

Curriculum Unit Template

Taneyville R-II School

2021-2022

Grade: 7th

Subject: Math

Quarter: 1/2 - Semester 1

Unit 1 Title: Rational Number Operations

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.NS.A - Apply and extend previous understandings of operations to add, subtract, multiply and divide rational numbers.</p> <p>7.NS.A.1.a Add and subtract rational numbers</p> <p>7.NS.A.1.b. Represent addition and subtraction on a horizontal or vertical number line.</p> <p>7.NS.A.1.c Describe situations and show that a number and its opposite have a sum of 0 (additive inverses).</p> <p>7.NS.A.1.d Understand subtraction of rational numbers as adding the additive inverse.</p> <p>7.NS.A.1.e Determine the distance between two rational numbers on the number line is the absolute value of their difference.</p> <p>7.NS.A.1.f Interpret sums and differences of rational numbers</p> <p>7.NS.A.2.a. Multiply and divide rational numbers.</p> <p>7.NS.A.2.a. Multiply and divide rational numbers.</p> <p>7.NS.A.2.c. Understand that every quotient of integers (with non-zero divisor) is a rational number.</p> <p>7.NS.A.2.d. Convert a rational number to a decimal.</p> <p>7.NS.A.2. e. Understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat.</p> <p>7.NS.A.2.f. Interpret products and quotients of rational numbers by describing real-world contexts.</p> <p>7.NS.A.3 Solve problems involving the four arithmetic operations with rational numbers.</p>	<ul style="list-style-type: none"> • Difference • Integer • Natural number • Product • Quotient • Rational number • Reciprocal • Sum • Whole number 	<p>Lessons 1- 5, 7, 9 - Student Handouts</p> <p>Activities:</p> <ul style="list-style-type: none"> • Adding & Subtracting Integers Mazes* • Adding & Subtracting Integers cut and paste* • Add/Subt rat'l numbers solve and color • Multiplying/Dividing integers Speed Dating • mult/div rat'l numbers maze* • Rat'l number operations error analysis <p>Unit 1 Study Guide</p> <p>Unit 1 Test</p>	<p>Formative:</p> <ul style="list-style-type: none"> • Homework 1-5, 7, 9 • iReady <p>Summative:</p> <ul style="list-style-type: none"> • Adding & subtracting Rational numbers quiz • Unit 1 Assessment • Study Island

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Unit 2 Title: Expressions and Equations

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.EE1.A Use properties of operations to generate equivalent expressions.</p> <p>7.EE1.A.1 Apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients.</p> <p>7.EE1.A.2 Understand how to use equivalent expressions to clarify quantities in a problem.</p> <p>7.EE1.B Solve problems using numerical and algebraic expressions and equations.</p> <p>7.EE1.B.1 Solve multi-step problems posed with rational numbers.</p> <p>7.EE1.B.1.a. Convert between equivalent forms of the same number.</p> <p>7.EE1.B.1.b. Assess the reasonableness of answers using mental computation and estimation strategies</p> <p>7.EE1.B.2 Write and/or solve linear equations and inequalities in one variable.</p>	<ul style="list-style-type: none"> • Associative Property • Commutative Property • Distributive Property • Equivalent • Evaluate • Expression • Identity Property • Simplify • Variable 	<p>Student Handouts 1-9</p> <p>Activities:</p> <ul style="list-style-type: none"> • Expanding expressions scavenger hunt • Two-step equ. Solve and color • Two-step equ. He said/She said • Solving Equ w/distributive prop solve and color • Equations Puzzle Train • Expressions and Equations Task Cards 	<p>Formative:</p> <ul style="list-style-type: none"> • Homework 1-9 • iReady <p>Summative:</p> <ul style="list-style-type: none"> • Expressions quiz • Solving Equations quiz • Study Island lessons • Unit 2 test

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Unit 3 Title: Inequalities

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
7.EE1.B Solve problems using numerical and algebraic expressions and equations. 7.EE1.B.2.c. Write, solve and/or graph inequalities of the form $px + q > r$ or $px + q < r$, where p , q and r are rational numbers	<ul style="list-style-type: none">• Less than• Less than/equal to• Greater than• Greater than/equal to• Equal• Closed circle• Open circle	Student Handouts 1-5 Unit Study Guide Activities: <ul style="list-style-type: none">• Graphing inequalities matching trio• Two-step inequalities solve and color• Two-step inequalities cut and paste• Inequalities unit review stations	Formative: <ul style="list-style-type: none">• Homework 1-5• iReady Summative: <ul style="list-style-type: none">• Inequalities Quiz• Unit 3 Test• Study Island lessons•

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Unit 4 Title: Proportional Relationships

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.RP.A Analyze proportional relationships and use them to solve problems.</p> <p>7.RP.A.1 Compute unit rates, including those that involve complex fractions, with like or different units.</p> <p>7.RP.A.2 Recognize and represent proportional relationships between quantities.</p> <p>7.RP.A.2.a Determine when two quantities are in a proportional relationship.</p> <p>7.RP.A.2. b. Identify and/or compute the constant of proportionality (unit rate).</p> <p>7.RP.A.2.c. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.</p> <p>7.RP.A.2. d. Recognize that the graph of any proportional relationship will pass through the origin</p>	<ul style="list-style-type: none"> • Constant of proportionality • Linear • Non-linear • Non-proportional • Origin • Proportional • Rate of change 	<p>Student Handouts 1-6</p> <p>Unit Study Guide</p> <p>Activities:</p> <ul style="list-style-type: none"> • Constant of Proportionality He said/She said • Proportional tables and graphs cut and paste • Rate of change pair up • Multiple representations task cards • Proportional vs. non-proportional card sort • Unit rate solve and color • Proportional relationships unit review stations 	<p>Formative:</p> <ul style="list-style-type: none"> • Homework 1-6 • iReady <p>Summative:</p> <ul style="list-style-type: none"> • Proportional relationships quiz • Proportional Relationships performance task (optional) • Unit 4 Test • Study Island

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Unit 5 Title: Percents

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
7.RP.A Analyze proportional relationships and use them to solve problems. 7.RP.A.2 Recognize and represent proportional relationships between quantities. 7.RP.A.3 Solve problems involving ratios, rates, percentages and proportional relationships.	<ul style="list-style-type: none">• Percents• Percent error• Rate• Ratio• Simple interest• Unit rate	Student Handouts 1-7 Unit study guide Activities: <ul style="list-style-type: none">• Solving proportions scavenger hunt• Percent proportions cut and paste• Mark up and discount cards• Percent change class demonstration• Percent error solve and color• Percent unit review find it, fix it• Simple interest activity spinner	Formative: <ul style="list-style-type: none">• Homework 1-7• iReady Summative: <ul style="list-style-type: none">• Percents quiz• Unit 5 test• Study island

Curriculum Unit Template

Taneyville R-II School

2021-2022

Grade: 7th

Subject: Math

Quarter: 3/4 - Semester 2

Unit 6 Title: Angles and Triangles

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.GM.A Draw and describe geometrical figures and describe the relationships between them.</p> <p>7.GM.B Apply and extend previous understanding of angle measure, area and volume.</p> <p>7.GM.A.1 Solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale.</p> <p>7.GM.B.1 Use angle properties to write and solve equations for an unknown angle.</p> <p>7.GM.B.2 Use a variety of tools to construct geometric shapes.</p> <p>7.GM.B.2.a. Determine if provided constraints will create a unique triangle through construction.</p>	<ul style="list-style-type: none">• Adjacent angles• Complementary angles• Congruent• Triangle properties• Supplementary angles• Vertical angles	<p>Student Handouts 1-5</p> <p>Unit study guide</p> <p>Activities:</p> <ul style="list-style-type: none">• Complementary and Supplementary Angles solve and color• Vertical and adjacent angles maze• Classifying angles card sort• Conditions of a triangle• Angles and triangles review booklet	<p>Formative:</p> <ul style="list-style-type: none">• Homework 1-5• iReady <p>Summative:</p> <ul style="list-style-type: none">• Mini-quiz 1• Mini-quiz 2• Study island• Unit 6 test

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2021-2022

Unit 7 Title: Plane Geometry and Similarity

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
7.GM.A Draw and describe geometrical figures and describe the relationships between them. 7.GM.B Apply and extend previous understanding of angle measure, area and volume. 7.GM.B.2 Use a variety of tools to construct geometric shapes. 7.GM.B.2.b. Construct special quadrilaterals given specific parameters.	<ul style="list-style-type: none">• Area• Circumference• Composite figure• Diameter• Radius• Triangle• quadrilateral	Student Handouts 1-8 Unit Study Guide Activities: <ul style="list-style-type: none">• Intro to circles exploration activity• Circumference and area find someone who• Circumference and area mazes• Area of quadrilaterals spin to ten• Area of triangles solve and color• Composite figures solve and color• Composite figures round table• Similar figures scavenger hunt• Similar figures stations	Formative: <ul style="list-style-type: none">• Homework 1-8• iReady Summative: <ul style="list-style-type: none">• Plane Geometry Quiz• Unit 7 Test• Study Island

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Unit 8 Title: Surface Area

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.GM.A Draw and describe geometrical figures and describe the relationships between them.</p> <p>7.GM.A.3 Describe two-dimensional cross sections of pyramids, prisms, cones and cylinders</p> <p>7.GM.A.4 Understand concepts of circles.</p> <p>7.GM.A.4.a. Analyze the relationships among the circumference, the radius, the diameter, the area and Pi in a circle.</p> <p>7.GM.A.4.b. Know and apply the formulas for circumference and area of circles to solve problems.</p>	<ul style="list-style-type: none">• Area• Composite figure• Lateral surface area• Net• Prism• Pyramid• Triangle• Total surface area	<p>Student Handouts 1-5</p> <p>Surface Area of cylinder notes</p> <p>Unit Study Guide</p> <p>Activities:</p> <ul style="list-style-type: none">• 3D Figures and Nets cut and paste• Surface area of prisms solve and color• Surface area of pyramids scavenger hunt• Surface area unit review task cards	<p>Formative:</p> <ul style="list-style-type: none">• Homework 1-5• Kuta Software SA cylinder WS• SA cylinder WS from Worksheet for kids• iReady <p>Summative:</p> <ul style="list-style-type: none">• Surface area of prisms quiz• Surface area of cylinders quizziz• Unit 8 test• Study Island

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Unit 9 Title: Volume

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.GM.B Apply and extend previous understanding of angle measure, area and volume.</p> <p>7.GM.B.2. Understand the relationship between area, surface area and volume.</p> <p>7.GM.B.2.a. Find the area of triangles, quadrilaterals and other polygons composed of triangles and rectangles</p> <p>7.GM.B.2.b. Find the volume and surface area of prisms, pyramids and cylinders.</p>	<ul style="list-style-type: none">• Rectangular prism• Triangular prism• Cylinder• volume	<p>Student Handouts 1-5</p> <p>Volume of Cylinders notes</p> <p>Unit study guide</p> <p>Activities:</p> <ul style="list-style-type: none">• Volume of rectangular prisms mazes• Triangular prisms cut and paste• Volume of triangular prisms four in a row• Volume of composite figures he said/she said• Volume unit review scavenger hunt	<p>Formative:</p> <ul style="list-style-type: none">• Homework 1-5• Volume of cylinders ws from Kuta software or Math worksheets for kids• iReady <p>Summative:</p> <ul style="list-style-type: none">• Volume of prisms quiz• Volume of cylinders quizziz• Unit 8 test• Study Island

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Unit 10 Title: Data and Statistics

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.DSP.A Use random sampling to draw inferences about a population.</p> <p>7.DSP.B Draw informal comparative inferences about two populations.</p> <p>7.DSP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population</p> <p>7.DSP.A.1.a Understand that a sample is a subset of a population.</p> <p>7.DSP.A.1.b Understand that generalizations from a sample are valid only if the sample is representative of the population</p> <p>7.DSP.A.1.c Understand that random sampling is used to produce representative samples and support valid inferences</p> <p>7.DSP.A.2 Use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristic of interest</p> <p>7.DSP.B.1 Analyze different data distributions using statistical measures</p> <p>7.DSP.B.2 Compare the numerical measures of center, measures of frequency and measures of variability from two random samples to draw inferences about the population</p>	<ul style="list-style-type: none"> • Box plot • Center • Dot plot • Interquartile range • Median • Mean • Shape • spread 	<p>Student Handouts 1-6</p> <p>Unit study guide</p> <p>Activities:</p> <ul style="list-style-type: none"> • Populations and Samples Card Sort • Drawing Inferences from samples solve and color • Comparing dot plots • Comparing box plots find it, fix it 	<p>Formative:</p> <ul style="list-style-type: none"> • Homework 1-6 • iReady <p>Summative:</p> <ul style="list-style-type: none"> • Data and statistics quiz • Study Island • Unit s10 Test

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Unit 11 Title: Probability

Standards	Vocabulary	Activities/Resources	Formative/Summative Assessments
<p>7.DSP. C Develop, use and evaluate probability models</p> <p>7.DSP. C.1 Investigate the probability of chance events.</p> <p>7.DSP. C.1.a Determine probabilities of simple events</p> <p>7.DSP. C.1.b Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring</p> <p>7.DSP. C.2 Investigate the relationship between theoretical and experimental probabilities for simple events.</p> <p>7.DSP. C.2.a Predict outcomes using theoretical probability</p> <p>7.DSP. C.2.b Perform experiments that model theoretical</p> <p>7.DSP. C.2.c Compare theoretical and experimental probabilities</p> <p>7.DSP. C.3 Explain possible discrepancies between a developed probability model and observed frequencies</p> <p>7.DSP. C.3.a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events</p> <p>7.DSP. C.3.b Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events</p> <p>7.DSP. C.4 Find probabilities of compound events using organized lists, tables, tree diagrams and simulations</p> <p>7.DSP. C.4.a Represent the sample space of a compound event</p> <p>7.DSP. C.4.b Design and use a simulation to generate frequencies for compound events</p>	<ul style="list-style-type: none"> Complement Dependent events Experimental probability Independent probability Probability Replacement Sample space Theoretical probability 	<p>Student Handouts 1-6</p> <p>Unit Study Guide</p> <p>Activities:</p> <ul style="list-style-type: none"> Simple probability find it, fix it Experimental and Theoretical Probability Exploration Stations Independent Events He said/She said Dependent events cut and paste Probability Unit task cards 	<p>Formative:</p> <ul style="list-style-type: none"> Homework 1-6 iReady <p>Summative:</p> <ul style="list-style-type: none"> Probability Quiz Study Island Unit 10 Test

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