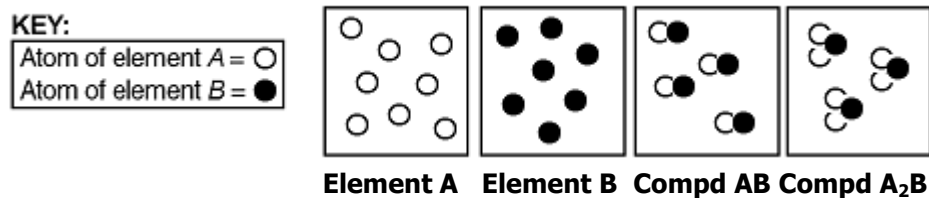


Aim: How can we tell if a substance is a compound?

Compound a substance composed of **2 or more elements chemically** combined. Compounds consist of 2 or more types of atoms bonded to each other.



1st - Just check out the formula.

Cu, C, Na, Fe, H₂O₂,...only **one** symbol, elements

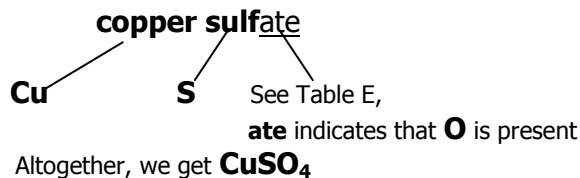
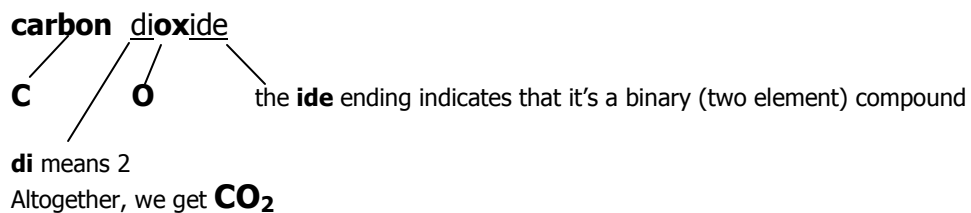
NaCl, CuO, KBr, H₂O... **two or more** symbols written, side by side, compounds

And, H₂O ≠ H₂O₂

Compounds have **specific formulas & definite compositions.**

2nd - Analyze the name.

You can tell from the name that it's a compound. You'll see pieces of the names of elements that make up the compound and prefixes & endings that tie it altogether.

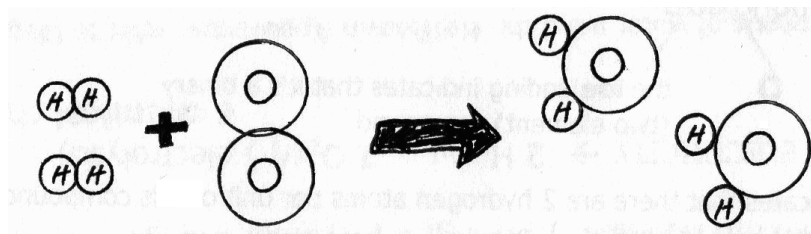


3rd - Compare the properties.

When elements are **chemically** combined their properties **change**. For example,

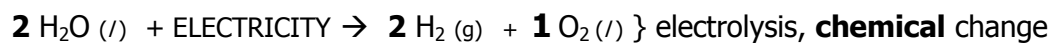
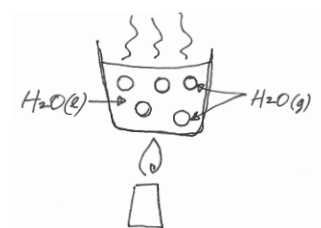
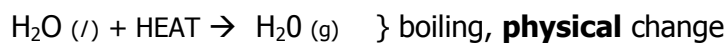
H ₂	O ₂	H ₂ O
Hydrogen	Oxygen	Water
(g)	(g)	(l)
explosive	flammable	non-explosive non-flammable

WHY??? the properties don't "cancel out"; they change due to the **breaking of bonds, rearrangement of atoms & formation of new bonds**. That's what a chemical change (reaction) is all about.



4th - Try breaking it down.

Compounds are formed **and** decomposed only by a chemical change.



Demo: **Electrolysis** of water using the **Hoffmann Apparatus**; refer to Diagram in handout (HW sheet).

- NOTE:**
- a) H₂ collects at the (-) electrode; O₂ at the (+) electrode
 - b) H₂ collects twice as much as O₂ and
 - c) H₂ "**pops**" with a burning splint;
 - d) O₂ "**ignites**" with a glowing splint.