ILLINOIS STATE BOARD OF EDUCATION

MATHEMATICS GRADE 6

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 PLDs 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.

Claim 1: Ratios and Proportional Relationships[i] *Student performance indicates the ability to ...*	
Above Proficient	Create, translate, analyze, and apply ratios and rates to solve real-world problems, including unit rates, percent calculations, and conversions, with increasing levels of proficiency and complexity in problem-solving strategies.
Proficient	Identify, articulate, and apply ratio and rate reasoning through various methods to solve real-world and mathematical problems, including identifying relationships between quantities, finding unit rates and percents, and converting measurement units.
Approaching Proficient	Identify and apply ratios; translate between ratios and rates; and use ratios to solve problems involving percents and unit rates, including applying percent as a rate per 100.
Below Proficient	Recognize problems related to ratios and unit rates, including finding the percent of a quantity, with a foundational understanding of percent as a rate per 100, requiring guided support for further development.

Claim 2: The Number System[ii] *Student performance indicates the ability to ...*	
Above Proficient	Explain advanced arithmetic operations with fractions and decimals, understand the properties of integers, and use them to analyze real-world mathematical situations.
Proficient	Perform arithmetic operations with fractions, decimals, and the concept of integers, using this knowledge to solve problems involving real-world contexts. Graph points on the coordinate plane.
Approaching Proficient	Solve problems with fractions, decimals, and integers, relating to the coordinate plane when applicable.
Below Proficient	Identify unit fractions, perform multi-digit multiplication, and recognize decimal operations. Graph points in Quadrant I of the coordinate plane.

Claim 3: Expressions & Equations[iii] *Student performance indicates the ability to ...*	
Above Proficient	Derive, evaluate, and simplify numerical and algebraic expressions and apply them to solve real-world problems.
Proficient	Write, read, and evaluate numerical and algebraic expressions. Understand their components, apply arithmetic operations, solve equations and inequalities in real-world contexts, and analyze the relationships between dependent and independent variables using graphs and tables.
Approaching Proficient	Read and evaluate numerical and algebraic expressions, use variables to represent numbers, solve mathematical problems, and identify relationships between variables.
Below Proficient	Identify algebraic expressions with variables, understand their components, apply basic arithmetic operations, and use tables and graphs to detect relationships.

Claim 4: Statistics & Probability[iv]	*Student performance indicates the ability to ...*
Above Proficient	Create a statistical question, perform appropriate arithmetic operations on data, analyze data, and interpret the results.
Proficient	Identify statistical questions that address data variability, understand data distributions through measures of center and variation, and effectively display and summarize numerical data using various graphical methods.
Approaching Proficient	Recognize statistical questions and their data distributions, identify measures of center and variation, display data graphically, and summarize basic numerical data.
Below Proficient	Represent data graphically using line plots, identify data centers, recognize various data plots, and construct numerical datasets.

Claim 5: Geometry[v]	*Student performance indicates the ability to ...*
Above Proficient	Analyze area and volume, including those involving fractional dimensions and prism comparisons, alongside coordinate geometry and net applications for real-world problem-solving.
Proficient	Calculate areas of polygons and volumes of prisms with fractional lengths using formulas and geometric decomposition, plot polygons on the coordinate plane, and apply surface area concepts to 3-D shapes.
Approaching Proficient	Calculate areas and volumes using formulas, unit cubes, and coordinate geometry. Determine the surface area of 3D figures from their nets.
Below Proficient	Distinguish between area and volume, calculate volume of prisms using unit cubes, plot polygons, and represent 3D figures with nets.

[i] Includes standards 6.RP.1, 6.RP.2, 6.RP.3 6.RP.3a, 6.RP.3b, 6.RP.3c, 6.RP.3d
[ii] Includes standards 6.NS.1, 6.NS.2, 6.NS.3, 6.NS.4, 6.NS.5, 6.NS.6, 6.NS.6a, 6.NS.6b, 6.NS.6c, 6.NS.7, 6.NS.7a, 6.NS.7b, 6.NS.7c, 6.NS.7d, 6.NS.8
[iii] Includes standards 6.EE.1, 6.EE.2a, 6.EE.2b, 6.EE.2c, 6.EE.3, 6.EE.4, 6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8, 6.EE.9
[iv] Includes standards 6.SP.1, 6.SP.2, 6.SP.3, 6.SP.4, 6.SP.5
[v] Includes standards 6.G.1, 6.G.2, 6.G.3, 6.G.4