








Marking Period	Unit Title	Recommended Instructional Days
3	Relate Fractions and Decimals	9 - 11 Days
<b>Domain</b>		
<p><i>Strand:</i></p> <p> <b>4.NF.C.5</b> Understand decimal notation for fractions, and compare decimal fractions. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.</p> <p> <b>4.NF.C.6</b> Use decimal notation for fractions with denominators 10 or 100.</p> <p> <b>4.NF.C.7</b> Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual model.</p> <p> <b>4.MD.A.2</b> Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><b>Key:</b></p> <p> Major Cluster      Supporting Cluster      Additional Cluster</p>		
<p><i>Progress Indicator:</i> ◇ 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 NJSL-CLKS within Unit**

**Essential Questions:**

**Lesson 9.1** How can you record tenths as fractions and decimals?

**Lesson 9.2** How can you record hundredths as fractions and decimals?

**Lesson 9.3** How can you record tenths and hundredths as fractions and decimals?

**Lesson 9.4** How can you relate fractions, decimals, and money?

**Lesson 9.5** How can you use the strategy, *act it out*, to solve problems that use money?

**Lesson 9.6** How can you add fractions when the denominators are 10 or 100?

**Lesson 9.7** How can you compare decimals?

**Essential Understandings:**

**Lesson 9.1** Record tenths as fractions and as decimals.

**Lesson 9.2** Record hundredths as fractions and as decimals.

**Lesson 9.3** Record tenths and hundredths as fractions and decimals.

**Lesson 9.4** Translate among representations of fractions, decimals, and money.

**Lesson 9.5** Solve problems by using the strategy, *act it out*.

**Lesson 9.6** Add fractions when the denominators are 10 or 100.

**Lesson 9.7** Compare decimals to hundredths by reasoning about their size.

**Vocabulary:**

- Compare

- Decimal
- Decimal Point
- Equivalent Decimals
- Equivalent Fractions
- Hundredth
- Tenth
- Whole

**Suggested Activity Description(s):**

Show what you know, Problem of the Day, Fluency Builders, Personal Math Trainer, Math on the Spot Videos, Real World Videos, Vocabulary Preview Activity, Reteach and Enrichment Activities, Interactive Student Edition Textbook, RtI Activities, Grab and Go Differentiated Centers, Journal Writing, Advanced Learners Activities, Assessments, Standards Focus Packets for the related NJSLs, Success for English Learners Activities, Performance Task

◇ **Suggested Sample Tasks:**

**Interdisciplinary Connections:**

**STEM Activity:** In Chapter 9, students develop their understanding of relating fractions and decimals, by working with fractional and decimal representations of money. These same topics are used often in the development of various science concepts and process skills. Help students make the connection between math, science, and technology through the S.T.E.M. activities and activity worksheets found at Think Central.

In Chapter 9, students connect math, science, and technology with the S.T.E.M. Activity The Good and Bad of It and the accompanying worksheets (pages 119 and 120). Through this S.T.E.M. Activity, students will connect to the GO Math! Chapter 9 concepts and skills with various problems about light bulb efficiency, including calculating the energy cost. It is recommended that this S.T.E.M. Activity be used after Lesson 9.4.

**Science:**

1. Things that travel for the same amount of time but different distances also have different speeds. You can use the formula speed = distance ÷ time,  $s = d \div t$ , to calculate speed. In 2008, the winner of the Indy 500 had an average speed of about  $143\frac{57}{100}$  mi/h. How do you write this speed as a decimal?

**Social Studies:**

1. Travelers along the segment of U.S. Highway 81 through Oklahoma experience history along the way. The highway closely follows the Chisholm Trail, a route used by cattle drives from Texas to the railroads in Kansas in the 1800s. U.S. Highway 81 follows the route of the old Chisholm Trail through the present-day towns of El Reno and Enid. Suppose a group of early pioneers traveled  $9\frac{7}{100}$  miles in one day. How do you write this distance as a decimal?

<p><b>Language Arts:</b>            1. Vocabulary Preview Activity, Go Math pg. 494            2. Vocabulary Game, Go Math pg.494 A            3. The Write Way, Go Math pg. 494 B</p> <p><b>Spot Light On:</b> <i>Acknowledge every student's comment or response, even if it's incorrect.</i></p>			
		<p><b>Social and Emotional Learning:</b> <i>Sub-Competencies</i></p>	
<p>SEL Competencies:            • Self- awareness            • Social Awareness            • Self- Management            • Relationship Skills            • Responsible Decision-Making</p>		<ul style="list-style-type: none"> <li>• Recognizing the importance of self-confidence in handling daily tasks and challenges.</li> <li>• Demonstrate an awareness of the expectations for social interactions in a variety of ways.</li> <li>• Demonstrate an understanding of the need for mutual respect when viewpoints differ.</li> <li>• Identify and apply ways to persevere through alternative methods to achieve goals.</li> <li>• Utilize positive communication and social skills to interact effectively with others.</li> <li>• Develop, implement, and model effective problem solving and critical thinking skills.</li> </ul>	
<p><b>Assessments (Formative)</b> <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>		<p><b>Assessments (Summative)</b> <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>	
<p><b>Formative Assessments:</b>            • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Math Journals • Homework/Classwork • Teacher created assessments</p>		<p><b>Benchmarks &amp; Summative Assessments:</b>            Chapter/Unit Assessments • Standardized Tests • District Assessments • Project-based Assessments</p>	
<p><b>Differentiated Student Access to Content:</b> <b>Teaching and Learning <u>Resources/Materials</u></b></p>			
<p><b>Core Resources</b></p>	<p><b>Alternate Core Resources</b> <i>IEP/504/At-Risk/ESL</i></p>	<p><b>ELL Core Resources</b></p>	<p><b>Gifted &amp; Talented Core Resources</b></p>
Go Math Workbook, IXL, Personal Math Trainer, Math on the Spot	Reteaching worksheets, Skill building workbook, Math	Dictionary for native language, Video tutorial in native language, Success for	ST Math Challenge Objectives, G&T tasks, Enrichment

**Grade 4 Mathematics**  
**Unit 9: Relate Fractions and Decimals**

September  
2022

Videos, My HRW, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, 60 minutes of weekly ST Math, Edulastic, Achieve the Core, Desmos	manipulatives, Leveled practice worksheets	English Learners worksheets, Go Math Leveled Strategies for English Learners, Go Math Linguistic Support	worksheets, Art of Problem Solving, Leveled assessments, Go Math Teaching for Depth
<b>Supplemental Resources</b>			
<p><b>Technology:</b> • Chromebooks • Online math manipulatives</p> <p><b>Other:</b> • Google Classroom, Google Meets, Schoology, Interactive Workbooks • Illustrative Mathematics • insidemathematics.org • National Library of Virtual Manipulatives</p>			
<b>Differentiated Student Access to Content: Recommended <i>Strategies &amp; Techniques</i></b>			
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 students to related content.

<b>NJSLS CAREER READINESS, LIFE LITERACIES &amp; KEY SKILLS</b>	<b>Disciplinary Concept(s):</b> Work Productively in Teams	
	<b>Core Ideas:</b>	Curiosity and willingness to try new ideas (intellectual risk taking) contributes to the development of creativity and innovation.
	<b>Performance Expectation/s:</b>	<b>9.4.5.CI.3:</b> Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity.
	<b>Career Readiness, Life Literacies, &amp; Key Skills Practices</b>	
	<p>Act as a responsible and contributing community member and employee.</p> <p>Attend to financial well-being.</p> <p>Consider the environmental, social and economic impacts of decisions.</p> <p>Demonstrate creativity and innovation.</p> <p>Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>Model integrity, ethical leadership and effective management.</p> <p>Plan education and career paths aligned to personal goals.</p> <p>Use technology to enhance productivity, increase collaboration and communicate effectively.</p> <p>Work productively in teams while using cultural/global competence.</p>	

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>		LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>	<b>x</b>	Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	Standards in Action: <i>Climate Change</i>