

Proficiency Scales

Mathematics
Grade 7
2020



SOUTHWESTERN UNION
EDUCATION

PROFICIENCY SCALES

Proficiency scales serve as a starting point for unit planning, creating assessments, delivering instruction, grading, and reporting progress, as well as making teaching visible to students and guiding their growth on the standards. Specifically, a proficiency scale is a continuum or learning progression that articulates distinct levels of knowledge and skills relative to specific standards. It shows teachers and students what proficiency looks like, what knowledge and skills students need to achieve proficiency, and how students might go beyond proficiency.

A proficiency scale is composed of a series of levels as follows:

Score 3.0—Heart of the proficiency scale; it defines the target content that teachers expect all students to know and be able to do. I CAN statements are provided for this level.

Score 2.0—Simpler content; it describes the foundational knowledge and skills that students will need to master before progressing to proficiency.

Score 4.0—Challenging content; it provides students the opportunity to go above and beyond expectations by applying their knowledge in new situations or demonstrating understanding beyond what the teacher teaches in class. A generic statement is provided for this level.

Scores 1.0 and 0.0—No specific content; 1.0 indicates that a student can demonstrate some knowledge or skill with help from the teacher, but not independently; 0.0 means that, even with help, a student cannot show any understanding. Generic statements are provided for these levels.

Half-point Scores—More precise measurement of knowledge and skills that is between two levels. Generic statements are provided for these levels.

Proficiency scales become the centerpiece of communication and understanding in the classroom, as well as the common language for discussing learning between teacher and student.

The proficiency scales are organized according to the domains and strands in the NAD standards.

The cognitive rigor or complexity of the 3.0 learning targets has also been included, for it impacts the selection of instructional activities as well as assessment tasks. The Depth of Knowledge (DOK) model is generally used for this purpose, which is a taxonomy of four levels of cognitive demand. The levels are:

- **Level 1**—Recall
- **Level 2**—Skill/Concept
- **Level 3**—Strategic Thinking
- **Level 4**—Extended Thinking

Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
<p>Recall elements and details of story structure, such as sequence of events, character, plot and setting.</p> <p>Conduct basic mathematical calculations.</p> <p>Label locations on a map.</p> <p>Represent in words or diagrams a scientific concept or relationship.</p> <p>Perform routine procedures like measuring length or using punctuation marks correctly.</p> <p>Describe the features of a place or people.</p>	<p>Identify and summarize the major events in a narrative.</p> <p>Use context cues to identify the meaning of unfamiliar words.</p> <p>Solve routine multiple-step problems.</p> <p>Describe the cause/effect of a particular event.</p> <p>Identify patterns in events or behavior.</p> <p>Formulate a routine problem given data and conditions.</p> <p>Organize, represent and interpret data.</p>	<p>Support ideas with details and examples.</p> <p>Use voice appropriate to the purpose and audience.</p> <p>Identify research questions and design investigations for a scientific problem.</p> <p>Develop a scientific model for a complex situation.</p> <p>Determine the author's purpose and describe how it affects the interpretation of a reading selection.</p> <p>Apply a concept in other contexts.</p>	<p>Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.</p> <p>Apply mathematical model to illuminate a problem or situation.</p> <p>Analyze and synthesize information from multiple sources.</p> <p>Describe and illustrate how common themes are found across texts from different cultures.</p> <p>Design a mathematical model to inform and solve a practical or abstract situation.</p>

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <<http://www.wcer.wisc.edu/WAT/index.aspx>>

DISCIPLINARY TRANSFER GOALS

There are a small number of overarching, long-term transfer goals in each subject area. They are meant to be integrated within and across grade-level instruction. Below are the transfer goals for math.

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

ESSENTIAL QUESTIONS AND BIG IDEAS

for MATH DOMAINS



Numbers and Operations

Essential Question: How can we use God's gift of the number system to understand the world and all created things?

Big Idea: The use of numerical and algebraic expressions helps us solve real-world and mathematical problems as well as understand God's creation.

Operations and Algebraic Thinking

Essential Question: What do mathematical principles reveal about God's ordered universe?

Big Idea: The consistency of mathematical order of operations and principles demonstrates the orderliness and precision of God's creation and universe.

Measurement

Essential Question: How do the accuracy of measurements help us fathom God's creation?

Big Idea: Accurate measurements and conversions help to solve multi-step real-world problems and see the scope of God's creation.

Geometry

Essential Question: How does the study of geometrical principles help us to better understand God's creation?

Big Idea: The complexity of God's creation is revealed in the attributes and relationships of geometric objects and principles when applied to the real world.

Data Analysis, Statistics, and Probability

Essential Question: How can we collect and use information in a way that reflects God's orderly creation?

Big Idea: Information from God's vast creation can be measured, recorded, and displayed to assist in understanding and decision making.



Subject: Math		Domain: Numbers and Operations	Grade: 7
		Strand: Rational Numbers	
Standards: 7.NO.1 Apply and extend the four basic operations to rational numbers (7.NS.1,3) 7.NO.2 Understand and apply properties of operations (7.NS.1)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	The student will: <ul style="list-style-type: none">Apply properties of operations as strategies to add and subtract rational numbers (e.g., $83.85 - (-91)$, $79.8 - 58$, $39 + (-49)$) DOK 2 I can use properties of operations to add and subtract rational numbers.Solve problems involving addition and subtraction of rational numbers in real-world contexts (e.g., <i>Edward started his hike at an elevation of 115 feet below sea level. Throughout his hike he ascended 3,200 feet and then descended 676 feet. How much did his elevation change?</i>) DOK 3 I can add and subtract rational numbers to solve real-world problems.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Absolute difference, add, addition, additive inverse, difference, fraction, integer, interpret, number line, operation, positive, property, quotient, rational number, real world, represent, strategy, subtract, subtraction, sum, whole number</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Define integers as positive whole numbers, their opposites, and 0Define rational numbers as any number that can be written as the quotient or fraction p/q of two integersRepresent addition and subtraction with rational numbers on a number line (e.g., show $p + q$ as the number located a distance q from p; show that a number and its opposite have a sum of 0 (additive inverses); show subtraction as adding the additive inverse, $p - q = p + (-q)$; show that the difference between two numbers is the absolute value of their difference)Apply properties of operations as strategies to add and subtract integers (e.g., $(+6) + (-3)$, $(+6) - (+3)$)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	

Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Numbers and Operations	Grade: 7
		Strand: Rational Numbers	
Standards: 7.NO.1 Apply and extend the four basic operations to rational numbers (7.NS.2,3) 7.NO.2 Understand and apply properties of operations (7.NS.2)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	The student will: <ul style="list-style-type: none">Apply properties of operations as strategies to multiply and divide rational numbers (e.g., $5/7 \times (-3/4)$, $15 \div (-4)$) DOK 2 I can use properties of operations to multiply and divide rational numbers.Solve problems involving multiplication and division of rational numbers in real-world contexts (e.g., <i>Monique spent \$2.80 on 3 1/2 pounds of bananas. How much did she pay for each pound of bananas?</i>) DOK 3 I can multiply and divide rational numbers to solve real-world problems.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Decimal, divide, division, divisor, integer, long division, multiplication, multiply, operation, property, rational number, real world, repeating, strategy, terminating</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Explain that rational numbers must have a nonzero divisorApply properties of operations as strategies to multiply and divide integers (e.g., $(-15) \times (-4)$, $120 \div (-8)$)Show that rational numbers can be written as terminating or repeating decimals (e.g., <i>convert the following rational number to a decimal using long division—$4.000 \div 9$</i>)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content	

Score 0.0	Even with help, no success
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Subject: Math		Domain: Numbers and Operations	Grade: 7
		Strand: Rational Numbers	
Standard: 7.NO.3 Perform operations with numbers expressed in scientific notation, exponents, and square root			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Solve problems with numbers expressed in scientific notation (e.g., <i>650,000,000 can be written in scientific notation as 6.5×10^8</i>) DOK 2 I can solve problems using scientific notation.Solve problems with numbers expressed in exponents (e.g., <i>In 8^2 the "2" says to use 8 twice in multiplication, so $8^2 = 8 \times 8 = 64$</i>) DOK 2 I can solve problems using exponents.Solve problems with numbers expressed in square root (e.g., <i>4 and -4 are square roots of 16 because $4^2 = (-4)^2 = 16$</i>) DOK 2 I can solve problems using square roots.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Common factor, common multiples, exponent, expressed, prime factorization, scientific notation, square root</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Solve problems by finding common factors and multiples (e.g., <i>find three common factors of 56 and 80; find three common multiples of 40 and 48</i>)Apply prime factorization and exponents (e.g., <i>when given the following numbers 32, 31, 49, 39, 40, 81, write the prime factorization of each number using exponents if possible</i>)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Numbers and Operations**
Strand: **Ratios/Proportions/Percentages**Grade: **7****Standard:** 7.NO.4 Analyze and apply proportional relationships (7.RP.1,2,3)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">• Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or unlike units (<i>e.g., if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour</i>) DOK 3 I can compute unit rates associated with ratios of fractions.• Write equations that represent proportional relationships to solve multi-step ratio and percent problems (<i>e.g., when given that a cake recipe designed to serve 8 people calls for $3\frac{1}{4}$ cups of flour, write an equation to determine how many cups of flour would be necessary to make enough cake to serve 25% more people</i>) DOK 3 I can write equations for proportional relationships to solve multi-step ratio and percent problems.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none">• <i>Compute, constant, coordinate plane, equation, equivalent, fraction, graph, origin, percent, point, proportional, quantity, relationship, represent, unit, unit rate, ratio</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">• Decide whether two quantities are in a proportional relationship (<i>e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin; if proportional, identify the unit rate</i>)• Identify the constant of proportionality or unit rate (<i>e.g., in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships</i>)• Represent proportional relationships by equations (<i>e.g., if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed</i>	

	<p><i>as $t = pn$</i></p> <ul style="list-style-type: none"> • Explain what a point (x,y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0,0)$ and $(1,r)$ where r is the unit rate • Explain that a percent is a specific kind of ratio with a whole of 100 	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Operations and Algebraic Expressions	Grade: 7
		Strand: Expressions, Equations, Inequalities	
Standard: 7.OAT.1 Use properties of operations to generate equivalent expressions (7.EE.1,2)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients (e.g., <i>expand the following expression: $-6(-7 + 2z)$</i>) DOK 2 I can use properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.Rewrite expressions in different forms in a problem context to demonstrate how quantities are related (e.g., <i>given that the area of a figure is $6b + 3b$, rewrite the expression into an equivalent form</i>) DOK 3 I can rewrite expressions in different forms in a problem context.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Add, coefficient, equivalent, expand, expression, factor, linear, operation, order of operations, property, quantity, rational, relate, strategy, subtract</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Explain that the order of operations is used to generate equivalent expressionsApply properties of operations to simplify linear expressions with rational coefficients (e.g., <i>simplify the following expression: $-19 + 5(0.2x + 3) - 12x$</i>)Explain that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related (e.g., <i>$a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05”</i>)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Operations and Algebraic Expressions**
Strand: **Expressions/Equations/Inequalities**Grade: **7****Standard:** 7.OAT.2 Solve real-life and mathematical problems using numerical and algebraic expressions and equations (7.EE.3,4)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, decimals) (e.g., <i>Amazon, iTunes, and Rhapsody are music companies. Amazon offers to buy 1.5 million share of iTunes for \$561 million. At the same time, Rhapsody offers to buy 1.5 million share of iTunes at \$373 per share. Who would get the better deal, Amazon or Rhapsody? What is the total price difference? Using mental computation and estimation strategies, does the answer seem reasonable?</i>) DOK 3 I can solve problems using positive and negative rational numbers in any form.Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers (e.g., <i>The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</i>) DOK 3 I can solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$.Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers (e.g., <i>As a salesperson you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions. Graph the solution set of the inequality and interpret it in the context of the problem.</i>) DOK 3 I can solve word problems leading to inequalities in the form $px + q > r$ or $ps + q < r$.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content

Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"> <i>Algebraic, arithmetic, estimation, decimal, equation, fraction, graph, inequality, integer, mathematical, mental computation, negative, operation, percent, positive, rational number, real life, reasonable, solution set, strategy, variable, whole number, word problem</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none"> Distinguish between rational numbers and integers (<i>e.g., a rational number can be made by dividing two integers; an integer is a number with no fractional part</i>) Solve multistep real-world and mathematical problems posed with integers in any form (<i>e.g., Mt. Everest, the highest elevation in Asia, is 29,028 feet above sea level. The Dead Sea, the lowest elevation, is 1,312 feet below sea level. What is the difference between these two elevations?</i>) Convert among whole numbers, fractions, decimals, and percents as appropriate Distinguish between algebraic and arithmetic solutions (<i>e.g., an algebraic solution has a variable; an arithmetic solution uses only numbers</i>) 	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Operations and Algebraic Expressions	Grade: 7
		Strand: Expressions, Equations, Inequalities	
Standard: 7.OAT.3 Represent, graph, analyze, and generalize patterns, ratios, and inequalities using symbolic rules			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Graph the ordered pairs that result from evaluating linear equations in two variables (e.g., when given the equation $y = 2x - 7$, create a table of values for the equation and graph the resulting ordered pairs) DOK 3 I can graph the ordered pairs of a linear equation with two variables.Graph the solution set of a multistep inequality on a number line (e.g., given a multistep inequality, solve the inequality and graph the solution set on a number line) DOK 3 I can graph the solution set of an inequality on a number line.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Comparison, equation, evaluate, graph, inequality, linear, number line, ordered pair, relation, solution set, table of values, value, variable</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Explain that a linear equation is a relationship of x and y values (e.g., $y = 2x + 1$)Explain that a table of values are the x and y values that are true for a given linear equationExplain that an inequality is a relation that makes a nonequal comparison (e.g., $16 - 5 < 3 + 12$)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Measurement**
Strand: **Measurement Systems**Grade: **7****Standard:** 7.M.1 Convert between a variety of standard/metric measures (e.g., in to cm, cm to in)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: <ul style="list-style-type: none">Use conversions to solve multi-step word problems (e.g., <i>The near point of the human eye is the shortest distance the eye can naturally focus on an object. This value is defined to be 25 centimeters. How many inches is the human eye near point?</i>) DOK 3 I can convert measures to solve multi-step word problems.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Conversion, convert, measure, metric, standard, word problem</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Convert between a variety of standard/metric measures (e.g., in to cm, cm to in)	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Geometry**
Strand: **Figures**Grade: **7****Standard:** 7.GEO.1 Draw, construct, and describe geometrical figures and identify the relationships between them (7.G.1)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: <ul style="list-style-type: none">Reproduce a scale drawing at a different scale (<i>e.g., reproduce a drawing at 3 times its current size</i>) DOK 3 I can create a scale drawing at a different scale.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Area, calculate, figure, geometric, impact, length, reproduce, scale, scale drawing</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Calculate actual lengths and areas of geometric figures using scale drawings (<i>e.g., given the scale drawing of a figure where 2 cm on the scale drawing equal 5 ft, calculate the actual length and area of the figure</i>)Describe the impact of scale on length and area of scaled figures (<i>e.g., the number of times you multiply the measure of one object to obtain the measure of a similar object</i>)	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Geometry	Grade: 7
		Strand: Figures	
Standard: 7.GEO.1 Draw, construct, and describe geometrical figures and identify the relationships between them (7.G.2,3)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Construct triangles from three given angle or side measures (<i>e.g., when given a set of angle measures, determine whether any combinations of the angles can form a triangle and, if possible, construct one or more triangles using the angles</i>) DOK 3 I can draw triangles when given three angle or side measures.Describe the two-dimensional figures that result from slicing three-dimensional figures (<i>e.g., match a given three-dimensional figure, such as right rectangular prisms and right rectangular pyramids, to the two-dimensional figures that result from taking various vertical and horizontal cross sections of it</i>) DOK 3 I can name the two-dimensional figures that represent a particular slice of a three-dimensional figure.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Angle, base, cross section, face, figure, horizontal, lateral, measure, parallel, perpendicular, right rectangular prism, right rectangular pyramid, side, slice, three-dimensional, triangle, two-dimensional, vertical</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Explain that no triangle, a unique triangle, or multiple triangles can be formed from a given set of conditionsExplain that two-dimensional figures result from slicing three-dimensional figures (<i>e.g., cuts made parallel will take the shape of the base; cuts made perpendicular will take the shape of the lateral (side) face</i>)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Geometry**
Strand: **Geometrical Measurements**Grade: **7****Standard:** 7.GEO.2 Solve real-world and mathematical problems involving angle measure, perimeter, area, surface area, and volume (7.G.4)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: <ul style="list-style-type: none">Use the formulas for the area and circumference of a circle to solve problems (e.g., when given the radius or diameter of a circle calculate its area or circumference) DOK 2 I can use formulas for the area and circumference of a circle to solve problems.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none">Area, circumference, constant, diameter, formula, radius, ratio The student will perform basic processes, such as: <ul style="list-style-type: none">Describe the relationship between radius and diameter (e.g., diameter is two times the radius)Explain that the ratio of circumference to diameter is constant (π)Recognize or recall the formulas for the area and circumference of a circle (e.g. recognize that $2 \times \pi \times r$ is the formula for circumference; recognize that $\pi \times r^2$ is the formula for area)	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Math**Domain: **Geometry**
Strand: **Geometrical Measurements**Grade: **7****Standard:** 7.GEO.2 Solve real-world and mathematical problems involving angle measure, perimeter, area, surface area, and volume (7.G.5)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: <ul style="list-style-type: none">Use facts about supplementary, complementary, vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure (<i>e.g., when given a diagram that includes sets of supplementary, complementary, vertical, or adjacent angles, find the measures of unknown angles and represent with an equation</i>) DOK 3 I can write and solve equations for an unknown angle in a figure.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Adjacent angle, angle, complementary angle, equation, feature, figure, measure, supplementary angle, vertical angle,</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Recognize or recall the features of complementary, supplementary, vertical, and adjacent angles (<i>e.g., complimentary angles are two angles that add up to 90 degrees; supplementary angles are two angles that add up to 180 degrees; vertical angles are opposite angles at an intersection of two straight lines; adjacent angles are two angles that are next to each other</i>)	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content

Score 0.0	Even with help, no success
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Subject: **Math**Domain: **Geometry**
Strand: **Geometrical Measurements**Grade: **7****Standard:** 7.GEO.2 Solve real-world and mathematical problems involving angle measure, perimeter, area, surface area, and volume (7.G.6)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">• Solve problems using the area formula for two-dimensional figures (<i>e.g., when given the dimensions of an irregular field in which a farmer wants to plant corn, and given that he usually plants 15 pounds of corn seed per acre, calculate the area of the field to determine how many pounds of seed he will need</i>) DOK 3 I can solve problems using the area formula for two-dimensional figures.• Solve problems using the volume formula for cubes or right prisms (<i>e.g., given that a hotel features an irregular polygonal pool of varying depths, and when given the dimensions of the pool, calculate how many cubic feet of water the hotel will need to fill the pool</i>) DOK 3 I can solve problems using the volume formula for cubes or right prisms.• Solve problems using the surface area formula for three-dimensional figures (<i>e.g., given that a boy wants to build a doghouse, and when given the planned dimensions of the doghouse, calculate how many square feet of lumber the boy will need</i>) DOK 3 I can solve problems using the surface area formula for three-dimensional figures.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none">• <i>Area, cube, figure, formula, right prism, surface area, three-dimensional, two-dimensional, volume</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">• Recognize or recall the formulas for the area or surface area of two- and three-dimensional figures (<i>e.g., the formula for the area of two-dimensional figures is $l \times w$; the formula for the surface area of three-dimensional figures is $2lw + 2lh + 2hw$</i>)	

	<ul style="list-style-type: none"> Recognize or recall the formulas for volume of cubes and right prisms (<i>e.g., the formula for the volume of a cube is a^3; the formula for the volume of a right prism is $a \times b \times c$</i>) 	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Data Analysis, Statistics, and Probability		Grade: 7	
		Strand: Statistics and Probability			
Standard: 7.DSP.1 Use random sampling to draw inferences about a population (7.SP.1,2)					
Score 4.0		In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught			
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content			
Score 3.0		The student will: <ul style="list-style-type: none">Use data from a random sample to draw inferences about a population (e.g., <i>make inferences about the number of students in a class who favor cheese, veggie, or pineapple pizza by taking a random sample of the class</i>) DOK 2 I can draw inferences about a population from a random sample.Generate and analyze multiple samples of the same size to gauge the variation in estimates or predictions (e.g., <i>when making inferences about the pizza topping preferences of a class, take multiple random samples of the students in the class and then compare the samples to determine the accuracy of the inferences</i>) DOK 3 I can determine the accuracy of inferences about a population by comparing multiple samples.			
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content			
Score 2.0		The student will recognize or recall vocabulary such as: <ul style="list-style-type: none"><i>Accuracy, analyze, data, estimate, gauge, generalization, generate, inference, population, prediction, random sample, reasonable, representative, sample, size, statistics, valid, variation</i> The student will perform basic processes, such as: <ul style="list-style-type: none">Explain that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population; random sampling tends to produce representative samples and support valid inferences; different random samples from a population may yield different inferencesRecognize reasonable inferences about a population (e.g., <i>based on determining if the sample size is appropriate, if the sample is representative of all groups in the population, and if it is a random sample</i>)			

	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Data Analysis, Statistics, and Probability	Grade: 7
Strand: Statistics and Probability			
Standard: 7.DSP.2 Draw informal comparative inferences about two populations (7.SP.3,4)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations (<i>e.g., when given a random sampling of word lengths from two different texts, predict which text might contain more letters per 1,000 words</i>) <p>DOK 3</p> <p>I can use measures of center and variability from random samples to make inferences about two populations.</p>		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Assess, comparative, data, degree, distribution, inference, informal, mean absolute deviation, measure of center, measure of variability, multiple, numerical, overlap, population, random sample, visual</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability (<i>e.g., the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable</i>)		
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content		

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	



Subject: Math		Domain: Data Analysis, Statistics, and Probability	Grade: 7
Strand: Statistics and Probability			
Standard: 7.DSP.3 Investigate chance processes and develop, use, and evaluate probability models (7.SP.5,6,7,8)			
Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught		
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content	
Score 3.0	<p>The student will:</p> <ul style="list-style-type: none">Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events (<i>e.g., if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected</i>) DOK 3 I can develop a uniform probability model and use it to find probabilities of events.Develop a probability model, which may not be uniform, by observing frequencies in data generated from a chance process (<i>e.g., find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes appear to be equally likely based on the observed frequencies?</i>) DOK 3 I can develop a probability model from observed experiments.Design and use a simulation to generate frequencies for compound events (<i>e.g., use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</i>) DOK 3 I can design and use simulation to predict the probability of a compound event.		
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content	
Score 2.0	<p>The student will recognize or recall vocabulary such as:</p> <ul style="list-style-type: none"><i>Chance, compound, data, event, frequency, generate, model, outcome, process, probability, random, sample space, simulation, tree diagram, uniform</i> <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none">Explain that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring, with larger numbers indicating greater likelihoodCollect data on a chance process and predict probability (<i>e.g., when rolling a</i>		

	<p><i>number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times)</i></p> <ul style="list-style-type: none"> • Explain that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs • Find probabilities of compound events using organized lists, tables, and tree diagrams to represent the sample spaces (<i>e.g., use a tree diagram to figure out how many outfits can be created from given shirts, bottoms, and shoes</i>) 	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	