

# Math 7

**Unit Title:** Unit 1: Integer Operations (Ch.3) & Rational Numbers (Ch.4)

## 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.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.

### **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.

### 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

## Math 7

		<p>other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.</p>
<p><b><u>Central Idea/Enduring Understanding:</u></b></p> <p><b>Chapter 3:</b> Students use and justify the rules for adding, subtracting, multiplying, and dividing integers.</p> <p><b>Chapter 4:</b> Students add, subtract, multiply, and divide rational numbers.</p>	<p><b><u>Essential/Guiding Question:</u></b></p> <p>At the end of the Unit, students should be able to answer the Essential Questions:</p> <p><b>UNIT:</b> “How can mathematical ideas be represented?”</p> <p><b>Chapter 3:</b> “What happens when you add, subtract, multiply, and divide integers?”</p> <p><b>Chapter 4:</b> “What happens when you add, subtract, multiply, and divide fractions?”</p>	
<p><b><u>Content:</u></b></p> <p>3.1 Integers and Absolute Value          3.2 Add Integers          3.3 Subtract Integers          3.4 Multiply Integers          3.5 Divide Integers</p> <p>4.1 Terminating and Repeating Decimals          4.2 Compare and Order Rational Numbers          4.3 Add and Subtract Like Fractions          4.4 Add and Subtract Unlike Fractions          4.5 Add and Subtract Mixed Numbers          4.6 Multiply Fractions          4.8 Divide Fractions</p>	<p><b><u>Skills(Objectives):</u></b></p> <p>3.1 - Read and write integers, and find the absolute value of an integer.          3.2 - Add integers.          3.3 - Subtract integers.          3.4 - Multiply integers.          3.5 - Divide integers.</p> <p>4.1 - Write fractions as terminating or repeating decimals and write decimals as fractions.          4.2 - Compare and order rational numbers.          4.3 - Add and subtract rational numbers, expressed as fractions.          4.4 - Add and subtract fractions with unlike denominators.          4.5 - Add and subtract mixed numbers.          4.6 - Multiply fractions and mixed numbers.          4.8 - Divide fractions and mixed numbers.</p>	
<p><b><u>Interdisciplinary Connections:</u></b></p> <p>Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.</p> <ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them</li> <li>2. Reason abstractly and quantitatively</li> <li>3. Construct viable arguments and critique the reasoning of others</li> <li>4. Model with mathematics</li> <li>5. Use appropriate tools strategically</li> <li>6. Attend to precision</li> <li>7. Look for and make use of structure</li> <li>8. Look for and express regularity in repeated reasoning</li> </ol>		
<p><b>Stage 2: Assessment Evidence</b></p>		
<p><b><u>Performance Task(s):</u></b></p> <p><b>Unit 1 Activities/Videos:</b></p> <p><b>7.NS.A.1 <u>Comparing Freezing Points</u></b></p>	<p><b><u>Other Evidence:</u></b></p> <p>Online Assignments          Mid Chapter Quizzes</p>	

## Math 7

<p><b>7.NS.A.1 <a href="#">Differences of Integers</a></b> <b>7.NS.A.2 <a href="#">Repeating or Terminating</a></b> <b>7.NS.A.3 <a href="#">Sharing Prize Money</a></b></p> <p><b>Quizziz Activities:</b> <a href="#">7.NS.A.1 -Activity 1</a> <a href="#">7.NS.A.1-Activity 2</a> <a href="#">7.NS.A.1.A</a> <a href="#">7.NS.A.1.B</a> <a href="#">7.NS.A.1.C</a> <a href="#">7.NS.A.1.D</a> <a href="#">7.NS.A.2.A</a> <a href="#">7.NS.A.2.B</a> <a href="#">7.NS.A.2.C</a> <a href="#">7.NS.A.3</a></p>	<p>End of Chapter Assessments End of Unit Common Assessments</p>
<b>Stage 3: Learning Plan</b>	
<p><b><a href="#">Learning Opportunities/Strategies:</a></b> 3.1 Integers and Absolute Value - Read and write integers 3.2 Add Integers - Add integers 3.3 Subtract Integers - Subtract integers 3.4 Multiply Integers - Multiply integers 3.5 Divide Integers - Divide integers</p> <p>4.1 Terminating and Repeating Decimals - Write fractions as terminating or repeating decimals and write decimals as fractions 4.2 Compare and Order Rational Numbers - Compare and order rational numbers 4.3 Add and Subtract Like Fractions - Add and subtract rational numbers, expressed as like fractions 4.4 Add and Subtract Unlike Fractions - Add and subtract fractions with unlike denominators 4.5 Add and Subtract Mixed Numbers - Add and subtract mixed numbers 4.6 Multiply Fractions - Multiply fractions and mixed numbers 4.8 Divide Fractions - Divide fractions and mixed numbers</p> <p><a href="#">Teach Like a Champion Strategies</a></p>	<p><b><a href="#">Resources:</a></b> Glencoe Math Course 2 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 EduLastic <a href="#">Inclusive Math Class</a> <a href="#">GLSEN Educator Resources</a> Math Literacy</p> <ul style="list-style-type: none"><li>• I can solve a word problem <a href="#">graphic organizer</a></li><li>• Think pair share <a href="#">graphic organizer</a></li><li>• Vocabulary <a href="#">Word Map</a></li><li>• <a href="#">Frayer Model</a></li><li>• Collection of <a href="#">Graphic Organizers</a></li></ul>

## Math 7

### 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

**Unit Title: Unit 2: Ratios and Proportions (Ch.1) & Percents (Ch.2)**

### Stage 1: Desired Results

#### Standards & Indicators:

- 7.RP.1** Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
- 7.RP.2** Recognize and represent proportional relationships between quantities.
- 7.RP.3** Use proportional relationships to solve multistep ratio and percent problems.
- 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.

## Math 7

<p><b>Integration of Climate Change:</b></p> <ul style="list-style-type: none"> <li>● 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 <math>\frac{1}{10}</math> of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar <math>9\frac{3}{4}</math> inches long in the center of a door that is <math>27\frac{1}{2}</math> 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.</li> </ul> <p style="color: green; font-size: small;">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.</p>		
<b>Career Readiness, Life Literacies and Key Skills</b>		
<b>Standard</b>	<b>Performance Expectations</b>	<b>Core Ideas</b>
<b>9.4.8.TL.3</b>	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.
<p><b>Central Idea/Enduring Understanding:</b></p> <p><b>Chapter 1:</b> Students distinguish between situations that are proportional or not proportional.</p> <p><b>Chapter 2:</b> Students solve percent problems involving percent of change, sales tax, tips, discount, markup, and simple interest.</p>		<p><b>Essential/Guiding Question:</b></p> <p>At the end of the Unit, students should be able to answer the Essential Questions:</p> <p><b>UNIT:</b> “How can you use mathematics to describe change and model real-world situations?”</p> <p><b>Chapter 1:</b> “How can you show that two objects are proportional?”</p> <p><b>Chapter 2:</b> “How can percent help you understand situations involving money?”</p>
<p><b>Content:</b></p> <p>1.1 Rates</p> <p>1.2 Complex Fractions and Unit Rates</p> <p>1.4 Proportional and Nonproportional Relationships</p> <p>1.5 Graph Proportional Relationships</p> <p>1.6 Solve Proportional Relationships</p> <p>1.7 Constant Rate of Change</p>	<p><b>Skills(Objectives):</b></p> <p>1.1 - Find unit rates.</p> <p>1.2 - Simplify complex fractions.</p> <p>1.4 - Identify proportional and nonproportional relationships.</p> <p>1.5 - Identify proportional relationships by graphing on the coordinate plane.</p> <p>1.6 - Use proportions to solve problems.</p>	

## Math 7

1.8 Slope  2.1 Percent of a Number 2.3 The Percent Proportion 2.4 The Percent Equation 2.5 Percent of Change 2.6 Sales Tax, Tips, and Markups 2.7 Discount	1.7 - Represent and identify constant rates of change. 1.8 - Identify slope using tables and graphs.  2.1 - Find the percent of a number. 2.3 - Solve problems involving percents by using the percent proportion. 2.4 - Solve problems involving percents by using the percent equation. 2.5 - Solve problems involving percent increase and percent decrease. 2.6 - Solve problems involving financial literacy, such as sales tax, tips, and markup. 2.7 - Solve problems involving discount.
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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 2 Activities/Videos:

- 7.RP.1 [Track Practice](#)
- 7.RP.2 [Buying Coffee](#)
- 7.RP.3 [Buying Protein Bars and Magazines](#)
- 7.EE.2 [Ticket to Ride](#)
- 7.EE.3 [Discounted Books](#)

#### Quizziz Activities:

- [7.RP.A.1](#)
- [7.RP.A.2A](#)
- [7.RP.A.2.B](#)
- [7.RP.A.2.C](#)
- [7.RP.A.2.D](#)
- [7.RP.A.3](#)
- [7.EE.A.1](#)
- [7.EE.A.2](#)
- [7.EE.B.3](#)
- [7.EE.B.4.A](#)
- [7.EE.B.4.B](#)

### Other Evidence:

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

## Stage 3: Learning Plan

## Math 7

<p><b><u>Learning Opportunities/Strategies:</u></b></p> <p>1.1 Rates - Find unit rates</p> <p>1.2 Complex Fractions and Unit Rates - Simplify complex fractions</p> <p>1.4 Proportional and Nonproportional Relationships - Identify proportional and nonproportional relationships</p> <p>1.5 Graph Proportional Relationships - Identify proportional relationships by graphing on the coordinate plane</p> <p>1.6 Solve Proportional Relationships - Use proportions to solve problems</p> <p>1.7 Constant Rate of Change - Represent and identify constant rates of change</p> <p>1.8 Slope - Identify slope using tables and graphs</p> <p>2.1 Percent of a Number - Find the percent of a number</p> <p>2.3 The Percent Proportion - Solve problems involving percents by using the percent proportion</p> <p>2.4 The Percent Equation - Solve problems involving percents by using the percent equation</p> <p>2.5 Percent of Change - Solve problems involving percent increase and percent decrease</p> <p>2.6 Sales Tax, Tips, and Markups - Solve problems involving financial literacy, such as sales tax, tips, and markup</p> <p>2.7 Discount - Solve problems involving discount</p> <p><a href="#"><u>Teach Like a Champion Strategies</u></a></p>	<p><b><u>Resources:</u></b></p> <p>Glencoe Math Course 2 Textbook (Chapters 3 and 4)</p> <p>ALEKS</p> <p>Kahoot</p> <p>Gimkit</p> <p>Lesson Presentations</p> <p>Google Forms and Sheets</p> <p>Google apps for education</p> <p>Desmos</p> <p>Woot Math</p> <p>Quizizz</p> <p>Quizalize</p> <p>Flocabulary</p> <p>Brain Pop</p> <p>Mash-Up Math</p> <p>Easel by Teachers Pay Teachers</p> <p>Classkick</p> <p>EduLastic</p> <p><a href="#"><u>Inclusive Math Class</u></a></p> <p><a href="#"><u>GLSEN Educator Resources</u></a></p> <p>Math Literacy</p> <ul style="list-style-type: none"> <li>• I can solve a word problem <a href="#"><u>graphic organizer</u></a></li> <li>• Think pair share <a href="#"><u>graphic organizer</u></a></li> <li>• Vocabulary <a href="#"><u>Word Map</u></a></li> <li>• <a href="#"><u>Framer Model</u></a></li> <li>• Collection of <a href="#"><u>Graphic Organizers</u></a></li> </ul>
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**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

<b>High-Achieving Students</b>	<b>On Grade Level Students</b>	<b>Struggling Students</b>	<b>Special Needs/ELL</b>
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory,	Provide a highly structured, predictable learning environment	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

## Math 7

<p>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</p>	<p>kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook</p>	<p>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</p>	<p>assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing</p> <p>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</p>
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**Unit Title:** Unit 3: Expressions (Ch.5), Equations (Ch.6) & Probability (Ch.9)

### 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.B.4a** Solve word problems leading to equations of the form  $px + q = r$  and  $p(x + q) = r$ , where  $P$ ,  $q$ , and  $r$  are specific rational numbers. Solve equations of these forms with accuracy and efficiency.

Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

**7.SP.5** Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates

## Math 7

<p>an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p> <p><b>7.SP.7</b> Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p> <p><b>7.SP.8</b> Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p>		
<p><b>Career Readiness, Life Literacies and Key Skills</b></p>		
<p><b>Standard</b></p>	<p><b>Performance Expectations</b></p>	<p><b>Core Ideas</b></p>
<p><b>9.4.8.TL.3</b></p>	<p>Select appropriate tools to organize and present information digitally.</p>	<p>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.</p>
<p><b>Central Idea/Enduring Understanding:</b></p> <p><b>Chapter 5:</b> Students use properties of operations to write and simplify expressions.</p> <p><b>Chapter 6:</b> Students solve equations and inequalities.</p> <p><b>Chapter 9:</b> Students find the probability of simple and compound events.</p>		<p><b>Essential/Guiding Question:</b></p> <p>At the end of the Unit, students should be able to answer the Essential Questions:</p> <p><b>UNIT:</b> “How can you communicate mathematical ideas effectively?”</p> <p><b>Chapter 5:</b> “How can you use numbers and symbols to represent mathematical ideas?”</p> <p><b>Chapter 6:</b> “What does it mean to say two quantities are equal?”</p> <p><b>Chapter 9:</b> “How can you predict the outcome of future events?”</p>
<p><b>Content:</b></p> <p>5.1 Algebraic Expressions            5.2 Sequences            5.4 The Distributive Property            5.5 Simplify Algebraic Expressions            5.6 Add Linear Expressions            5.7 Subtract Linear Expressions</p> <p>6.1 Solve One-Step Addition and Subtraction Equations            6.2 Multiplication and Division Equations            6.4 Solve Two-Step Equations            6.5 More Two-Step Equations</p> <p>9.1 Probability of Simple Events            9.2 Theoretical and Experimental Probability            9.3 Probability of Compound Events</p>		<p><b>Skills(Objectives):</b></p> <p>5.1 - Evaluate simple algebraic expressions.            5.2 - Describe the relationships and extend terms in arithmetic sequences.            5.4 - Apply the Distributive Property to rewrite algebraic expressions.            5.5 - Simplify algebraic expressions.            5.6 - Add linear expressions.            5.7 - Subtract linear expressions.</p> <p>6.1 - Solve addition and subtraction equations.            6.2 - Solve one-step multiplication and division equations.            6.4 - Solve two-step equations.            6.5 - Solve two-step equations of the form <math>p(x + q) = r</math>.</p> <p>9.1 - Find the probability of a simple event and its complement.</p>

## Math 7

9.5 Fundamental Counting Principle	9.2 - Find and compare experimental and theoretical probabilities. 9.3 - Find probabilities of compound events. 9.5 - Use multiplication to count the number of outcomes and find probabilities.
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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.4 [Bookstore Account](#)

7.SP.7 [Rolling Dice](#)

7.SP.8 [Rolling Twice](#)

#### **Quizziz Activities:**

[7.SP.C.7.A](#)

[7.SP.C.8.A](#)

### 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 Algebraic Expressions - Evaluate simple algebraic expressions  
5.2 Sequences - Describe the relationships and extend terms in arithmetic sequences  
5.4 The Distributive Property - Apply the Distributive Property to rewrite algebraic expressions  
5.5 Simplify Algebraic Expressions - Simplify algebraic expressions  
5.6 Add Linear Expressions - Add linear expressions  
5.7 Subtract Linear Expressions - Subtract linear expressions  
6.1 Solve One-Step Addition and Subtraction Equations - Solve addition and subtraction equations

### Resources:

Glencoe Math Course 2 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

## Math 7

<p>6.2 Multiplication and Division Equations - Solve one-step multiplication and division equations</p> <p>6.4 Solve Two-Step Equations - Solve two-step equations</p> <p>6.5 More Two-Step Equations - Solve two-step equations of the form <math>p(x + q) = r</math></p> <p>9.1 Probability of Simple Events - Find the probability of a simple event and its complement</p> <p>9.2 Theoretical and Experimental Probability - Find and compare experimental and theoretical probabilities</p> <p>9.3 Probability of Compound Events - Find probabilities of compound events</p> <p>9.5 Fundamental Counting Principle - Use multiplication to count the number of outcomes and find probabilities</p> <p><a href="#">Teach Like a Champion Strategies</a></p>	<p>Edulastic</p> <p><a href="#">Inclusive Math Class</a></p> <p><a href="#">GLSEN Educator Resources</a></p> <p>Math Literacy</p> <ul style="list-style-type: none"> <li>● I can solve a word problem <a href="#">graphic organizer</a></li> <li>● Think pair share <a href="#">graphic organizer</a></li> <li>● Vocabulary <a href="#">Word Map</a></li> <li>● <a href="#">Fray Model</a></li> <li>● Collection of <a href="#">Graphic Organizers</a></li> </ul>		
<p><b><a href="#">Differentiation</a></b></p> <p>*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</p>			
<b>High-Achieving Students</b>	<b>On Grade Level Students</b>	<b>Struggling Students</b>	<b>Special Needs/ELL</b>

## Math 7

<p>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</p>	<p>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</p>	<p>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</p>	<p>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</p> <p>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</p>
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**Unit Title:** Unit 4: Inequalities (Ch.6), Geometry (Ch.7&8) & Financial Literacy (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.G.1** Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

## Math 7

**7.G.2** Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

**7.G.4** Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

**7.G.5** Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

**7.G.6** Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

**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 negative rational numbers in any form related to the relationship between altitude and the temperature above sea level.

- 7.G.B.6 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. 🌱

Climate Change Example: Students may solve real-world problems involving area, surface area, and volume related to deforestation and increasing livestock farming as key contributors to climate change.

### Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
<b>9.4.8.TL.3</b>	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.
<b>9.1.8.CDM.2</b>	Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit cards, installment loans, mortgages, lines of credit) and	There are strategies to increase your savings and limit debt.

## Math 7

	compare and calculate the interest rates associated with each.	
<b>9.1.8.CDM.3</b>	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.
<b>9.1.8.FI.4</b>	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.
<b>9.1.8.FP.5</b>	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.
<p><b>Central Idea/Enduring Understanding:</b>  <b>Chapter 6:</b> Students solve equations and inequalities.</p> <p><b>Chapter 7:</b> Students create and draw two- and three-dimensional figures.</p> <p><b>Chapter 8:</b> Students find the area of circles and composite figures and the volume of prisms and pyramids.</p> <p><b>Chapter 2:</b> Solve problems involving simple interest.</p> <p><b>Financial Literacy:</b>          To support the path towards postsecondary success, students require opportunities to understand and develop both career awareness and personal financial literacy. Standard 9.1 Personal Financial Literacy outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance.</p>		<p><b>Essential/Guiding Question:</b>          At the end of the Unit, students should be able to answer the Essential Questions:</p> <p><b>UNIT:</b> "How can you use different measurements to solve real-life problems?"</p> <p><b>Chapter 6:</b> "What does it mean to say two quantities are equal?"</p> <p><b>Chapter 7:</b> "How does geometry help us describe real-world objects?"</p> <p><b>Chapter 8:</b> "How do measurements help you describe real-world objects?"</p> <p><b>Chapter 2:</b> "How can percent help you understand situations involving money?"</p>
<p><b>Content:</b>          6.6 Solve Inequalities by Addition or Subtraction          6.7 Solve Inequalities by Multiplication or Division          6.8 Solve Two-Step Inequalities</p>		<p><b>Skills(Objectives):</b>          6.6 - Solve inequalities by using the Addition and Subtraction Properties of Inequality.          6.7 - Solve inequalities by using the Multiplication or Division Properties of Inequality.</p>

## Math 7

<p>7.1 Classify Angles 7.2 Complementary &amp; Supplementary Angles 7.3 Triangles 7.4 Scale Drawings</p> <p>8.1 Circumference 8.2 Area of a Circle 8.3 Area of Composite Figures</p> <p>2.8 Simple Interest</p> <p><b>Financial Literacy Projects:</b> Buying a Car Car of My Dreams Million Dollar Project</p>	<p>6.8 - Model and solve two-step inequalities and represent the solution on the number line.</p> <p>7.1 - Classify angles and identify vertical and adjacent angles. 7.2 - Identify pairs of complementary and supplementary angles. 7.3 - Identify and classify triangles and find missing angle measures. 7.4 - Solve problems involving scale drawings.</p> <p>8.1 - Find the circumference of circles. 8.2 - Find the area of circles. 8.3 - Find the area of composite figures.</p> <p>2.8 - Solve problems involving simple interest.</p> <p>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</p>
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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 4 Activities/Videos:**

- 7.EE.3 [Discounted Books](#)
- 7.EE.4 [Bookstore Account](#)
- 7.G.1 [Circumference of a Circle](#)
- 7.G.2 [A Task Related to the Standard](#)
- 7.G.4 [Approximating the Area of a Circle](#)
- 7.G.6 [Sand Under the Swingset](#)
- 7.RP.3 [Buying Protein Bars and Magazines](#)

#### **Quizziz Activities:**

[7.EE.B.3](#)

### **Other Evidence:**

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

# Math 7

[7.EE.B.4.A](#)  
[7.EE.B.4.B](#)  
[7.G.A.1](#)  
[7.G.A.2](#)  
[7.G.B.4](#)  
[7.G.B.6](#)

## Stage 3: Learning Plan

### Learning Opportunities/Strategies:

6.6 Solve Inequalities by Addition or Subtraction - Solve inequalities by using the Addition and Subtraction Properties of Inequality

6.7 Solve Inequalities by Multiplication or Division - Solve inequalities by using the Multiplication or Division Properties of Inequality

6.8 Solve Two-Step Inequalities - Model and solve two-step inequalities and represent the solution on the number line

7.1 Classify Angles - Classify angles and identify vertical and adjacent angles

7.2 Complementary and Supplementary Angles - Identify pairs of complementary and supplementary angles

7.3 Triangles - Identify and classify triangles and find missing angle measures

7.4 Scale Drawings - Solve problems involving scale drawings

8.1 Circumference - Find the circumference of circles

8.2 Area of Circles - Find the area of circles

8.3 Area of Composite Figures - Find the area of composite figures

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

Million Dollar Project - purchase specific items within a budget

### Resources:

Glencoe Math Course 2 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

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

<a href="#"><u>Teach Like a Champion Strategies</u></a>			
<p><b><u>Differentiation</u></b>            *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</p>			
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

## Pacing Guide

MATH 7	Glencoe Math Course 2	Standards
MP		
UNIT 1 Integer Operations & Rational Numbers (40 Days)	<b>CHAPTERS</b> Ch 3: 19 Days Ch 4: 19 Days Unit Online Assessment: 2 Days	7.NS.1 7.NS.2 7.NS.3 7.EE.3
MP		
UNIT 2 Ratios & Proportions (40 Days)	<b>CHAPTERS</b> Ch 1: 19 Days Ch 2: 19 Days Unit Online Assessment: 2 Days	7.RP.1 7.RP.2 7.RP.3 7.EE.2 7.EE.3
MP		
UNIT 3 Expressions, Equations, & Probability (40 Days)	<b>CHAPTERS</b> Ch 5: 16 Days Ch 6: 12 Days Ch 9: 10 Days Unit Online Assessment: 2 Days	7.EE.1 7.EE.2 7.EE.4 7.SP.5 7.SP.7 7.SP.8

## Math 7

MP		
UNIT 4 Inequalities, Geometry, & Financial Literacy (40 Days)	<b>CHAPTERS</b> Ch 6: 10 Days Ch 7: 10 Days Ch 8: 10 Days Financial Literacy: 8 Days Unit Online Assessment: 2 Days	7.EE.3 7.EE.4 7.G.1 7.G.2 7.G.4 7.G.5 7.G.6 7.RP.3