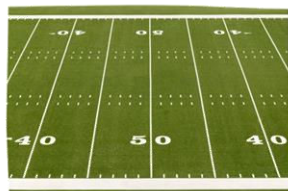


Nature of Science

Section 2: Standards of Measurement

The standard measurement system used by scientists worldwide is known as the International System of Units (SI). SI units are easy to use because this metric system is a decimal system of units based on a scale of multiples of ten. Each unit is ten times larger than the next smallest unit and one-tenth the size of the next largest unit.

SI Base Units		
Quantity Measured	Unit	Symbol
Length	meter	m
Mass	gram	g
Time	second	s
Electric current	ampere	A
Temperature	Kelvin	K
Amount of substance	mole	mol
Intensity of light	candela	cd



To measure the distance between two points, scientists use **length**. The object's size determines the unit it will be measured in. For example, the length of a football field is measured in meters, whereas a pencil is measured in centimeters.

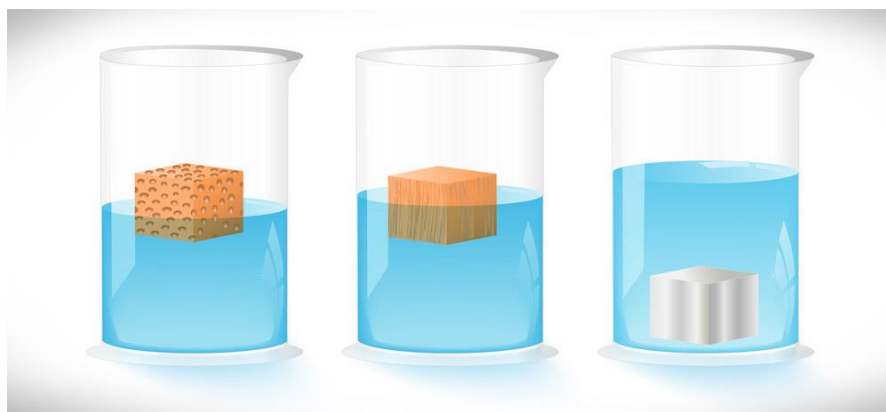
Mass is the amount of matter in an object. The mass of a bowling ball outweighs the mass of a basketball.



Nature of Science

Section 2: Standards of Measurement Continued

The **density** of an object can be calculated based on its mass and volume. **Volume** is the amount of space taken up by something. Water displacement is one way to determine the volume of a solid. When an object is placed in water, the amount of water it displaces is the volume of the object. From the mass and volume of the object, its density can then be calculated.



Time is the interval between two occurring events, measured by a stopwatch or a clock.

Review:

1. What is the unit of measurement for temperature?
2. How do you calculate density?
3. What is time?