

# MATTER



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# What is Matter?

Matter is anything  
that has mass and  
takes up space

## Properties of Matter



```
graph TD; A[Properties of Matter] --- B[Mass]; A --- C[Volume];
```

### Mass

Mass is measuring the amount of matter in an object. The unit of measurement is often measured in kilograms

### Volume

Volume is the amount of space an object occupies. The unit of measurement is often measured in milliliters

# Mass and Weight: Are They Different?

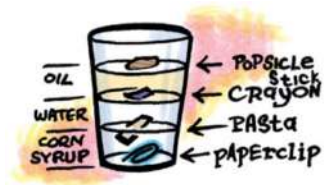
## Mass vs. Weight

### Mass

Mass is the amount of matter in an object. Its unit of measurement is kilograms.

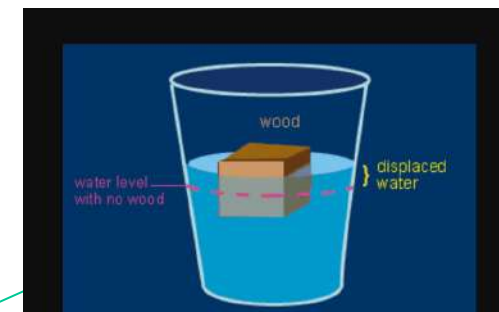
### Weight

Weight is the force of gravity between Earth and an object. The unit of measurement is *newtons*



# Density

The density of an object tells us how massive something is for its size.



Density  
Formula



**Mass**

**Volume**

Density is dividing the mass by its volume. Density tells you if an object will float or sink in a cup of water.

Denser objects have less empty space in them. Did you know that if u put oil in a cup of water it floats?, well that's because it is less dense then water. So it floats at the top of the cup instead of sinking to the bottom of the cup. If you put a rock in a cup it sinks because it is more dense than water. Wood floats in water because it is less dense than the water in the cup or bowl. Density is a physical properties of matter.

# Conductor or Insulator?



Conductors are materials that allow energy to flow through easily



Insulators are materials that don't readily permit energy to not flow through easily



# Matter



## Properties?

Mass  
Volume  
Weight  
Density

?

Astronaut  
Clown  
Teacher  
Lifeguard

Conductors  
and  
Insulators

# References:

[en.Wikipedia.org/wiki/density](http://en.Wikipedia.org/wiki/density)

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