

Metric System Questions

Test your knowledge with these ten questions about the metric system.



- 1. What is the official name of the modern metric system and what is its abbreviation?**
- 2. The metric system consists of how many base units? Name them.**
- 3. Which metric system unit is preferred for measuring clothing and body measurements?**
- 4. What is the difference in usage between the temperature in degrees Celsius and in kelvins?**
- 5. Which metric system prefix means one-millionth?**
- 6. What is the difference between mass and weight?**
- 7. What are the short forms for metric system units called?**
- 8. What is another name for the cubic decimeter, and what is its mass when filled with water?**
- 9. What is the metric system unit equal to one square hectometer, useful for measuring small land area?**
- 10. What does the characteristic of coherency of SI metric system units mean?**

Metric System Answers



1. The official name is the International System of Units. Its abbreviation is SI (ess-eye).
2. The metric system consists of seven base units: meter (m); kilogram (kg); second (s); kelvin (K); ampere (A); mole (mol); and candela (cd).
3. The centimeter (cm) is preferred for measuring clothing and body measurements.
4. The degree Celsius ($^{\circ}\text{C}$) scale is meant for everyday temperatures (with 0°C as the temperature of the melting point of ice and 100°C as the temperature of boiling water at sea level). The kelvin scale is a scientific scale for the temperature above absolute zero (0 K , -273.15°C). The difference in scales is 273.15.
5. The metric system prefix for one-millionth is micro, Greek symbol μ (Greek letter mu), as in micrometer (μm) for one-millionth of a meter (m).
6. Mass is the quantity of matter, measured in kilograms (kg). In everyday language, mass is usually called "weight", as in "my weight is 68 kg" or "I weigh 68 kg." However, in correct scientific language, the word *weight* is reserved for the force of gravity, which is measured in newtons (N). Therefore, it is more correct, *technically*, to say "My mass is 68 kg".
7. The short forms for metric system units are called symbols. It is *not* correct to call them abbreviations.
8. A cubic decimeter, one decimeter (ten centimeters) on a side, is called a liter (L), and a container this size has a mass of one kilogram (kg) when filled with water.
9. A square, one hectometer (one hundred meters) on a side, is called a hectare (ha), a unit that is useful for measuring land area.
10. The metric system is a coherent system in that the units follow the equations for the quantities being measured, without conversion factors. For example, force is equal to mass times acceleration, therefore the units follow, with a newton (N) being a kilogram (kg) accelerated one meter per second squared (m/s^2): $1\text{ N} = 1\text{ kg}\cdot\text{m/s}^2$.