Content Area: Mathematics
Standard: 4. Shape, Dimension, and Geometric Relationships

Prepared Graduates:

- Understand quantity through estimation, precision, order of magnitude, and comparison. The reasonableness of answers relies on the ability to judge appropriateness, compare, estimate, and analyze error

Grade Level Expectation: Second Grade

Concepts and skills students master:

2. Some attributes of objects are measurable and can be quantified using different tools

Evidence Outcomes	21st Century Skills and Readiness Competencies
Students can: a. Measure and estimate lengths in standard units. (CCSS: 2.MD) i. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. (CCSS: 2.MD.1) ii. 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: 2.MD.2) iii. Estimate lengths using units of inches, feet, centimeters, and meters. (CCSS: 2.MD.3) iv. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. (CCSS: 2.MD.4) b. Relate addition and subtraction to length. (CCSS: 2.MD) i. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units[1] and equations with a symbol for the unknown number to represent the problem. (CCSS: 2.MD.5) ii. Represent whole numbers as lengths from 0 on a number line[2] diagram and represent whole-number sums and differences within 100 on a number line diagram. (CCSS: 2.MD.6) c. Solve problems time and money. (CCSS: 2.MD) i. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. (CCSS: 2.MD.7) ii. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and symbols appropriately.[3] (CCSS: 2.MD.8)	**Inquiry Questions:** 1. What are the different things we can measure? 2. How do we decide which tool to use to measure something? 3. What would happen if everyone created and used their own rulers? **Relevance and Application:** 1. Measurement is used to understand and describe the world including sports, construction, and explaining the environment. **Nature of Mathematics:** 1. Mathematicians use measurable attributes to describe countless objects with only a few words. 2. Mathematicians use appropriate tools strategically. (MP) 3. Mathematicians attend to precision. (MP)

[1] e.g., by using drawings (such as drawings of rulers). (CCSS: 2.MD.5)
[2] with equally spaced points corresponding to the numbers 0, 1, 2, ... (CCSS: 2.MD.6)
[3] Example: If you have 2 dimes and 3 pennies, how many cents do you have? (CCSS: 2.MD.6)