



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content
Strand: Operations and Algebraic Thinking (OA)
Benchmark Code: 5.SMC.OA.1
Standard: Write and interpret numerical expressions. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge.</p> <p>Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Justify the most efficient way to solve a multi-step numerical expression. ● Interpret remainders. ● Write word problems that can be expressed by a given numerical expression. ● Using the order of operations, identify an error in a calculation. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Write simple expressions that record calculations with numbers. ● Evaluate numerical expressions that use parentheses, brackets, or braces. ● Use parentheses, brackets, or braces in numerical expressions. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ numerical expression, parentheses, brackets, evaluate. ● Apply knowledge of multiplication facts (up to 12 x12) to larger multiplication and division expressions. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	

Proficiency Scale Grade 5



Domain: Standards for Mathematical Content
Strand: Operations and Algebraic Thinking (OA)
Benchmark Code: 5.SMC.OA.2
Standard: Analyze patterns and relationships. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge.</p> <p>Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Solve simple equations involving dependent and independent variables. ● Describe real world situations with simple equations involving dependent and independent variables. ● Describe the ratio relationship between two quantities. ● Find and describe in words the rule for the next term or nth term of a sequence where the rule is linear. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Identify relationships that are evident between corresponding terms in two numerical patterns using two given rules. ● Form ordered pairs consisting of corresponding terms in two numerical patterns using two given rules. ● Graph ordered pairs consisting of corresponding terms on a coordinate plane using two given rules. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ analyze, pattern, ordered pairs, relationship, sequence, rule. ● Construct patterns of numbers or shapes based on a single rule. ● Generate two numerical patterns using two given rules. ● Describe the rule behind a simple number or shape pattern. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Domain: Standards for Mathematical Content
Strand: Number and Operations in Base Ten (NBT)
Benchmark Code: 5.SMC.NBT.1
Standard: Understand the place value system. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge.</p> <p>Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Use rounding and estimation to identify the error in a calculation. ● Use prime factorization to describe positive integers. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Read and write decimal numbers up to the thousandths place. ● Compare two decimal numbers up to the thousandths place. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ place value, exponent, decimal, tenths, hundredths, thousandths. ● Use the symbols $>$, $<$, and $=$ to describe the relationship between multi-digit whole numbers and decimals. ● Round decimals to a given place. ● Read and write numbers up to the hundredths place. ● Round decimal numbers to the nearest whole number. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Domain: Standards for Mathematical Content Strand: Number and Operations in Base Ten (NBT) Benchmark Code: 5.SMC.NBT.2 Standard: Perform operations with multi-digit whole numbers and with decimals to hundredths. (DOK 3)	
Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge.</p> <p>Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Use inverse operations to identify the error in a calculation. ● Use concepts and vocabulary of greatest common factor (GCF) and lowest common multiple (LCM).
<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Perform all four operations with decimals to hundredths. ● Explain the reasoning for using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction for decimal computation.
<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ divisor, dividend, quotient, product, standard algorithm. ● Explain the relationship between decimal computation and other written computation methods (e.g., The same method would be used to solve $45 + 32$ and $4.5 + 3.2$). ● Perform all four operations with multi-digit whole numbers fluently using the standard algorithm. ● Use place value order decimal numbers in addition and subtraction calculations.
<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content
<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Number and Operations - Fractions (NF)

Benchmark Code: 5.SMC.NF.1

Standard: Use equivalent fractions as a strategy to add and subtract fractions. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Describe the relationship between fractions (e.g., a/b) and ratios ($a:b$). 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Use equivalent fractions to create like denominators to add fractions. ● Use equivalent fractions to create like denominators to subtract fractions. ● Assess the reasonableness of solutions to word problems arrived at by mentally adding and subtracting fractions referring to the same whole. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ numerator, denominator, equivalent, mixed number, improper fraction, convert, simplest form. ● Use understanding of factors and multiples to find common denominators. ● Interpret fractions as division of the numerator by the denominator. ● Convert a mixed number to an improper fraction and vice versa. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Domain: Standards for Mathematical Content Strand: Number and Operations - Fractions (NF) Benchmark Code: 5.SMC.NF.2 Standard: Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (DOK 2)	
Score 4.0	In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to: <ul style="list-style-type: none"> ● Divide non-unitary fractions by non-unitary fractions. ● Write word problems involving multiplication and/or division of fractions.
<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	Target goals: <ul style="list-style-type: none"> ● Solve word problems involving division of whole numbers expressing answers in the form of fractions or mixed numbers. ● Compute quotients involving non-zero whole numbers and unit fractions. ● Solve real world problems involving non-zero whole numbers and unit fractions.
<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	Simpler goals: <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ inverse, reciprocal. ● Interpret a fraction as division of the numerator by the denominator ● Multiply or divide a whole number by a fraction. ● Use scaling or resizing to explain the result of multiplying a given number by a fraction greater than or less than one (e.g., When a given number is multiplied by a fraction greater than one, the product is greater than the given number. When a given number is multiplied by a fraction less than one, the product is less than the given number.) ● Interpret the product $(a/b) \times q$ as "a" parts of a partition of q into b equal parts, of the result of $a \times q \div b$.
<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content
<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Number and Operations - Fractions (NF)

Benchmark Code: 5.SMC.NF.2

Standard: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.(DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Find the area of a compound rectilinear shape by multiplying fractional side lengths. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Find the area of a rectangle by multiplying fractional side lengths. ● Represent fraction products as rectangular areas. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ area, rectangle, fractional. ● Compare the area of a rectangle found by tiling it with unit squares of the appropriate unit fraction side lengths to the area of a rectangle found by multiplying the side lengths. ● Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Measurement and Data (MD)

Benchmark Code: 5.SMC.MD.1

Standard: Convert like measurement units within a given measurement system. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Convert a unit of measure from one measurement system to another. ● Evaluate and explain the efficiency of one system over another. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Convert like measurement units within a given measurement system (e.g., centimeters to meters). ● Solve multi-step, real world problems by converting different-sized standard measurement units within a given measurement system. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ unit, metric system, US Customary System (USCS). ● Recognize that meters, grams, and litres are the base metric units for distance, weight and mass. ● Recognize that feet, pounds, and gallons are the base USCS units for distance, weight and mass. ● Express a larger unit of measure in terms of a smaller unit within the same measurement system. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Measurement and Data (MD)

Benchmark Code: 5.SMC.MD.3

Standard: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. (DOK 2)

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Given a sample shape, students will be able to suggest potential dimensions that would calculate to a target volume. ● Apply related formulae to find the volumes of other straight-sided three-dimensional figures (e.g., cubes and triangular prisms). 	
Score 3.5	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>	
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Measure volume by counting unit cubes in different unit measures. ● Apply the volume formula $V = l \times w \times h$ and $V = b \times h$ to find the volume of right rectangular prisms to real-world problems. ● Use addition to find the volume of a solid figure composed of two non-overlapping right rectangular prisms. 	
Score 2.5	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>	
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ volume, three-dimensional shape, cubic unit. ● Explain the difference between a two-dimensional and a three-dimensional shape. ● Establish the volume of a solid figure by counting up the individual unit cubes into which it has been divided. ● Demonstrate that volume is a measure of three-dimensional figures. ● With the use of manipulatives, demonstrate how packing a three-dimensional figure with unit cubes finds the area of right rectangular prisms. 	
Score 1.5	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
Score 0.5	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>	
Score 0.0	Even with help, no success	



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Geometry (G)

Benchmark Code: 5.SMC.G.1

**Standard: Graph points on the coordinate plane to solve real-world and mathematical problems.
(DOK 3)**

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Graph points in all four quadrants of a coordinate grid. ● Translate a shape according to a rule when given a shape plotted on a coordinate grid. 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Graph points in the first quadrant of a coordinate grid. ● Interpret the coordinate points according to a given context. 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ quadrant, coordinate plane, ordered pair, point, axis, x-axis, y-axis. ● Explain how to locate set points on the x-axis and on the y-axis ● Write ordered pairs as the relationship between the x-axis and y-axis for a point on the graph. ● Describe the coordinate plane as sets of perpendicular number lines. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	



Proficiency Scale Grade 5

Domain: Standards for Mathematical Content

Strand: Geometry (G)

Benchmark Code: 5.SMC.G.2

**Standard: Classify two-dimensional figures into categories based on their properties.
(DOK 3)**

Score 4.0	<p>In addition to a score 3.0 performance, the student demonstrates in-depth inferences and/or application of knowledge. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> ● Solve problems using angle and symmetry properties of polygons (e.g., using angle theory to calculate the measure of missing angles). 	
	<i>Score 3.5</i>	<i>In addition to a score 3.0 performance, partial success at score 4.0 content</i>
Score 3.0	<p>Target goals:</p> <ul style="list-style-type: none"> ● Explain that properties belonging to one subcategory of shapes can also belong to other subcategories of shapes. ● Classify two-dimensional figures in a hierarchy based on properties (e.g., properties of sides and properties of angles). 	
	<i>Score 2.5</i>	<i>No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content</i>
Score 2.0	<p>Simpler goals:</p> <ul style="list-style-type: none"> ● Recognize and recall specific vocabulary, such as: <ul style="list-style-type: none"> ○ two-dimensional, property, category, subcategory. ● Describe the properties of a given two-dimensional shape. 	
	<i>Score 1.5</i>	<i>Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content</i>
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	<i>Score 0.5</i>	<i>With help, partial success at score 2.0 content but not at score 3.0 content</i>
Score 0.0	Even with help, no success	