







| Marking Period | Unit Title | Recommended Instructional Days |
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| 4 | Measurement and Data | 12 - 16 |
| Domain | | |
| <p>Strand:</p> <p> 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p> 6.SP.B.5 Summarize numerical data sets in relation to their context, such as by:</p> <p>a. Reporting the number of observations.</p> <p> 6.SP.B.5 Summarize numerical data sets in relation to their context, such as by:</p> <p>c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>Key:</p> <p> Major Cluster  Supporting Cluster  Additional Cluster</p> | | |
| <p>Progress Indicator: ◇ Tests ◇ Homework / Classwork ◇ Projects ◇ Formative assessments ◇ Summative assessments</p> | | |
| Mathematical Practices: | | |
| <ol style="list-style-type: none"> 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:

Module 16:

- How can you use measures of center to describe a data set?
- How can you determine and use the mean absolute deviation of a set of data points?
- How can you use a box plot and measures of spread to describe a data set?
- How can you summarize and display numeric data?
- How can you display data in a histogram?
- How can you differentiate between a statistical and a non-statistical question?
- How can you determine what type of graph will best display the data?
- How can statistical information be helpful in real life?

Essential Understandings:

Module 16:

- A statistical question requires responses with variation.
- Statistics describe a set of data and its distribution.
- Data can be displayed graphically.

Vocabulary:

- mean
- measure of center
- median
- mean absolute deviation (MAD)
- measure of variability
- box plot
- interquartile range (IQR)
- lower quartile
- measure of spread
- range
- upper quartile
- dot plot
- outliers

- statistical question
- histogram

**Encourage students to practice using the unit vocabulary as they talk and write about mathematics. Understanding vocabulary will aid their understanding of the concepts.*

Suggested Activity Descriptions:

- Present students with a non-statistical question and have them revise it to be statistical.
- Have students create their own statistical question and then survey the class and plot the data on a dot plot.
- Provide each student with a sticky note and have them write their name on it. Pose the question such as, “How many minutes does it take you to get ready in the morning?”. Discuss the various options for the x- and y-axis and then ask the students to place their sticky note accordingly on the board to create a life-size histogram.
- Have students become “statisticians”. Conduct class polls to collect data. Show student answers using colored clothes pins on a sentence strip. Let students analyze the data collected, generate questions, and discuss their findings.
- Students can analyze, discuss, and interpret the data found in bar graphs, charts, tables, and line plots. Students use statistical vocabulary when describing their findings. Students work together to create data distributions on number lines, box plots, dot plots, and histograms.
- GoMATH Unit 7 Review Project: Top Tens

◇ Suggested Sample Tasks:

1. George scored 3 goals, 2 goals, and 4 goals during his last three soccer games. Explain how you can find the mean, or average, number of goals George scored.
2. Find the mean, median, mode, and range for the following set of data:
18, 20, 25, 20, 34, 21, 29
3. The scores for the Wildcat’s basketball team for a season were 44, 43, 42, 40, 42, 45, 39, 38, and 18.
 - a. What are the minimum and maximum scores?
 - b. Find the mean, median, mode, and range for these scores.
 - c. Find the first and third quartiles.
 - d. Is the mean or the median a better measure of center for these scores? Explain your reasoning.

Interdisciplinary Connections:

Science:

1. Performance Task: Careers in Math: Geneticist on GoMATH page 486.

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| <p>Language Arts:</p> <p>1. Vocabulary Preview Activity on GoMATH page 444. 2. Reading Start-Up Activities on GoMATH page 446.</p> <p>Spot Light On: George Washington Carver</p> | | | |
| Social and Emotional Learning: Competencies | | Social and Emotional Learning: Sub-Competencies | |
| <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> | |
| <p><u>Formative Assessments:</u></p> <p>• Teacher Observations • Exit Tickets • Quizzes • Self Assessments • Math Journals • Homework/Classwork • Teacher created assessments</p> | | <p><u>Benchmarks & Summative Assessments:</u></p> <p>• Chapter/Unit Assessments • Standardized Tests • District Assessments • Project-based Assessments</p> | |
| 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 |
| 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 6 Mathematics
Unit 7: Measurement and Data

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, GoMATH Leveled Strategies for English Learners, GoMATH Linguistic Support | worksheets, Art of Problem Solving, Leveled assessments, GoMATH Teaching for Depth |
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| Supplemental Resources | | | |
| <p>Technology:</p> <ul style="list-style-type: none"> • Chromebooks • Scientific/Graphing Calculators (upper grades only) • Online math manipulatives <p>Other:</p> <ul style="list-style-type: none"> • Google Classroom, Google Meets, Schoology, Interactive Workbooks • Illustrative Mathematics • insidemathematics.org • National Library of Virtual Manipulatives | | | |
| Differentiated Student Access to Content: Recommended <u>Strategies & Techniques</u> | | | |
| 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. |

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| NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS | Disciplinary Concept(s): Creativity and Innovation | |
| | Core Ideas: | Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking. |
| | Performance Expectation/s: | 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. |
| | Career Readiness, Life Literacies, & Key Skills Practices | |
| | <p>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.</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) | | | | | | |
| X | 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> | X | Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i> | Standards in Action: <i>Climate Change</i> |