Cliffside Park Public Schools   Grade 2

Mathematics

Topic Name: Topic 12: Measuring Length, Topic 13: More Addition, Subtraction, and Length

Resource: enVision Math 2.0, Pearson, 2016

Duration: March (18 days)

Enduring Understanding

Topic 12

- The length of a known object can be used to estimate the length of another object to the nearest inch, foot, or yard.
- Length and height are measurable in inches.
- Length and height are measurable in inches, feet, and yards.
- When measuring length, the longer the chosen unit, the fewer units are needed; The shorter the unit, the more units are needed.
- Length and height are measurable in centimeters.
- Length and height are measurable in centimeters and meters.
- When measuring length, the longer the chosen unit, the fewer units are needed; the shorter the unit, the more units are needed.
- The lengths of two objects can be compared by subtracting to find the difference.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

Topic 13

- Measurements in the same unit, such as inches, can be added or subtracted in the same way as adding and subtracting whole numbers. The measurement unit needs to be written with the sum or difference.
- Pictures and equations can be used to solve word problems involving measurements. Measurements can be added and subtracted in the same way as other whole numbers.
- A sum can be represented as the total length of two line segments on a number line. A subtraction problem can be represented as the difference of two line segments on a number line.
- Good math thinkers know how to pick the right tools to solve math problems.

Essential Questions			
Topic 12			
● What are ways to measure length?			
Topic 13			
● How can you add and subtract lengths?			

Focus of Standards			

	Skills	**Assessments**	**Resources**
Student Outcomes **Topic 12** ● I can estimate the length of an object by relating the length of the object to a measurement I know. ● I can estimate the measures and use a ruler to measure length and height to the nearest inch. ● I can estimate measures and use tools to measure the length and height of objects to the nearest inch, foot, and yard. ● I can estimate and measure the length and height of objects in inches, feet, and yards. ● I can estimate measures and use a ruler to measure length and height to the nearest centimeter. ● I can estimate measures and use a ruler, meter stick, or tape measure to measure length and height to the nearest centimeter or meter.	● Solving problems ● Understanding concepts ● Reasoning	**Formative** ● Diagnostic assessment ● Exit tickets ● Round robin group work ● Analysis of homework ● Class polls 　○ Show of hands: 1 for all set, 2 for just ok, 3 for help ● One thing I learned/One thing I need work on **Summative** ● End topic tests ● Post group topic ● EOY tests	**Envision Math 2.0** **Digital:** ● *Student and Teacher eTexts* ● *Interactive Math story* ● *Home-School Connection* **Classroom Math Materials** ● 1- inch objects ● 1-foot objects ● 1-yard objects ● Paper clips ● Book ● Inch rulers ● 1-inch squares

● I can measure the length and height of objects using different metric units. ● I can tell much longer one object is than another. ● I can choose tools, units, and methods that help me be precise when I measure. **Topic 13** ● I can solve problems by adding or subtracting length measurements. ● I can add or subtract to solve problems about measurements. ● I can add and subtract to solve measurement problems by using drawings and equations. ● I can add and subtract on a number line. ● I can choose the best tool to use to solve problems.		● SGO tests **Benchmark** ● Diagnostic Assessment ● Pearson benchmark tests **Alternative** ● Math diagnosis and intervention system 2.0 ● Reteaching Set ● Online Learning 　○ Games ● Higher Order Thinking Problems ● Leveled homework and practice ● Center games ● One on one conferencing	● Measuring tapes ● Classroom objects ● Yardsticks ● Index cards ● Slips of paper ● Connecting cubes ● Centimeter rulers ● Centimeter cubes or Centimeter squares ● Meter sticks ● Counters ● String or yarn ● Blank rulers ● Number lines ● Sticky notes ● Open Number Lines

Vocabulary
Topic 12
estimate, inch, foot, yard, height, nearest inch, centimeter, nearest centimeter, meter,
Topic 13
No new vocabulary

NJSLS Math Standards
Operations and Algebraic Thinking
2.OA.A.1-Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions*,* e.g., by using drawings and equations with a symbol for the unknown number to represent the problem*.*
Measurement and Data

2.MD.A.1-Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2.MD.A.2-Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
2.MD.A.3-Estimate lengths using units of inches, feet, centimeters, and meters.
2.MD.A.4-Estimate lengths using units of inches, feet, centimeters, and meters.
2.MD.B.5-Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
2.MD.B.6-Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

Standards for Mathematical Practice
MP1. Make sense of problems and persevere in solving them.
MP2. Reason abstractly and quantitatively.
MP3. Construct viable arguments and critique the reasoning of others.
MP4. Model with mathematics.
MP5. Use appropriate tools strategically.
MP6. Attend to precision.
MP7. Look for and make use of structure.
MP8. Look for and express regularity in repeated reasoning.

Career Ready Practices
CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

NJSLS Technology Standards
8.1 Educational Technology
E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
8.2 Technology Education, Engineering, Design, and Computational Thinking
E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.
8.2.2.E.1 List and demonstrate the steps to an everyday task.

Interdisciplinary Connections
NJSLS for ELA and Science are introduced, developed, and practiced in the context of learning math content and engaging in mathematical practices.
ELA

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

Science

- 2-LS4-1 Scientists look for patterns and order when making observations about the world.
- 2-ESS2-1 Compare multiple solutions to a problem.

NJ: 2014 SLS: 21st Century Life and Careers

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Key Subjects and 21st Century: Themes Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:
 • Global Awareness
 • Financial, Economic, Business and Entrepreneurial Literacy

9.1.4.A.2 Identify potential sources of income
9.1.4.C.5 Determine the relationship among income, expense and interest
9.1.4.D.2 Explain what it means to "invest".

Integrated Differentiation/Accommodations/Modifications *(Alternate Modes of Instruction and Support)*		
Modifications to Support Gifted and Talented Students	**Modifications to Support English Language Learners**	**Modifications to Support Our Learners (Students with IEPs/504s and At-Risk Learners**
Provide appropriate challenge for wide ranging skills and development areas. Participate in inquiry and project-based learning units of study Assigning roles within partnerships Differentiated supports: content, process, product, environment	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Pair visual prompts with verbal presentations Front load and immerse students in literacy and language experiences related to content Provide students with visual models, sentence stems, concrete objects, and hands-on materials. Model procedures for life skills. Collaboration between ELL and general education teacher to maximize learning	Review student individual educational plan and/or 504 plan. Establish procedures for accommodations and modifications for assessments as per IEP/504. Establish procedures for modification of classwork and homework as per IEP/504. Modify classroom environment to support academic and physical needs of the students as per IEP/504. Provide appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team. Differentiation through content, process, product, environment Provide Title I services to students not meeting academic standards in ELA and/or Math. Provide instructional adaptations and interventions in the general education classroom. Modify classroom environment to support student needs. Differentiated instruction

		Basic Skills
		Intensive individual intervention

Sources
New Jersey Student Learning Standards (2016) http://www.state.nj.us/education/cccs/2016/math/standards.pdf
New Jersey Student Learning Standards: Technology (2014) - http://www.state.nj.us/education/cccs/2014/tech/8.pdf
New Jersey Student Learning Standards: ELA (2014) - https://www.state.nj.us/education/cccs/2016/ela/g02.pdf
New Jersey Science and Engineering Practices - https://www.state.nj.us/education/aps/cccs/science/resources/QRk2.pdf
Pearson enVision 2.0 (2016) https://www.pearsonrealize.com/index.html#/