

ISTEP+: Grade 8 Mathematics 2015-16 Blueprint

The grade 8 mathematics assessment is divided into five categories for reporting student achievement. Age-appropriate concepts are assessed within each category.

Reporting Category	Description	Percent Range*
Number Sense and Computation	Questions may include solving problems involving rational and irrational numbers, solving problems involving properties of exponents, solving problems involving square roots, solving multi-step real-world problems involving rational numbers, and solving problems involving scientific notation.	12-22%
Algebra & Functions	Questions may include solving multi-step linear equations fluently, representing real-world problems using linear equations and solving such problems, sketching and analyzing graphs that represent a relationship between two quantities, comparing properties of two linear functions, and graphing a pair of linear equations to approximate the solution.	22-32%
Geometry & Measurement	Questions may include describing attributes of three-dimensional objects, solving problems involving transformations, solving problems involving the Pythagorean Theorem, and solving problems involving volume of cones, spheres, and pyramids, and surface area of spheres.	20-30%
Data Analysis, Statistics, & Probability	Questions may include solving problems involving scatter plots, solving problems involving probability of compound events, and using the multiplication counting principle to solve problems.	12-22%
Mathematical Process	Questions may include making sense of problems and persevering in solving them, reasoning abstractly and quantitatively, constructing viable arguments and critiquing the reasoning of others, modeling, using appropriate tools strategically, attending to precision, and making use of structure.	9-19%

* This range represents the approximate emphasis for each reporting category on the assessment.