

5th Grade Mathematics

Goal	ISAT%	Objective Description (with content limits)	New Vocabulary Words
Standard 1: Number & Operation			
1.1: Understand and use numbers		5.M.1.1.1 Read, write, compare, and order whole numbers through millions and decimal numbers through thousandths. (307.01.a) CL: B, C Calc: CN Content Limit: Numbers may be ordered least to greatest or greatest to least.	composite conjecture equivalent factor hundredth improper fraction mixed number multiple numerical expression overestimate parenthesis prime proper fraction tenth thousandth underestimate
1.1: Understand and use numbers		5.M.1.1.2 Identify and apply place value in whole numbers and decimal numbers to thousandths. (307.01.b) CL: B Calc: CN Content Limit: Whole numbers through millions and decimal numbers through thousandths.	
1.1: Understand and use numbers		5.M.1.1.4 Compare and order commonly used fractions and their equivalents. (307.01.e) CL: C Calc: NO Content Limit: Fraction denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, 16, 20, 24, and 25.	
1.1: Understand and use numbers		5.M.1.1.5 Identify decimal equivalents of commonly used fractions. (307.01.c) CL: C Calc: NO Content Limit: Fraction denominators limited to 2, 4, 5, 8, 10, 20, and 25.	
1.1: Understand and use numbers		5.M.1.1.6 Apply the number theory concepts of primes, composites, multiples, and factors. (307.01.f) CL: D, E Calc: CN Content Limit: Whole numbers less than 100.	
1.2: Perform computations accurately		5.M.1.2.2 Add and subtract decimal numbers through thousandths. (307.02.c) CL: C Calc: NO Content Limit: Decimal numbers through thousandths. Differences must be greater than zero. Expression must be clearly stated.	
1.2: Perform computations accurately		5.M.1.2.3 Multiply and divide whole numbers. (307.02.a) CL: C Calc: NO Content Limit: Multiplication items have at most two-digit factors. Division items have only a one-digit divisor and at most a three-digit dividend. Answers can be terminating decimals to the tenths place. Expression must be clearly stated.	

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1.2: Perform computations accurately		5.M.1.2.4 Add and subtract fractions with like denominators without simplification. (307.02.b) CL: C Calc: NO Content Limit: Fraction denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, 16, 20, 24, and 25. Improper fractions allowed in answer options. Expression must be clearly stated.	
1.2: Perform computations accurately		5.M.1.2.5 Evaluate numerical expressions that include parentheses. (307.02.e) CL: C Calc: NO Content Limit: Whole numbers. No more than three operations. Expression must be clearly stated.	
1.2: Perform computations accurately		5.M.1.2.7 Use a variety of strategies to solve real life problems. (308.01.a) CL: F Calc: YES Content Limit: Content limits for objectives 1.2.2, 1.2.3, and 1.2.4 apply. Expression should not be stated. The items could be such that a variety of strategies could be used, but ability to 'Use a variety of strategies' to be assessed in the classroom, not on the ISAT.	
Standard 2: Measurement			
2.1: Understand and use customary and metric measurements		5.M.2.1.1 Select and use appropriate units and tools to make formal measurements of length, temperature, weight, and volume (capacity) in both systems. (309.01.a) CL: C Calc: CN Content Limit: Select appropriate units and tools only. Units for length are inches, feet, yards, miles; millimeters, centimeters, and meters. Units for time are seconds, minutes, hours, days, and years. Units for weight are ounces, pounds, tons, grams, and kilograms. Units for volume (capacity) are cups, quarts, gallons, milliliter, and liter. 'Use ... tools to make formal measurements' to be assessed in the classroom, not on the ISAT.	area century decade mass milliliter perimeter polygon

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2.1: Understand and use customary and metric measurements	13-18%	<p>5.M.2.1.2 Estimate length, time, weight, temperature, and volume (capacity) in real-world problems using standard units. (309.01.b)</p> <p>CL: C Calc: CN Content Limit: Lengths are measured in inches, feet, and yards. Time is measured in seconds, minutes, hours, and days. Weight is measured in ounces, pounds, and tons. Capacity is measured in cups, quarts, and gallons. May select estimate of size from among list of different numbers with same units (e.g., 1 inch, 1 foot, 10 inches, 10 feet).</p>	
2.1: Understand and use customary and metric measurements		<p>5.M.2.1.3 Tell time to the nearest second.</p> <p>CL: C Calc: CN Content Limit: Items must show a digital stopwatch. Time on stopwatch uses the format HH:MM:SS (e.g., 00:05:20 would be 5 minutes and 20 seconds; 01:10:40 would be 1 hour, 10 minutes, and 40 seconds). May not use an analog clock face.</p>	
2.1: Understand and use customary and metric measurements		<p>5.M.2.1.4 Solve real world problems related to elapsed time. (309.01.d)</p> <p>CL: F Calc: CR Content Limit: Times given in hours and minutes</p>	
2.1: Understand and use customary and metric measurements		<p>5.M.2.1.5 Calculate the perimeter of polygons and the area of rectangles and squares. (309.01.c, 311.01.d)</p> <p>CL: C Calc: CR Content Limit: For perimeter items, shapes are limited to triangle, quadrilateral, pentagon, and hexagon. Dimensions given in whole numbers.</p>	
2.1: Understand and use customary and metric measurements		<p>5.M.2.1.6 Convert units of length within each system. (309.01.e)</p> <p>CL: C Calc: CR Content Limit: Conversions between centimeters and meters or between inches, feet, and yards.</p>	
2.1: Understand and use customary and metric measurements		<p>5.M.2.1.7 Convert days into weeks and years and years into decades and centuries.</p> <p>CL: C Calc: CR Content Limit: Remainders should be expressed as additional units not as fractions (e.g., 51 days is 7 weeks and 2 days not 7 & 2/7 weeks).</p>	

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2.1: Understand and use customary and metric measurements		5.M.2.1.8 Recall length, volume (capacity), and mass equivalences involving millimeters, centimeters, meters, milliliters, liters, grams, and kilograms in the metric system. CL: B Calc: CN Content Limit: Equivalences include: 1,000 mm = 1 m 10 mm = 1 cm 100 cm = 1m 1,000 mL = 1 L 1,000 g = 1 kg. No conversions.	
Standard 3: Algebra & Functions			
3.1: Use algebraic symbolism as a tool to represent mathematical relationships	18-22%	5.M.3.1.1 Write a division problem as a proper and an improper fraction. CL: B Calc: CN Content Limit: Given a division situation choose the appropriate division expression that uses the fraction bar as a division sign. Whole numbers less than 50. Answers will be either a proper or an improper fraction.	associative property distributive property improper fraction numeric expression proper fraction properties relationship
3.1: Use algebraic symbolism as a tool to represent mathematical relationships		5.M.3.1.2 Translate simple word statements for addition and multiplication into numeric expressions. (310.01.b) CL: C Calc: CN Content Limit: Whole numbers less than 50. One operation per expression.	
3.1: Use algebraic symbolism as a tool to represent mathematical relationships		5.M.3.1.3 Write a fact family when given two factors. CL: C Calc: CN Content Limit: Whole number factors between 1 and 10, inclusive.	
3.1: Use algebraic symbolism as a tool to represent mathematical relationships		5.M.3.1.4 Read and use symbols of "<," ">," and "=" to express relationships. (310.01.c) CL: C Calc: CN Content Limit: May compare results of expressions. Use whole numbers less than 50 and expressions with no more than one operation. 'Read' means to express in words.	
3.2: Evaluate algebraic expressions		5.M.3.2.1 Use the following properties as they relate to addition and multiplication: commutative, associative, and distributive. (310.02.a) CL: D Calc: CN Content Limit: Whole numbers less than 100.	

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3.3: Solve algebraic equations and inequalities		5.M.3.3.1 Solve missing factor equations. (310.03.a) CL: C Calc: CR Content Limit: Whole numbers less than 100. Geometric symbols (include squares, rectangles, and triangles) used to represent missing factor.	
3.4: Understand the concept of functions		5.M.3.4.1 Identify the rule for a pattern using whole numbers and extend the pattern. (313.01.a) CL: E Calc: CR Content Limit: Numbers less than 100. Items can ask for a rule, an extension of the pattern, or both.	
3.6: Use patterns to represent problems		5.M.3.6.1 Use patterns to represent problems. (313.02.a) CL: D Calc: CN Content Limit: Numbers less than 100. May include decimals to tenths, fractions with denominators 2, 4, or 8.	
Standard 4: Geometry			
4.1: Apply concepts of size, shape, and spatial relationships		5.M.4.1.1 Identify, compare and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes. (311.01.a) CL: B, C, D Calc: CN Content Limit: Polygons limited to triangles, quadrilaterals (including square, rectangle, parallelogram, trapezoid, and rhombus), hexagons, and octagons. Polyhedra limited to cubes, triangular prisms, rectangular prisms, and pyramids. 'Develop vocabulary to describe the attributes' to be assessed in the classroom, not on the ISAT.	acute angle congruent line segment obtuse angle polyhedra ray similar straight angle symmetrical turn
4.1: Apply concepts of size, shape, and spatial relationships		5.M.4.1.2 Classify angles without formal measures as acute, right, obtuse, and/or straight. CL: D Calc: CN Content Limit: Pictures or diagrams must be included. Angle measures are limited to increments of 15°.	
4.1: Apply concepts of size, shape, and spatial relationships	16-20%	5.M.4.1.3 Identify and label points, lines, line segments, rays, and angles. (311.01.b) CL: C Calc: CN Content Limit: Symbols that may be used include: capital letter for points, two-headed arrow above two capital letters for lines, line segment above two capital letters for line segments, one-headed arrow above two capital letters for rays, angle symbol with one capital letter or angle symbol with three capital letters for angles. All letters are non-italics.	

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4.1: Apply concepts of size, shape, and spatial relationships		5.M.4.1.4 Discuss and predict the results of sliding, flipping, and turning two-dimensional shapes. (311.01.e) CL: D, E Calc: CN Content Limit: Use diagrams showing non-regular polygons on grid. Items may include a given description and a graphic shown for each answer option. 'Discuss' to be assessed in the classroom, not on the ISAT.	
4.1: Apply concepts of size, shape, and spatial relationships		5.M.4.1.5 Identify shapes as congruent, similar, or symmetrical. CL: D Calc: CN Content Limit: Shapes limited to triangles, rectangles, squares, pentagons, and hexagons. Symmetry limited to line symmetry.	
4.3: Apply graphing in two dimensions		5.M.4.3.1 Use ordered pairs to identify and plot points in the first quadrant on a coordinate grid. (311.02.a) CL: C Calc: CN Content Limit: Coordinates are whole numbers. Point may be on positive x- or y-axis.	
		Standard 5: Data Analysis, Probability, & Stats	
5.1: Understand data analysis	13-16%	5.M.5.1.1 Read and interpret tables, charts, bar graphs, and line graphs. (312.01.a) CL: C, D Calc: CN Content Limit: Graphics may have at most ten data categories. Scales are in increments of 1, 2, 5, or 10, or must be consistent with real-world applications. Bar graphs may be vertical or horizontal.	fraction notation median order range
5.2: Collect, organize, and display data		5.M.5.2.1 Collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs. (312.02.a) CL: C Calc: CR Content Limit: Given data, choose a display. 'Collect' data to be assessed in the classroom, not on the ISAT.	

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Goal	ISAT%	Objective Description (with content limits)	New Vocabulary Words
5.3: Apply simple statistical measurements		5.M.5.3.1 Find measures of central tendency - median and mode - with simple sets of data using whole numbers. (312.03.a) CL: C Calc: CR Content Limit: At most nine numbers are used to calculate median (must be an odd number of items in data set given in numeric order). At most ten numbers are used to find the mode. Numbers used are less than 100. When determining the mode, the data set must contain a unique mode.	
5.3: Apply simple statistical measurements		5.M.5.3.2 Find the range of a set of data using whole numbers. (312.03.b) CL: C Calc: CR Content Limit: Data set contains no more than 10 numbers.	
5.4 Understand basic concepts of probability		5.M.5.4.1 Predict, perform, and record results of simple probability experiments using fraction notation. (312.04.a) CL: C Calc: CR Content Limit: Predict only. Situation may involve up to two coins, spinners divided into up to six equal sections, or multi-colored items drawn from a container.	
5.5: Make predictions or decisions based on data		5.M.5.5.1 Make predictions and decisions based on data. (308.01.c) CL: E Calc: CR Content Limit: Data given in tables, bar graphs, or line graphs.	

Cognitive level codes:
B: Memorize
C: Perform procedures
D: Demonstrate understanding
E: Conjecture, generalize, prove
F: Solve non-routine problems, make connections