

P.5.5A Properties of Matter

Matter is anything that has mass and takes up space. Matter is made of elements.

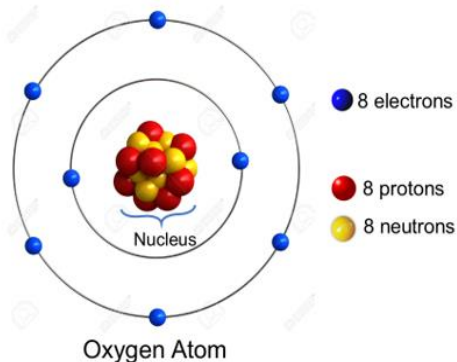
An element is material that cannot be broken down into anything simpler. It is made entirely of from one type of atom.

Atoms are the smallest unit of an element that retains the properties of that element.

(Watch Bill Nye Uncuttable atom with cheese segment)

<https://www.youtube.com/watch?v=V2n7y7SLXhg>

Atoms: too small to see; made of protons (+), neutrons (=), and electrons (-).



Atoms combine to make molecules. For example: H₂O 2 hydrogen atoms combine with 1 oxygen atom to make 1 molecule of water.

<https://www.youtube.com/watch?v=aNK1mQfNeik>

Physical Properties of Matter

Physical properties can be observed or measured do not change the matter itself.

Size Shape Color Mass Texture Solubility
State of Matter Reflectivity Conductivity Hardness
Magnetic Density

State of Matter

There are 3 common states of matter: solid, liquid, and gas.

State of matter	Particle Spacing/Movement	Shape	Volume
Solid	Tightly packed/almost no movement	Definite	Definite
Liquid	Closely spaced/ flow past each other	No definite shape	Definite
Gas	Far apart/ move easily	No definite shape	No definite volume

(draw a picture to represent the matter under each state of matter name)



Physical Property		
Mass	The amount of matter in an object.	
Volume	The amount of space matter takes up.	
Density	The amount of matter in a given space. Density = mass / volume	<p style="text-align: center;">Density</p>

Magnetism	Some metals are attracted to magnets.	
Conductivity	Ability of a substance to transfer heat or electricity. Metals are good conductors. They transfer heat/electricity well.	
Solubility	Ability to dissolve in a liquid.	
Reflectivity	Light is bounced back toward your eyes.	
Hardness	How easily a mineral can be scratched.	

