Marking Period	Unit Title	Recommended Instructional Days
2	**Add and Subtract Fractions**	**9 - 11 Days**

Domain

Strand:

4.NF.B.3a Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

4.NF.B.3b Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + ⅛

4.NF.B.3c Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

4.NF.B.3d Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

Key:

Major Cluster **Supporting Cluster** **Additional Cluster**

Progress Indicator: ◊ Tests ◊ Homework / Classwork ◊ Projects ◊ Formative assessments ◊Summative 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 7.1 When can you add or subtract parts of a whole?
Lesson 7.2 How can you write a fraction as a sum of fractions with the same denominators?
Lesson 7.3 How can you add fractions with like denominators using models?
Lesson 7.4 How can you subtract fractions with like denominators using models?
Lesson 7.5 How can you add and subtract fractions with like denominators?
Lesson 7.6 How can you rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as mixed numbers?
Lesson 7.7 How can you add and subtract mixed numbers with like denominators?
Lesson 7.8 How can you rename a mixed number to help you subtract?
Lesson 7.9 How can you add fractions with like denominators using the properties of addition?
Lesson 7.10 How can you use the strategy, *act it out,* to solve multistep problems with fractions?

Essential Understandings:

Lesson 7.1 Understand that to add or subtract fractions they must refer to parts of the same whole.
Lesson 7.2 Decompose a fraction by writing it as a sum of fractions with the same denominators.
Lesson 7.3 Use models to represent and find sums involving fractions.
Lesson 7.4 Use models to represent and find differences involving fractions
Lesson 7.5 Solve word problems involving addition and subtraction with fractions.
Lesson 7.6 Write fractions greater than 1 as mixed numbers and write mixed numbers as fractions greater than 1.
Lesson 7.7 Add and subtract mixed numbers.

Lesson 7.8 Rename mixed numbers to subtract.
Lesson 7.9 Use the properties of addition to add fractions.
Lesson 7.10 Use the strategy, *act it out*, to solve multi-step fraction problems.

Vocabulary:

- Associative Property of Addition
- Commutative Property of Addition
- Denominator
- Fraction
- Mixed Number
- Numerator
- Simplest Form
- Unit Fraction

Suggested Activity Description:
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

Interdisciplinary Connections:

◊ Suggested Sample Tasks:

STEM Activity: In Chapter 7, students develop their understanding of adding and subtracting fractions. These same topics are used often in the development of various science concepts and process skills. Help students make the connection between math and science through the S.T.E.M. activities and activity worksheets found at Think Central.

In Chapter 7, students connect math and science with the S.T.E.M. Activity Bringing Up Baby and the accompanying worksheets (pages 115 and 116). Through this S.T.E.M. Activity, students will connect to the GO Math! Chapter 7 concepts and skills with various life cycle concepts, including finding the number of offspring a raccoon can have. It is recommended that this S.T.E.M. Activity will be used after Lesson 7.1.

Science:
1. There are 8 planets and 146 moons in our solar system. Of the planets that have moons, $\frac{4}{6}$ of them also have rings. What expression can you write to find the fraction of planets that have moons but no rings? Solve your expression to find the fraction of planets that have moons but no rings.

Social Studies:
1. In the early 1960s, astronauts began taking photographs of Earth from space. Today, the International Space Station (ISS) sends images of Earth to us on a daily basis. Viewing photographs of Earth helps us see that about $\frac{7}{10}$ of Earth is ocean. The rest of Earth is land. What fraction of Earth is land?

Language Arts:
1. Vocabulary Preview Activity, Go Math pg. 384
2. Vocabulary Game, Go Math pg.384 A
3. The Write Way, Go Math pg. 384 B

Spot Light On: *Use random response strategies.*

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 • District Assessments • 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, IXL, Personal Math Trainer, Math on the Spot Videos, My HRW, Khan Academy, Illustrative Mathematics, Learn360, TeacherTube, BrainPOP, Freckle, LearnZillion, MobyMax, 60 minutes of weekly ST Math, Edulastic, Achieve the Core, Desmos	Reteaching worksheets, Skill building workbook, Math manipulatives, Leveled practice worksheets	Dictionary for native language, Video tutorial in native language, Success for English Learners worksheets, Go Math Leveled Strategies for English Learners, Go Math Linguistic Support	ST Math Challenge Objectives, G&T tasks, Enrichment worksheets, Art of Problem Solving, Leveled assessments, Go Math Teaching for Depth
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.	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	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	Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities,

	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.	and/or rubric.	and connect students to related content.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept(s):** Responsible and Contributing Community Member	
	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*