# The Mole Worksheet

1. Find the Molar Mass of the following compounds:

| | | |
|---|---|---|
| Carbon | $Au_2(SO_4)_3$ | FeS |
| $Fe_2O_3$ (rust) | $Ni(H_2PO_4)_3$ | $H_2S$ |
| Nitrogen Gas | $CS_2$ | $CH_3Br$ (methyl bromide) |
| $KNO_3$ | Oxygen Gas | $Cl_2$ |
| Carbon Monoxide | Argon Gas | $H_2O$ |
| Iridium | $NH_4C_2H_3O_2$ | $Al_2(SO_4)_3$ |

2. What is the mass in grams of 5.6moles of carbon?
3. What is the mass in grams of 0.645moles of rust?
4. How many molecules are in 0.125moles of nitrogen gas?
5. How many formula units are in 2.59moles of potassium nitrate?
6. How many moles are in 44.9g of iron (II) sulfide?
7. How many moles are in 0.001g of carbon monoxide?
8. How many formula units are in 19.76g of gold (III) sulfate?
9. How many molecules are in 256g of carbon disulfide?
10. How many moles are in 15.9L of oxygen gas at STP?
11. How many grams are in 45.0L of argon gas at STP?
12. What is the mass of 1.74moles of dihydrogen monosulfide?
13. How many molecules are in 0.00343moles of methyl bromide?
14. What is the mass of 245L of chlorine gas?
15. How many molecules are in one drop of water? (Note: 20drops=1ml and the density of water is 1g/1ml.)
16. How many atoms are in one crystal of iridium, which has a volume of 0.00017ml? (Note: The density of iridium is reported as 22.42g/ml.)