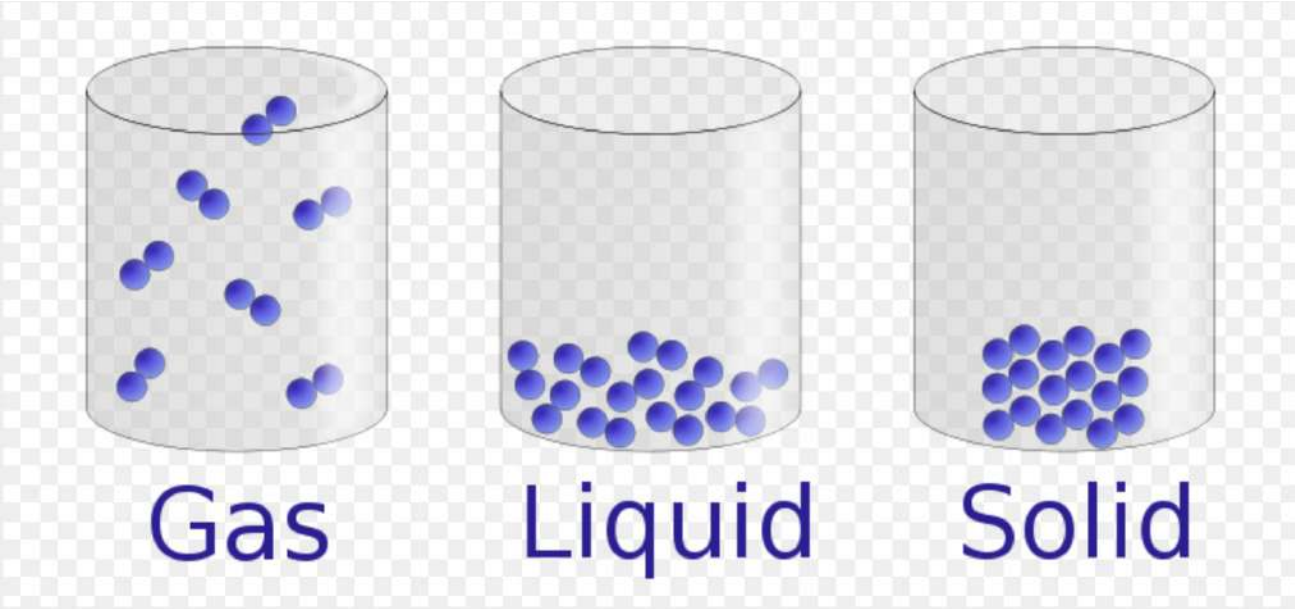
Matter



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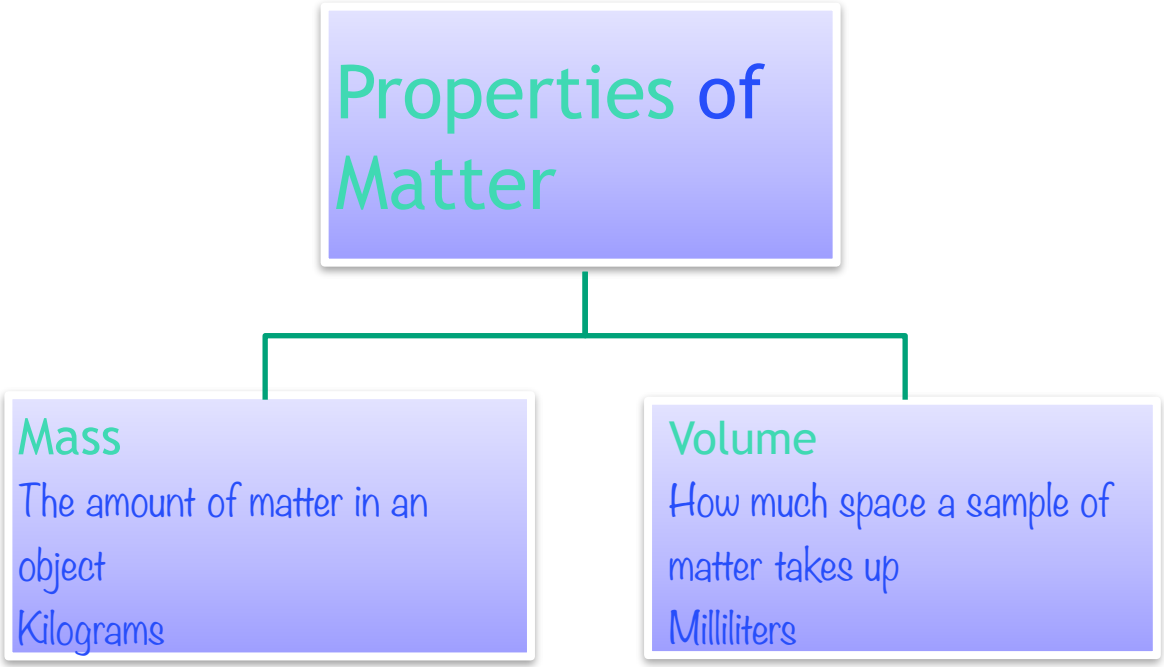
What is Matter?

Matter is anything that has mass and takes up space.



Mass and Weight: Are They Different?

Mass vs. Weight	
Mass	**Weight**
-Mass is the amount of matter in an object -Mass is measured in kilograms -You can measure mass with an equal-pan balance -No matter where something or someone is, it's mass never changes	-Weight is the force of gravity between Earth and an object -Weight is measured in newtons -You can measure weight with a scale -Where an object is can affect that object's mass because there is a different amount of gravity between that object

These two objects may look the same, but the golf ball has a heavier density.

Density

Density tells how massive an object is for its size.

Density Formula

$$\frac{\text{Mass}}{\text{Volume}}$$

Density affects many aspects of matter. For example, how things float is based off of density. If an object is denser than the water, it sinks. If the object is less dense than the water, it floats. This process is called buoyancy. Density also affects how particles of matter are packed together. This means that the more tightly an object is packed together, means that it has a high density. The looser and and less particles in an object or given space is a low density. If the mass of an object increases, the density of that object increases because more particles are being assigned to a given space. If volume increases, then the density of that object goes down because the same amount of particles are getting a bigger assigned space.

Conductor or Insulator?

A conductor is something that lets energy flow through it easily. Example: Metal

An insulator is something that does NOT let energy flow through it easily. Example: Plastic

Matter

Properties

-Volume

-Density

-Mass

-Weight

Careers

Engineers, scientists, and sailors use each of the 4 properties of matter everyday at their work.

Conductors and Insulators

References:

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http://go.grolier.com

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