

Math 7 Honors

Unit Title: Unit 1: Preparing for Algebra (Ch.0) & Expressions and Functions (Ch.1)

Stage 1: Desired Results

Standards & Indicators:

7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

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

7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

7.EE.1 Apply properties of operations as strategies to add, subtract, and expand linear expressions and rational coefficients.

7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

N.Q.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.3 Choose a level of accuracy appropriate to the limitations on measurement when reporting quantities.

A.SSE.1 Interpret expressions that represent a quantity in terms of its content.

F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.

Integration of Climate Change:

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

Climate Change Example: Students may solve real-world problems involving the four operations with rational numbers related to the relationship between altitude and the temperature above sea level.

- 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For

example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her

salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in

the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Climate Change Example: Students may solve multi-step real-life problems posed with positive and negative rational numbers in any form related to the relationship between altitude and the temperature above sea level.

- N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling. 🌱

Climate Change Example: Students may define appropriate quantities for a descriptive model of how variations in the flow of energy into and out of Earth's systems result in climate change. Note: changes

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in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution. N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. 🐦 Climate Change Example: Students may, when reporting quantities related to how variations in the flow of energy into and out of the Earth's systems result in climate change, choose a level of accuracy appropriate to limitations on how quantities were measured.		
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.
<u>Central Idea/Enduring Understanding:</u> Chapter 0: This chapter can be used as a reference or starting point to briefly cover topics students need to be reviewed. The focus should be on operations with integers and rational numbers. Chapter 1: In this chapter, students will write algebraic expressions and use order of operations and then represent and interpret relations and functions.		<u>Essential/Guiding Question:</u> At the end of the Unit, students should be able to answer the Essential Questions: UNIT: "How can mathematical ideas be represented?" Chapter 0: "What happens when you add, subtract, multiply, and divide integers and rational numbers?" Chapter 1: "How can mathematical ideas be represented?"
<u>Content:</u> 0.3 Operations with Integers 0.4 Adding and Subtracting Rational Numbers 0.5 Multiplying and Dividing Rational Numbers 1.1 Variables and Expressions 1.2 Order of Operations 1.3 Properties of Numbers 1.4 Distributive Property 1.6 Relations 1.7 Functions 1.8 Interpreting Graphs of Functions		<u>Skills(Objectives):</u> 0.3 - Add, subtract, multiply and divide integers 0.4 - Compare and order rational numbers. Add and subtract rational numbers. 0.5 - Multiply and divide rational numbers. 1.1 - Write verbal expressions for algebraic expressions. Write algebraic expressions for verbal expressions. 1.2 - Evaluate numerical expressions by using the order of operations. Evaluate algebraic expressions by using the order of operations. 1.3 - Recognize the properties of equality and identity properties. Recognize the Commutative and Associative Properties. 1.4 - Use the Distributive Property to evaluate and simplify expressions. 1.6 - Represent relations. Interpret graphs of relations.

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	1.7 - Determine whether a relation is a function. Find function values. 1.8 - Interpret intercepts and symmetry of graphs of functions. Interpret positive, negative, increasing, and decreasing behavior, extrema, and end behavior of graphs of functions.
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Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

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

Stage 2: Assessment Evidence

Performance Task(s):

Unit 1 Activities/Videos:

7.NS.A.1 [Comparing Freezing Points](#)

7.NS.A.2 [Repeating or Terminating](#)

7.NS.A.3 [Sharing Prize Money](#)

7.EE.1 [Writing Expressions](#)

7.EE.3 [Discounted Books](#)

Other Evidence:

Online Assignments
Mid Chapter Quizzes
End of Chapter Assessments
End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:

0.3 Operations with Integers - Add, subtract, multiply and divide integers.

0.4 Adding and Subtracting Rational Numbers - Compare and order rational numbers. Add and subtract rational numbers.

0.5 Multiplying and Dividing Rational Numbers - Multiply and divide rational numbers.

1.1 Variables and Expressions - Write algebraic expressions given a verbal phrase, write verbal phrases given an algebraic expression.

1.2 Order of Operations - Evaluate expressions by using order of operations (PEMDAS).

1.3 Properties of Numbers - Apply properties of numbers, evaluate expressions naming number properties used.

Resources:

Glencoe Math Algebra I Textbook (Chapters 0 and 1)
ALEKS
Kahoot
Gimkit
Lesson Presentations
Google Forms and Sheets
Google apps for education
Desmos
Woot Math
Quizizz
Quizalize
Flocabulary
Brain Pop
Mash-Up Math
Easel by Teachers Pay Teachers
Classkick
Edulastic
[Inclusive Math Class](#)

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1.4 Distributive Property - Multiply an algebraic expression (placed outside a parenthesis) by other expressions inside the parenthesis. 1.6 Relations - Plot points on a x-y coordinate plane, determine domain and range, analyze graphs, identify dependent and independent variables. 1.7 Functions - Identify functions, determine if a relation is a function, identify linear and nonlinear functions. 1.8 Interpreting Graphs of Functions - Interpret behavior of a graph such as positive, negative, increasing, decreasing, extrema and relative minimum and maximum. Teach Like a Champion Strategies	GLSEN Educator Resources Math Literacy • I can solve a word problem graphic organizer • Think pair share graphic organizer • Vocabulary Word Map • Frayer Model • Collection of Graphic Organizers		
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	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

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		Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	
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Unit Title: Unit 2: Linear Equations (Ch.2)

Stage 1: Desired Results

Standards & Indicators:

- 7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- 7.EE.2** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
- 7.EE.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- A.CED.1** Create equations and inequalities in one variable and use them to solve problems.
- A.CED.4** Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
- A.REI.1** Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution.
- A.REI.3** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Integration of Climate Change

- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. 🌱
 Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of climate change.
- A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R . 🌱
 Climate Change Example: Students may rearrange formulas related to the economic impact of climate change to highlight a quantity of interest, using the same reasoning as in solving equations.

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,

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		visualizations, models, and communicating with others.
<u>Central Idea/Enduring Understanding:</u> Chapter 2: In this chapter, students will create equations that describe relationships, solve linear equations, solve proportions, and use formulas to solve real-world problems.		<u>Essential/Guiding Question:</u> At the end of the Unit, students should be able to answer the Essential Questions: UNIT: “How can mathematical ideas be represented?” Chapter 2: “Why is it helpful to represent the same mathematical idea in different ways?”
<u>Content:</u> 2.1 Writing Equations 2.2 Solving One Step Equations 2.3 Solving Multi Step Equations 2.4 Solving Equations with Variables on Each Side 2.5 Solving Equations Involving Absolute Value 2.6 Ratios and Proportions 2.7 Literal Equations and Dimensional Analysis		<u>Skills(Objectives):</u> 2.1 - Translate sentences into equations. Translate equations into sentences. 2.2 - Solve equations by using addition and subtraction. Solve equations by using multiplication and division. 2.3 - Solve equations involving more than one operation. Solve equations involving consecutive integers. 2.4 - Solve equations with the variable on each side. Solve equations involving grouping symbols. 2.5 - Evaluate absolute value expressions. Solve absolute value equations. 2.6 - Compare ratios. Solve proportions. 2.7 - Solve equations for given variables. Use formulas to solve real-world problems.
<u>Interdisciplinary Connections:</u> Interdisciplinary connections are integrated in each unit with connections to the mathematical practices. 1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning		
Stage 2: Assessment Evidence		
<u>Performance Task(s):</u> Unit 2 Activities/Videos: 7.EE.1 Writing Expressions 7.EE.2 Ticket to Ride 7.EE.4 Bookstore Account		<u>Other Evidence:</u> Online Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments
Stage 3: Learning Plan		
<u>Learning Opportunities/Strategies:</u> 2.1 Writing Equations - Translate verbal phrases into equations and formulas, create math problems based on given information.		<u>Resources:</u> Glencoe Math Algebra I Textbook (Chapter 2)

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2.2 Solving One Step Equations - Solve various one step equations using the arithmetic operations. 2.3 Solving Multi Step Equations - Solve various multi step equations using the arithmetic operations. 2.4 Solving Equations with Variables on Each Side - Solve various multi step equations with variables on each side using the arithmetic operations. 2.5 Solving Equations Involving Absolute Value - Write an absolute value equation given a number line, solve an absolute value equation, evaluate an absolute value expression. 2.6 Ratios and Proportions - Compare ratios to determine equivalence, solve for an unknown variable in a proportion. 2.7 Literal Equations and Dimensional Analysis - Isolate a variable in a formula, convert units of measurement. Teach Like a Champion Strategies	ALEKS Kahoot Gimkit Lesson Presentations Google Forms and Sheets Google apps for education Desmos Woot Math Quizizz Quizalize Flocabulary Brain Pop Mash-Up Math Easel by Teachers Pay Teachers Classkick Edulastic Inclusive Math Class GLSEN Educator Resources Math Literacy • I can solve a word problem graphic organizer • Think pair share graphic organizer • Vocabulary Word Map • Frayer Model • Collection of Graphic Organizers		
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	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	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	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

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Record and practice journal	Skills review handbook	Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	Differentiate based on proficiency Provide word banks Allow for translators, dictionaries
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Unit Title: Unit 3: Equations of Linear Functions (Ch.3) & Linear Inequalities (Ch.4)

Stage 1: Desired Results

Standards & Indicators:

7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

F.BF.1 Write a function that describes a relationship between two quantities.

S.ID.6 Represent data on two quantitative variables on a scatter plot and describe how the variables are related.

Integration of Climate Change:

- 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For

example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her

salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in

the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Climate Change Example: Students may solve multi-step real-life problems posed with positive and negative rational numbers in any form related to the relationship between altitude and the temperature above sea level.

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- S.ID.B.6 Represent data on two quantitative variables on a scatter plot and describe how the variables are related. 🌱
Climate Change Example: Students may represent geoscience data on two quantitative variables on a scatter plot and describe how the variables are related in order to analyze the data and the results from global climate models.
- S.ID.B.6a Fit a function to the data (including with the use of technology); use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models. 🌱
Climate Change Example: Students may use linear or exponential functions fitted to geoscience data to solve problems and analyze the results from global climate models to make an evidence-based forecast of the current rate of global 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, models, and communicating with others.

Central Idea/Enduring Understanding:

Chapter 3: In this chapter, students will identify, graph and write linear equations and then use rate of change to solve problems.

Chapter 4: In this chapter, students will write and graph linear equations in various forms, and use scatter plot and line of best fit.

Essential/Guiding Question:

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

UNIT: “How can mathematical ideas be represented?”

Chapter 3: “Why are graphs useful?”

Chapter 4: “Why is math used to model real-world situations?”

Content:

3.1 Graphing Linear Functions
3.2 Zeros of Linear Functions
3.3 Rate of Change and Slope
3.4 Slope-Intercept Form
3.6 Arithmetic Sequences as Linear Functions

4.1 Writing Equations in Slope Intercept Form
4.2 Writing Equations in Standard and Point Slope Form
4.3 Parallel and Perpendicular Lines
4.4 Scatter Plots and Lines of Fit

Skills(Objectives):

3.1 - Identify linear equations, intercepts, and zeros. Graph linear equations.
3.2 - Find zeros of linear functions. Model linear functions.
3.3 - Use rate of change to solve problems. Find the slope of a line.
3.4 - Write and graph linear equations in slope-intercept form. Model real-world data with equations in slope-intercept form.
3.6 - Recognize arithmetic sequences. Relate arithmetic sequences to linear functions.

4.1 - Write an equation of a line in slope-intercept form given the slope and one point. Write an equation of a line in slope-intercept form given two points.

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	4.2 - Write equations of lines in standard form and point-slope form. Write linear equations in different forms. 4.3 - Write an equation of the line that passes through a given point, parallel to a given line. Write an equation of the line that passes through a given point, perpendicular to a given line. 4.4 - Investigate relationships between quantities by using points on scatter plots. Use lines of fit to make and evaluate predictions.
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Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

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

Stage 2: Assessment Evidence

Performance Task(s):

Unit 3 Activities/Videos:

7.EE.1 [Writing Expressions](#)

7.EE.2 [Ticket to Ride](#)

7.EE.3 [Discounted Books](#)

7.EE.4 [Bookstore Account](#)

Other Evidence:

Online Assignments
Mid Chapter Quizzes
End of Chapter Assessments
End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:

3.1 Graphing Linear Functions - Graph linear equation, construct input-output tables determine if an equation is linear.

3.2 Zeros of Linear Functions - Find the point of a line that crosses the x-axis (the zero of a function), substitute the y value of a two variable equation with zero.

3.3 Rate of Change and Slope - Find the slope of a line, utilize the slope formula $y_2 - y_1 / x_2 - x_1$, interpret rate of change.

3.4 Slope-Intercept Form - Isolate y in an equation, put equations in $y = mx + b$ form, interpret slope and y-intercept.

3.6 Arithmetic Sequences as Linear Functions - Identify arithmetic sequences, find the common difference between a set of numbers,

Resources:

Glencoe Math Algebra I Textbook (Chapters 3 and 4)
ALEKS
Kahoot
Gimkit
Lesson Presentations
Google Forms and Sheets
Google apps for education
Desmos
Woot Math
Quizizz
Quizalize
Flocabulary
Brain Pop
Mash-Up Math
Easel by Teachers Pay Teachers
Classkick

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find the nth term of a sequence by utilizing the sequences formula. 4.1 Writing Equations in Slope Intercept Form - Write an equation given slope and point, write an equation given two points, find the slope of a line given two points. 4.2 Writing Equations in Standard and Point Slope Form - Convert equations between forms, manipulate equations using the arithmetic operations. 4.3 Parallel and Perpendicular Lines - Identify parallel lines by analyzing slopes, identify perpendicular lines by analyzing slopes. 4.4 Scatter Plots and Lines of Fit - Plot points, identify dependent and independent variables, make predictions using line of best fit. Teach Like a Champion Strategies	Edulastic Inclusive Math Class GLSEN Educator Resources Math Literacy • I can solve a word problem graphic organizer • Think pair share graphic organizer • Vocabulary Word Map • Frayer Model • Collection of Graphic Organizers		
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	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

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		Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	
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Unit Title: Unit 4: Linear Inequalities (Ch.5), Exponents (Ch.7) & Financial Literacy (McGraw Hill Course 2: 2.8 and Projects)

Stage 1: Desired Results

Standards & Indicators:

- 7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
- 7.EE.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- 7.NS.3** Solve real-world and mathematical problems involving the four operations with rational numbers.
- A.CED.1** Create equations and inequalities in one variable and use them to solve problems.
- A.REI.3** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
- A.REI.12** Graph the solutions to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
- A.SSE.2** Use the structure of an expression to identify ways to rewrite it.
- F.IF.8b** Use the properties of exponents to interpret expressions for exponential functions.
- N.RN.2** Rewrite expressions involving radicals and rational exponents using the properties of exponents.
- 7.RP.3** Use proportional relationships to solve multistep ratio and percent problems.

Integration of Climate Change:

- 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For

example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her

salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in

the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Climate Change Example: Students may solve multi-step real-life problems posed with positive and

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negative rational numbers in any form related to the relationship between altitude and the temperature above sea level. A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. 🌱 Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of 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, models, and communicating with others.
9.1.8.CDM.2	Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit cards, installment loans, mortgages, lines of credit) and compare and calculate the interest rates associated with each.	There are strategies to increase your savings and limit debt.
9.1.8.CDM.3	Compare and contrast loan management strategies, including interest charges and total principal repayment costs.	Credit management includes making informed choices about sources of credit and requires an understanding of the cost of credit.
9.1.8.FI.4	Analyze the interest rates and fees associated with financial products.	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.FP.5	Determine how spending, investing, and using credit wisely contributes to financial well-being.	An individual's values and emotions will influence the ability to modify financial behavior (when appropriate), which will impact one's financial well-being.
Central Idea/Enduring Understanding: Chapter 5: In this chapter, students will solve and graph inequalities.		Essential/Guiding Question: At the end of the Unit, students should be able to answer the Essential Questions: UNIT: "How can mathematical ideas be represented?"

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Chapter 7: In this chapter, students will learn exponent rules and solve problems involving exponents. Financial Literacy: Solve problems involving simple interest.	Chapter 5: “How are symbols useful in mathematics? and “What mathematical symbols do you know?” Chapter 7: “How can you make good decisions? What factors can affect good decision making?” Financial Literacy: “How can percent help you understand situations involving money?”
Content: 5.1 Solving Inequalities by Addition/Subtraction 5.2 Solving Inequalities by Multiplication/Division 5.3 Solving Multi Step Inequalities 7.1 Multiplication Properties of Exponents 7.2 Division Properties of Exponents 7.3 Rational Exponents (McGraw Hill: Course 2) 2.8 Simple Interest Financial Literacy Projects: Buying a Car Car of My Dreams Million Dollar Project	Skills(Objectives): 5.1 - Solve linear inequalities by using addition and subtraction. 5.2 - Solve linear inequalities by using multiplication and division. 5.3 - Solve linear inequalities involving more than one operation and the Distributive Property. 7.1 - Multiply monomials using the properties of exponents. Simplify expressions using the multiplication properties of exponents. 7.2 - Divide monomials using the properties of exponents. Simplify expressions containing negative and zero exponents. 7.3 - Evaluate and rewrite expressions involving rational exponents. Solve equations involving expressions with rational exponents. (McGraw Hill: Course 2) 2.8 Solve problems involving simple interest. Projects: Buying a Car - calculate and compare different interest rates from different financial institutions Car of My Dreams - calculate the monthly car payment Million Dollar Project - purchase specific items within a budget
Interdisciplinary Connections: Interdisciplinary connections are integrated in each unit with connections to the mathematical practices. 1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning	

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Stage 2: Assessment Evidence

Performance Task(s):

Unit 4 Activities/Videos:

7.EE.3 [Discounted Books](#)

7.EE.4 [Bookstore Account](#)

7.NS.3 [Sharing Prize Money](#)

7.RP.3 [Buying Protein Bars and Magazines](#)

Other Evidence:

Online Assignments

Mid Chapter Quizzes

End of Chapter Assessments

End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:

5.1 Solving Inequalities by Addition/Subtraction - Isolate a variable in an inequality using addition and subtraction, graph the solution set.

5.2 Solving Inequalities by Multiplication/Division - Isolate a variable in an inequality using multiplication and division, graph the solution set.

5.3 Solving Multi Step Inequalities - Solve inequalities with variables on both sides of the sign, manipulate inequalities using the four arithmetic operations, graph solution set.

7.1 Multiplication Properties of Exponents - Multiply monomials using the properties of exponents. Simplify expressions using the multiplication properties of exponents.

7.2 Division Properties of Exponents - Divide monomials using the properties of exponents. Simplify expressions containing negative and zero exponents.

7.3 Rational Exponents - Evaluate and rewrite expressions involving rational exponents. Solve equations involving expressions with rational exponents.

(McGraw Hill: Course 2) 2.8 Simple Interest - Solve problems involving simple interest

Financial Literacy Projects:

Buying a Car - calculate and compare different interest rates from different financial institutions

Car of My Dreams - calculate the monthly car payment

Resources:

Glencoe Math Algebra I Textbook (Chapters 5 and 7)

ALEKS

Kahoot

Gimkit

Lesson Presentations

Google Forms and Sheets

Google apps for education

Desmos

Woot Math

Quizizz

Quizalize

Flocabulary

Brain Pop

Mash-Up Math

Easel by Teachers Pay Teachers

Classkick

EduLastic

[Inclusive Math Class](#)

[GLSEN Educator Resources](#)

Math Literacy

- I can solve a word problem [graphic organizer](#)
- Think pair share [graphic organizer](#)
- Vocabulary [Word Map](#)
- [Frayer Model](#)
- Collection of [Graphic Organizers](#)

Math 7 Honors

Million Dollar Project - purchase specific items within a budget			
Teach Like a Champion Strategies			
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

Math 7 Honors

Pacing Guide

MATH 7 Honors	Glencoe Algebra I	Standards
UNIT 1 Preparing for Algebra Expressions and Functions (40 Days)	CHAPTERS 0: 16 days 1: 22 days Unit Online Assessment: 2 days	7.NS.1 N.Q.2 7.NS.2 N.Q.3 7.NS.3 A.SSE.1 7.EE.1 F.IF.1 7.EE.3
MP		
UNIT 2 Linear Equations (40 Days)	CHAPTER Ch 2: 38 Days Unit Online Assessment: 2 Days	7.EE.1 7.EE.2 7.EE.4 A.CED.1 A.CED.4 A.REI.1 A.REI.3
MP		
UNIT 3 Linear and Nonlinear Functions Equations of Linear Functions (40 Days)	CHAPTERS Ch 3: 19 Days Ch 4: 19 Days Unit Online Assessment: 2 Days	7.EE.1 7.EE.2. 7.EE.3 7.EE.4 A.CED.2 F.IF.4 F.BF.1 S.ID.6
MP		
UNIT 4 Linear Inequalities Exponents Financial Literacy (40 Days)	CHAPTERS 5: 19 Days 7: 11 Days Financial Literacy: 8 Days Unit Online Assessment: 2 Days	7.EE.3 7.EE.4 7.NS.3 A.CED.1 A.REI.3 A.REI.12 A.SSE.2 F.IF.8b N.RN.2 7.RP.3