
Junior Academy Traditional 7th

Math
Course Description
and Curriculum Map

Telesis Preparatory Academy



Telesis Preparatory Academy

Contact Person(s): Sandra Breece Ed.D. - Administrator
 Padmaja Chava – Academic / Testing Coordinator

CURRENT COURSE INFORMATION: COURSE ID: Pearson Success Net – Middle Grade Math CC
 Course 2
 CLASS LEVEL: Junior Academy – Traditional 7th

COURSE RESOURCES: Text: Math Course 2 CC T.E.: 9781256737490 2013
 Discovery Channel Videos Active Math Exploration
 On-Line Texas Instrument Algebra Readiness Puzzles
 Homework Video Tutor Note-Taking Worksheets
 Active Math Exploration Active Lab
 Algebra Readiness Puzzles Mobile Application
 Note-Taking Worksheets

ON LINE RESOURCES at: www.pearsonsuccessnet.com

Course Description: This course is designed to prepare students’ understanding of Pre-Algebraic skills. Focuses will entail developing a thorough knowledge in solving and simplifying: Expressions; Equations; Inequalities and extend understanding of use and content in Rational Numbers and entry level Linear Equations. Percent, Proportions and Rational numbers will be used to solidify students’ understanding of operations through: addition; subtraction, multiplication and division of Rational Numbers. Statistical/Probability focuses will encompass students developing an understanding of inferences with regards to population based sampling and data distributions. Geometric focus will extend students’ knowledge with regards to geometric figures and relationships between them with primary focus on involving angles for calculating: areas, surface areas and volumes.

REQUIRED ASSESSMENTS & BENCHMARKING:

WEEK	WEEK / DATE	TESTING TYPE
WEEK 1		STAR MATH
WEEK 2		GALILEO – PRE TEST
WEEK 9		GALILEO - BENCHMARK #1
WEEK 18		GALILEO – BENCHMARK #2
WEEK 21		STAR MATH
WEEK 26		GALILEO – BENCHMARK #3
WEEK 30		PARRC
WEEK 33		AIMS
WEEK 37		STAR MATH
WEEK 38		GALILEO POST
WEEK 42		CLASS FINAL

Note: Benchmarking standards shall be determined by Administration / Data Analysis Team and be in compliance with state requirements. These tests do not take the place of regularly scheduled quizzes or chapter exams as suggested by curriculum. Dates/ weeks provided are the scheduled time(s) for required testing per Administration guidelines. Date(s) are subject to change.

LESSON DETAILS AND CURRICULUM MAPPING

*NOTE: Common Core Alignment indicators are based on Arizona "recoding" effective October 2013.
(see enclosed Arizona Common Core Placemat for detailed descriptors)*

Upon completion of each topic, student will be able to demonstrate knowledge through assessment and content application of:

Objective	Common Core Alignments	Pacing	Date(s)
CHAPTER 1: INTEGERS AND RATIONAL NUMBERS	THE NUMBER SYSTEM Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. EXPRESSIONS AND EQUATIONS Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	11 DAYS	
1-1 COMPARING AND ORDERING INTEGERS	7NSA.1.b	1 day	
1-2A ACTIVITY LAB: MODELING INTEGER ADDITION AND SUBTRACTION	7NSA.1.a, 7NSA.1.b	1 day	
1-2 ADDING AND SUBTRACTING INTEGERS	7NSA.1, 7NSA.1.a, 7NSA.1.b, 7NSA.1.c, 7NSA.1.d	1 day	
1-3 MULTIPLYING AND DIVIDING INTEGERS	7NSA.2, 7NSA.2.a, 7NSA.2.b	1 day	
1-3A ACTIVITY LAB: MODELING INTEGER MULTIPLICATION	7N.SA.2, 7NSA.2.a	1 day	
1-4 FRACTIONS AND DECIMALS	7NSA.2.d, 7E.EB.3	1 day	
1-5 RATIONAL NUMBERS	7NSA.2.b, 7.NSA.2.d	1 day	
1-6A ACTIVITY LAB: MODELING ADDITION AND SUBTRACTION OF RATIONAL NUMBERS	7NSA.1	1 day	
1-6 ADDING AND SUBTRACTING RATIONAL NUMBERS	7NSA.1, 7NSA.1.b, 7NSA.1.c, 7NSA.1.d, 7NSA.3	1 day	
1-7 MULTIPLYING RATIONAL NUMBERS	7NSA.2, 7NSA.2.a, 7NSA.2.c	1 day	
1-8 DIVIDING RATIONAL NUMBERS	7NSA.2, 7NSA.2.b, 7NSA.2.c, 7NSA.3	1 day	
CHAPTER 2: EQUATIONS	EXPRESSIONS AND EQUATIONS Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	9 days	
2-1A ACTIVITY LAB: DESCRIBE		1 day	

PATTERNS	7EEB.4		
2-1 EVALUATING AND WRITING ALGEBRAIC EXPRESSIONS	7EEB.4	1 day	
2-1B ACTIVITY LAB: USING SPREADSHEETS	7EEA.4	1 day	
2-2 SIMPLIFYING EXPRESSIONS	7EEA.1	1 day	
2-3A ACTIVITY LAB: MODELING EQUATIONS	7EEB.4	1 day	
2-3 SOLVING ONE-STEP EQUATIONS	7EEB.4	1 day	
2-4 EXPLORING TWO-STEP EQUATIONS	7EEB.4.a	1 day	
2-5A ACTIVITY LAB: MODELING TWO-STEP EQUATIONS	7EEB.3, 7EEB.4.a	1 day	
2-6 SOLVING EQUATIONS INVOLVING THE DISTRIBUTIVE PROPERTY	7EEB.3, 7EEB.4.a	1 day	
CHAPTER 3: INEQUALITIES	EXPRESSIONS AND EQUATIONS Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	4 DAYS	
3-1 GRAPHING AND WRITING INEQUALITIES	7EEB.4.b	1 day	
3-2 SOLVING INEQUALITIES BY ADDING OR SUBTRACTING	7EEB.4.b	1 day	
3-3 SOLVING INEQUALITIES BY MULTIPLYING OR DIVIDING	7EEB.4.b	1 day	
3-4 SOLVING TWO-STEP INEQUALITIES	7EEB.4.b	1 day	
CHAPTER 4: RATIOS, RATES, AND PROPORTIONS	RATIO AND PROPORTIONAL REASONING Analyze proportional relationships and use them to solve real-world and mathematical problems.	12 DAYS	
4-1 RATIOS	7RPA.1	1 day	
4-2 UNIT RATES AND PROPORTIONAL REASONING	7RPA.1	1 day	
4-2B ACTIVITY LAB: USING CONVERSION FACTORS	7RPA.1	1 day	
4-3 PROPORTIONS	7RPA.2, 7RPA.2.a	1 day	
4-4A ACTIVITY LAB: USING PROPORTIONS WITH DATA	7RPA.1	½ day	
4-4 SOLVING PROPORTIONS	7RPA.1, 7RPA.2	1 day	
4-5A EXPLORING SIMILAR FIGURES	7GA.1	1 day	
4-5 SIMILAR FIGURES	7RPA.1, 7RPA.2, 7GA.1	1 day	

4-5B DRAWING SIMILAR FIGURES	7RPA.2	1 day	
4-6A SCALE DRAWINGS AND MODELS	7GA.1	½ day	
4-6 MAPS AND SCALE DRAWINGS	7GA.1, 7RPA.1	1 day	
4-6B ACTIVITY LAB: PLAN A TRIP	7GA.1	½ day	
4-7A ACTIVITY LAB: GRAPHS AND PROPORTIONAL RELATIONSHIPS	7RPA.2.a, 7RPA.2.d	½ day	
4-7 PROPORTIONAL RELATIONSHIPS	7RPA.2.a, 7RPA.2.b, 7RPA.2.c, 7RPA.2.d	1 day	
CHAPTER 5: PERCENTS	EXPRESSIONS AND EQUATIONS Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. RATIO AND PROPORTIONAL RELATIONSHIPS Analyze proportional relationships and use them to solve real-world and mathematical problems.	8 DAYS	
5-1 PERCENTS, FRACTIONS, AND DECIMALS	7EEB.3	1 day	
5-2 SOLVING PERCENT PROBLEMS USING PROPORTIONS	7RPA.3	1 day	
5-3 SOLVING PERCENT PROBLEMS USING EQUATIONS	7RPA.3	1 day	
5-4 APPLICATIONS OF PERCENTS	7RPA.3	1 day	
5-4B ACTIVITY LAB: PERCENT EQUATIONS	7RPA.3	1 day	
5-5 SIMPLE INTEREST	7RPA.3	1 day	
5-6A ACTIVITY LAB: EXPLORING PERCENT OF CHANGE	7RPA.3	1 day	
5-6 FINDING PERCENT OF CHANGE	7RPA.3, 7EEA.2	1 day	
CHAPTER 6: GEOMETRY AND AREA	GEOMETRY Draw, construct, and describe geometrical figures and describe the relationship between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	9 DAYS	
6-1A ACTIVITY LAB: DRAWING GEOMETRIC FIGURES	7GA.2	1 day	
6-1 ANGLE MEASURES	7GB.5	1 day	
6-1B ACTIVITY LAB: DRAWING TRIANGLES	7GA.2	1 day	
6-2A ACTIVITY LAB: GENERATING FORMULAS FOR AREA	7GB.6	1 day	
6-2 AREA OF A PARALLELOGRAM	7GB.6	1 day	
6-3 AREA OF A TRIANGLE	7GB.6	1 day	
6-4 AREAS OF OTHER FIGURES	7GB.6	1 day	
6-5A ACTIVITY LAB: MODELING A			

CIRCLE	7GB.4	1 day	
6-5 CIRCUMFERENCE AND AREA OF A CIRCLE	7GB.4	1 day	
CHAPTER 7: SURFACE AREA AND VOLUME	GEOMETRY Draw, construct, and describe geometrical figures and describe the relationship between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	5 DAYS	
7-1 THREE-DIMENSIONAL FIGURES	7GA.3	1 day	
7-2 SURFACE AREAS OF PRISMS AND CYLINDERS	7GB.6	2 day	
7-3 VOLUMES OF PRISMS AND CYLINDERS	7GB.6	1 day	
7-3B ACTIVITY LAB: GENERATING FORMULAS FOR VOLUME	7GB.6	1 day	
7-4 CROSS SECTIONS	7GA.3	1 day	
CHAPTER 8: ANALYZING DATA	STATISTICS AND PROBABILITY Use random sampling to draw inferences about a population. Draw informal comparative inferences about two populations.	5 DAYS	
8-1 RANDOM SAMPLES AND SURVEYS	7SPA.1	1 day	
8-2 ESTIMATING POPULATIONS SIZE	7SPA.2	1 day	
8-3 INFERENCES	7SPA.2	2 days	
8-4 DATA VARIABILITY	7SPB.3, SPB.4	1 day	
CHAPTER 9: PROBABILITY	STATISTICS AND PROBABILITY Investigate chance processes and develop, use, and evaluate probability models.	9 DAYS	
9-1 PROBABILITY	7SPC.5, 7SPC.7.a	1 day	
9-2A ACTIVITY LAB: EXPLORING PROBABILITY	7SPC.7, 7SPC.7.b	1 day	
9-2 EXPERIMENTAL PROBABILITY	7SPC.6, 7SPC.7, 7SPC.7b	1 day	
9-2B ACTIVITY LAB: RANDOM NUMBERS	7SPC.7, 7SPC.7.b	1 day	
9-3 SAMPLE SPACES	7SPC.8, 7SPC.8b	1 day	
9-3B ACTIVITY LAB: USING DATA TO PREDICT	7SPC.8, 7SPC.8.a, 7SPC.8.b	1 day	
9-4A ACTIVITY LAB: EXPLORING MULTIPLE EVENTS	7SPC.8, 7SPC.8.a, 7SPC.8.b	1 day	
9-4 COMPOUND EVENTS	7SPC.8, 7SPC.8.a, 7SPC.8.b	1 day	
9-5 STIMULATING COMPOUND EVENTS	7SPC.8.c		

Objectives and standards for design and implementing of this course are based on Arizona Common Core Standards of Mathematics for the traditional Seventh Grade level.

The applied Standards and Objectives of the course are listed in conceptual categories including: Ratio and Proportional Relationships; The Number System; Expressions and Equations; Geometry; and Statistic and Probability. They are as follows:

Ratio and Proportional Relationships

Analyze proportional relationships and use them to solve real-world and mathematical problems. (RPA)

The Number System

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. (NSA)

Expression and Equations

Use properties of operations to generate equivalent expressions. (EEA)

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

Geometry

Draw, construct, and describe geometrical figures and describe the relationship between them. (GA)

Solve real-life and mathematical problems involving angle measure, area, surface area and volume. (GB)

Statistics and Probability

Use random sampling to draw inferences about a population. (SPA)

Draw informal comparative inferences about two populations. (SPB)

Investigate chance processes and develop, use, and evaluate probability models. (SPC)

Student objectives are also based on the demonstration of Core Mathematical Practices (MP) as follows:

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.

See Enclosed Arizona 7TH Grade Placemat for detailed standards.



Arizona's College and Career Ready Standards – Mathematics – 7th Grade Standards Placemat

1. Developing understanding of and applying proportional relationships

- Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

2. Developing understanding of operations with rational numbers and working with expressions and linear equations

- Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division, by applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero). Students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

3. Solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume

- Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

4. Drawing inferences about populations based on samples

- Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Ratios and Proportional Relationships: Analyze proportional relationships and use them to solve real-world and mathematical problems.

- 7.RP.A.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour.
- 7.RP.A.2: Recognize and represent proportional relationships between quantities.
 - 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.
 - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
- 7.EE.B.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess 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 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 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 8 inches from each edge; this estimate can be used as a check on the exact computation.

- Explain what a point (x, y) on the graph of a proportional relationship means in terms of the problem, with special attention to the points (0, 0) and (1, r) where r is the unit rate.

The Number System: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

- 7.NS.A.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.
 - Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.
 - 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 (one additive inverse). Interpret sums of rational numbers by describing real-world contexts.
 - 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 contexts.
 - Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.A.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

- 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.
- 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) and interpret quotients of rational numbers by describing real-world contexts.
- Apply properties of operations as strategies to multiply and divide rational numbers.
- 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.

7.NS.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers. (NOTE: Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)

Operations and Equations: Use properties of operations to generate equivalent expressions.

- 7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- 7.EE.A.2: Understand 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. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."

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

- 7.EE.B.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess 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 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 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 8 inches from each edge; this estimate can be used as a check on the exact computation.

- 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.

7.EE.B.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 word problems leading to equations of the form $px + q = r$ and $px + q = r$, 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. For example, the perimeter of a rectangle is 54 cm; its length is 6 cm. What is its width?
- 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. Graph the solution set of the inequality and interpret it in the context of the problem. 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.

Geometry: Draw, construct, and describe geometrical figures and describe the relationships between them.

- 7.G.A.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
- 7.G.A.2: Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. 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.
- 7.G.A.3: Describe two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

- 7.G.B.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
- 7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
- 7.G.B.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.

Statistics and Probability: Use random sampling to draw inferences about a population.

- 7.SP.A.1: 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.
- 7.SP.A.2: 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.
- Draw informal comparative inferences about two populations.**
- 7.SP.B.3: Informally assess the degree of visual overlap of two numerical data distributions with similar variables, measuring the difference between 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 separation between the two distributions of heights is notable.

7.SP.B.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.

Investigate chance processes and develop, use, and evaluate probability models.

- 7.SP.C.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.
- 7.SP.C.6: 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.
- 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.
 - 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.
 - Develop a probability model (which may not be uniform) by observing frequencies in data generated by 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?
- 7.SP.C.8: Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
 - Understand that, just as with single events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
 - 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.
 - Design and use a simulation to generate frequencies for compound events. For example, 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?

Mathematical Practices

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

TELESIS CENTER FOR LEARNING
MATH CORE CHECKLIST AND VERTICAL ALIGNMENT REFERENCE
6-8TH

RATIOS AND PROPORTIONAL RELATIONSHIPS

STANDARD	6	7	8
RPA			
RPA.1	7-7, 12-1,	4-1, 4-2, 4-2B, 4-4A, 4-4, 4-5, 4-5B, 4-6,	N/A
RPA.2	12-3, 12-6, 13-2,	4-3, 4-4, 4-5, a) 4-3, 4-7A, 4-7, b) 4-7, c) 4-7, d) 4-7A, 4-7,	N/A
RPA.3	7-7, 12-2, 13-1, 13-3, 13-4, 14-1, 14-2, 14-4, a) 13-1, 13-5, b) 12-4, 13-2, c) 14-3, 14-5, 14-6, 14-7, d) 16-1, 16-2, 16-3, 16-4, 16-5, 16-6,	5-2, 5-3, 5-4, 5-4B, 5-5, 5-6A, 5-6,	N/A

6RPA – UNDERSTAND RATIO CONCEPTS AND USE RATIO REASONING TO SOLVE PROBLEMS
7RPA – ANALYZE PROPORTIONAL RELATIONSHIPS AND USE THEM TO SOLVE REAL-WORLD MATHEMATICAL PROBLEMS

TELESIS CENTER FOR LEARNING
 MATH CORE CHECKLIST AND VERTICAL ALIGNMENT REFERENCE
 6-8TH

THE NUMBER SYSTEM

STANDARD	6	7	8
NSA			
NSA.1	5-4, 5-5, 5-6, 6-1, 6-2, 6-3, 6-4, 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 8-1, 8-2, 8-3, 8-4, 9-1, 9-2, 9-3, 9-4, 9-5, 10-4 (7 TH), 10-5 (7 TH),	1-2, 1-6, 1-6a, a) 1-1, 1-2, 1-2a, b) 1-2, 1-6, 1-2a, c) 1-2, 1-6, d) 1-2, 1-6,	1-1, 1-1B, 1-2,
NSA.2	10-6 (7 TH), 10-7 (7 TH)	1-3, 1-3a, 1-7, 1-8, a) 1-3, 1-3a, 1-7, b) 1-3, 1-3a, 1-5, 1-8, c) 1-7, 1-8, d) 1-4, 1-5,	1-2,
NSA.3	N/A	1-6, 1-7, 1-8,	N/A
NSB			
NSB.2	1-1, 1-2, 2-6, 3-5, 4-4,	N/A	N/A
NSB.3	1-4, 1-5, 1-6, 1-7, 3-1, 3-2, 3-3, 3-4, 3-6, 3-7, 3-10, 6-5,	N/A	N/A
NSB.4	5-1, 5-2, 5-3, 5-7,	N/A	N/A
NSC			
NSC.5	10-1,	N/A	N/A
NSC.6	9-7, 10-1, 10-3, 10-8, 10-9, a) 10-1, 10-8, b) 10-8, 10-9, c) 10-1, 10-3, 10-9,	N/A	N/A
NSC.7	10-1, 10-2, 10-3, 10-8, a) 10-2, 10-3, b) 10-2, 10-3, c) 10-1, 10-8, d) 10-8,	N/A	N/A
NSC.8	10-9, K104, 10-10, J31,	N/A	N/A

NSC.9	N/A	N/A	N/A
AZ.NSC.9	SUPPLEMENTAL LESSON NEEDED	N/A	N/A

6NSA – APPLY AND EXTEND PREVIOUS UNDERSTANDING OF MULTIPLICATION AND DIVISION TO DIVIDE FRACTIONS BY FRACTIONS – COMPLEX NUMBERS

7NSA – APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF OPERATIONS WITH FRACTIONS TO ADD, SUBTRACT, MULTIPLY AND DIVIDE RATIONAL NUMBERS

8NSA – KNOW THAT THERE ARE NUMBERS THAT RE NOT RATIONAL, AND APPROXIMATE THEM BY RATIONAL NUMBERS

6NSB – COMPUTE FLUENTLY WITH MULTI-DIGIT NUMBERS AND FIND COMMON FACTORS AND MULTIPLES

6NSC – APPLY AND EXTEND PREVIOUS UNDERSTANDING OF THE SYSTEM OF RATIONAL NUMBERS

6AZ.NSC.9 - CONVERT BETWEEN EXPRESSIONS FOR POSITIVE RATIONAL NUMBERS, INCLUDING FRACTIONS, DECIMALS, AND PERCENTS – NEEDS SUPPLEMENTAL LESSON

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EXPRESSIONS AND EQUATIONS

STANDARD	6	7	8
EEA			
EEA.1	1-3,	2-2,	6-2A, 6-2, 6-4, 6-4B,
EEA.2	2-1, 2-6, 2-7, a) 2-1, 2-6, b) 2-1, 2-6, c) 2-6, 3-8, 17-1, 17-2, 17-3,	5-6,	1-2, 1-3,
EEA.3	2-2, 2-3, 2-4, 2-5, 2-6, 4-1,	N/A	6-1, 6-1B, 6-5,
EEA.4	4-1,	N/A	6-3, 6-3B, 6-5,
EEB			
EEB.3	N/A	1-4, 2-5, 2-6, 5-1,	N/A
EEB.4	15-1 (7 TH), 15-3 (7 TH), 15-5 (7 TH),	2-1A, 2-1, 2-1B, 2-3A, 2-3, a) 2-4, 2-5, 2-6, b) 3-1, 3-2, 3-3, 3-4,	N/A
EEB.5	3-9, 4-2, 4-4, 15-6, 15-7,	N/A	3-3, 4-1A, 4-4,
EEB.6	2-1, 2-8, 3-9, 4-2, 4-4,	N/A	4-1, 4-2, 7-5B,
EEB.7	4-2, 4-3, 4-4, 4-5, 9-6, 17-1, 17-2, 17-3,	N/A	N/A
EEB.8	15-6,	N/A	N/A
EEC			
EEC.7	N/A	N/A	2-1A, 2-1, 2-2A, 2-3, 2-4, 2-5, a) 2-5, b) 2-1A, 2-1, 2-2, 2-3, 2-4, 2-5, 5-4,
EEC.8	N/A	N/A	a) 5-1, b) 5-1, 5-1B, 5-2, 5-3, 5-3B, c) 5-1, 5-2, 5-

			3, 5-3B, 5-4,
EEC.9	11-9, 12-5, 15-2, 15-4,	N/A	N/A

6EEA – APPLY AND EXTEND PREVIOUS UNDERSTANDINGS OF ARITHMETIC TO ALGEBRAIC EXPRESSIONS
7EEA – USE PROPERTIES OF OPERATIONS TO GENERATE EQUIVALENT EXPRESSIONS
8EEA – WORK WITH RADICALS AND INTEGER EXPONENTS

6EEB – REASON ABOUT AND SOLVE ONE-VARIABLE EQUATIONS AND INEQUALITIES
7EEB – SOLVE REAL-LIFE AND MATHEMATICAL PROBLEMS USING NUMERICAL AND ALGEBRAIC EXPRESSIONS AND EQUATIONS
8EEB – UNDERSTAND THE CONNECTIONS BETWEEN PROPORTIONAL RELATIONSHIPS, LINES AND LINEAR EQUATIONS

6EEC – REPRESENT AND ANALYZE QUANTITATIVE RELATIONSHIPS BETWEEN DEPENDENT AND INDEPENDENT VARIABLES
8EEC – ANALYZE AND SOLVE LINEAR EQUATIONS AND SYSTEMS OF SIMULTANEOUS LINEAR EQUATIONS

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GEOMETRY

STANDARD	6	7	8
GA			
GA.1	8-5, 11-2, 11-4, 11-5, 11-7 (8 TH), 11-8 (8 TH), 13-6 (7 TH), 17-2, 17-3,	4-5A, 4-5, 4-6A, 4-6, 4-6B,	a) 8-1, 8-2A, 8-2, 8-3A, 8-3, b) 8-1, 8-2A, 8-2, 8-3A, 8-3, c) 8-1, 8-2A, 8-2, 8-3A, 8-3,
GA.2	11-7 (8 TH), 18-3, 18-4,	6-1A, 6-1B,	7-3, 8-4,
GA.3	10-10, 11-1,	7-1, 7-4	8-1, 8-2, 8-3, 8-5A, 8-5, 8-5B,
GA.4	18-1, 18-2, 18-5,	N/A	7-4, 8-5A, 8-5, 8-5B, 8-6,
GA.5	N/A	N/A	7-1, 7-2, 7-5, 7-6A, 7-6,
GB			
GB.4	11-6 (7 TH), 17-4 (7 TH), 17-5 (7 TH), 17-5,	6-5A, 6-5,	N/A
GB.5	11-3 (7 TH),	6-1,	N/A
GB.6	N/A	6-2A, 6-2, 6-3, 6-4, 7-2, 7-3, 7-3B,	1-6, 1-6B,
GB.7	N/A	N/A	1-4A, 1-4, 1-4B, 1-7,
GB.8	N/A	N/A	1-7, 9-2,
GC			
GC.9	N/A	N/A	9-1, 9-2A, 9-2, 9-3A, 9-3, 9-4, 9-5A, 9-5

6GA – SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS SOLVING AREA, SURFACE AREA AND VOLUME

7GA – DRAW, CONSTRUCT, AND DESCRIBE GEOMETRICAL FIGURES AND DESCRIBE THE RELATIONSHIPS BETWEEN THEM

8GA – UNDERSTAND CONGRUENCE AND SIMILARITY USING PHYSICAL MODELS, TRANSPARENCIES OR GEOMETRY SOFTWARE

7GB – SOLVE REAL-LIFE AND MATHEMATICAL PROBLEMS INVOLVING ANGLE MEASURE, AREA, SURFACE AREA AND VOLUME

8GB – UNDERSTAND AND APPLY THE PYTHAGOREAN THEOREM

8GC – SOLVE REAL-WORLD AND MATHEMATICAL PROBLEMS INVOLVING VOLUME OF CYLINDERS, CONES, AND SPHERES

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STATISTICS AND PROBABILITY

STANDARD	6	7	8
SPA			
SPA.1	19-1,	8-1,	10-1A, 10-1,
SPA.2	19-2,	8-2, 8-3,	10-1, 10-2, 10-3,
SPA.3	19-3, 19-7, 19-10	N/A	10-3,
SPA.4	N/A	N/A	10-4,
SPB			
SPB.3	N/A	8-4,	N/A
SPB.4	19-5, 19-6,	8-4,	N/A
SPB.5	19-8, 19-9, a)19-5, 19-9, b)19-9, c) 19-3, 19-4, 19-7, 19-9, d) 19-8, 19-9,	N/A	N/A
SPC			
SPC.5	N/A	9-1,	N/A
SPC.6	N/A	9-2,	N/A
SPC.7	N/A	9-2A, 9-2, 9-2B, a) 9-1, b) 9-2A, 9-2, 9-2B,	N/A
SPC.8	N/A	9-3, 9-3B, 9-4A, 9-4, a) 9-3, 9-4A, 9-4, b) 9-3B, 9-4A, 9-4, c) 9-5,	N/A

6SPA – DEVELOP UNDERSTANDING KOF STATISTICAL VARIABILITY

7SPA – USE RANDOM SAMPLING TO DRAW INFERENCES ABOUT A POPULATION

8SPA – INVESTIGAE PATTERNS OF ASSOICATION IN BIVARIATE DATA

6SPB – SUMMARIZE AND DESCRIBE DISTRIBUTIONS

7SPB – DRAW INFORMAL COMPARITIVE INFERENCES ABOUT TWO POPULATIONS

7SPC – INVESTIAGE CHANCE PROCESSES AND DEVELOP, USE, AND EVALUATE PROBABILITY MODELS

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FUNCTIONS

STANDARD	6	7	8
FA			
FA.1	N/A	N/A	3-2, 4-2A, 4-2,
FA.2	N/A	N/A	4-4,
FA.3	N/A	N/A	3-4, 3-5, 4-2,
FB			
FB.4	N/A	N/A	4-1A, 4-1, 4-2, 4-3, 4-3B,
FB.5	N/A	N/A	3-1, 3-1B,

8FA – DEFINE, EVALUATE AND COMPARE FUNCTIONS

8FB – USE FUNCTIONS TO MODEL RELATIONSHIPS BETWEEN QUANTITIES