

Grade 5

Grade 5 SPI 0506.1.1	Given a series of geometric statements, draw a conclusion about the	PPF	33-36	Draw conclusions based on a set of conditions	G	8	5a) Distinguish which objects in a collection satisfy a given geometric definition and explain choices.
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	figure described.						a) Make and test a geometric conjecture about regular polygons.
Grade 5 SPI 0506.1.2	Estimate fraction and decimal sums or differences.	BOA	13-15	Perform one-operation computation with whole numbers and decimals	NPO	8	2b) Make estimates appropriate to a given situation by: <ul style="list-style-type: none"> Identifying when estimation is appropriate, Determining the level of accuracy needed, Selecting the appropriate method of estimation, or Analyzing the effect of an estimation method on the accuracy of results.
Grade 5 SPI 0506.1.3	Recognize the unit associated with the remainder in a division problem or the meaning of the fractional part of a whole given in either decimal or fraction form.				NPO	8	5d) Use divisibility or remainders in problem settings.
Grade 5 SPI 0506.1.4	Identify missing information and/or too much information in contextual problems.				DATA	12	5b) Distinguish relevant from irrelevant information, identify missing information, and either find what is needed or make appropriate approximations.
Grade 5 SPI 0506.2.1	Read and write numbers from millions to millionths in various contexts.	NCP	16-19	Identify a digit's place value	NPO	8	1a) Use place value to model and describe integers and decimals.
Grade 5 SPI 0506.2.2	Write the prime factorization of numbers through 50 using both exponential and standard notation.	NCP	16-19 20-23 28-32	Recognize one-digit factors of a number Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor Apply number properties involving	NPO	8 12	5b) Recognize, find, or use factors, multiples, or prime factorization. 5c) Recognize or use prime and composite numbers to solve problems. 6 a) Explain or justify a mathematical concept or relationship (e.g., explain why 17 is prime). 1 d) Represent, interpret or compare

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				prime factorization Apply number properties involving even/odd numbers and factors/multiples			expressions for real numbers, including expressions utilizing exponents and logarithms.
Grade 5 SPI 0506.2.3	Select a reasonable solution to a real-world division problem in which the remainder must be considered.	BOA	13-15 16-19	Solve problems in one or two steps using whole numbers Solve some routine two-step arithmetic problems	NPO	8	2c) Verify solutions or determine the reasonableness of results in a variety of situations including calculator and computer results. 5d) Use divisibility or remainders in problem settings.
Grade 5 SPI 0506.2.4	Solve problems involving the division of two- and three-digit whole numbers by one- and two-digit whole numbers.	BOA	16-19	Solve some routine two-step arithmetic problems	NPO	4 8	3 c) Divide whole numbers: <ul style="list-style-type: none"> • Up to three-digits by one-digit with paper and pencil computation, or • Up to five-digits by two-digits with use of calculator. 3 a) Perform computations with rational numbers.
Grade 5 SPI 0506.2.5	Solve addition and subtraction problems involving both fractions and decimals.	BOA	16-19	Solve some routine two-step arithmetic problems	NPO	8	3 a) Perform computations with rational numbers. 3f) Solve application problems involving rational numbers and operations using exact answers or estimates as appropriate.
Grade 5 SPI 0506.2.6	Add and subtract proper and improper fractions as well as mixed numbers.	BOA	16-19	Solve routine one-step arithmetic problems (using whole numbers, fractions, and decimals) such as single-step percent Solve some routine two-step arithmetic problems	NPO	4	3a) Add and subtract: <ul style="list-style-type: none"> • Whole numbers, or • Fractions with like denominators, or • Decimals through hundredths.
Grade 5 SPI 0506.2.7	Recognize equivalent representations for the same number.	NCP	13-15	Recognize equivalent fractions and fractions in lowest terms	NPO	8	1e) Recognize, translate between, or apply multiple representations of rational numbers (fractions, decimals, and percents) in meaningful contexts.

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Grade 5 SPI 0506.2.8	Write terminating decimals in the form of fractions or mixed numbers.	NCP	13-15	Recognize equivalent fractions and fractions in lowest terms	NPO	8	1e) Recognize, translate between, or apply multiple representations of rational numbers (fractions, decimals, and percents) in meaningful contexts.
Grade 5 SPI 0506.2.9	Compare whole numbers, decimals and fractions using the symbols $<$, $>$, and $=$.	NCP	20-23	Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor	NPO	8	1h) Order or compare rational numbers (fractions, decimals, percents, or integers) using various models and representations (e.g., number line).
Grade 5 SPI 0506.3.1	Evaluate algebraic expressions involving decimals and fractions using order of operations.				ALG	12	e) Evaluate algebraic expressions, including polynomials and rational expressions.
Grade 5 SPI 0506.3.2	Evaluate multi-step numerical expressions involving fractions using order of operations.				ALG	12	e) Evaluate algebraic expressions, including polynomials and rational expressions.
Grade 5 SPI 0506.3.3	Find the unknown in single-step equations involving fractions and mixed numbers.	EEI	16-19	Solve one-step equations having integer or decimal answers	ALG	8	4a) Solve linear equations or inequalities (e.g., $ax + b = c$ or $ax + b = cx + d$ or $ax + b > c$).
Grade 5 SPI 0506.3.4	Given a set of values, identify those that make an inequality a true statement	EEI	24-27 28-32	Solve first-degree inequalities that do not require reversing the inequality sign Solve linear inequalities that require reversing the inequality sign	ALG	8	4b) Interpret "=" as an equivalence between two expressions and use this interpretation to solve problems.
Grade 5 SPI 0506.4.1	Solve contextual problems that require calculating the area of triangles and parallelograms.	MEAS	16-19 20-23 24-27	Compute the area of rectangles when whole number dimensions are given Compute the area and perimeter of triangles and rectangles in simple problems Compute the area of triangles and rectangles when one or more additional simple steps are required	MEAS	8	1f) Solve mathematical or real-world problems involving perimeter or area of plane figures such as triangles, rectangles, circles, or composite figures.

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Grade 5 SPI 0506.4.2	Decompose irregular shapes to find perimeter and area.	MEAS	24-27	Compute the perimeter of simple composite geometric figures with unknown side lengths	GEO	8	2d) Predict results of combining, subdividing, and changing shapes of plane figures and solids (e.g., paper folding, tiling, and cutting up and rearranging pieces). 1f) Solve mathematical or real-world problems involving perimeter or area of plane figures such as triangles, rectangles, circles, or composite figures.
			33-36	Compute the area of composite geometric figures when planning or visualization is required	MEAS	8	
Grade 5 SPI 0506.4.3	Identify a three-dimensional object from two-dimensional representations of that object and vice versa.				GEO	8 12	e) Represent or describe a three-dimensional situation in a two-dimensional drawing from different views. d) Draw or sketch from a written description plane figures and planar images of three-dimensional figures. e) Use two-dimensional representations of three-dimensional objects to visualize and solve problems.
Grade 5 SPI 0506.4.4	Solve problems involving surface area and volume of rectangular prisms and polyhedral solids.	MEAS	20-23 28-32	Use geometric formulas when all necessary information is given Use relationships involving area, perimeter, and volume of geometric figures to compute another measure	MEAS	8	1h) Solve problems involving volume or surface area of rectangular solids, cylinders, prisms, or composite shapes.
Grade 5 SPI 0506.4.5	Find the length of vertical or horizontal line segments in the first quadrant of the coordinate system, including problems that require the use of fractions and decimals.	GR	20-23	Comprehend the concept of length on the number line*	MEAS	4	1c) Estimate the size of an object with respect to a given measurement attribute (e.g., length, perimeter, or area using a grid).
Grade 5 SPI 0506.4.6	Record measurements in context to reasonable degree of accuracy using decimals and/or fractions				MEAS	8	2e) Determine appropriate accuracy of measurement in problem situations (e.g., the accuracy of each of several lengths needed to obtain a specified accuracy of a total length) and find the measure to that degree of accuracy.

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Grade 5 SPI 0506.5.1	Depict data using various representations, including decimal and/or fractional data.	PSDA	20-23	Translate from one representation of data to another (e.g., a bar graph to a circle graph)	DASP	8	1b) For a given set of data, complete a graph and then solve a problem using the data in the graph (histograms, line graphs, scatterplots, circle graphs, and bar graphs).
Grade 5 SPI 0506.5.2	Make predictions based on various data representations, including double bar and line graphs.	PSDA	28-32 33-36	Interpret and use information from figures, tables, and graphs Analyze and draw conclusions based on information from figures, tables, and graphs	DASP	8	2e) Visually choose the line that best fits given a scatterplot and informally explain the meaning of the line. Use the line to make predictions.
Grade 5 SPI 0506.5.3	Calculate measures of central tendency to analyze data	PSDA	13-15 16-19 33-36	Calculate the average of a list of positive whole numbers Calculate the average of a list of numbers Distinguish between mean, median, and mode for a list of numbers	DASP	8	2a) Calculate, use, or interpret mean, median, mode, or range. 2b) Describe how mean, median, mode, range, or interquartile ranges relate to the shape of the distribution.