

Trimester Pacing Guide-7th Grade Math 2017-2018 Crowley

Trimester 1	Trimester 2	Trimester 3
Unit 1 Scale Drawings	Unit 4 Expressions and Equations	Unit 7 Angles, Triangles, and Prisms
<p>Pacing: 15 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.2 <p>Supporting Standards:</p> <ul style="list-style-type: none"> Draw, construct, and describe geometrical figures and describe the relationships between them 7.G.1 <p>Standards for Mathematical Practice: MP.1 MP.2</p> <p>Unit Focus: In this unit, students study scaled copies of pictures and plane figures, then apply what they have learned to scale drawings, e.g., maps and floor plans. This provides geometric preparation for grade 7 work on proportional relationships as well as grade 8 work on dilations and similarity.</p> <p>Cross Curricular Standard Unit Project will be a scaled copy of an object that aligns with ELA curriculum. For 2017-2018, students are created scaled models of a rat, ship or lighthouse to support the short story <i>Three Skeleton Key</i></p>	<p>Pacing: 20 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.1 7.RP.2 7.RP.3 <p>Supporting Standards:</p> <ul style="list-style-type: none"> 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. 7.NS.A.1 <p>Standards for Mathematical Practice: MP.2 MP.4 MP.6 MP.7 MP.8</p> <p>Unit Focus: In this unit, students use ratios, scale factors, unit rates (also called constants of proportionality), and proportional relationships to solve multi-step, real-world problems that involve fractions and percentages. They use long division to write fractions presented in the form $\frac{a}{b}$ as decimals, e.g., $\frac{1}{130} = 0.36\text{---}$. They learn to understand and use the terms “repeating decimal,” “terminating decimal,” “percent increase,” “percent decrease,” “percent error,” and “measurement error.” They represent amounts and corresponding percent rates with double number line diagrams and tables. They use these terms and representations in reasoning about situations involving sales taxes, tips, markdowns, markups, sales commissions, interest, depreciation, and scaling a picture. Students use equations to represent proportional relationships in which the constant of proportionality arises from a percentage, e.g., relationship between price paid and amount of sales tax paid.</p> <p>Cross Curricular Standard</p>	<p>Pacing: 19 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Draw, construct and describe geometrical figures and describe the relationship between them 7.G.A Solve real life and mathematical problems involving angle measure, area, surface area and volume 7.G.B <p>Supporting Standards:</p> <ul style="list-style-type: none"> Use properties of operations to generate equivalent expressions. 7.EE.A 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. 7.NS.A <p>Standards for Mathematical Practice: MP.2 MP.3 MP.4 MP.5 MP.6</p> <p>Unit Focus: In this unit, students investigate whether sets of angle and side length measurements determine unique triangles or multiple triangles, or fail to determine triangles. Students also study and apply angle relationships, learning to understand and use the terms “complementary,” “supplementary,” “vertical angles,” and “unique.” The work gives them practice working with rational numbers and equations for angle relationships. Students analyze and describe cross-sections of prisms, pyramids, and polyhedra. They understand and use the formula for the volume of a right rectangular prism, and solve problems involving area, surface area, and volume</p> <p>Cross Curricular Standard</p>

Trimester 1	Trimester 2	Trimester 3
Unit 2 Proportional Relationships	Unit 5 Rational Number Arithmetic	Unit 8 Probability and Sampling
<p>Pacing: 20 days</p> <p>Power Standards:</p> <ul style="list-style-type: none"> 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. 7.RP.A.2: Recognize and represent proportional relationships between quantities. <p>Supporting Standards</p> <ul style="list-style-type: none"> 7.G.B.6: Solve real world and mathematical problems involving area, volume, surface area of two and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. 7.G.A.1: 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. 7.EE.A: Use properties of operations to generate equivalent expressions. <p>Standards for Mathematical Practice: MP.1 MP.2 MP.4 MP.6 MP.7</p> <p>Unit Focus: In this unit, students learn to understand and use the terms “proportional,” “constant of proportionality,” and “proportional relationship,” and recognize when a relationship is or is not proportional. They represent proportional relationships with tables, equations, and graphs. Students use these terms and representations in reasoning about situations that involve constant speed, unit pricing, and measurement conversions</p> <p>Cross Curricular Standard</p>	<p>Pacing: 20 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers 7.NS.1 7.NS.2 7.NS.3 <p>Supporting Standards:</p> <ul style="list-style-type: none"> Solve real-life and mathematical problems using numerical and algebraic expressions and equations 7.EE.3 7.RP.A.2: Recognize and represent proportional relationships between quantities. <p>Standards for Mathematical Practice: MP.1 MP.2 MP.5 MP.6 MP.7</p> <p>Unit Focus: In this unit, students interpret signed numbers in contexts (e.g., temperature, elevation, deposit and withdrawal, position, direction, speed and velocity, percent change) together with their sums, differences, products, and quotients. (“Signed numbers” include all rational numbers, written as decimals or in the form ab.) Students use tables and number line diagrams to represent sums and differences of signed numbers or changes in quantities represented by signed numbers such as temperature or elevation, becoming more fluent in writing different numerical addition and subtraction equations that express the same relationship. They compute sums and differences of signed numbers. They plot points in the plane with signed number coordinates, representing and interpreting sums and differences of coordinates. They view situations in which objects are traveling at constant speed (familiar from previous units) as proportional relationships. For these situations, students use multiplication equations to represent changes in position on number line diagrams or distance traveled, and interpret positive and negative velocities in context. They become more fluent in writing different numerical multiplication and division equations for the same relationship.</p> <p>Cross Curricular Standard</p>	<p>Pacing: 22 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Use random sampling to draw inferences about a population. 7.SP.1 7.SP.2 Investigate chance processes and develop, use, and evaluate probability models. 7.SP.5 7.SP.6 7.SP.7 7.SP.8 <p>Supporting Standards:</p> <ul style="list-style-type: none"> Draw informal comparative inferences about two populations. 7.SP.3 7.SP.4 <p>Standards for Mathematical Practice: MP.1 MP.3 MP.5 MP.7</p> <p>Unit Focus: In this unit, students understand and use the terms “event,” “sample space,” “outcome,” “chance experiment,” “probability,” “simulation,” “random,” “sample,” “random sample,” “representative sample,” “overrepresented,” “underrepresented,” “population,” and “proportion.” They design and use simulations to estimate probabilities of outcomes of chance experiments and understand the probability of an outcome as its long-run relative frequency. They represent sample spaces (that is, all possible outcomes of a chance experiment) in tables and tree diagrams and as lists. They calculate the number of outcomes in a given sample space to find the probability of a given event. They consider the strengths and weaknesses of different methods for obtaining a representative sample from a given population. They generate samples from a given population, e.g., by drawing numbered papers from a bag and recording the numbers, and examine the distributions of the samples, comparing these to the distribution of the population. They compare two populations by comparing samples from each population.</p> <p>Cross Curricular Standard</p>

Trimester 1	Trimester 2	Trimester 3
Unit 3 Scale Drawings	Unit 6 Expressions, Equations and Inequalities	Unit 9 Putting It All Together
<p>Pacing: 15 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.2 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. 7.G.4 7 <p>Supporting Standards:</p> <ul style="list-style-type: none"> 7.G.A.1: 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. 7.EE.A: Use properties of operations to generate equivalent expressions. <p>Standards for Mathematical Practice: MP.1 MP.2</p> <p>Unit Focus: In this unit, students learn to understand and use the term “circle” to mean the set of points that are equally distant from a point called the “center.” They gain an understanding of why the circumference of a circle is proportional to its diameter, with constant of proportionality π. They see informal derivations of the fact that the area of a circle is equal to π times the square of its radius. Students use the relationships of circumference, radius, diameter, and area of a circle to find lengths and areas, expressing these in terms of π or using appropriate approximations of π to express them numerically.</p> <p>Cross Curricular Standard</p>	<p>Pacing: 25 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Use properties of operations to generate equivalent expressions. 7.EE.1 7.EE.2 Solve real-life and mathematical problems using numerical and algebraic expressions and equations. 7.EE.3 7.EE.4 <p>Standards for Mathematical Practice: MP.2 MP.4 MP.6 MP.7 MP.8</p> <p>Unit Focus: In this unit, students solve equations of the forms $px+q=r$ and $p(x+q)=r$ where p, q, and r are rational numbers. They draw, interpret, and write equations in one variable for balanced “hanger diagrams,” and write expressions for sequences of instructions, e.g., “number puzzles.” They use tape diagrams together with equations to represent situations with one unknown quantity. They learn algebraic methods for solving equations. Students solve linear inequalities in one variable and represent their solutions on the number line. They understand and use the terms “less than or equal to” and “greater than or equal to,” and the corresponding symbols. They generate expressions that are equivalent to a given numerical or linear expression. Students formulate and solve linear equations and inequalities that represent real-world situations.</p> <p>Cross Curricular Standard</p>	<p>Pacing: 10 days</p> <p>Power Cluster:</p> <ul style="list-style-type: none"> Apply, extend previous understandings of addition and subtraction to add & subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 7.NS.A Analyze proportional relationships and use them to solve real-world and mathematical problems. 7.RP.1 7.RP.2 7.RP.3 <p>Supporting Standards:</p> <ul style="list-style-type: none"> 7.EE.A: Use properties of operations to generate equivalent expressions. <p>Standards for Mathematical Practice: MP.2 MP.3 MP.4 MP.5 MP.6</p> <p>Unit Focus: In this unit, students use concepts and skills from previous units to solve three groups of problems. In calculating or estimating quantities associated with running a restaurant, e.g., number of calories in one serving of a recipe, expected number of customers served per day, or floor space, they use their knowledge of proportional relationships, interpreting survey findings, and scale drawings. In estimating quantities such as age in hours and minutes or number of times their hearts have beaten, they use measurement conversions and consider accuracy of their estimates. Estimation of area and volume measurements from length measurements introduces considerations of measurement error. In designing a five-kilometer race course for their school, students use their knowledge of measurement and scale drawing. They select appropriate tools and methods for measuring their school campus, build a trundle wheel and use it to make measurements, make a scale drawing of the course on a map or a satellite image of the school grounds, and describe the number of laps, start, and finish of the race</p>