Elements

- Atoms are the smallest part of an element. For Example: If you have a piece of gold and cut it into smaller and smaller pieces, you would eventually reach a point where you couldn't cut the gold up any smaller. That smallest piece would be an atom of gold.

- Elements are made of ***like atoms***.

- Elements cannot be separated into simpler substances.

- All elements are located on the Periodic Table of Elements.

- An element is a pure substance, because it cannot be cut up any more and still be the same thing.

- All elements have a chemical symbol.

Task: Look on the PTOE, and write down the names of any 3 elements and its chemical symbol..

1. Element Name: _____ Chemical Symbol: _____
2. Element Name: _____ Chemical Symbol: _____
3. Element Name: _____ Chemical Symbol: _____

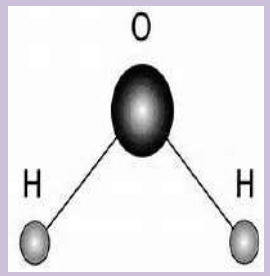
Molecules

- Molecules are made up of atoms. Atoms of a molecule can all be the ***same or different***.
- If the molecule is an element, then all the atoms bonded together are the same.
- If the molecule is a compound, then different types of atoms are bonded together.
- Molecules are pure substances, because a molecule cannot be cut up any more and still be that substance. For example, one small tiny piece of sugar, that can not be cut up any more, is a molecule of sugar.
- All molecules have a chemical formula. A chemical formula is a specific number and type of atoms that makes up a type molecule.

Task: Correctly match the name and chemical formula to the correct molecule.

Water (H_20) = H + H + O

Oxygen (O_2) = O + O

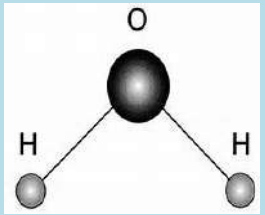


Compounds

- Compounds are made of ***two or more different types of atoms.***
- All compounds can be molecules, but not all molecules can be a compound.
- Compounds are pure substances because a compound cannot be cut up any more and still be that substance.
- All compounds have a chemical formula. Example: H_2O

Task:

1. Which chemical formula represents a compound? CO_2 or H_2
2. Which picture is a compound?



Compounds and Molecules can only be separated during a chemical change.

Mixtures can be separated by physical means.

Mixtures

Mixtures do not have a chemical formula. In other words, no specific recipe. For example, a salad is a mixture, I could add more tomatoes to my salad than you do, but I still have a salad.

2 Types of Mixtures:

- Homogeneous – the same throughout, cannot see the individual parts. Example: milk

  *Solution – a homogeneous mixture. Example: sugar water

- Heterogeneous – Not the same throughout, can see the individual parts. Example: Cinnamon and Sugar Mixture

Create a flow chart with the following terms:

Atoms
Mixtures
Elements
Matter
Physical Properties
Chemical Properties
Pure substance
Heterogeneous
Molecules
Compounds
Solutions

Quiz will follow video...

Elements and Compounds Video

Go to: Kahoot.it