

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. *Expressions and Equations - Use properties of operations to generate equivalent expressions.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Apply properties of operations to find the area of composite figures with unknown sides by using the distributive property</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Apply properties of operations as strategies to add linear expressions with rational coefficients <u>Learning Target 2:</u> Apply properties of operations as strategies to subtract linear expressions with rational coefficients <u>Learning Target 3:</u> Apply property operations as strategies to factor linear expressions with rational coefficients <u>Learning Target 4:</u> Apply property operations as strategies to expand linear expressions with rational coefficients</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> distributive property, factor</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Combine like terms to simplify expressions using integers</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.EE.3 Solve multistep real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) by applying properties of operations as strategies to calculate with numbers, converting between forms as appropriate, and assessing the reasonableness of answers using mental computation and estimation strategies. For example:

- If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50.
- If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p>Learning Target 1: Justify which number form (fraction, decimal, or percent) is the best to use for calculations and communication of mathematical meaning given 3 scenarios</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p>Learning Target 1: Solve multistep real-life problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) by applying properties of operations as strategies to calculate with numbers, converting between forms as appropriate, and assessing the reasonableness of answers using mental computation and estimation strategies</p> <p>Learning Target 2: Solve multistep mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) by applying properties of operations as strategies to calculate with numbers, converting between forms as appropriate, and assessing the reasonableness of answers using mental computation and estimation strategies</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will perform basic processes:</p> <p>Learning Target 1: Convert fluently between fractions, decimals, and percents</p> <p>Learning Target 2: Evaluate algebraic expressions using integers</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. *Solve real-life and mathematical problems using numerical and algebraic expressions and equations.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create two different real-world situations to describe, compare, and contrast solution methods for equations and inequalities</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> 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. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6cm. What is its width? (MGSE7.EE.4.a)</p> <p><u>Learning Target 2:</u> Solve word problems leading to inequalities of the form $px + q > r$ and $px + q < r$, where p, q, and r are specific rational numbers. For example, 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 (MGSE7.EE.4.b)</p> <p><u>Learning Target 3:</u> Graph the solution set of an inequality and interpret it in the context of the problem (MGSE7.EE.4.b)</p> <p><u>Learning Target 4:</u> Solve real world problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p and q are rational numbers (MGSE7.EE.4.c)</p> <p><u>Learning Target 5:</u> Solve mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p and q are rational numbers (MGSE7.EE.4.c)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 1:</u> Solve equations in the form $x + p = q$ and $px = q$, where p and q are integers</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. *Geometry - Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.*

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a scale model of a home (under certain parameters - budget, square feet, part of the country, etc.) and determine the cost of heating/cooling the home, painting the outside, painting individual rooms, etc.</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Solve real-world problems involving area of two-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p><u>Learning Target 2:</u> Solve real-world problems involving volume of three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p><u>Learning Target 3:</u> Solve real-world problems involving surface area of three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> surface area, pyramid, prism</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Solve mathematical problems involving area of two-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p><u>Learning Target 3:</u> Solve mathematical problems involving volume of three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p><u>Learning Target 4:</u> Solve mathematical problems involving surface area of three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. *The Number System - Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.*

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a real world situation and use the appropriate strategy to model the situation (i.e., using zero pairs or adding opposites)</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Show that a number and its opposite have a sum of 0 (are additive inverses). Describe situations in which opposite quantities combine to make 0. For example, your bank account balance is -\$25.00. You deposit \$25.00 into your account. The net balance is \$0.00 (MGSE7.NS.1.a)</p> <p><u>Learning Target 2:</u> Understand $p + q$ as the number located a distance q from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real world contexts (MGSE7.NS.1.b)</p> <p><u>Learning Target 3:</u> Understand subtraction of rational numbers as adding the additive inverse, $a - b = a + (-b)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts (MGSE7.NS.1.c)</p> <p><u>Learning Target 4:</u> Apply properties of operations as strategies to add rational numbers (MGSE7.NS.1.d)</p> <p><u>Learning Target 5:</u> Apply properties of operations as strategies to subtract rational numbers (MGSE7.NS.1.d)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> additive inverse, absolute value</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Describe situations in which the distance between two numbers is the absolute value of the difference</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. *The Number System - Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Apply multiplication of integers to an exponent with a negative base. Identify patterns with even and odd exponents</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts (MGSE7.NS.2.a)</p> <p><u>Learning Target 2:</u> Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts (MGSE7.NS.2.b)</p> <p><u>Learning Target 3:</u> Apply properties of operations as strategies to multiply rational numbers (MGSE7.NS.2.c)</p> <p><u>Learning Target 4:</u> Apply properties of operations as strategies to divide rational numbers (MGSE7.NS.2.c)</p> <p><u>Learning Target 5:</u> Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats (MGSE7.NS.2.d)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 1:</u> Multiply fractions with unlike denominators</p> <p><u>Learning Target 2:</u> Divide fractions with unlike denominators</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.RP.2 Recognize and represent proportional relationships between quantities. *Ratios and Proportional Relationships - Analyze proportional relationships and use them to solve real-world and mathematical problems.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Compare and contrast a proportional vs. a non-proportional relationship using a table, equation, graph and words to explain your reasoning</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Decide whether two quantities are in a proportional relationship 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 (MGSE7.RP.2.a)</p> <p><u>Learning Target 2:</u> Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships (MGSE7.RP.2.b)</p> <p><u>Learning Target 3:</u> Represent proportional relationships by equations (MGSE7.RP.2.c)</p> <p><u>Learning Target 4:</u> Explain what the point (x,y) on a proportional graph means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate (MGSE7.RP.2.d)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> constant of proportionality (k/unit rate), linear, proportional relationship, complex fraction</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, and fees. *Ratios and Proportional Relationships - Analyze proportional relationships and use them to solve real-world and mathematical problems.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Find the percent increase/decrease given the initial value and the new value and justify the processes used</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Use proportional relationships to solve multi-step ratio problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions and fees</p> <p><u>Learning Target 2:</u> Use proportional relationships to solve multi-step percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions and fees</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> simple interest, tax, markup, markdown, gratuities, commissions, fees</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Find a fraction of a number</p> <p><u>Learning Target 3:</u> Given a fraction of a number, find the whole</p> <p><u>Learning Target 4:</u> Find a percent of a number</p> <p><u>Learning Target 5:</u> Given a percent of a number, find the whole</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book. *Statistics and Probability - Draw informal comparative inferences about two populations.*

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a survey (with numeric results) and conduct the survey within 2 separate populations. Design a mathematical model to inform and compare the populations (box-and-whisker/line plot). Make inferences based on measures of center and variability</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> line plots, variability, population, random sample</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Calculate the mean for a given data set <u>Learning Target 3:</u> Calculate the median for a given data set <u>Learning Target 4:</u> Calculate the mode for a given data set <u>Learning Target 5:</u> Calculate the range for a given data set <u>Learning Target 6:</u> Calculate the interquartile range for a given data set</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. *Statistics and Probability - Investigate chance processes and develop, use, and evaluate probability models.*

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Determine the likelihood of an event occurring given a variety of situations</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> probability, likelihood, unlikely, likely, certain, impossible</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Convert fluently between fractions, decimals, and percents</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.SP.7 Develop a probability model and use it to find probabilities of events. Compare experimental and theoretical probabilities of events. If the probabilities are not close, explain possible sources of the discrepancy. *Statistics and Probability - Investigate chance processes and develop, use, and evaluate probability models.*

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a board game (or other) based on probability</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events (MGSE7.SP.7.a)</p> <p><u>Learning Target 2:</u> Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, 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 for the spinning penny appear to be equally likely based on the observed frequencies? (MGSE7.SP.7.b)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> probability model, theoretical probability, experimental probability, discrepancy, event</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Finding probabilities of simple events</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 7 Math Learning Map

Prioritized Standard: MGSE7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. *Statistics and Probability - Investigate chance processes and develop, use, and evaluate probability models.*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Develop a probability model for compound events. Draw conclusions from observations or data, citing evidence using a model or diagram</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Understand 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 (MGSE7.SP.8.a)</p> <p><u>Learning Target 2:</u> Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event (MGSE7.SP.8.b)</p> <p><u>Learning Target 3:</u> Explain ways to set up a simulation and use the simulation to generate frequencies for compound events. For example, if 40% of donors have type A blood, create a simulation to predict the probability that it will take at least 4 donors to find one with type A blood (MGSE7.SP.8.c)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> sample space, tree diagram, compound event, outcome, independent events, dependent events, Fundamental Counting Principle</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Finding the probability of a simple event</p> <p><u>Learning Target 3:</u> Finding the sample space for a simple event (e.g., flipping a coin or rolling a die) using the Fundamental Counting Principle</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success