# **Units of Measurement Comprehension Check**

For questions 1 and 2, sort the following units of measurement into their correct systems:

Celsius

Centimeters

Cubic Meters

Cubic Yards

Cups

Fahrenheit

Gallons

Grams

Inches

Kilograms

Liters

Miles

Milliliters

Ounces

Pints

Pounds

Square Feet

Square Kilometers

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| --- | --- |
| 1. Which of the above units of measurement are considered part of the metric system? | 2. Which of the above units of measurement are considered part of the US customary system? |

1. What is the metric system? Use examples to support your answer.
2. What is the US customary system? Use examples to support your answer.
3. What is area and how is it measured? Use an example to support your answer.
4. What are volume and capacity and how are they measured? Use an example to support your answer.
5. What is a central angle in a circle? How can you determine the measure of the central angles in a circle divided into 9 equal portions?
6. Wendy’s farm specializes in growing watermelons. She predicts they will harvest about 500,000 grams of watermelon. Use what you know about conversions to determine how many kilograms of watermelon Wendy will likely harvest. (Note: 1 kg = 1,000 g)
7. This week, Joseph decided to make fruit punch for his friends. He decided to triple his mom’s original recipe. If the original recipe made 4 cups of punch, how many cups will triple the recipe produce? Convert that amount to pints as well as quarts.
8. A playground’s four-square court has a width of 6 feet. What is its area in square yards?

# **Units of Measurement Comprehension Check Answer Key**

For questions 1 and 2, sort the following units of measurement into their correct systems:

Celsius

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|  |  |
| --- | --- |
| 1. Which of the above units of measurement are considered part of the metric system?   1. The metric system includes Celsius, centimeters, cubic meters, grams, kilograms, liters, milliliters, and square kilometers, among others. | 2. Which of the above units of measurement are considered part of the US customary system?   1. The US customary system includes cubic yards, cups, Fahrenheit, gallons, inches, miles, ounces, pints, pounds, and square feet, among others. |

1. What is the metric system? Use examples to support your answer.
   1. The metric system is a measurement system used throughout the majority of the world. It is used to measure length, distance, area, volume, mass, and temperature. For example, the metric system measures length and distance using meters.
2. What is the US customary system? Use examples to support your answer.
   1. The US customary system is another measurement system, often used in the United States of America. This system can also measure length, distance, area, volume, mass, and temperature. For example, the US customary system measures length and distance using yards.
3. What is area and how is it measured? Use an example to support your answer.
   1. Area is a measurement of a two-dimensional, flat space. It is represented by square units, sometimes written as units2. Even though area is measured in square units, area can be used to describe the space covered by any shape, including circles and irregular polygons!
4. What are volume and capacity and how are they measured? Use an example to support your answer.
   1. Volume and capacity are both measures of three-dimensional space. Volume is the amount of space something fills, and capacity is the maximum volume a given space can hold. Volume and capacity are both represented by cubic units, or units3. Volume can be used to describe any three-dimensional space that can be filled, including cones, pyramids, and cylinders.
5. What is a central angle in a circle? How can you determine the measure of the central angles in a circle divided into 9 equal portions?
   1. In a circle, the central angle refers to any angle with a vertex at the center. Because we know a circle has a total of 360 degrees, if it were divided into 9 equal portions, we could determine the measure of the central angles by dividing 360 degrees by 9 to get 40-degree central angles.
6. Wendy’s farm specializes in growing watermelons. She predicts they will harvest about 500,000 grams of watermelon. Use what you know about conversions to determine how many kilograms of watermelon Wendy will likely harvest. (Note: 1 kg = 1,000 g)
   1. Students’ strategies will vary as some may use ratios and others may use number sense and division to convert 500,000 grams to 500 kilograms.
7. This week, Joseph decided to make fruit punch for his friends. He decided to triple his mom’s original recipe. If the original recipe made 4 cups of punch, how many cups will triple the recipe produce? Convert that amount to pints as well as quarts.
   1. Students’ strategies will vary as they solve this problem, however they should first multiply 4 x 3 to get 12 total cups. Students should then use what they know about conversions to determine that 12 cups is equivalent to 6 pints which is equivalent to 3 quarts.
8. A playground’s four-square court has a width of 6 feet. What is its area in square yards?
   1. Students’ strategies will vary as they solve this problem, but they will need to multiply to find the area and complete a conversion. Some students may determine the area to be 36 square feet and then use a conversion to determine the area to be 4 square yards (36 ÷ 9 = 4). More likely, though, students will first convert the side lengths from 6 feet to 2 yards, and then multiply to determine the area as 4 square yards.