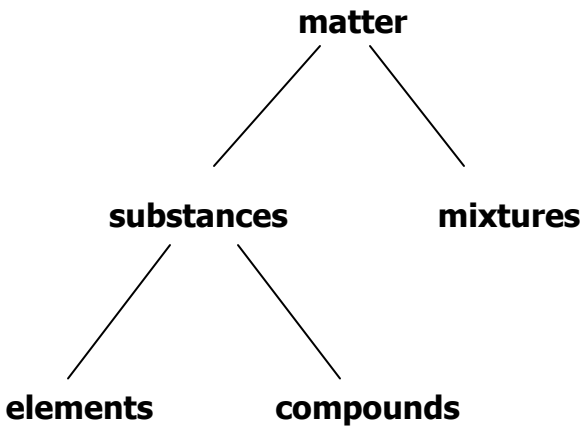
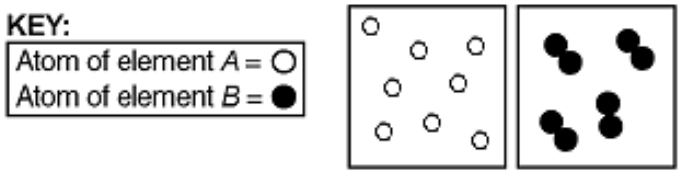
3 classes of matter



Aim: What are elements and how do they differ?

1) **<u>Element</u>**- the simplest kind of substances; they **can't** be **decomposed**. Elements consist of only one type of atom.



B is a diatomic element - 2 atoms of the same element bonded to each other.

2) There are about **100** elements. Almost all of them occur **naturally**; the rest are **man-made**.
Handout: Reference Tables, go to Periodic Table of Elements

3) Chemists use **symbols** to represent them.

1^{st} letter, uppercase; 2^{nd}, lowercase.

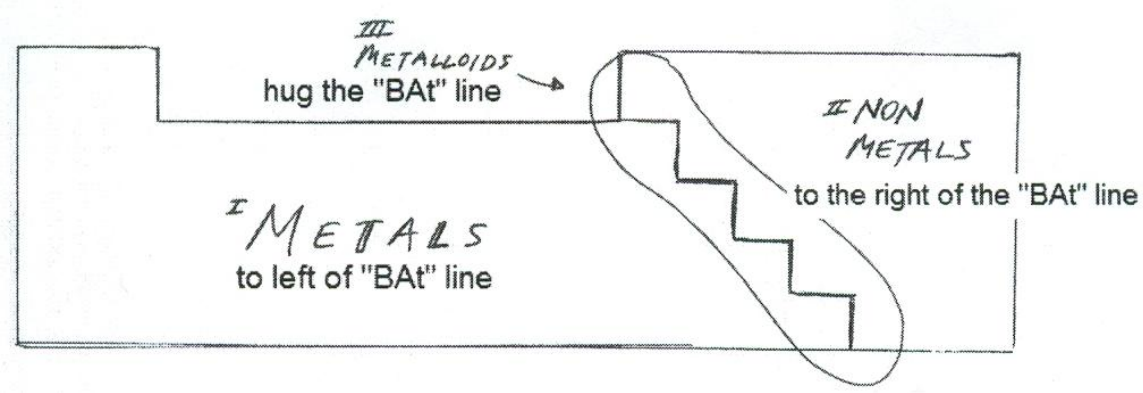
For example, Iron = Fe, not FE or fE or fe

You <u>don't</u> have to memorize the names of the elements and their symbols; just refer to Table **S**.

Another example, K = potassium

The elements are named after **people, places and things**.
Examples: Einstein = Es_{99}, Mendeleev = $Md_{101;}$ California = Cf_{98}, France = Fr_{87};
Bromos = stinks = Br_{35}, Chloros = green = Cl_{17}, …

4) A quick look at the **Periodic Table**



Questions:

1) Classify the following elements as a Metal (M), NonMetal (NM) or Metalloid aka Semimetal (SM)

Os _____ **Bi** _____ **Xe** _____ **As** _____

2) What is the symbol for **strontium**? _____

3) What is the name of the element represented by **Pd** _____?