

NAME _____

Chemistry I Worksheet
Writing and Balancing Chemical Equations I

INSTRUCTIONS: In the blanks to the left, identify each equation as *synthesis* [S], *decomposition* [D], *single-replacement* [SR], *double-replacement* [DR], or *combustion* [C]. Then, balance the equations by placing coefficients in the blanks – but only where needed.

- _____ 1. ____ CH_4 + ____ O_2 $\rightarrow$ ____ CO_2 + ____ H_2O
- _____ 2. ____ Mg + ____ O_2 $\rightarrow$ ____ MgO
- _____ 3. ____ Fe + ____ Al_2O_3 $\rightarrow$ ____ Fe_2O_3 + ____ Al
- _____ 4. ____ CuSO_4 + ____ NaOH $\rightarrow$ ____ $\text{Cu}(\text{OH})_2$ + ____ Na_2SO_4
- _____ 5. ____ FeCO_3 $\rightarrow$ ____ FeO + ____ CO_2
- _____ 6. ____ AgNO_3 + ____ NaCl $\rightarrow$ ____ AgCl + ____ NaNO_3
- _____ 7. ____ Al + ____ Cl_2 $\rightarrow$ ____ AlCl_3
- _____ 8. ____ MnCl_3 $\rightarrow$ ____ MnCl_2 + ____ Cl_2
- _____ 9. ____ C_2H_6 + ____ O_2 $\rightarrow$ ____ CO_2 + ____ H_2O
- _____ 10. ____ K_2CO_3 + ____ $\text{Ca}(\text{NO}_3)_2$ $\rightarrow$ ____ KNO_3 + ____ CaCO_3
- _____ 11. ____ Fe + ____ O_2 $\rightarrow$ ____ Fe_2O_3
- _____ 12. ____ C_3H_8 + ____ O_2 $\rightarrow$ ____ CO_2 + ____ H_2O
- _____ 13. ____ H_2SiF_6 $\rightarrow$ ____ SiF_4 + ____ HF
- _____ 14. ____ Cu + ____ AgNO_3 $\rightarrow$ ____ $\text{Cu}(\text{NO}_3)_2$ + ____ Ag
- _____ 15. ____ Ir_2O_3 + ____ H_2S $\rightarrow$ ____ Ir_2S_3 + ____ H_2O
- _____ 16. ____ CrO_3 + ____ H_2O $\rightarrow$ ____ $\text{H}_2\text{Cr}_2\text{O}_7$
- _____ 17. ____ C_6H_6 + ____ O_2 $\rightarrow$ ____ CO_2 + ____ H_2O
- _____ 18. ____ $\text{Al}(\text{OH})_3$ $\rightarrow$ ____ Al_2O_3 + ____ H_2O
- _____ 19. ____ Al + ____ H_2SO_4 $\rightarrow$ ____ $\text{Al}_2(\text{SO}_4)_3$ + ____ H_2
- _____ 20. ____ BiCl_3 + ____ KOH $\rightarrow$ ____ $\text{Bi}(\text{OH})_3$ + ____ KCl