**Law of Conservation of Mass**

* Law that always holds true.
* If it appears that it doesn’t, it is due to human error.
	+ Look at your full reaction.
	+ Did you collect mass of all reactants before the reaction and all products after the reaction?

\_\_\_\_\_ Fe + \_\_\_\_\_ O2 **🡪** \_\_\_\_\_Fe2O3

1 Iron atom 🡪 2 Iron atoms

2 Oxygen atoms 3 Oxygen atoms

Remember, matter or mass may not be created or destroyed….

 4 Fe + 3 O2 **🡪** 2 Fe2O3  Balancing obeys they law!

4 Iron atoms 🡪 4 Iron atoms

6 Oxygen atoms 6 Oxygen atoms

Biggest mistakes…..

Never change a formula. You may only write coefficients in front.

\_\_\_\_\_ H2 + \_\_\_\_\_ O2 **🡪** \_\_\_\_\_H2O

\_\_\_\_\_ H2 + \_\_\_\_\_ O2 **🡪** \_\_\_\_\_H2O2

Although the atoms are “conserved” this is incorrect!

Water and hydrogen peroxide are 2 different materials. One is a basic necessity for life (water), and the other kills living tissue!

 2 H2 + O2 **🡪** 2H2O

4 hydrogen atoms and 2 oxygen as both reactants and products