



Grade 5 Mathematics Item Map: A Resource to Understanding Student Scores

Virginia students participate in grades 3-8 Virginia Growth Assessments and Standards of Learning tests in reading and mathematics. This item map is a resource that provides descriptions and examples of items students were likely to answer correctly based on the vertical scaled score they achieved on their test. A vertical scaled score is a score that allows comparisons between Virginia Growth Assessments and Standards of Learning tests.

The item map shown in the tables below provides examples of test question descriptions at different score points from 990-1890, the vertical scaled score range for Grade 5 Mathematics. These examples represent what students may see on the state assessments in Grade 5 Mathematics.

The descriptions are examples of what students may know or be able to do at each score point. Some descriptions include a released test question and answer options to further show what the student would *most likely answer correctly* if they achieved at or above that score point. This information, along with a student's test results, may be used to plan conversations with families, determine intervention strategies to strengthen student understanding, or establish a plan to accelerate learning.

Match the student's score to the closest number in the left column. In the right column is a description of an item the student would *most likely answer correctly*, based on their score. The student would also most likely correctly answer questions at all score points below the score they achieved.

Students who scored in the range 1565 – 1890 are well prepared for learning new grade-level content.

Score	Description of Test Item
1710	Determine the value of a single-step expression involving division of decimals. (Computation and Estimation)
1674	Describe an unknown quantity using a variable. (Probability, Statistics, Patterns, Functions, and Algebra)

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1610	<p>Solve a single-step or multistep contextual problem involving addition and subtraction of mixed numbers. (Computation and Estimation)</p> <div style="border: 1px solid black; padding: 10px;"><p>Directions: Type your answer in the box. Use “/” for the fraction bar.</p><p>Mirza had $2\frac{1}{4}$ cups of sugar. She used $1\frac{1}{3}$ cups of the sugar to make cookies. What is the total number of cups of sugar left after Mirza made cookies?</p><p><input type="text"/> cups</p></div>
1580	<p>Solve a contextual problem involving mass using kilograms. (Measurement and Geometry)</p> <div style="border: 1px solid black; padding: 10px;"><p>1 kilogram = 1,000 grams</p><p>Marta opened a bag of birdseed. She put 1,500 grams of birdseed into each of two bird feeders. There were 500 grams of birdseed left in the bag. What was the mass, in kilograms, of the birdseed in the bag before Marta opened it?</p><p><input type="radio"/> A. 1 kilogram</p><p><input type="radio"/> B. 2.5 kilograms</p><p><input type="radio"/> C. 3 kilograms</p><p><input type="radio"/> D. 3.5 kilograms</p></div>
1567	Order fractions and decimals. (Number and Number Sense)

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Students who scored in the range 1457 – 1564 are at risk for needing additional support with learning grade-level content.

Score	Description of Test Item
1559	Determine the mode for a set of data. (Probability, Statistics, Patterns, Functions, and Algebra)
1547	Determine the measure of an interior angle in a triangle. (Measurement and Geometry)
1539	<p>Determine equivalent measurements involving length within the metric system. (Measurement and Geometry)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Directions: Drag the answers to the correct boxes.</p> <p>1 meter = 1,000 millimeters</p> <p>1 kilometer = 1,000 meters</p> <p>1 meter = 100 centimeters</p> <p>Identify each measurement that is equivalent to 5 meters.</p> <p style="text-align: center;">5 meters = <input style="width: 50px; height: 20px;" type="text"/> millimeters</p> <p style="text-align: center;">5 meters = <input style="width: 50px; height: 20px;" type="text"/> kilometers</p> <p style="text-align: center;">5 meters = <input style="width: 50px; height: 20px;" type="text"/> centimeters</p> <div style="text-align: center; margin-top: 10px;"> 5,000 0.05 50 0.5 500 0.005 </div> </div>
1510	Determine the operation used when applying the order of operations to a whole number numerical expression. (Computation and Estimation)

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1506	Compare and order fractions and decimals. (Number and Number Sense) <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Which decimals and fractions are ordered from least to greatest?</p> <p><input type="radio"/> A. $0.05, \frac{2}{5}, 0.62, \frac{6}{7}$</p> <p><input type="radio"/> B. $\frac{6}{7}, 0.62, \frac{2}{5}, 0.05$</p> <p><input type="radio"/> C. $0.05, 0.62, \frac{2}{5}, \frac{6}{7}$</p> <p><input type="radio"/> D. $\frac{2}{5}, 0.05, \frac{6}{7}, 0.62$</p> </div>
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Students who scored in the range 990 – 1456 need additional support with prior knowledge and foundational skills while learning grade-level content.

Score	Description of Test Item
1412	Represent and identify equivalent relationships between decimals and fractions using models. (Number and Number Sense)
1398	Analyze a decreasing numerical pattern and identify a missing term. (Probability, Statistics, Patterns, Functions, and Algebra)

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1393	Solve a single-step or multistep contextual problem involving addition, subtraction, multiplication, and/or division of decimals. (Computation and Estimation) <div style="border: 1px solid black; padding: 10px;"><p>Mandy bought supplies from the school store. She bought 3 notepads and 8 pencils.</p><ul style="list-style-type: none">• The notepads cost \$0.65 each.• The pencils cost \$0.15 each.<p>What was the total cost of her notepads and pencils?</p><p><input type="radio"/> A. \$1.20</p><p><input type="radio"/> B. \$1.95</p><p><input type="radio"/> C. \$3.15</p><p><input type="radio"/> D. \$5.20</p></div>
1358	Determine all possible outcomes of a single event. (Probability, Statistics, Patterns, Functions, and Algebra)
1302	Solve a contextual problem involving mass using metric units. (Measurement and Geometry) <div style="border: 1px solid black; padding: 10px;"><p>1 kilogram = 1,000 grams</p><p>A large rock has a mass of 3 kilograms. What is the mass, in grams, of the rock?</p><p><input type="radio"/> A. 30,000 grams</p><p><input type="radio"/> B. 3,000 grams</p><p><input type="radio"/> C. 300 grams</p><p><input type="radio"/> D. 30 grams</p></div>