Unit 7: Linear Measurement

Unit #:	APSDO-00017522	Duration:	20.0 Day(s)	Date(s):	03-21-2016 to 03-21-2016

Team:
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Grades:
2

Subjects:
Mathematics

Unit Focus

In this unit, students focus on Measurement. Students will learn how to measure the length of an object by selecting appropriate tools such as rulers, yardsticks, meter sticks and measuring tapes. Students will also estimate lengths using units of inches, feet, centimeters and meters and compare lengths of objects. Upon completion of this unit, students will solve word problems involving lengths given in the same units using drawings and equations. Number lines will be utilized to solve word problems and line plots will be used to record measurements. Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Established Goals	Transfer
Common Core *Mathematics: 2* • Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. *CCSS.MATH.CONTENT.2.MD.A.1* • 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. *CCSS.MATH.CONTENT.2.MD.A.2*	**T1** (T30) Describe, classify, and compare objects. **T2** (T31) Represent, summarize, and interpret data to clarify and solve problems or to make informed decisions. **T3** (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution. **T4** (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense. **T5** (T51) Examine alternate methods to accurately and efficiently solve problems. **T6** (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts.

Meaning

Understandings	Essential Questions

• Estimate lengths using units of inches, feet, centimeters, and meters. *CCSS.MATH.CONTENT.2.MD.A.3* • Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. *CCSS.MATH.CONTENT.2.MD.A.4* • 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. *CCSS.MATH.CONTENT.2.MD.B.5* • 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. *CCSS.MATH.CONTENT.2.MD.B.6* • Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. *CCSS.MATH.CONTENT.2.MD.D.9* • Attend to precision. *CCSS.MATH.MP.6* • Use appropriate tools strategically. *CCSS.MATH.MP.5*	**U1** (U300) Every measurement has a unit in which it is expressed. **U2** (U301) There are many appropriate units that can be used to measure an object(s), but the precision is dependent on the situation. **U3** (U303) Measurements with the same unit can be compared and combined. **U4** (U541) The accuracy of a solution depends upon the proper selection and effective use of a mathematical tool. **U5** (U550) Attention to detail, such as specifying units of measure and labeling, leads to clarity in expressing mathematical information.	**Q1** (Q300) What properties of the object am I trying to measure? How do I measure them? **Q2** (Q301) How precise do I need to be in my measurement? **Q3** (Q302) How do I compare/combine measurements of objects? **Q4** (Q541) How do I use tools to solve problems? **Q5** (Q551) How precise do my quantities need to be for my calculations to be accurate?

Acquisition of Knowledge and Skill

Knowledge	Skills
K1 Understand and use measuring tools to solve word problems	**S1** Measure to the nearest inch and make comparisons and answer questions **S2** Determine which unit of measure is best to use with each picture **S3** Solve word problems using a number line and write an equation to represent the problem **S4** Estimate lengths using units of inches, feet, centimeters, and meters **S5** Generate measurement data by measuring lengths of several objects to the nearest

| | | whole unit, or by making repeated measurements of the same object

S6

Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. |
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