Trimester	Unit Title	Recommended Instructional Days
3	**Relate Fractions and Decimals**	**12-14 days**

Domain: Number and Operations - Fractions; Measurement

Strand:

4.NF.B.5 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. *For example, express* $\frac{3}{10}$ *as* $\frac{30}{100}$ *and add* $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. *(Clarification: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)*

4.NF.B.6 Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as* $\frac{62}{100}$*; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

4.NF.B.7 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 >, =, or <, and justify the conclusions, e.g., by using a visual model.

4.M.A.2 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.

Key:

Major Cluster **Supporting Cluster** **Additional Cluster** **Climate Change Opportunity**

Progress Indicator: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative assessments ◊ Summative assessments ◊ Performance assessments

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 13.1: How can we use decimal notation to represent fractions with denominators of 10 or 100?
Lesson 13.2: How can we model and express fractions with a denominator of 10 and identify numbers that are one-tenth more or less?
Lesson 13.3: How can we model and express fractions with a denominator of 100 and identify numbers that are one hundredth more or less?
Lesson 13.4: How can we model and express equivalent fractions for tenths and hundredths as well as use decimal notation?
Lesson 13.5: How can we relate fractions and decimals to money and write equivalent forms?
Lesson 13.6: How can we solve money problems by using the strategy “act it out”?
Lesson 13.7: How can we add fractions when the denominators are 10 or 100?
Lesson 13.8: How can we compare decimals up to the hundredths?
Lesson 13.9: How can we order decimals up to the hundredths?

Essential Understandings:
Lesson 13.1: Using decimal notation to represent fractions with denominators of 10 or 100 helps us connect fractions to decimals.
Lesson 13.2: Modeling and expressing fractions with a denominator of 10, and identifying numbers that are one-tenth more or less, helps us understand the incremental changes in decimals and their fractional equivalents.
Lesson 13.3: Modeling and expressing fractions with a denominator of 100, and identifying numbers that are one hundredth more or less, deepens our understanding of finer fractional increments and their decimal equivalents.
Lesson 13.4: Modeling and expressing equivalent fractions for tenths and hundredths, as well as using decimal notation, helps us understand the relationships between different fractions and their decimal forms.
Lesson 13.5: Relating fractions and decimals to money and writing equivalent forms helps us see the practical applications of these concepts.
Lesson 13.6: Solving money problems by using base-ten blocks allows us to visualize and physically manipulate scenarios.

Lesson 13.7: Adding fractions with denominators of 10 or 100 requires aligning the denominators.
Lesson 13.8: Comparing decimals up to the hundredths helps us understand the relative sizes of numbers.
Lesson 13.9: Ordering decimals up to the hundredths involves arranging numbers based on their value, reinforcing our understanding of place value.

Vocabulary

- decimal
- decimal point
- tenth
- hundredth
- decimal fraction
- equivalent decimals

Suggested Activity Description:
Waggle, On the Spot Videos, Tier 2 and 3 Intervention Resources, Vocabulary Activities, Grab and Go Differentiation Kit, Explore and Guided/Independent Practice related to the NJSLS, Essential Question Discussion and Check-In, Share and Show, Basic Skills Review, Manipulative Activity, Reteach Activity, Reading Strategies Activity, Making Connections, Multilingual Support, Performance Task, Enrich Activity, Exit Ticket

Interdisciplinary Connections:
Language Arts:

1. Problem #15 on TB page 511.
2. Problem #5 on TB page 529.
3. Problem #7 on TB page 535.

Science:

1. Connect to Science on page 516.

Physical Education:

1. UNLOCK the Problem on TB page 507.

 **Climate Change:** Students may, knowing that energy and fuels are derived from natural resources and that their uses affect the climate, make a line plot to display a data set of measurements in fractions of a unit.

Spot Light On: *Seek multiple perspectives and different answers to questions.*

Social and Emotional Learning: *Competencies*	**Social and Emotional Learning: *Sub-Competencies***
SEL Competencies: • Self- awareness • Social Awareness • Self- Management • Relationship Skills • Responsible Decision-Making	• 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) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessments: • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Math Journals • Homework/Classwork • Teacher created assessments	**Benchmarks & Summative Assessments:** Chapter/Unit Assessments • Standardized Tests • Project-based Assessments

Differentiated Student Access to Content: **Teaching and Learning *Resources/Materials***			
Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
Go Math Workbook, Interactive Student Edition, ST MATH 60 minutes a week, Waggle, Math on the Spot Videos, iReady, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, Achieve the Core, Desmos, RTI	Reteaching worksheets, Skill building workbook, Math manipulatives, iTools, Leveled practice worksheets	Multilingual glossary, eGlossary, Multilingual Activities on ED, Vocabulary Cards, Success for English Learners worksheets, Leveled Strategies for English Learners, Linguistic Support	ST MATH special projects, Enrichment worksheets, Art of Problem Solving, Leveled assessments

Supplemental Resources			
Technology: • Chromebooks • 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 *Strategies & Techniques***			
Core Resources	**Alternate Core Resources** *IEP/504/At-Risk/ESL*	**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, repeat	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

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept(s):** Work Productively in Teams	
	Core Ideas:	Curiosity and willingness to try new ideas (intellectual risk taking) contributes to the development of creativity and innovation.
	Performance Expectation/s:	**9.4.5.CI.3**: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity.

	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.** **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.**

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	**X**	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*