








Trimester:	Unit Title:	Recommended Instructional Days:
1 & 2	Percents	11 - 15
Domain: Ratio and Proportional Relationships & The Number System		
<p>Strand:</p> <p> 6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly 3 votes.”</i></p> <p> 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g. by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p> <p>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p> 6.NS.C.7 Understand ordering and absolute value of rational numbers</p> <p>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i></p> <p>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i></p> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="331 1149 552 1198"> Major Cluster</div> <div data-bbox="625 1136 919 1198"> Supporting Cluster</div> <div data-bbox="1003 1149 1276 1198"> Additional Cluster</div> <div data-bbox="1360 1149 1759 1198"> Climate Change Opportunity</div> </div>		
<p>Progress Indicator: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative assessments ◊ Summative assessments</p>		

Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reason 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.

Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit

Essential Questions:

Lesson 4.1: How can you write percents as fractions and fractions as percents?

Lesson 4.2: Why does the decimal point move when multiplying and dividing by 100?

Lesson 4.3: How can you compare and order fractions, decimals, and percents?

Lesson 4.4: What does it mean to find the percent of a number?

Essential Understandings:

Lesson 4.1: Write percents as fractions and fractions as percents.

Lesson 4.2: Write percents as decimals and decimals as percents.

Lesson 4.3: Compare and order fractions, decimals, and percents.

Lesson 4.4: Find a percent of a quantity and solve percent problems.

Vocabulary:

- percent

**Encourage students to practice using the unit vocabulary as they talk and write about mathematics. Understanding vocabulary will aid their understanding of the concepts. When students encounter a new definition, encourage them to write in their Big Ideas Student Journals. They will revisit these definitions during the Chapter Review.*

Suggested Activity Descriptions:

- Performance Task TB pg. 161, Genetic Ancestry
- Exploration Activities at the beginning of each section.
- Students analyze sample student answers to compare strategies and approaches for problem solving.

- Students engage in fluency practice resources.
- Students will work with base ten blocks to model whole number percents, percents greater than 100, and fractions whose denominators are a factor of 100.

Interdisciplinary Connections:

Science:

1. Big Ideas STEAM Video and corresponding questions on TB page 161.
2. Modeling Real Life TB pg. 172.

Social Studies:

1. Modeling Real Life TB pg. 166.
2. Rich Math Tasks: History Notes, pgs. 3 - 8, digital Big Ideas resource.

Language Arts:

1. Meaning of a Word TB pg. 163.

Spot Light On: Rachel Carson

Social and Emotional Learning: <i>Competencies</i>	Social and Emotional Learning: <i>Sub-Competencies</i>
<p>SEL Competencies:</p> <ul style="list-style-type: none"> • Self-Awareness • Social Awareness • Self-Management • Relationship Skills • Responsible Decision-Making 	<ul style="list-style-type: none"> • Recognizing the importance of self-confidence in handling daily tasks and challenges. • Demonstrate an awareness of the expectations for social interactions in a variety of ways. • Demonstrate an understanding of the need for mutual respect when viewpoints differ. • Identify and apply ways to persevere through alternative methods to achieve goals. • Utilize positive communication and social skills to interact effectively with others. • Develop, implement, and model effective problem solving and critical thinking skills.

Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i>		Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i>	
Formative Assessments: • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Big Ideas Student Journals • Homework/Classwork • Teacher Created Assessments • Progress Monitoring Items • Formative Assessment Tips in Big Ideas Teacher Edition		Benchmarks & Summative Assessments: • Chapter/Unit Assessments • Standardized Tests • Project-based Assessments	
Differentiated Student Access to Content: Teaching and Learning <i>Resources/Materials</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources
Big Ideas Student Journal, Dynamic Assessment System, iReady, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, 60 minutes of weekly ST Math, Edulastic, Achieve the Core, Desmos	Reteach worksheets, Extra Practice worksheets, Math manipulatives, Scaffolding Instructions in each section of textbook, Tutorial Videos, Skills Review Handbook, Skills Trainer	Dictionary for native language, Video tutorial in native language, ELL Support in each section of Big Ideas Teacher's Edition	ST Math Challenge Objectives, G&T tasks, Enrichment and Extension worksheets, Art of Problem Solving, Leveled assessments
Supplemental Resources			
Technology: • Chromebooks • Scientific/Graphing Calculators (upper grades only) • Online math manipulatives Other: • Google Classroom, Google Meets, Schoology, Interactive Workbooks • Illustrative Mathematics • insidemathematics.org • National Library of Virtual Manipulatives			

Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics.	Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break assignments into segments of shorter tasks.	Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect student to related content.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept(s): Critical Thinking and Problem Solving	
	Core Ideas:	An essential aspect of problem solving is being able to self reflect on why possible solutions for solving problems were or were not successful.
	Performance Expectation/s:	9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option.
	Career Readiness, Life Literacies, & Key Skills Practices	
	Act as a responsible and contributing community member and employee. Attend to financial well-being. Consider the environmental, social and economic impacts of decisions. Demonstrate creativity and innovation. Utilize critical thinking to make sense of problems and persevere in solving them.	

Grade 6 Mathematics
Big Ideas Unit 4: Percents

Updated
August 2024

	<p>Model integrity, ethical leadership and effective management. Plan education and career paths aligned to personal goals. Use technology to enhance productivity, increase collaboration and communicate effectively. Work productively in teams while using cultural/global competence.</p>
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New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)								
	Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i>		Holocaust Law: <i>N.J.S.A. 18A:35-28</i>	X	LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>	X	Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	Standards in Action: <i>Climate Change</i>