|  |  |  |
| --- | --- | --- |
| ***Balancing Combustion Reactions***EHS CλeMI5+rY - Mr. Genest |  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

*How to turn an unbalanced equation into a balanced equation*

* With your finger, point to one element before and the same element after the arrow. Whichever side has not enough, increase the coefficient (The Big Number – never never touch the small subscript numbers)
* ***write a little scoreboard. It helps. Grown up chemists do it all the time.***
* Balance chemical formulas by placing coefficients in front of them. **DO NOT** add subscripts, because this will change the formulas.

***Balance these!***

|  |  |
| --- | --- |
| 1. N2(g) + H2(g) 🡪 NH3(g)
 | draw a little scoreboard over here to keep track |
|  |  |

|  |  |
| --- | --- |
| 1. C3H8 + O2 🡪 CO2 + H2O
 | draw a little scoreboard over here to keep track |
|  |  |

|  |  |
| --- | --- |
| 1. KClO3 🡪 KCl + O2
 | draw a little scoreboard over here to keep track |
|  |  |

balance each by writing coefficients in front of the compounds:

1. CuO(s) + C(s) 🡪 Cu(s) + CO2(g)
2. C3H8 + O2 🡪 CO2 + H2O
3. NH3(g) + O2(g) 🡪 NO(g) + H2O(l)
4. Which reaction numbers in #1 through #6 are combustion reactions? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Write a reaction that describes the combustion of CH3OH. Balance it.

**\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_ →\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| 1. Which equation shows conservation of mass?

 (1) H2 + O2 🡪 H2O  (2) H2 + O2 🡪 2H2O  (3) 2H2 + O2 🡪 2H2O (4) 2H2 + 2O2 🡪 2H2O | 1. If an equation is balanced properly, both sides of the equation must have the same number of

 (1) atoms (2) coefficients (3) molecules (4) all of the above |

8.  Aqueous lead (IV) nitrate reacts with aqueous sodium sulfate to yield a lead (IV) sulfate precipitate and soluble sodium nitrate . Write a reaction and balance it.

9.  Aqueous sodium hydroxide reacts with carbon dioxide gas to yield soluble sodium carbonate and liquid water . Write a reaction and balance it.