

Formulas and Equations

Name KEY Hour _____



Write the number of atoms of each element in the compound. Extra credit: research the name of the compound, one is done for you

1. NO_2 Nitrogen 1 Oxygen 2 (Nitrogen Dioxide)
2. Al_2O_3 Aluminum 2 Oxygen 3 (_____)
3. C_2H_2 Carbon 2 Hydrogen 2 (_____)
4. Na_2CO_3 Sodium 2 Carbon 1 Oxygen 3 (_____)
5. $\text{C}_6\text{H}_{12}\text{O}_6$ Carbon 6 Hydrogen 12 Oxygen 6 (_____)

Write the name and number of atoms of each element in the compound. One is done for you.

6. NH_3 Nitrogen 1, Hydrogen 3
7. CO_2 Carbon 1 Oxygen 2
8. NaOH Sodium 1 Oxygen 1 Hydrogen 1
9. Br_3KAu Bromine 3 Potassium 1 Gold 1
10. Hg_2Mn Mercury 2 Manganese 1
11. PbLi_2 Lead 1 Lithium 2

Balance each equation by filling in the missing numbers. (use pencil...in case of a mistake)

12. $\underline{2}\text{Mg} + \text{O}_2 \longrightarrow \underline{2}\text{MgO}$ (magnesium oxide)
13. $\underline{2}\text{Na} + \text{Cl}_2 \longrightarrow \underline{2}\text{NaCl}$ (sodium chloride)
14. $\text{P}_4 + \underline{5}\text{O}_2 \longrightarrow \underline{2}\text{P}_2\text{O}_5$ (phosphorus pentoxide)
15. $\underline{6}\text{C} + \underline{6}\text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6$ (glucose)

Challenge:

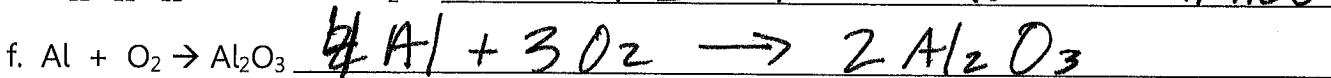
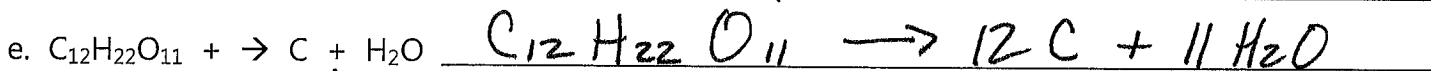
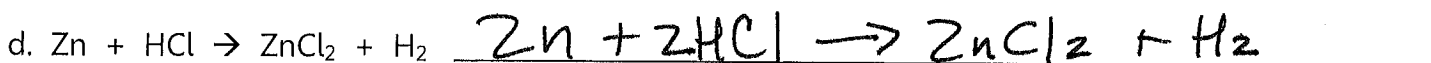
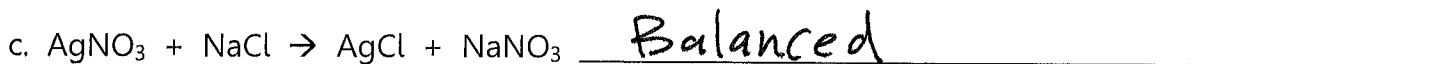
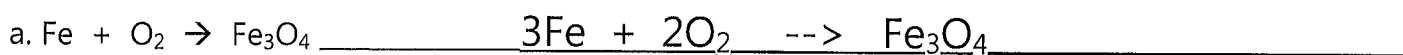
16. $\text{S}_8 + \underline{8}\text{O}_2 \longrightarrow \underline{8}\text{SO}_2$ (sulfur dioxide)
17. $\underline{3}\text{CO}_2 + \underline{6}\text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \underline{3}\text{O}_2$ (glucose and oxygen)
18. $\underline{2}\text{C}_4\text{H}_{10} + \underline{13}\text{O}_2 \longrightarrow \underline{8}\text{CO}_2 + \underline{10}\text{H}_2\text{O}$ (carbon dioxide and water)

Balancing Chemical Equations...this is hard stuff...

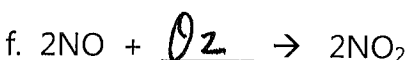
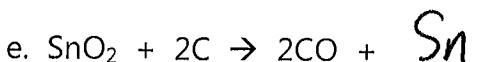
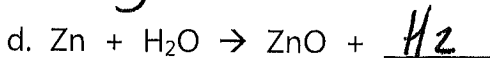
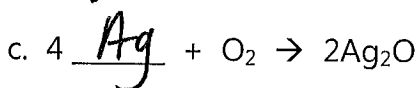
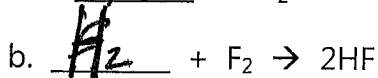
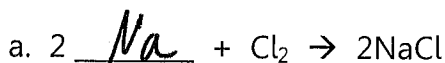
1. Complete the table by listing the different elements in each molecular formula. Include the number of each atom. (Ex: Hydrogen 2, Einsteinium 5)

Molecular Formula	Composition (what is it made out of)
H ₂ SO ₄	Hydrogen 2 Sulfur 1 Oxygen 4
FeSO ₄	Iron 1 Sulfur 1 Oxygen 4
Pb(NO ₃) ₂	Lead 1 Nitrogen 2 Oxygen 6

2. Balance each of the following equations. One is done for you. (hint: one question does not need to be balanced)



3. Fill in the missing chemical symbols or molecular formulas to balance the following equations.



4. State in your own words the Law of Conservation of Mass

Matter cannot be created or destroyed - only changed.
atoms are not lost or gained. Only rearranged.

CHEMISTRY

