Math 6

Unit Title: Unit 1: Ratios and Proportional Relationships & The Number System

Stage 1: Desired Results

Standards & Indicators:

6.RP.A.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

6.RP.A.2. Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.

6.RP.A.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6.RP.A.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

6.NS.B.3 With accuracy and efficiency, add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

6.NS.B.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:

Chapter 1
A ratio is a comparison of two quantities. You will explore ratio concepts and use ratio reasoning to solve rate problems.

Chapter 2
Equivalent forms of fractions, decimals, and percents can be written and used to solve problems. You will apply these relationships to solve percent problems.

Essential/Guiding Question:

At the end of the Unit, students should be able to answer the Essential Questions:

UNIT – How can you use mathematics to describe change and model real-world situations?

UNIT – How can mathematical ideas be represented?

Chapter 1 - How do you use equivalent rates in the real world?

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Chapter 3 The standard algorithm used to multiply and divide whole numbers can be applied to operations with decimals. You will multiply and divide multi-digit decimals.	Chapter 2 – When is it better to use a fraction, a decimal, or a percent? Chapter 3 – How can estimating be useful?
<u>Content</u>: Chapters 1, 2, & 3.1 – 3.4 1.1 Factors and Multiples 1.2 Ratios 1.3 Rates 1.4 Ratio Tables 1.5 Graph Ratio Tables 1.6 Equivalent Ratios 1.7 Ratio and Rate Problems 2.1 Decimals and Fractions 2.2 Percents and Fractions 2.3 Percents and Decimals 2.4 Percents Greater Than 100% and Percents Less Than 1% 2.5 Compare and Order Fractions, Decimals, and Percents 2.6 Estimate with Percents 2.7 Percent of a Number 2.8 Solve Percent Problems 3.1 Add and Subtract Decimals 3.2 Estimate Products 3.3 Multiply Decimals by Whole Numbers 3.4 Multiply Decimals by Decimals	**<u>Skills(Objectives)</u>:** Find the GCF and LCM Write a ratio in simplest form Use ratios to compare categorical data Find a unit rate and unit price Graph ordered pairs and compare ratios Use unit rates and equivalent fractions Solve ratio and rate problems Write decimals as fractions and mixed numbers Write fractions and mixed numbers as decimals Write percents as fractions Write fractions as percents Write percents as decimals Write decimals as percents Write percents as decimals and fractions Write mixed numbers and decimals as percents Compare fractions, decimals, and percents
<u>Interdisciplinary Connections:</u> Interdisciplinary connections are integrated in each unit with connections to the 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

Stage 2: Assessment Evidence

Performance Task(s):
Unit 1 Activities/Videos:

6.RP.A.1 Games at Recess
https://www.illustrativemathematics.org/content-standards/6/RP/A/1/tasks/76

6.NS.B.4 Factors and Common Factors
https://www.illustrativemathematics.org/content-standards/6/NS/B/4/tasks/255

Other Evidence:
Online Assignments
Mid Chapter Quizzes
End of Chapter Assessments
End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:
1.1 Factors and Multiples – Find the GCF and LCM
1.2 Ratios - Give examples of ratios as fractions and use ratios to compare quantities
1.3 Rates - Give examples of rates and write rates as unit rates
1.4 Ratio Tables - Use tables to solve problems involving ratios and rates
1.5 Graph Ratio Tables - Use graphs to represent problems involving ratios and rates
1.6 Equivalent Ratios - Find equivalent ratios and rates by using unit rates and equivalent fractions
1.7 Ratio and Rate Problems - Solve problems involving ratios and rates

2.1 Decimals and Fractions - Write decimals as fractions or mixed numbers and vice versa
2.2 Percents and Fractions - Write percents as fractions and vice versa
2.3 Percents and Decimals - Write percents as decimals and vice versa
2.5 Compare and Order Fractions, Decimals, and Percents - Compare and order fractions, decimals, and percents
2.7 Percent of a Number - Find the percent of a number

Resources:
LGBT and Disabilities Law
Inclusive Math Class
GLSEN Educator Resources
Glencoe Math Course 1 Textbook (Chapters 1, 2, 3.1 – 3.4)
Aleks
Kahoot
Gimkit
Lesson Presentations
Google Forms and Sheets
Virtual Manipulatives App
Google apps for education
Desmos Graphing Calculator
Padlet
Mathplayground.com
Brain Pop
Classkick
Edulastic

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2.8 Solve Percent Problems - Solve percent problems to find the whole 3.1 Add and Subtract Decimals - Add and subtract decimals 3.3 Multiply Decimals by Whole Numbers - Find products of decimals and whole numbers 3.4 Multiply Decimals by Decimals - Multiply decimals by decimals	

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Frequent check for understanding Preferential seating Modify tests, quizzes, homework assignments Read directions allowed Provide copy of notes Stand in proximity to student to focus attention

		Pair student with a high achieving student	Extended time to complete assignments, tests, quizzes Allow use of calculator One-on-one instruction as needed Assign peer buddies Graphic organizers Lesson presentation available on google classroom Lessons designed to the style of learning that matches the student

Unit Title: Unit 2: The Number System & Expressions and Equations

Stage 1: Desired Results

Standards & Indicators:

6.RP.A.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6.RP.A.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

6.NS.A.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

6.NS.B.2 With accuracy and efficiency, divide multi-digit numbers using the standard algorithm.

6.NS.B.3 With accuracy and efficiency, add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation

6.NS.C.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

6.NS.C.7. Understand ordering and absolute value of rational numbers.

6.EE.A.1. Write and evaluate numerical expressions involving whole-number exponents.

6.EE.A.2. Write, read, and evaluate expressions in which letters stand for numbers.

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Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Chapter 3 The standard algorithm used to multiply and divide whole numbers can be applied to operations with decimals. You will multiply and divide multi-digit decimals. **Chapter 4** Models and equations can be used to represent real-world situations involving operations with fractions. You will multiply and divide fractions by whole numbers and fractions. **Chapter 5** Integers, terminating decimals, and repeating decimals are rational numbers. You will compare and order rational numbers and graph points in four quadrants of the coordinate plane. **Chapter 6** Numerical and algebraic expressions can be used to represent and solve real-world problems. You will write and evaluate expressions and apply the properties of operations to generate equivalent expressions.	At the end of the Unit, students should be able to answer the Essential Questions: UNIT – How can mathematical ideas be represented? UNIT – How can you communicate mathematical ideas effectively? Chapter 3 – How can estimating be useful? Chapter 4 – What does it mean to multiply and divide fractions? Chapter 5 – How are integers and absolute value used in real-world situations? Chapter 6 – How is it helpful to write numbers in different ways?
Content:	**Skills(Objectives):**
Chapters 3.5 – 3.8, 4, 5, 6.1 – 6.3 3.5 Divide Multi-Digit Numbers 3.6 Estimate Quotients 3.7 Divide Decimals by Whole Numbers 3.8 Divide Decimals by Decimals	Divide three-digit and four-digit dividends Divide a decimal by a 1-digit and two-digit number Divide by decimals Multiply a whole number by a fraction

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4.1 Estimate Products of Fractions 4.2 Multiply Fractions and Whole Numbers 4.3 Multiply Fractions 4.4 Multiply Mixed Numbers 4.5 Convert Measurement Units 4.6 Divide Whole Numbers by Fractions 4.7 Divide Fractions 4.8 Divide Mixed Numbers 5.1 Integers and Graphing 5.2 Absolute Value 5.3 Compare and Order Integers 5.4 Terminating and Repeating Decimals 5.5 Compare and Order Rational Numbers 5.6 The Coordinate Plane 5.7 Graph on the Coordinate Plane 6.1 Powers and Exponents 6.2 Numerical Expressions 6.3 Algebra: Variables and Expressions	Multiply a fraction by a whole number Multiply fractions and simplify before multiplying Multiply a fraction and a mixed number Multiply mixed numbers Find reciprocals Divide by a fraction Divide a fraction by a whole number Divide a mixed number by a fraction Divide by a mixed number Use integers to represent data Graph integers Find opposites and evaluate absolute value Compare and Order Integers Write rational numbers Compare decimals and fractions Compare and order rational numbers Identify points and ordered pairs Write products as powers Write powers as products Use order of operations to find the value of an expression Evaluate one-step and multi-step expressions

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Interdisciplinary Connections:
Interdisciplinary connections are integrated in each unit with connections to the 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

Stage 2: Assessment Evidence

Performance Task(s):
Unit 2 Activities/Videos:

6.NS.B.1 Traffic Jam
https://www.illustrativemathematics.org/content-standards/6/NS/A/1/tasks/464

6.NS.C.5 It's Warmer in Miami
https://www.illustrativemathematics.org/content-standards/6/NS/C/5/tasks/277

6.NS.C.7a Fractions on the Number Line
https://www.illustrativemathematics.org/content-standards/6/NS/C/7/tasks/284

Other Evidence:
Online Assignments
Mid Chapter Quizzes
End of Chapter Assessments
End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:
3.5 Divide Multi-Digit Numbers - Find quotients of problems involving multi-digit numbers
3.7 Divide Decimals by Whole Numbers - Divide decimals by whole numbers
3.8 Divide Decimals by Decimals - Divide decimals by decimals

4.2 Multiply Fractions and Whole Numbers - Multiply fractions and whole numbers
4.3 Multiply Fractions - Multiply fractions
4.4 Multiply Mixed Numbers - Multiply mixed numbers
4.6 Divide Whole Numbers by Fractions - Divide whole numbers by fractions

Resources:
LGBT and Disabilities Law
Inclusive Math Class
GLSEN Educator Resources
Glencoe Math Course 1 Textbook (Chapters 3.5 – 3.8, 4, 5, 6.1 – 6.3)
Aleks
Kahoot
Gimkit
Lesson Presentations
Google Forms and Sheets
Virtual Manipulatives App
Google apps for education
Desmos Graphing Calculator
Padlet
Mathplayground.com
Brain Pop

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4.7 Divide Fractions - Divide fractions 4.8 Divide Mixed Numbers - Divide mixed numbers 5.1 Integers and Graphing - Use integers to represent real-world situations 5.2 Absolute Value - Find the absolute value of an integer 5.3 Compare and Order Integers - Compare and order integers 5.4 Terminating and Repeating Decimals - Write positive and negative fractions as decimals 5.5 Compare and Order Rational Numbers - Compare and order rational numbers 5.6 The Coordinate Plane - Graph ordered pairs on the coordinate plane 5.7 Graph on the Coordinate Plane - Graph ordered pairs on the coordinate plane 6.1 Powers and Exponents - Represent numbers using exponents 6.2 Numerical Expressions - Find the value of expressions using order of operations 6.3 Algebra: Variables and Expressions - Evaluate algebraic expressions	Classkick Edulastic

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but

Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Frequent check for understanding Preferential seating Modify tests, quizzes, homework assignments Read directions allowed Provide copy of notes Stand in proximity to student to focus attention Extended time to complete assignments, tests, quizzes Allow use of calculator One-on-one instruction as needed Assign peer buddies Graphic organizers Lesson presentation available on google classroom Lessons designed to the style of learning that matches the student

Unit Title: Unit 3: The Number System & Expressions and Equations

Stage 1: Desired Results

Standards & Indicators:

6.RP.A.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6.EE.A.1. Write and evaluate numerical expressions involving whole-number exponents.

6.EE.A.2. Write, read, and evaluate expressions in which letters stand for numbers.

6.EE.A.3. Apply the properties of operations to generate equivalent expressions.

6.EE.A.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).

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6.EE.B.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6.EE.B.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

6.EE.B.7. Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.

6.EE.B.8. Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables and relate these to the equation.

Integration of Climate Change:

- 6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.
  Climate Change Example: Students may solve real-world problems by writing and solving one-variable equations related to deforestation and/or increasing livestock farming as contributors to climate change.
- 6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.
  Climate Change Example: Students may analyze and use variables to represent the relationship between greenhouse emissions and livestock farming when representing relationships among contributors to climate change.

Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations,

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		models, and communicating with others.
9.2.8.CAP.3	Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.	An individual's strengths, lifestyle goals, choices, and interests affect employment and income.
9.1.8.PB.1	Predict future expenses or opportunities that should be included in the budget planning process.	A budget aligned with an individual's financial goals can help prepare for life events.
9.1.8.PB.2	Explain how different circumstances can affect one's personal budget.	
9.1.8.PB.3	Explain how to create budget that aligns with financial goals.	
9.1.8.PB.4	Construct a simple personal savings and spending plan based on various sources of income and different stages of life (e.g. teenager, young adult, family).	
9.1.8.PB.5	Identify factors that affect one's goals, including peers, culture, location, and past experiences.	Goals (e.g., higher education, autos, and homes, retirement), affect your finances.
9.1.8.PB.6	Construct a budget to save for short-term, long term, and charitable goals.	
9.1.8.PB.7	Brainstorm techniques that will help decrease expenses including comparison shopping, negotiating, and day-to-day expense management.	There are strategies to decrease and manage expenses.
9.1.8.FP.6	Compare and contrast advertising messages to understand what they are trying to accomplish.	Marketing techniques are designed to encourage individuals to purchase items they may not need or want.
9.1.8.FI.2	Determine the most appropriate use of various financial products and services to borrow and access money for making purchases (e.g., ATM, debit cards, credit cards, check books, online/mobile banking).	There are a variety of factors that influence how well suited a financial institution and/or service will be in meeting an individual's financial needs.
9.1.8.EG.7	Explain the effect of the economy (e.g., inflation, unemployment) on personal income, individual and family security, and consumer decisions.	There are government agencies and policies that affect the financial industry and the broader economy.
9.1.8.CP.1	Compare prices for the same goods or services.	There are strategies to build and maintain a good credit history.
9.1.8.CP.2	Analyze how spending habits affect one's ability to save.	

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9.1.8.CP.3	Explain the purpose of a credit score and credit record, the factors and impact of credit scores.	
9.1.8.CDM.1	Compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.	There are strategies to increase your savings and limit debt.

Central Idea/Enduring Understanding:	**Essential/Guiding Question:**
Chapter 6 Numerical and algebraic expressions can be used to represent and solve real-world problems. You will write and evaluate expressions and apply the properties of operations to generate equivalent expressions. **Chapter 7** Variables are used to represent an unknown number in an expression or equation. You will write and solve one-variable addition, subtraction, multiplication, and division equations. Functions can be represented using words, equations, tables, and graphs. You will represent and analyze the relationship between two variables using functions. You will also write, graph, and solve one-variable inequalities. **Chapter 9** A composite figure can be decomposed to triangles and other shapes. You will find the areas of triangles, quadrilaterals, and composite figures. **Financial Literacy** Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.	At the end of the Unit, students should be able to answer the Essential Questions: UNIT – How can you use different measurements to solve real-life problems? Chapter 6 – How is it helpful to write numbers in different ways? Chapter 7 – How do you determine if two numbers or expressions are equal? Chapter 8 – How are symbols, such as <, >, and =, useful? Chapter 9 – How does measurement help you solve problems in everyday life? Financial Literacy - How do you prepare to get a job? How does education affect your income? How can you be a responsible shopper? What is the purpose of budgeting?
Content: Chapters 6.4 – 6.7, 7, 8, 9.1 – 9.3 6.4 Algebra: Write Expressions 6.5 Algebra: Properties	**Skills(Objectives):** Write phrases as algebraic expressions Write two-step expressions

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6.6 The Distributive Property 6.7 Equivalent Expressions 7.1 Equations 7.2 Solve and Write Addition Equations 7.3 Solve and Write Subtraction Equations 7.4 Solve and Write Multiplication Equations 7.5 Solve and Write Division Equations 8.1 Function Tables 8.2 Function Rules 8.3 Functions and Equations 8.4 Multiple Representations of Functions 8.5 Inequalities 8.6 Write and Graph Inequalities 8.7 Solve One-Step Inequalities Chapters 6.4 – 6.7, 7, 8, 9.1 – 9.3 6.4 Algebra: Write Expressions 6.5 Algebra: Properties 6.6 The Distributive Property 6.7 Equivalent Expressions 7.1 Equations 7.2 Solve and Write Addition Equations 7.3 Solve and Write Subtraction Equations 7.4 Solve and Write Multiplication Equations 7.5 Solve and Write Division Equations 8.1 Function Tables 8.2 Function Rules 8.3 Functions and Equations 8.4 Multiple Representations of Functions 8.5 Inequalities 8.6 Write and Graph Inequalities 8.7 Solve One-Step Inequalities Career & Education Choices Personal Economy Debit & Credit Savings plan Consumer decision making Disclosure of personal information	Use properties to compare expressions and solve problems Use the distributive property Simplify expressions with one and two variables Solve addition, subtraction, multiplication, and division equations mentally Solve an equation by subtracting Use the Subtraction Property of Equality Solve an equation by adding Use the Addition Property of Equality Solve a multiplication equation Use the Division Property of Equality Solve division equations Use the Multiplication Property of Equality Find the output and input for a function table Find a rule for function tables Write and equation to represent a function Graph linear functions Represents functions using words and equations and tables and graphs Determine solutions to inequalities Write and graph inequalities Find the area of parallelograms Find the area of triangles

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Product Vs. Advertising Wants vs needs in purchasing decisions	Find the area of trapezoids Determine personal wants and needs when making purchases. Compare and contrast product facts and their advertisements. Identify consequences of sharing personal financial information. Determine the factors of being a responsible consumer Determine how saving contributes to financial well being Compare and contrast debit and credit management. Construct a simple savings plan Distinguish among cash, check, credit card, and debit card. Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.

Interdisciplinary Connections:
Interdisciplinary connections are integrated in each unit with connections to the 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

Stage 2: Assessment Evidence

Performance Task(s): **Unit 3 Activities/Videos:** 6.EE.A.4 Equivalent Expressions https://www.illustrativemathematics.org/content-standards/6/EE/A/4/tasks/542	**Other Evidence:** Online Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments Group Activities

9.1.8.C.1 Debit & Credit Hands on Banking https://www.youtube.com/watch?v=nlBt9l5krgE	Group Projects

Stage 3: Learning Plan

Learning Opportunities/Strategies:	Resources:
6.4 Algebra: Write Expressions - Write verbal phrases as simple algebraic expressions 6.5 Algebra: Properties - Use properties to simplify expressions 6.6 The Distributive Property - Use the Distributive Property to compute multiplication problems mentally and to rewrite algebraic expressions 6.7 Equivalent Expressions - Use properties to simplify expressions 7.1 Equations - Solve equations by using mental math and the guess, check, and revise strategy 7.2 Solve and Write Addition Equations - Solve and write addition equations 7.3 Solve and Write Subtraction Equations - Solve and write subtraction equations 7.4 Solve and Write Multiplication Equations - Solve and write multiplication equations 7.5 Solve and Write Division Equations - Solve and write division equations 8.1 Function Tables - Complete function tables for given function rules 8.2 Function Rules - Extend and describe sequences using algebraic expressions 8.3 Functions and Equations - Construct and analyze different verbal, tabular, graphical, and algebraic representations of functions. 8.4 Multiple Representations of Functions - Construct and analyze different verbal, tabular, graphical, and algebraic representations of functions 8.5 Inequalities - Solve inequalities by using mental math and the guess, check, and revise strategy	LGBT and Disabilities Law Inclusive Math Class GLSEN Educator Resources Glencoe Math Course 1 Textbook (Chapters 6.4 – 6.7, 7, 8, 9.1 – 9.3) Aleks Kahoot Gimkit Lesson Presentations Google Forms and Sheets Virtual Manipulatives App Google apps for education Desmos Graphing Calculator Padlet Mathplayground.com Brain Pop Classkick Edulastic

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8.6 Write and Graph Inequalities - Write and graph inequalities 8.7 Solve One-Step Inequalities - Solve one-step inequalities 9.1 Area of Parallelograms - Find the area of parallelograms 9.2 Area of Triangles - Find the areas and missing dimensions of triangles 9.3 Area of Trapezoids - Find the area of trapezoids	

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Frequent check for understanding Preferential seating Modify tests, quizzes, homework assignments Read directions allowed Provide copy of notes

		Pair student with a high achieving student	Stand in proximity to student to focus attention Extended time to complete assignments, tests, quizzes Allow use of calculator One-on-one instruction as needed Assign peer buddies Graphic organizers Lesson presentation available on google classroom Lessons designed to the style of learning that matches the student

Unit Title: Unit 4: Geometry & Statistics and Probability

Stage 1: Desired Results

Standards & Indicators:

6.NS.C.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

6.G.A.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

6.G.A.2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = B h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

6.G.A.3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

6.G.A.4 Represent three-dimensional figures (e.g., pyramid, triangular prism, rectangular prism) using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems

6.SP.A.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

6.SP.B.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

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6.SP.B.5c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

Integration of Climate Change:

- 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. Climate Change Example: Students may display numerical data related to deforestation and increasing livestock farming as contributors to climate change in plots on a number line, including dot plots, histograms, and box plots.

Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:

Chapter 9
A composite figure can be decomposed to triangles and other shapes. You will find the areas of triangles, quadrilaterals, and composite figures.

Chapter 10
Prisms and pyramids are examples of three-dimensional figures. You will find the volume and surface area of three-dimensional figures in the context of solving real-world and mathematical problems.

Chapter 11
Statistical data has a distribution that can be described by its center or by its spread. You will find and use measures of center and measures of variation to describe sets of data.

Essential/Guiding Question:

At the end of the Unit, students should be able to answer the Essential Questions:

UNIT – How can you use different measurements to solve real-life problems?

Chapter 9 – How does measurement help you solve problems in everyday life?

Chapter 10 – How is shape important when measuring a figure?

Chapter 11 – How are the mean, median, and mode helpful in describing data?

Chapter 12 – Why is it important to carefully evaluate graphs?

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Chapter 12 Statistical data can be represented in a variety of ways. You will represent and analyze data using line plots, histograms, and box plots.	
Content: Chapters 9.5, 10, 11, 12 9.5 Polygons on the Coordinate Plane 10.1 Volume of Rectangular Prisms 10.2 Volume of Triangular Prisms 10.3 Surface Area of Rectangular Prisms 10.4 Surface Area of Triangular Prisms 10.5 Surface Area of Pyramids 11.1 Mean 11.2 Median and Mode 11.3 Measures of Variation 12.1 Line Plots 12.2 Histograms 12.3 Box Plots 12.5 Interpret Line Graphs	**Skills(Objectives):** Find perimeter and area Find the volume of a rectangular prism Find the volume of a triangular prism and its missing dimension Find the surface area of a rectangular prism Find the surface area of triangular prisms Find the surface area of a pyramid and of pyramids with triangular bases Find the mean, median, mode, outliers Use appropriate measures Make and analyze line plots Interpret data and construct a histogram Interpret data and construct a box plot Make and analyze line graphs Choose the appropriate statistical display
Interdisciplinary Connections: Interdisciplinary connections are integrated in each unit with connections to the 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	

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Stage 2: Assessment Evidence	
Performance Task(s): **Unit 4 Activities/Videos:** 6.NS.C.8 Nome, Alaska https://www.illustrativemathematics.org/content-standards/6/NS/C/8/tasks/2221 6.SP.A.2, 6.SP.B.4 Puppy Weights https://www.illustrativemathematics.org/content-standards/6/SP/B/4/tasks/1026 6.SP.B.5c Average Number of Siblings https://www.illustrativemathematics.org/content-standards/6/SP/B/5/tasks/2043	**Other Evidence:** Online Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments
Stage 3: Learning Plan	
Learning Opportunities/Strategies: 9.5 Polygons on the Coordinate Plane - Draw polygons in the coordinate plane and use coordinates to find length 10.1 Volume of Rectangular Prisms - Find the volume of rectangular prisms 10.2 Volume of Triangular Prisms - Find the volume of triangular prisms 10.3 Surface Area of Rectangular Prisms - Find the surface areas of rectangular prisms 10.4 Surface Area of Triangular Prisms - Find the surface area of triangular prisms 10.5 Surface Area of Pyramids - Find the surface area of pyramids 11.1 Mean - Summarize numerical data using the mean 11.2 Median and Mode - Find and interpret the median and mode of a set of data 12.1 Line Plots - Construct and analyze line plots 12.2 Histograms - Construct and analyze histograms	**Resources:** LGBT and Disabilities Law Inclusive Math Class GLSEN Educator Resources Glencoe Math Course 1 Textbook (Chapters 9.4 – 9.6, 10, 11, 12) Aleks Kahoot Gimkit Lesson Presentations Google Forms and Sheets Virtual Manipulatives App Google apps for education Desmos Graphing Calculator Padlet Mathplayground.com Brain Pop Classkick Edulastic

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12.3 Box Plots - Display and interpret data in box plots 12.5 Interpret Line Graphs - Draw and interpret line graphs 12.6 Select an Appropriate Display - Select an appropriate display for a set of data	

Differentiation

*Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Frequent check for understanding Preferential seating Modify tests, quizzes, homework assignments Read directions allowed Provide copy of notes Stand in proximity to student to focus attention Extended time to complete assignments, tests, quizzes Allow use of calculator One-on-one instruction as needed

			Assign peer buddies Graphic organizers Lesson presentation available on google classroom Lessons designed to the style of learning that matches the student

Pacing Guide

Course Name	Resource	Standards
MP 1		
UNIT 1 Ratios & Proportional Relationships (33 Days)	CHAPTERS: 1 (11 Days) 2 (12 Days) 3 – Sections 3.1 - 3.4 (6 Days) Unit 1 Project (2 Days) Unit Online Assessment: (2 Days)	**Section 1.2-1.7** 6.RP.1 6.RP.2 6.RP.3 **Chapter 2** 6.RP.3 6.RP.3c
MP 2		
UNIT 2 The Number System (39 Days)	CHAPTERS: 3 - Sections 3.5 – 3.8 (6 Days) 4 (13 Days) 5 (11 Days) 6 - Sections 6.1 –6.3 (5 Days) Unit 2 Project (2 Days) Unit Online Assessment: (2 Days)	**Chapter 4** 6.NS.1 6.RP.3 6.RP.3c **Chapter 5** 6.NS.5 6.NS.6 6.NS.7 **Section 6.2-6.3** 6.EE.1 6.EE.2
MP 3		
UNIT 3 EXpressions & Equations (34 Days)	CHAPTERS: 6 - Sections 6.4 – 6.7 (5 Days) 7 (9 Days) 8 (11 Days) 9 - Sections 9.1 – 9.3 (5 Days) Unit 3 Project (2 Days) Unit Online Assessment: (2 Days)	**Section 6.4-6.7** 6.EE.1 6.EE.2 6.EE.3 6.EE.4 **Chapter 7** 6.EE.5

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		6.EE.7 6.RP.3 **Chapter 8** 6.EE.2 6.EE.5 6.EE.6 6.EE.8
MP 4		
UNIT 4 Geometry (36 Days)	CHAPTERS: 9 - Sections 9.4 –9.7 (5 Days) 10 (9 Days) 11 (8 Days) 12 (8 Days) Unit 4 & 5 Project (4 Days) Unit Online Assessment: (2 Days)	**Section 9.7** 6.NS.8