Trimester	Unit Title	Recommended Instructional Days
3	**Represent and Interpret Data**	**10-12 days**

Domain: Data Literacy

Strand:

4.DL.A.1 Create data-based questions, generate ideas based on the questions, and then refine the questions.

4.DL.A.2 Develop strategies to collect various types of data and organize data digitally.

4.DL.A.3 Understand that subsets of data can be selected and analyzed for a particular purpose.

4.DL.A.4 Analyze visualizations of a single data set, share explanations , and draw conclusions that the data supports.

4.DL.B.5 Make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. 

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 18.1: Why do we collect and represent data in a frequency table?
Lesson 18.2: How can we solve problems using a frequency table?
Lesson 18.3: How can we describe a set of data using mode, median, and range?
Lesson 18.4: How can we make a line plot to display a set of data with whole numbers and fractions?
Lesson 18.5: How can we use line plots to solve real-world problems involving whole numbers, fractions, and decimals?
Lesson 18.6: How can we make stem-and-leaf plots with whole numbers?
Lesson 18.7: How can we solve real-world problems using a stem-and-leaf plot?

Essential Understandings:
Lesson 18.1: Collecting and representing data in a frequency table helps us organize information clearly, making it easier to identify patterns, trends, and frequencies within a data set.
Lesson 18.2: Solving problems using a frequency table involves analyzing the organized data to draw conclusions and make decisions.
Lesson 18.3: Describing a set of data using mode, median, and range provides key insights into the distribution and spread of the data, helping us summarize and understand the central tendencies and variability.
Lesson 18.4: Making a line plot to display data with whole numbers and fractions allows us to visually represent the distribution and frequency of values.
Lesson 18.5: Using line plots to solve real-world problems involves interpreting the visual data representation to make informed decisions and solve practical issues.
Lesson 18.6: Making stem-and-leaf plots with whole numbers helps us organize and display numerical data in a way that preserves the original values, allowing for easy comparison and analysis of the data distribution.
Lesson 18.7: Solving real-world problems using a stem-and-leaf plot involves interpreting the detailed data representation to identify trends, make comparisons, and draw conclusions.

Vocabulary

- frequency
- frequency table
- median
- mode
- range
- line plot
- stem-and-leaf plot

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:
Science:

1. Problem #1 on TB page 759.

Physical Education:

1. Problem #3 on TB page 729.
2. Problem #5 on TB page 730.
3. Problem #3 on TB page 759.

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: *Acknowledge every student's comment or response, even if it's incorrect.*

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:***
<u>Formative Assessments:</u> • Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Math Journals • Homework/Classwork • Teacher created assessments	**<u>Benchmarks & Summative Assessments:</u>** Chapter/Unit Assessments • Standardized Tests • Project-based Assessments

Differentiated Student Access to Content:
Teaching and Learning *<u>Resources/Materials</u>*

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):** Technology, Collaboration and Communication	
	Core Ideas:	The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.
	Performance Expectation/s:	**9.4.5.CT.3**: Describe how digital tools and technology may be used to solve problems.
	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*	**X**	Standards in Action: *Climate Change*