Standard	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
	The Minimally Proficient student	The Partially Proficient student	The Proficient student	The Highly Proficient student
Ratios and Proportional Relationships				
7.RP.A.1	Identify unit rates associated with ratios involving simple fractions, including ratios of quantities measured in like units.	Compute unit rates associated with ratios involving simple fractions, including ratios of quantities measured in like units.	Compute unit rates associated with ratios involving both simple and complex fractions, including ratios of quantities measured in like or different units.	Interpret unit rates associated with ratios involving both simple and complex fractions, including ratios of quantities measured in like or different units.
7.RP.A.2	Recognize and represent proportional relationships between quantities. a. Identify two quantities in a proportional relationship. b. Identify the constant of proportionality (unit rate) in tables or graphs. c. Identify equations to represent proportional relationships. d. Identify a point (x, y) on the graph of a proportional relationship.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship. b. Identify the constant of proportionality (unit rate) in tables, graphs, equation. c. Represent proportional relationships by equations. d. Identify 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.	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship (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). b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, 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 as t = pn. d. 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.	Recognize and represent proportional relationships between quantities. a. Explain whether two quantities are in a proportional relationship (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). b. Interpret the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, 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 as t = pn. d. 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.
7.RP.A.3	Use proportional relationships to solve one-step ratio and percent mathematical problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).	Use proportional relationships to solve one-step ratio and percent problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).	Use proportional relationships to solve multi-step ratio and percent problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).	Interpret proportional relationships when solving multi-step ratio and percent problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).

The Number System				
7.NS.A.1	Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Identify opposite quantities. b. Identify a number and its opposite that have a sum of 0. c. Identify the distance between two rational numbers on the number line as the absolute value of their difference. d. Identify properties of operations as strategies to add and subtract rational numbers.	Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Identify situations in which opposite quantities combine to make 0. b. Recognize $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Identify a number and its opposite that have a sum of 0 (are additive inverses). c. Recognize subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference. d. Identify properties of operations as strategies to add and subtract rational numbers.	Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. b. 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. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world context. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. 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 context. d. Apply properties of operations as strategies to add and subtract rational numbers.	Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Interpret situations in which opposite quantities combine to make 0. b. Explain $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world context. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. 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 context. d. Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.A.2	Multiply and divide integers and other rational numbers. a. Identify 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. Identify products of rational numbers. b. Identify 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 $-(p/q) = (-p)/q = p/(-q)$. c. Multiply and divide rational numbers. d. Identify decimal form of a rational number.	Multiply and divide integers and other rational numbers. a. Recognize 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. Identify products of rational numbers by describing real-world context. b. Recognize 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 $-(p/q) = (-p)/q = p/(-q)$. Identify quotients of rational numbers by describing real-world context. c. Use properties of operations as strategies to multiply and divide rational numbers. d. Identify decimal form of a rational number ; know that the decimal form of a rational number terminates in 0's or eventually repeats.	Multiply and divide integers and other rational numbers. a. 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 context. b. 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 context. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to decimal form using long division; know that the decimal form of a rational number terminates in 0's or eventually repeats.	Multiply and divide integers and other rational numbers. a. Explain 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 context. b. Explain 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 context. c. Apply properties of operations as strategies to multiply and divide rational numbers in a real-world context. d. Convert a rational number to decimal form using long division; know that the decimal form of a rational number terminates in 0's or eventually repeats.
7.NS.A.3	Identify the solution of mathematical problems four operations with rational numbers.	Identify the solution of mathematical problems and problems in real-world context involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions where $a/b \div c/d$ when a, b, c, and d are all integers and b, c, and $d \neq 0$.	Solve mathematical problems and problems in real-world context involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions where $a/b \div c/d$ when a, b, c, and d are all integers and b, c, and $d \neq 0$.	Solve mathematical problems and problems in real-world context involving the four operations with rational numbers and interpret the solution. Computations with rational numbers extend the rules for manipulating fractions to complex fractions where a/b ÷ c/d when a,b,c,and d are all integers and b,c, and d ≠ 0.

Expressions and Equations				
7.EE.A.1	Identify properties of operations used to add, subtract, factor, and expand linear expressions with integer coefficients.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with integer coefficients.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients and interpret the meaning in a real-world context.
7.EE.A.2	Identify an expression in different forms.	Identify an expression in different forms, and understand the relationship between the different forms and their meanings in a problem context. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."	Rewrite an expression in different forms, and understand the relationship between the different forms and their meanings in a problem context. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."	Rewrite an expression in different forms, and explain the relationship between the different forms and their meanings in a problem context. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."
7.EE.B.3	Solve multi-step mathematical problems and problems in real-world context posed with positive and negative rational numbers in one form.	Solve multi-step mathematical problems and problems in real-world context posed with positive and negative rational numbers in any form. Convert between forms as appropriate.	Solve multi-step mathematical problems and problems in real-world context posed with positive and negative rational numbers in any form. Convert between forms as appropriate and assess the reasonableness of answers. For example, If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50 per hour.	Create problems with a real-world context given multi-step equations with positive and negative rational numbers. Convert between forms as appropriate and interpret the reasonableness of answers.
7.EE.B.4	Use variables to represent quantities in mathematical problems and problems in real-world context, and construct simple equations and inequalities to solve problems. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where *p, q,* and *r* are integers. b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where *p, q,* and *r* are integers.	Use variables to represent quantities in mathematical problems and problems in real-world context, and construct simple equations and inequalities to solve problems. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where *p, q*, and *r* are integers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where *p, q,* and *r* are rational numbers. Graph the solution set of the inequality.	Use variables to represent quantities in mathematical problems and problems in real-world context, and construct simple equations and inequalities to solve problems. a. 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 the sequence of the operations used in each approach. b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where *p, q,* and *r* are rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	Use variables to represent quantities in mathematical problems and problems in real-world context, and construct simple equations and inequalities to solve problems. a. Solve real-world 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, explaining the sequence of the operations used in each approach. b. Solve real-world problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where *p, q*, and *r* are rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

Geometry				
7.G.A.1	Solve problems involving scale drawings of geometric figures, by identifying the scale.	Solve problems involving scale drawings of geometric figures, with a given scale.	Solve problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Solve complex problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
7.G.A.2	Classify geometric shapes with given conditions using a variety of methods. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Identify geometric shapes with given conditions using a variety of methods. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Draw geometric shapes with given conditions using a variety of methods. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Draw complex geometric shapes with given conditions using a variety of methods. Focus on constructing triangles from three measures of angles or sides, explaining when the conditions determine a unique triangle, more than one triangle, or no triangle.
7.G.A.3	Identify the two-dimensional figures that result from slicing three-dimensional figures parallel or perpindicular to the base.	Identify the two-dimensional figures that result from slicing three-dimensional figures.	Describe the two-dimensional figures that result from slicing three-dimensional figures.	Describe the two-dimensional figures that result from slicing irregular three-dimensional figures.
7.G.B.4	Identify area and circumference of a circle to solve problems.	Understand and use the formulas for the area and circumference of a circle to solve problems.	Understand and use the formulas for the area and circumference of a circle to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Understand and use the formulas for the area and circumference of a circle to solve problems and interpret the solution; explain the relationship between the circumference and area of a circle.
7.G.B.5	Identify supplementary, complementary, vertical, and adjacent angles in a figure.	Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to solve simple equations for an unknown angle in a figure.	Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to write and solve simple equations for an unknown angle in a figure.	Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to write and solve simple equations for an unknown angle in a figure and explain the solution.
7.G.B.6	Identify solutions mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons.	Solve mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Identify solutions to mathematical problems and problems in real-world context involving volume and surface area of three-dimensional objects composed of cubes and right prisms.	Solve mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Solve mathematical problems and problems in real-world context involving volume and surface area of three-dimensional objects composed of cubes and right prisms.	Solve mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Solve mathematical problems and problems in real-world context involving volume and surface area of three-dimensional objects.

Statistics and Probability				
7.SP.A.1	Identify statistics that 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.	Recognize 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. Recognize that random sampling tends to produce representative samples and support valid inferences.	Understand 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. Understand that random sampling tends to produce representative samples and support valid inferences.	Interpret statistics that 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. Understand that random sampling tends to produce representative samples and support valid inferences.
7.SP.A.2	Use data from a random sample to identify inferences about a population with an unknown characteristic of interest.	Use data from a random sample to identify inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	Interpret data from a random sample to draw inferences about multiple populations with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
7.SP.B.3	Compare the degree of visual overlap of two numerical data distributions with similar variabilities.	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities.	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. For example, 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.	Interpret 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.
7.SP.B.4	Identify measures of center and measures of variability for numerical data from random samples for two populations.	Use measures of center and measures of variability for numerical data from random samples to identify informal comparative inferences about two populations.	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.	Interpret measures of center and measures of variability for numerical data from random samples to draw comparative inferences about two populations.
7.SP.C.5	Identify that 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.	Identify 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.	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.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring and use this to solve real-world problems.

7.SP.C.6	Identify the approximate probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and identify the approximate relative frequency given the probability.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.	Explain the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.
7.SP.C.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy. a. Identify a uniform probability model that assigns equal probability to all outcomes to determine probabilities of events. b. Identify a probability model (which may not be uniform) that observes frequencies in data generated from a chance process.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy. a. Use a uniform probability model that assigns equal probability to all outcomes to determine probabilities of events. b. Use a probability model (which may not be uniform) that observes frequencies in data generated from a chance process.	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, 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. b. 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?	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy. a. Develop and explain a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, 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. b. Develop and explain 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?