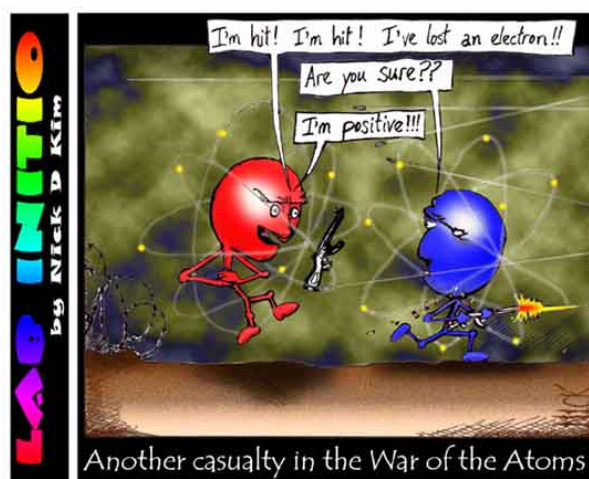


Warm-Up

List 5 observations about the object below. What are some things that cannot be listed because it is just a picture?



Chemical Processes



Chemical Safety

HHPS

- Hazardous Household Product Symbols - indicate why and to what degree a product is dangerous.

WHMIS





- Workplace Hazardous Materials Information System - Developed to standardize the labeling of dangerous materials used at the workplace and in schools.
- For 2015, WHMIS has aligned with the worldwide communication system known as GHS - the Globally Harmonized System of Classification and Labelling of Chemicals. Aligning with GHS has many benefits, including:
 - Improved hazard classification criteria
 - New hazard classes
 - Physical hazard criteria are consistent with the Transport of Dangerous Goods (TDG regulations)
 - Standardized language

WHMIS symbols will be changed and referred to as pictograms.

MSDS

- Material Safety Data Sheet - contains information on the potential hazards (health, fire, reactivity, and environmental) and how to work safely with the chemical product. Every material that is controlled by WHMIS must have an accompanying MSDS.

HHPS

-  **Corrosive** (such as acids)
-  **Flammable** (burns easily)
-  **Reactive** (explosive or produces deadly vapours)
-  **Toxic** (poisonous to humans).

DANGER













WARNING



CAUTION



WHMIS

	Exploding bomb (for explosion or reactivity hazards)		Flame (for fire hazards)		Flame over circle (for oxidizing hazards)
	Gas cylinder (for gases under pressure)		Corrosion (for corrosive damage to metals, as well as skin, eyes)		Skull and Crossbones (can cause death or toxicity with short exposure to small amounts)
	Health hazard (may cause or suspected of causing serious health effects)		Exclamation mark (may cause less serious health effects or damage the ozone layer*)		Environment* (may cause damage to the aquatic environment)
	Biohazardous Infectious Materials (for organisms or toxins that can cause diseases in people or animals)				

Matter

What can you tell me about matter?

Matter - It is anything that (1) has mass, and (2) has volume.

What is a property?



Matter can be broken up into two different types of properties: physical and chemical.

Physical Properties

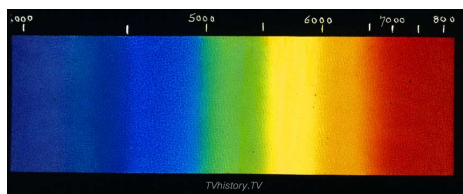
Physical properties are ones that you can observe with your senses.



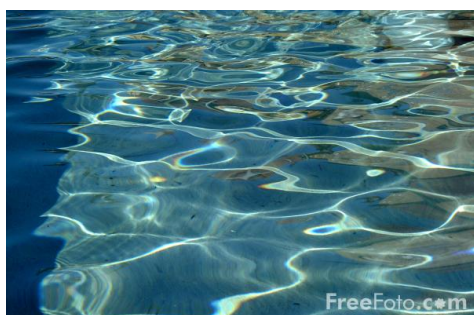
Qualitative vs Quantitative



"some" Qualitative Properties



color



texture



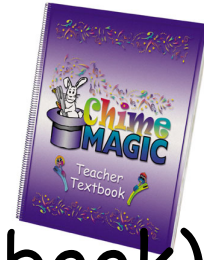
odor



other qualitative things would be **taste**, clarity, and the four physical states (which are?)

Solid - definite shape

- definite volume (book)



Liquid - indefinite shape

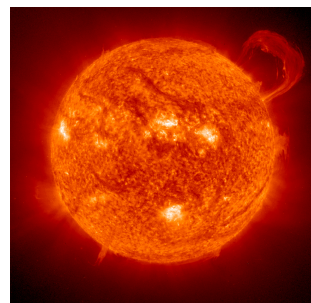
- definite volume (water)



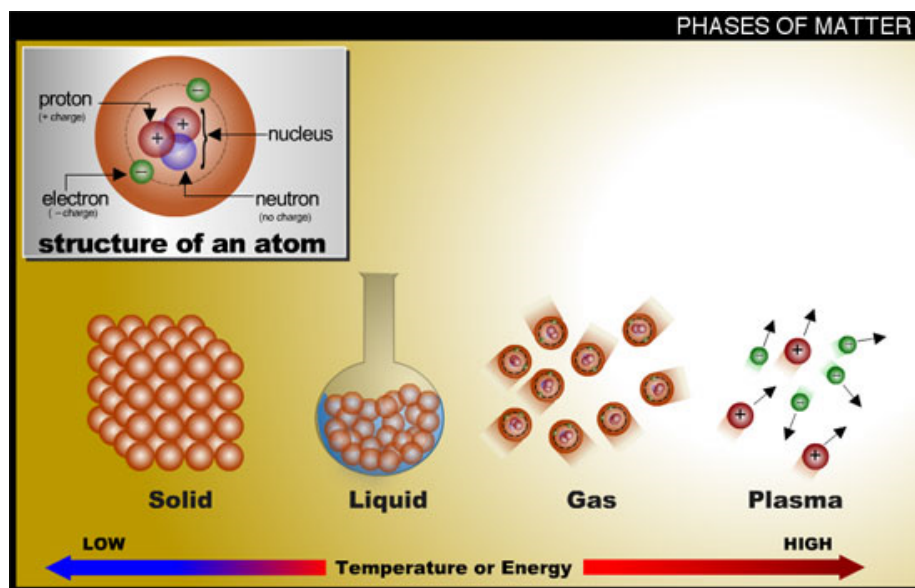
Gas - indefinite shape

- indefinite volume (oxygen)

Plasma - an ionized gas, where high energy is provided to free electrons from their atoms or molecules.



So, in recap...



Quantitative Properties

Some quantitative properties include:

- melting points
- boiling points
- electrical conductivity
- heat conductivity

Find the definitions for the following words.

Jot them down in your notebook and classify them as qualitative or quantitative.

Lustre
Hardness
Malleability
Ductility
Solubility
Density
Viscosity

Example

Write 5 properties for each of the following using the terminology you just learned:



