7th Grade Math Pacing Guide

Links: Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6
Scope and Sequence

Week 1	Unit 0: Setting a Positive Math Mindset • Math Mindset Video & Good Group Work • Mistakes are Powerful Video & Consecutive Numbers • Believe in Yourself Video & Art of Patterns • Visual Math Video & Messing with Pascal • Desmos: Getting to Know Each Other - Editable and Customizable
Week 2-5	**Unit 1: Real Numbers & Scientific Notation**

Arkansas Mathematics Standards

Number Concepts and Computations

Rational Numbers

7.NCC.1: Represent addition and subtraction of rational numbers in real-world contexts using a variety of forms.

7.NCC.2: Model and describe additive inverse in real-world situations to show opposite quantities combine to make 0.

7.NCC.3: Demonstrate in real-world contexts the distance between two rational numbers on the number line as the absolute value of their differences.

7.NCC.4: Convert a rational number in fraction form to decimal form and recognize that the decimal form of a rational terminates in 0's or eventually repeats.

7.NCC.5: Interpret the products and quotients of rational numbers by describing real-world contexts.

7.NCC.6: Apply properties of operations as strategies to fluently add, subtract, multiply, and divide rational numbers.

7.NCC.7: Use addition and subtraction with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.

7.NCC.8: Use multiplication and division with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.

7.NCC.9: Apply operations with rational numbers involving order of operations, including nested grouping symbols.

Rational and Irrational Numbers

8.NCC.1: Describe relationships among numbers in the real number system (rational and irrational). *Number relationships include: decimal expansion for rational and irrational numbers, square roots of non-perfect squares, and cube roots of nonperfect cubes.*

Scientific Notation

8.NCC.4: Write very large and very small numbers in scientific notation using positive and negative exponents.

8.NCC.5: Compare numbers written in scientific notation to determine how many time larger or smaller one number is that the other, using real-world and mathematical problems.

Student-Friendly Objectives:

- I can represent addition and subtraction of rational numbers in real-world contexts using different forms.
- I can model and describe the concept of additive inverse in real-world situations to show that opposite quantities combine to make 0.
- I can demonstrate the distance between two rational numbers on a number line as the absolute value of their differences in real-world scenarios.
- I can convert a rational number in fraction form to its decimal form and recognize that the decimal form of a rational number either terminates in zeroes or eventually repeats.

- I can interpret the products and quotients of rational numbers by describing how they relate to real-world contexts.
- I can apply properties of operations as strategies to fluently add, subtract, multiply, and divide rational numbers.
- I can use addition and subtraction with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.
- I can use multiplication and division with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.
- I can apply operations with rational numbers involving the order of operations, including nested grouping symbols.
- I can describe the relationships among numbers in the real number system, including rational and irrational numbers.
- I can understand the decimal expansion of rational and irrational numbers, as well as calculate square roots of non-perfect squares and cube roots of non-perfect cubes.
- I can write very large and very small numbers in scientific notation using positive and negative exponents.
- I can compare numbers written in scientific notation to determine how many times larger or smaller one number is compared to another, using both real-world and mathematical problems.

Important Vocabulary: rational numbers, mastery, fraction, integer, number line, additive inverse, absolute value, conceptual understanding, difference, terminating decimal, repetition decimal, irrational number, product, quotients, inverse, whole number, properties of operations, fluency, complex fraction, order of operations, nested grouping symbols, real number system, square root, exponent, and scientific notation.

Week 2	Patterns & Sequences ● LTF: Cheapest Gas Line **7.NCC.4** ● LTF: Area model for multiplication of fractions **7.NCC.5, 7.NCC.6, 7.NCC.7** ● LTF: Limits of Numbers (Addition and Multiplication of Fractions) **7.NCC.2, 7.NCC.6, 7.NCC.7, 7.NCC.8** ● LTF: Interesting Limit (Use a Fibonacci-like sequence to explore the ratios of consecutive terms) **7.NCC.6, 7.NCC.7, 7.NCC.8** ● LTF: Arithmetic Sequences **7.NCC.6, 7.NCC.7, 7.NCC.8**
Week 3	Rational & Irrational Numbers ● Classifying Rational and Irrational Numbers- MARS lesson **8.NCC.1** ○ Student and Teacher Pages ○ Projector Resources ● Ordering Rational Numbers **7.NCC.1** ● Desmos: Floats and Anchors (Modeling Integer Addition and Subtraction) **7.NCC.1, 7.NCC.2, 7.NCC.3** ● Desmos: Integer Puzzles- All operations **7.NCC.6** ● Rational Operations Practice **7.NCC.6** ● Order of Operations **7.NCC.6, 7.NCC.7, 7.NCC.8, 7.NCC.9** ○ Instructional Video ○ Card Sort Student Copy ○ Justify and Explain Student Copy ● Operations with Rational Numbers **7.NCC.6, 7.NCC.7, 7.NCC.8, 7.NCC.9** ○ Justify and Explain Student Copy ○ Dividing Nested Fractions Student Copy
Week 4	Scientific Notation ● Ants Vs Humans - Scientific Notation **8.NCC.4, 8.NCC.5**

	• Scientific Notation Applications **8.NCC.4, 8.NCC.5**
	• How Many Stars are There in the Universe? **8.NCC.4, 8.NCC.5**
	  ○ Stars Blacked Out Best Video 1
	  ○ Stars in Universe Extension Video 2

Week 5	Review Real Numbers Give Assessment
Week 6-12	**Unit 2: Proportionality & Linearity**

Arkansas Mathematics Standards

Ratio and Rates

7.PR.1: Determine the unit rate (constant of proportionality) from tables, graphs, equations, diagrams, or verbal descriptions of proportional relationships.

7.PR.2: Calculate unit rates in real-world contexts that include complex fractions.

7.PR.3: Solve multi-step ratio and percent problems in a real-world context, including percent error and percent increase and decrease.

Constant of Proportionality

7.PR.4: Determine whether two quantities represent proportional relationships by using equivalent ratios in a table and by graphing on a coordinate plane.

7.PR.5: Compare two different proportional relationships represented in different forms.

7.PR.6: Create equations in the form of $y = kx$ from tables, verbal descriptions, or graphs.

7.PR.7: Given a graph with a proportional relationship, explain the meaning of a point (x, y) on the graph, including the origin (0, 0), and the unit rate $(1, r)$.

Relationships between Quantities

7.ALG.4: Write an equation to express two quantities in terms of the dependent and independent variables.

7.ALG.5: Describe the relationship between the dependent and independent variables in an equation using tables and graphs, relating these to the equation.

Scale

7.GM.6: Calculate the scale factor, compute the actual lengths from the scale in a drawing, and reproduce a scale drawing using another scale.

Proportional and Linear Relationships

8.FN.1: Graph proportional relationships, interpreting the unit rate as the slope of the graph.

8.FN.2: Explain, using similar right triangles, how the slope of a line is the same between two points on a non-vertical line or non-horizontal line.

Functions

8.FN.3: Determine whether a relationship is a function or not when given a function map, table, graph, equation, or set of ordered pairs.

8.FN.4: Compare the rate of change (slope) and y-intercept (initial value) of two linear functions each represented in different forms.

8.FN.5: Distinguish between linear and non-linear functions by comparing graphs and equations.

8.FN.6: Determine the rate of change (slope) and y-intercept (initial value) from tables, graphs, equations, and verbal descriptions of linear relationships.

8.FN.7: Interpret and explain the meaning of the rate of change (slope) and y-intercept (initial value) of a linear relationship in a real-world context.

Student-Friendly Objectives:

- I can determine the unit rate (constant of proportionality) from tables, graphs, equations, diagrams, or verbal descriptions of proportional relationships.
- I can calculate unit rates in real-world contexts that include complex fractions.
- I can solve multi-step ratio and percent problems in a real-world context, including percent error and percent increase and decrease.
- I can determine whether two quantities represent proportional relationships by using equivalent ratios in a table and by graphing on a coordinate plane.
- I can compare two different proportional relationships represented in different forms.
- I can create equations in the form of y = kx from tables, verbal descriptions, or graphs.
- I can explain the meaning of a point (x, y) on a graph with a proportional relationship, including the origin (0, 0), and the unit rate (1, r).
- I can write an equation to express two quantities in terms of the dependent and independent variables.
- I can describe the relationship between the dependent and independent variables in an equation using tables and graphs, relating these to the equation.
- I can calculate the scale factor, compute the actual lengths from the scale in a drawing, and reproduce a scale drawing using another scale.
- I can graph proportional relationships, interpreting the unit rate as the slope of the graph.
- I can explain, using similar right triangles, how the slope of a line is the same between two points on a non-vertical line or non-horizontal line.
- I can determine whether a relationship is a function or not when given a function map, table, graph, equation, or set of ordered pairs.
- I can compare the rate of change (slope) and y-intercept (initial value) of two linear functions each represented in different forms.
- I can distinguish between linear and non-linear functions by comparing graphs and equations.
- I can determine the rate of change (slope) and y-intercept (initial value) from tables, graphs, equations, and verbal descriptions of linear relationships.
- I can interpret and explain the meaning of the rate of change (slope) and y-intercept (initial value) of a linear relationship in a real-world context.

Important Vocabulary: Unit rate, constant of proportionality, proportional, ratio, unit rate, complex fraction, percent, rate, coordinate plane, equivalent, origin, graph, dependent variable, independent variable, slope, mastery, similar, y-intercept, function, domain, range, function notation, ordered pair, rate of change, and linear equation.

Week 6	Proportional Relationships • LTF: Rating the Trip **7.PR.1, 7.PR.2** • Planet Weights (Slides/Student Copy/Teacher Notes) **7.PR.1, 7.PR.2** • Desmos: Dino Pops - Proportional Relationship Graphs **7.PR.1, 7.PR.6, 7.PR.7** • Desmos: Marcellus the Giant - Proportional Relationships **7.GM.6** • Flow Rate Activity (Student Copy -Videos Embedded in Doc) **7.PR.1, 7.PR.2, 7.PR.6** • Fast Clapper (Student Copy -Videos Embedded in Doc) **7.PR.1, 7.PR.2, 7.PR.6** • Ratios and Proportionality Justify and Explain **7.PR.1, 7.PR.2, 7.PR.4, 7.PR.6** • Unit Rates Justify and Explain **7.PR.1, 7.PR.2**
Week 7	Distance Time Graphs • LTF: All Aboard - Distance Time Graphs **7.PR.1, 7.PR.2, 7.NCC6** • LTF: The Water Park **7.PR.1, 7.PR.2** • Desmos: The Running Game - Proportional Graphs **7.PR.1, 7.PR.4, 7.PR.5, 8.FN.1** • LTF: Stock Car Race Tracks - Distance Time Graphs **7.GM6**

Week 8	Linear Relationships & Percents • Desmos: Turtle Time Trials - Proportional and into to non-proportional relationships **8.FN.1** • LTF: Interpreting Distance Graphs **7.PR.1** • Rates and Percents Practice (Could be used as an assessment) **7.PR.3, 7.PR.4** • LTF: What percent of the Earth is covered in water? **7.PR.3, 7.PR.4** • Percents of Increase and Decrease **7.PR.3, 7.PR.4** • Percents Justify and Explain **7.PR.3, 7.PR.4**
Week 9	Expressions, Equations & Slope • Desmos: Pool Border Problem - Expressions • Desmos: Guess my rule - Input-output tables **8.FN.3, 8.FN.5, 8.FN.6** • Service Clubs **8.FN.3, 8.FN.5, 8.FN.6** • Desmos: Which is steepest? - Intro to slope **8.FN.1, 8.FN.2**
Week 10	Linear Relationships • Desmos: Flags - Linear Relationships **8.FN.3, 8.FN.4, 8.FN.6, 8.FN.7,** • Desmos: Match My Line - Linear Graphing Challenges **8.FN.3, 8.FN.4, 8.FN.6, 8.FN.7,** • Desmos: Land the Plane - Writing Linear Eqns **7.ALG.4, 7.ALG.5, 8.FN.1**
Week 11	Linear Functions & Practice • Desmos: Coin Capture: Lines - Writing Linear Eqns **7.ALG.4, 7.ALG.5, 8.FN.1** • Desmos: Coin Capture Practice **7.ALG.4, 7.ALG.5, 8.FN.1** • Desmos: Card Sort: Linear Functions **8.FN.3, 8.FN.4, 8.FN.6, 8.FN.7,**
Week 12	Review Proportionality & Linearity Give Assessment
Week 13-16	**Unit 3: Systems of Equations & Inequalities**

Arkansas Mathematics Standards

Expressions

7.ALG.1: Generate and justify equivalent expressions, using properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients within mathematical and real-world problems.

Equations and Inequalities

7.ALG.2: Model and solve fluently two-step equations in real-world or mathematical problems.

7.ALG.3: Create, solve, and graph two-step inequalities in real-world and mathematical problems in the forms of $px \pm q > r$, $px \pm q < r$, $px \pm q \geq r$, and $px \pm q \leq r$.

8.ALG.1: Analyze and solve one-variable linear equations with rational coefficients containing solutions with one, zero, or infinitely many solutions.

Student-Friendly Objectives:

- I can generate and explain different expressions that are equal to each other by using operations such as addition, subtraction, factoring, and expanding linear expressions with rational coefficients. I can apply this knowledge to solve both mathematical and real-world problems.
- I can model and solve two-step equations fluently in both real-world and mathematical situations.
- I can create, solve, and graph two-step inequalities in different forms (px±q>r, px±q
- I can analyze and solve linear equations with rational coefficients that have one variable. I can identify equations that have one solution, zero solutions, or infinitely many solutions.

Important Vocabulary: equivalent, expression, properties of operations, factor, linear expressions, rational, coefficients, integers, rational number, variable, equation, inequality, graph, linear equation, and solution.	
Week 13	Rates of Change • LTF: Rate Graphs **7.ALG.2** • LTF: Using Tables and Graphs **7.ALG.2** • Find the Change **7.ALG.2** • Lines & Linear Equations - Class Starter or Exit Slip **7.ALG.2** • Desmos: Parallel Lines - Slope-intercept form **7.ALG.2, 8.ALG.1** • Finding Prices (Slides/Student Copy) **7.ALG.2**
Week 14	Linear Systems • Combining Like Terms –Full Lesson **7.ALG.1** • Combining Like Terms (Student Video/Student Notes) **7.ALG.1** • Substitution Practice **7.ALG.1** • Desmos: Card Sort: Linear Systems **8.ALG.1** • Desmos: Systems of Two Linear Equations **8.ALG.1** • Solving One Variable Equations–Most answers are fractions (Student Copy/Teacher Notes) **7.ALG.2** • MARS: Solving Linear Equations in Two Variables **7.ALG.2, 8.ALG.1** • LTF: Painting the House **7.ALG.2, 8.ALG.1** • Justify and Explain–Solve Equations (Student Copy/Teacher Notes) **7.ALG.2**
Week 15	Solving Systems • Desmos: Playing Catch Up - Systems in multiple representations **8.ALG.1** • Desmos: Solutions to Systems of Linear Equations **8.ALG.1** • Desmos: Make them balance - Systems of Equations **8.ALG.1** • Desmos: Line Zapper - Systems of Equations **8.ALG.1** • Desmos: Racing Cars - Systems of Equations: Substitution **8.ALG.1** • Desmos: Wafers and Creme - Systems of Equations: Elimination **8.ALG.1** • LTF: Analysis of Functions **7.ALG.3** • Desmos: Shira the Sheep - Inequalities **7.ALG.3** • Desmos: Compound Inequalities **7.ALG.3**
Week 16	Review Equations & Inequalities Give Assessment
Week 17	Fall/Winter Testing Timing will vary by district
Week 18-23	**Unit 4: 2D & 3D Geometry & Exponents**
Arkansas Mathematics Standards **Area, Volume, and Surface Area** **7.GM.1:** Describe the proportional relationship between the circumference and diameter of a circle. **7.GM.2:** Use area and circumferenc formulas of a circle to solve real-world and mathematical problems. **7.GM.3:** Apply the formulas for the volume and surface area of right rectangular prisms, rectangular pyramids, triangula prisms, and triangular pyramids to solve real-world and mathematical problems.	

8.GM.1: Apply the formulas for the volume and surface area of cylinders, cones, and spheres to solve real-world and mathematical problems.

Cross Sections

7.GM.4: Describe the two-dimensional figure that results from slicing a three-dimensional figure parallel and perpendicular to the base. *Three-dimensional figures include: right rectangular prisms, triangular prisms, and cylinders.*

Rational and Irrational Numbers

8.NCC.3: Know and apply the properties of integer exponents to generate equivalent numerical expressions.

Student-Friendly Objectives:

- I can describe the relationship between the circumference and diameter of a circle.
- I can use area and circumference formulas of a circle to solve real-world and mathematical problems.
- I can apply the formulas for the volume and surface area of right rectangular prisms, rectangular pyramids, triangular prisms, and triangular pyramids to solve real-world and mathematical problems.
- I can apply the formulas for the volume and surface area of cylinders, cones, and spheres to solve real-world and mathematical problems.
- I can describe the 2-dimensional figure that is obtained when slicing a 3-dimensional figure parallel and perpendicular to the base. (The figures include right rectangular prisms, triangular prisms, and cylinders.)
- I can understand and use rational and irrational numbers.
- I can apply the properties of integer exponents to create equivalent numerical expressions.

Important Vocabulary: proportional, circle, circumference, constant of proportionality, rectangular prism, triangular prism, pyramid, volume, surface area, three-dimensional, two-dimensional, and cylinder.

Week 18	2D Geometry • Desmos: Polygraph: Angle Relationships **7.GM.5** • Desmos: Lines, Transversals, and Angles **7.GM.5** • LTF: Angles of a Regular Polygon **7.GM.5** • LTF: Measuring Curves **7.GM.5** • LTF: New Home for Rami **7.GM.3**
Week 19	2D Geometry • LTF: The Shortest Route **7.GM.3** • LTF: Working with Formulas **7.GM.1, 7.GM.2, 7.GM.3** • LTF: Shoeprint, Trapezoid, & Area **7.GM.3** • LTF: State the Area **7.GM.3** • LTF: Finding Pi **7.GM.1, 7.GM.2**
Week 20	Approximating Area • LTF: Discovering Area - Circles **7.GM.1, 7.GM.2** • LTF: Polygons in a Circle **7.GM.1, 7.GM.2** • LTF: Maximizing Area **7.GM.1, 7.GM.2, 7.GM.3** • LTF: Approximating Areas of Irregular Shapes **7.GM.1, 7.GM.2, 7.GM.3**
Week 21	3D Geometry • LTF: Fill it Up Please **7.GM.3** • LTF: Comparable Measurements **7.GM.3, 8.GM.1** • LTF: Surface Area & Volume (7-15) **7.GM.3** • Volume Relationships Card Sort **8.GM.1**

Week 22	3D Geometry • LTF: Solids of Revolution **8.GM.1** • LTF: We all scream for ice cream **8.GM.1** • Desmos: Cylinders - Volume **8.GM.1**
Week 23	Exponents • Discovering Exponent Patterns **8.NCC.3** • Desmos: Circles - Whole number exponents **8.NCC.3** • LTF: Discovery of Patterns with Pos & Neg Exponents **8.NCC.3** • Exponent Practice **8.NCC.3**
Week 23	Review Geometry & Exponents Give Assessment
Week 24-29	**Unit 5: Transformational Geometry**

Arkansas Mathematics Standards

Triangles and Angles

7.GM.5: Solve multi-step problems involving supplementary, complementary, vertical, and adjacent angles to include solving for an unknown angle in a figure.

Rational and Irrational Numbers

8.NCC.2: Compare the size of irrational numbers and locate them on a number line by finding the rational approximations.

Rational Number Operations

8.NCC.7: Solve equations in the form of $x^2 = p$ or $x^3 = p$ where p is a positive rational number.

8.NCC.8: Evaluate square roots of perfect squares and cube roots of perfect cubes.

Pythagorean Theorem

8.GM.3: Model or explain an informal proof of the Pythagorean Theorem and its converse.

8.GM.4: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles.

8.GM.5: Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Transformations and Congruence on a Coordinate Plane

8.GM.6: Given a figure, draw a congruent figure on a coordinate plane resulting from a rotation, reflection, or translation.

8.GM.7: Identify a single transformation used to transform one figure onto another on a coordinate plane. *Rotations include: 90°, 180°, and 270°.*

8.GM.8: Given two congruent figures, describe a sequence of transformations that maps one figure to another.

8.GM.9: Perform a given sequence of transformations of a figure on the coordinate plane, including rotations, reflections, translations, and dilations. *Rotations include: 90°, 180°, and 270°.*

8.GM.10: Describe the effects of rotations, reflections, translations, and dilations on two-dimensional figures using coordinates. *Rotations include: 90°, 180°, and 270°.*

8.GM.11: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits similarity, including rotations, reflections, translations, and dilations.

Student-Friendly Objectives:

- I can solve multi-step problems that involve different types of angles, like supplementary, complementary, vertical, and adjacent angles.
- I can solve for an unknown angle in a figure by using my knowledge of angle relationships.
- I can compare the size of irrational numbers and locate them on a number line by finding the closest rational approximations.

- I can perform operations with rational numbers, specifically solving equations in the form of x^2 = p or x^3 = p, where p is a positive rational number.
- I can evaluate the square roots of perfect squares and the cube roots of perfect cubes.
- I can model or explain an informal proof of the Pythagorean Theorem and its converse.
- I can use the Pythagorean Theorem to determine unknown side lengths in right triangles.
- I can apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
- I can draw a congruent figure on a coordinate plane resulting from a rotation, reflection, or translation.
- I can identify the single transformation used to transform one figure onto another on a coordinate plane, including rotations of 90°, 180°, and 270°.
- I can describe a sequence of transformations that maps one congruent figure to another.
- I can perform a given sequence of transformations on a figure in the coordinate plane, including rotations, reflections, translations, and dilations.
- I can describe the effects of rotations, reflections, translations, and dilations on two-dimensional figures using coordinates.
- I can describe a sequence of transformations that exhibits similarity between two similar two-dimensional figures, including rotations, reflections, translations, and dilations.

Important Vocabulary: supplementary, complementary, irrational number, number line, whole number, rational number, square root, evaluate, cube root, solution, Pythagorean Theorem, two-dimensional, coordinate plane, congruent figures, origin, similar, and coordinates.

Week 24	Similar Triangles • MARS: Similar Triangles (Slides/Teacher Notes) **8.GM.11** • LTF: Pictures & Transformations **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Desmos: Transformers - Intro to Transformations **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9**
Week 25	Rigid Transformations • Desmos: Polygraph: Rigid Transformations **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Desmos: Connecting the Dots **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Desmos: Transformation Golf: Rigid Motion **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Desmos: Des-Patterns - Writing Coordinate Rules to Transform **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9**
Week 26	Rigid Transformations • Desmos: Tessellations - Rigid Motions and creating patterns **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Transformations Practice **8.GM.6, 8.GM.7, 8.GM.8, 8.GM.9** • Triangle Congruence - Interactive Drawing/Teacher Notes **8.GM.10** • Desmos: Dilation Mini Golf **8.GM.10**
Week 27	Non-Rigid Transformations • Desmos: Transformation Golf: Non-Rigid Motion - Multiple transformations **8.GM.10** • Desmos: Sketchy Dilations **8.GM.10, 8.GM.11** • Interior Angles Practice **7.GM.5** • Intersecting & Parallel Lines Slides **7.GM.5**
Week 28	Displaying Data and Making Inferences • Intersecting & Parallel Lines Handout & Practice **7.GM.5** • LTF: Pythagorean Theorem Investigation **8.GM.3, 8.GM.4, 8.GM.5**

	• MARS: Proofs of the Pythagorean Theorem **8.GM.3, 8.GM.4, 8.GM.5** • LTF: Pythagorean Theorem Applications **8.GM.3, 8.GM.4, 8.GM.5**
Week 29	Review Transformational Geometry Give Assessment
Week 30-31	State Testing Review ACT Aspire
Week 32-35	**Unit 6: Statistics & Probability**

Arkansas Mathematics Standards

Numerical Data

7.SP.1: Interpret data displayed in a histogram and box plot to answer questions about the data.

7.SP.2: Recognize, create, and interpret categorical data in a circle graph.

7.SP.3: Graph two numerical data sets and compare their variability. *Variability includes: range, interquartile range, or mean absolute deviation.*

7.SP.4: Select an appropriate measure(s) of center of variability and draw valid comparative inferences for two data sets.

Sampling and Population

7.SP.5: Distinguish between a random and non-random sample.

7.SP.6: Use a random sampling of a population to draw valid inferences and generalizations of populations.

Probability

7.SP.7: Determine the sample space of a simple experiment and use the sample space to determine the theoretical probability of a given set of outcomes. *Simple experiments include: tossing a fair coin, spinning a fair spinner, rolling a fair dice, picking a random marble from a bag, and selecting a random card from a deck.*

7.SP.8: Recognize that probabilities in a simple experiment can be qualitative descriptors of likelihood: impossible (0), unlikely, neither likely nor unlikely, likely, or certain (1).

7.SP.9: Determine experimental probabilities in simple experiments and represent as fractions, decimals, and percents.

7.SP.10: Use theoretical probability of an event in a simple experiment to predict the number of times that an event will occur for a large number of experiments.

Student-Friendly Objectives:

- I can interpret data displayed in a histogram and box plot to answer questions about the data.
- I can recognize, create, and interpret categorical data in a circle graph.
- I can graph two numerical data sets and compare their variability using the range, interquartile range, or mean absolute deviation.
- I can select an appropriate measure of center of variability and draw valid comparative inferences for two data sets.
- I can distinguish between a random and non-random sample.
- I can use a random sampling of a population to draw valid inferences and generalizations about populations.
- I can determine the sample space of a simple experiment and use it to find the theoretical probability of a given set of outcomes.
- I can recognize that probabilities in a simple experiment can be qualitative descriptors of likelihood: impossible (0), unlikely, neither likely nor unlikely, likely, or certain (1).
- I can determine experimental probabilities in simple experiments and represent them as fractions, decimals, and percents.
- I can use the theoretical probability of an event in a simple experiment to predict the number of times that event will occur for a large number of experiments.

Important Vocabulary: histogram, box plot, variability, range, interquartile range, mean absolute deviation, data set, graph, measure of center, measure of variation, inference, random sample, sample space, theoretical probability, experimental probability, probability, likely event, unlikely event, fraction, and percent.	
Week 32	Statistics • LTF: Cereal Math- Rate of Change and Measures of Center **7.SP.4** • LTF: Getting to Know You - Surveying, Data Displays **7.SP.2,7.SP.5, 7.SP.6,** • Comparing Data Displays Slides/ Practice **7.SP.1, 7.SP.3** • LTF: Stem & Leaf Plots (3 & 4) - Drawing Inferences about 2 populations **7.SP.4** • LTF: Box and Whisker Plots (2 & 4) **7.SP.4** • Desmos: American Time Use Survey - Graphing Data **7.SP.1, 7.SP.2**
Week 33	Using Data • Desmos: Scatter Plot Capture - Making predictions with Scatter Plots **7.SP.5, 7.SP.6** • Impossible to Certain **7.SP.8** • LTF: Counting Ursus Arctos Horribilis - Sampling, Graphs **7.SP.1, 7.SP.4** • Probability • LTF: Home Runs, Statistics & Probability **7.SP.4, 7.SP.8** • LTF: Discovering the Golden Ratio **7.SP.1, 7.SP.2, 7.SP.5, 7.SP.6**
Week 34	Probability • LTF: The Passing Game - Probability **7.SP.1, 7.SP.7, 7.SP.8, 7.SP.9, 7.SP.10** • Blind Date with a Book - Probability **7.SP.9** • LTF: Family Fun - Binomial Probability **7.SP.8** • LTF: Free French Fries - Simulating and Probability **7.SP.7, 7.SP.8, 7.SP.9, 7.SP.10** • LTF: Using Area to Estimate Probability **7.SP.9, 7.SP.10** • LTF: Bullseye! - Probability **7.SP.8**
Week 35	Review Statistics & Probability Give Assessment
Week 36	End of Year Activities