nonlinear) mathematical relationship that exists between data. • Perform a complex interpolation or complex extrapolation using data in a table or graph. • Analyze presented information when given new, complex information.

Scientific Investigation *Student performance indicates the ability to…*

Claim 2	Below Proficient	Approaching Proficient	Proficient	Above Proficient
	• Identify basic information in text that describes a simple or increasingly complex experiment. • Understand the tools and functions of tools used in a simple or increasingly complex experiment.	• Understand a simple experimental design. • Identify a control in an experiment. • Identify similarities and differences between experiments. • Determine which experiments utilized a given tool, method, or aspect of design.	• Understand a complex experimental design and the methods utilized in a complex experiment. • Predict the results of an additional trial or measurement in an experiment. • Determine the experimental conditions that would produce specified results.	• Determine the hypothesis for an experiment and suggest alternate methods for testing a hypothesis. • Understand precision and accuracy issues. • Predict the effects of modifying the design or methods of an experiment. • Determine which additional trial or experiment could be performed to enhance or evaluate experimental results.

Evaluation of Models, Inferences, and Experimental Results *Student performance indicates the ability to…*

Claim 3	Below Proficient	Approaching Proficient	Proficient	Above Proficient
A.APR.1	• Find basic information in a model (conceptual) and/or determine which models present certain basic information.	• Determine which simple hypothesis, prediction, or conclusion is – or is not – consistent with a data presentation, model, or piece of information in text. • Identify implications and key assumptions in a model. • Identify similarities and differences between models.	• Determine which simple hypothesis, prediction, or conclusion is – or is not – consistent with two or more data presentations, models, and/or pieces of information in text or determine which complex hypothesis, prediction, or conclusion is – or is not – consistent with a data presentation, model, or piece of information in text. • Determine whether presented information or new information supports or contradicts a simple hypothesis or conclusion, and why. • Identify the strengths and weaknesses of models. • Determine which experimental results or models support or contradict a hypothesis, prediction, or conclusion.	• Determine which complex hypothesis, prediction, or conclusion is – or is not – consistent with two or more data presentations, models, and/or pieces of information in text. • Determine whether presented information or new information supports or contradicts a complex hypothesis or conclusion, and why. • Use new information to make a prediction based on a model.