



BOE Approved 8/18

Cliffside Park Public Schools

Cliffside Park Public Schools

COURSE OF STUDY UNIT PLANNING GUIDE FOR: Grade 7 Unit 2

Grade Level:
7th

Cliffside Park School District
Cliffside Park, NJ 07010
www.cliffsidepark.edu



SUBJECT: MATHEMATICS MIDDLE SCHOOL
BOE APPROVAL: August 2018

Cliffside Park Public Schools

GRADE: 7

Course Overview:

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

("Grade 7 » Introduction." *Grade 7 » Introduction | Common Core State Standards Initiative*. Common Core State Standards Initiative, 2017. Web. 13 July 2017.)

Overview of Units:

1. Operations on Rational Numbers and Expressions
2. Equations, Ratios, Proportions and Percent Problems
3. Drawing inferences about population and probability models
4. Problem Solving with Geometry



Mathematics: Grade 7

Unit 1 Grade 7 Mathematics

Unit Name: Equations, Ratios and Proportion (Topic 5, Topic 2, Topic 3)

Primary Resource: enVisionmath 2.0 Common Core 2017

Topic Name: Topic 5: Solving Problems using Equations and Inequalities

Topic Duration: Approximately 3 weeks

Unit Durations: Approximately 12 weeks

TOPIC 5

Enduring Understandings:

- Equations with more than one operation can be used to represent a situation.
- One- and two-step problems are both solved using the properties of equality.
- The Distributive Property can be used to solve equations in the form $p(x + q) = r$.
- Solving inequalities with addition and subtraction is the same as solving equations. The inverse relationship between addition and subtraction is used to isolate the variable.
- Solving inequalities with multiplication or division is very similar to solving equations. In an inequality, when multiplying or dividing by a negative value, the inequality symbol is reversed.
- Many real-world problem situations can be represented with mathematical model, but that model may not represent a real-world solution exactly.
- To solve two-step inequality, add or subtract the constant, and then multiply or divide to isolate the variable.
- Multi-step inequalities, like two-step inequalities, have more than one step and more than one operation.



TOPIC 5

Essential Questions:

How does an equation show the relationship between variables and other quantities in a situation?

How is solving a two-step equation similar to solving a one-step equations?

How does the Distributive Property help you solve equations?

How are solving inequalities with addition and subtraction similar to solving equations with addition and subtraction?

How are solving inequalities with multiplication and division similar to solving equations with multiplication and division?

How is solving a two-step inequality similar and different from solving a two-step equation?

How is solving a multi-step inequality similar and different from solving a multi-step equation?

How can you solve real-world problems with numerical and algebraic equations and inequalities?

Focus of Standards:

Student Outcomes: <i>What students will know.</i>	Skills <i>What students will be able to do.</i>	Assessments	Resources
<ul style="list-style-type: none"> Analyze word problems to write two-step equations. Understand the relationship between the terms of the equation and the values they represent. 	<ul style="list-style-type: none"> Solve equations using the Distributive Property. Graph a solution of inequalities using the Addition and the Subtraction Properties of Inequalities. 	Formative: <ul style="list-style-type: none"> Diagnostic assessment Topic Readiness Assessment Summative:	Texts: <i>enVision 2.0 Common Core</i> Digital: <ul style="list-style-type: none"> Student/Teacher eText Videos



<ul style="list-style-type: none"> • Use models to solve two-step equations. • Compare algebraic and arithmetic solutions. • Use mathematical modeling to represent a problem situation and to propose a solution. • Explore the relationship between two-step inequalities and multi-step inequalities. • Apply the Distributive Property to simplify and solve multi-step inequalities. 	<ul style="list-style-type: none"> • Write inequalities and solve them using Multiplication and Division Properties of Inequalities. • Test and verify the appropriateness of their mathematical models. • Write and solve a two-step inequality to solve a problems. • Solve an inequality by multiplying or dividing by a negative rational number. 	<ul style="list-style-type: none"> • Topic Assessment • Topic Quiz <p>Benchmark Tests:</p> <ul style="list-style-type: none"> • Benchmark test given every 6-8 weeks. <p>Alternative:</p> <ul style="list-style-type: none"> • Topic Performance Task • Oral questioning • Journaling • Problems worked out partially • Using manipulatives to gauge understanding and develop reasoning skills • Using questioning strategies in TE. • Creating scaffolding questions on test • Online tests • Questions tied to Real-World scenarios • Projects 	<ul style="list-style-type: none"> • MathXL • IXL • 3-Act Mathematical Modeling • Virtual Nerd App • BouncePages App • Math Tools <p>Classroom Math Materials</p> <ul style="list-style-type: none"> • Student Journal • Online text • Bounceapp • Digital toolkit • Math Practices and Problem Solving Handbook
<p>VOCABULARY</p>			
<p>Tier 2 none</p>		<p>Tier 3 Repeating decimal, terminating decimal, complex fraction, multiplicative inverse</p>	



NJSL Math Standards	NJSL Math Practices
<p>7.EE.B.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. 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 fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i> b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i></p> <p>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. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 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 3/4 inches long in the center of a door that is 27 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.</i></p> <p>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.</p>	<p>MP.1 Make sense of problems and persevere in solving them</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>



Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

7.EE.B.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

Unit Name: Equations, Ratios and Proportion (Topic 5, Topic 2, Topic 3)

Primary Resource: enVisionmath 2.0 Common Core 2017

Topic Name: Topic 2: Analyze and Use Proportional Relationships

Topic Duration: Approximately 3.5 weeks

Unit Durations: Approximately 12 weeks

TOPIC 2

Enduring Understandings:

- Equivalent ratios and unit rates can be used to compare ratios and solve problems.
- A unit rate can be easier to use to solve a problem than a ratio or fractions.
- Quantities in a proportional relationship can be described by equivalent ratios.
- Equations in the form of $y = kx$, where k is a constant of proportionality, can be used to represent proportional relationships and solve problems.
- Many real-world problem situations can be represented with a mathematical model, but that model may not represent a real-world situation exactly.
- The graph of a proportional relationship is a straight line through the origin.
- By recognizing proportional quantities, you can use what you know about proportional relationships to solve problems.



TOPIC 2

Essential Questions:

- How are ratios, rates and unit rates used to solve problems?
- Why is it useful to write a ratio of fractions as a unit rate?
- How are proportional quantities described by equivalent ratios?
- How can you represent a proportional relationship with an equation?
- What does the graph of a proportional relationship look like?
- How can proportional reasoning help solve a problem?

Focus of Standards:

Student Outcomes: <i>What students will know.</i>	Skills <i>What students will be able to do.</i>	Assessments	Resources
<ul style="list-style-type: none"> ● Use ratios and rates to describe the relationship between two quantities. ● Use unit rates to solve multi-step problems. 	<ul style="list-style-type: none"> ● Find the equivalent ratios and use unit rates to solve multi-step problems. 	Formative: <ul style="list-style-type: none"> ● Diagnostic assessment ● Topic Readiness Assessment 	Texts: <i>enVision 2.0 Common Core</i> Digital:



<ul style="list-style-type: none"> • Use the constant of proportionality to write equations that represent proportional relationships. • Use equations to solve problems involving proportional relationships. • Use mathematical modeling to represent a problem situation and to propose a solution. • Interpret a point on a graph of a proportional relationship. • Use representations to find entry points into a problem. 	<ul style="list-style-type: none"> • Determine whether quantities are proportional by testing for equivalent ratios. • Test and verify the appropriateness of math models. • Explain why the results from mathematical models may not align exactly to the problem situation. • Use a graph to recognize proportionality. • Identify a constant of proportionality from a graph. • Explain whether a situation represents a proportional relationship. 	<p>Summative:</p> <ul style="list-style-type: none"> • Topic Assessment • Topic Quiz <p>Benchmark Tests:</p> <ul style="list-style-type: none"> • Benchmark test given every 6-8 weeks. <p>.</p> <p>Alternative:</p> <ul style="list-style-type: none"> • Topic Performance Task • Oral questioning • Journaling • Problems worked out partially • Using manipulatives to gauge understanding and develop reasoning skills • Using questioning strategies in TE. • Creating scaffolding questions on test • Online tests • Questions tied to Real-World scenarios • Projects 	<ul style="list-style-type: none"> • Student/Teacher eText • Videos • MathXL • IXL • 3-Act Mathematical Modeling • Virtual Nerd App • BouncePages App • Math Tools <p>Classroom Math Materials</p> <ul style="list-style-type: none"> • Student Journal • Online text • Bounceapp • Digital toolkit • Math Practices and Problem Solving Handbook
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<p>Tier 2</p>		<p>Tier 3</p>	



Proportion	Proportional relationship, constant of proportionality
NJSLS Math Standards	NJSLS Math Practices
<p>7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. <i>For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.</i></p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems. <i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</i></p> <p>7.RP.A.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</p> <p>7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p>7.RP.A.2c Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</p> <p>7.RP.A.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.</p> <p>7.RP.A.2 Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and</p>	<p>MP.1 Make sense of problems and persevere in solving them</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>



verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

Additional Resources:

www.ixl.com

[Khan Academy Grade 7](#)

[Illustrative Mathematics Grade 7](#)

Unit Name: Equations, Ratios and Proportion (Topic 5, Topic 2, Topic 3)

Primary Resource: enVisionmath 2.0 Common Core 2017

Topic Name: **Topic 3:** Analyze and Solve Percent Problems

Topic Duration: Approximately 3.5 weeks

Unit Durations: Approximately 12 weeks

TOPIC 3

Enduring Understandings:

- Equivalent ratios can be used to find the percent of a number. Percent is a ratio out of 100 that relates the ratio of two quantities.
- The part divided by the whole and the percent divided by 100 are equivalent ratios.
- Proportional reasoning can be used to develop the percent equation, which in turn, can be used to find the percent, part or whole.
- Both the percent and percent error involve finding the ratio of a difference of two values to one of those values



- A markup is the same as a percent increase, and a markdown is the same as a percent decrease. The method used to calculate percent change can be used to calculate markups and markdowns.
- Each value in the annual simple interest formula $I = p \times r$, corresponds to the value in the percent equation, $part = percent \times whole$. The part corresponds to the interest, the whole to principal (initial amount) and the percent to the interest rate.

TOPIC 3

Essential Questions:

How do percents show the relationship between quantities?

How does proportional reasoning relate to percent?

How are percent problems related to proportional reasoning?

How is finding percent errors similar to finding percent change?

How are the concepts of percent markup and percent markdown related to the percent equation?

How does simple interest show proportional reasoning and relate to the percent equation?

Focus of Standards:

Student Outcomes: <i>What students will know.</i>	Skills <i>What students will be able to do.</i>	Assessments	Resources
<ul style="list-style-type: none"> • Relate percent change to percent markup and percent markdown. Identify the parts of interest 	<ul style="list-style-type: none"> • Understand and calculate markups and markdowns. • Understand what simple interest is and how to calculate it. 	Formative: <ul style="list-style-type: none"> • Diagnostic assessment • Topic Readiness Assessment 	Texts: <i>enVision 2.0 Common Core</i> Digital:



<p>problems and how the values are related.</p> <ul style="list-style-type: none"> • Understand that equivalent rates can be used to find percents. • Use a percent proportion to find an unknown part, whole, or percent. • Understand the relationship between proportional reasoning and percent. • Understand the percent equation and the different ways it can be used. 	<ul style="list-style-type: none"> • Analyse percents of numbers in a real-world problem. • Construct a percent proportion. • Interpret the results of a percent equation in a real-life application. • Solve real-world problems involving percents change and percent error. 	<p>Summative:</p> <ul style="list-style-type: none"> • Topic Assessment • Topic Quiz <p>Benchmark Tests:</p> <ul style="list-style-type: none"> • Benchmark test given every 6-8 weeks. <p>Alternative:</p> <ul style="list-style-type: none"> • Topic Performance Task • Oral questioning • Journaling • Problems worked out partially • Using manipulatives to gauge understanding and develop reasoning skills • Using questioning strategies in TE. • Creating scaffolding questions on test • Online tests • Questions tied to Real-World scenarios • Projects 	<ul style="list-style-type: none"> • Student/Teacher eText • Videos • MathXL • IXL • 3-Act Mathematical Modeling • Virtual Nerd App • BouncePages App • Math Tools <p>Classroom Math Materials</p> <ul style="list-style-type: none"> • Student Journal • Online text • Bounceapp • Digital toolkit • Math Practices and Problem Solving Handbook
<p>VOCABULARY</p>			
<p>Tier 2</p>		<p>Tier 3</p>	



principle	Markup, markdown, percent markup, percent markdown, interest rate, simple interest, percent equation, percent change, percent error
NJSLS Math Standards	NJSLS Math Practices
<p>7.RP.A.2c Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</p> <p>7.RP.A.3 Use proportional relationships to solve multistep ratio and percent problems. <i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</i></p>	<p>MP.1 Make sense of problems and persevere in solving them</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>
<p>Interdisciplinary Connections</p> <p>NJSLS for ELA and Science are introduced, developed, and practiced in the context of learning math content and engaging in mathematical practices.</p> <p>ELA</p> <p>ELA-Literacy.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks</p> <p>ELA-Literacy.RST.6-8.4.Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</p> <p>ELA-Literacy.RST.6-8.3 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</p>	



ELA-Literacy.SL.6.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

Science

MS-LS1-1 MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.*

MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

MS-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

NJSLS: 21st Century Life and Careers

Key Subjects and 21st Century: Themes Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy

9.1.8.E.8 Compare the value of goods and services from different sellers when purchasing large quantities and small quantities.

9.2.8.B.5 Analyze labor market trends using state and federal labor market information and other resources available online.

9.1.8.B.7 Construct a budget to save for long-term, short-term, and charitable goals



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9.1.8.C.2 Compare and contrast credit cards and debit cards and the advantages and disadvantages of using each.

9.1.8.C.5 Calculate the cost of borrowing various amounts of money using different types of credit (e.g., credit cards, installment loans, and mortgages) and compare the interest rates associated with each.

Career Ready Practices: Today's students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity

NJSLS Technology Standards

8.1.8.A.4 Graph and calculate data within a spreadsheet and present a summary of the results

8.1.8.C.1 Collaborate to develop and publish work that provides perspectives in a global problem for discussions with learners from other countries

8.1.8.F.1 Explore a local issue, by using digital tools to collect and analyze data to identify and make an informed decision.

Additional Resources:

www.ixl.com

[Khan Academy Grade 7](#)

[Illustrative Mathematics Grade 7](#)



Integrated Differentiation/Accommodations/Modifications for Math 7 Unit 2 <i>(Alternate Modes of Instruction and Support)</i>		
Modifications to Support Gifted and Talented Students	Modifications to Support English Language Learners	Modifications to Support Our Learners (Students with IEPs/504s and At-Risk Learners)
<p>Integrate Higher Order Thinking Skills (HOTS) through questioning and extension projects specific to rational numbers, additive inverse, and properties of rational numbers.</p> <p>Provide menu of challenge activities for when the child finishes the lesson early (integrate technology when possible).</p> <p>College/Career Readiness skill enhancement - G & T students can research professions related to the Rational Numbers.</p> <p>Have the student teach the lesson - peer tutoring (research-based strategy) Accelerate pace for students who are advanced in concepts.</p> <p>Use inquiry-based, discovery learning approaches that emphasize open-ended problems with solving problems with Rational Numbers.</p> <p>Allow students to design their own ways to find the answers to complex questions.</p>	<p>Concept/Idea Map - teacher models note-taking on the modeling associated with equations, ratios, proportions, and percent problems.</p> <p>Contextualize language for the following key vocabulary terms: repeating decimal, terminating decimal, complex fraction, multiplicative inverse, proportional relationship, constant of proportionality, markup, markdown, percent markup, percent markdown, interest rate, principle, simple interest, percent equation, percent change, and percent error.</p> <p>Visuals and illustrations Using a number line to add and subtract integers. Using integer tiles to represent positive and negative numbers. Using Fraction Tiles to represent adding, subtracting, multiplying and dividing fractions.</p>	<p>Review student individual educational plan and/or 504 plan for instructional, assessment, and environmental supports.</p> <p>Allow student to use calculator to simplify algebraic expressions with rational numbers.</p> <p>Teach students how to check the accuracy of the solution that was derived from use of a calculator.</p> <p>Provide manipulatives to aid in operations with rational numbers. (integer tiles and fraction tiles).</p> <p>Teach students how to check the accuracy of the solution that was derived from use of the calculator or other method.</p> <p>Provide number lines to help students with adding or subtracting integers.</p> <p>Use integer tiles to perform operations with rational numbers.</p> <p>Utilize graphic organizer or partially completed template for students to simplify expressions..</p> <p>Provide study guides that are partially completed by teacher, allowing the student to fill in missing</p>



	<p>Word/picture bank available for students' reference; as well as Spanish translation through Google or their textbooks.</p> <p>Wait Time Two - extend basic "Wait Time" - after the 1st student responds to a question, the teacher waits an additional 5 - 7 seconds before calling on another student to ask a question about scatter plots, correlations and lines of best fit;</p> <p>Native Language Supports: Working with peer, online assistive technology, translation device, bilingual dictionary.</p> <p>Teach the text backward - frontload the concepts and vocabulary needed for learning the material and activating prior knowledge about absolute values, properties of mathematics and integers.</p> <p>Use a word square to teach target academic vocabulary for the unit.</p>	<p>information during instruction in order to aid in obtaining information pertaining to modeling linear functions and solving linear systems.</p> <p>Utilize visual aids such as charts or graphs connected to rational numbers.</p> <p>By utilizing individual student assessment results, the teacher will provide small group or remedial instruction to review essential questions/big ideas of rational numbers, properties of numbers, operations with rational numbers, and operations with fractions.</p> <p>Provide wait time to allow students to process orally presented information and questions relating to the unit.</p> <p>Access to word/picture banks to develop an understanding and use content-specific vocabulary, such as those listed under Contextualize language.</p> <p>Allow for Student Choice: Students should be permitted to demonstrate understanding of content through illustrations, computer projects, oral response, creative presentations or demonstration, etc.</p> <p>Support comprehension of unknown vocabulary, by providing examples of Note-taking, highlighting, underlining, etc. Students should be allowed given copies of grade level material or text so they can highlight or underline pertinent information. Text to speech/Oral reading</p>
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		<p>Provide students with flexible seating options while working independently, depending on need or preference.</p> <p>Math-specific vocabulary and literary terms should be pre-taught before teaching relevant concepts.</p> <p>Allow extra time to complete in class written assignments.</p> <p>Provide students with a sample problem or list of steps or procedures for multi-step solutions to problems. Allow student to reference these procedures when solving independently.</p> <p>Reduce the number of assigned problems within the unit.</p> <p>Provide models or templates to teach the structure of how to solve problems systematically.</p> <p>If necessary, provide additional set of materials or online access so that students can utilize resources at school and home.</p> <p>Provide study guide for students to review before unit quizzes and tests.</p> <p>Modify tests to address big ideas/essential questions of Unit 2.</p> <p>Provide instructional adaptations and interventions in the general education classroom.</p> <ul style="list-style-type: none">● Differentiated Intervention (enVision 2.0)
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		<ul style="list-style-type: none"> ○ Reteach ○ Additional Vocabulary Support ○ Build Mathematical Literacy ○ Math tools and Games ● MATHXL ● IXL <p>Intensive individual intervention:</p> <ul style="list-style-type: none"> ● Rtl in enVision 2.0
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Sources

New Jersey Student Learning Standards (2016) <http://www.state.nj.us/education/cccs/2016/math/standards.pdf>
 New Jersey Student Learning Standards: Technology (2014) - <http://www.state.nj.us/education/cccs/2014/tech/8.pdf>
 New Jersey Student Learning Standards: ELA (2014) - <https://www.state.nj.us/education/cccs/2016/ela/g03.pdf>
 New Jersey Science and Engineering Practices - <https://www.state.nj.us/education/cccs/2016/science/>
 NJ Career Ready Practices (2014) - <https://www.state.nj.us/education/cccs/2014/career/CareerReadyPractices.pdf>
 Pearson enVision 2.0 (2016) <https://www.pearsonrealize.com/index.html#/>