

K-12 Mathematics Measurement

Standards/Cluster

Math

Other Content Areas

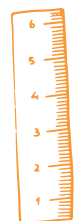


Kindergarten

K.MD.B: Classify objects and count the number of objects in each category

- Practice sorting collections of objects extending to more than one way to sort
- Use descriptive words to describe how collections have been sorted

- Identify similarities and differences between objects
- Use attributes to sort a collection of objects



1st Grade

1.MD.A: Measure lengths indirectly and by iterating length units

- Use measurement vocabulary to first estimate, describe, and then compare measurable attributes
- Measure items with different sizes of nonstandard units

- Order objects by length in terms of the length of another object
- Determine the length of an object as a whole number of length units



2nd Grade

2.MD.A: Measure and estimate lengths in standard units

- Use appropriate tools and terminology for measurement
- Describe how different unit measurements relate to each other and the size of the unit chosen
- Estimate before measuring

- Measure the length of an object using rulers, yardsticks, meter sticks, measuring tapes, and other measuring tools
- Estimate distance, volume, weight, etc



3rd Grade

3.MD.A: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects

- Choose appropriate units of measure for word problems
- Understand the concept of mass in relationship to weight and the concept of measuring in volume
- Solve word problems about metric capacity and mass

- Measure liquids using liters
- Measure mass using grams and kilograms
- Understand units of metric capacity by looking at packaging



4th Grade

4.MD.A: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

- Express measurement equivalents in a larger unit in terms of a smaller unit in a two-column table
- Represent measurement quantities using diagrams
- Visualize benchmark measurements

- Use both metric and standard measurement vocabulary
- Understand the relationship between units within one system of measurement such as money or distance



5th Grade

5.MD.A: Convert like measurement units within a given measurement system

- Solve word problems involving conversion of metric or customary units
- Use the vocabulary associated with the metric and customary conversions.

- Discuss both customary and standard measurements within the same system of measurement using appropriate units

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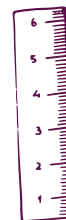


6th Grade

6.RP.2: Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship

- Understand rate as a ratio that compares two quantities with different units of measure
- Understand that unit rates are the ratio of two measurements or quantities in which the second term means "one"
- Interpret rate language
- Solve unit rate problems

- Calculate and understand unit rates (miles per gallon, cost per hour, days per month)

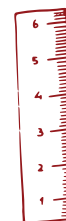


7th Grade

7.RP.1: Compute unit rates associated with ratios of fractions, including ratios of length, areas and other quantities measured in like or different units.

- Use precise mathematical language when presenting solutions to scale drawings using appropriate measurement units
- Redraw a picture or diagram using a different scale

- Read and create scale drawings
- Calculate actual measures from scale drawings (ie floor plans) using appropriate measurement units.

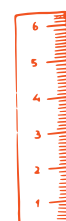


8th Grade

8.G.7: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.

- Calculate measurements of objects using right triangles

- Find distance by drawing and measuring two sides of a right triangle



High School

N.Q.A: Reason quantitatively and use units to solve problems.

- Determine and/or explain why a specific scale was chosen for a graph
- Explain the meaning of different quantities in a problem and its solution

- Connect measurement concepts to science and other contexts to show understanding of significant digits and scientific notation
- Select and properly use an existing quantity for a real-world context

- The standards identified are representative of the focus at each grade level to demonstrate the developmental nature of our Learning Standards
- The math skills listed are applicable within the context of the identified standards but do not offer a comprehensive list of skills they describe
- The other content areas are examples to provide possible uses of the math skills within the listed standards