PhET Interactive Simulations on Balancing Chemical Equations

Student Worksheet

**Instructions**:

1. On computer, access the internet and go to: <https://phet.colorado.edu/sims/html/balancing-chemical-equations/latest/balancing-chemical-equations_en.html>
2. On iPad or tablet, use PhET Simulations app; search for *balancing chemical equations.*
3. Begin with INTRODUCTION activity to complete the chart.
4. Select **balance scale** from TOOLS in top-right pull down menu to complete last column in chart.

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| Balancing chemical equations for the following reactions: | Chemical Equation  \*\* with correct number for the coefficients\*\* | Draw molecular model of balanced chemical equation – Color the atoms for each element in compounds | Draw a balanced scale with correct number and color of atoms for each element. |
| Make Ammonia | \_\_ N2 + \_\_H2 🡪 \_\_NH3 | Reactants  Products |  |
| Separate Water | \_\_ H2O 🡪 \_\_ H2 + \_\_ O2 | Reactants  Products |  |
| Combust Methane | \_\_ CH4 + \_\_ O2 🡪 \_\_ CO2 + \_\_ H2O | Reactants  Products |  |

**Extension – Part Two: Game**

1. To access game, go to same website or PhET app for Balancing Chemical Equations, and select GAME (happy face icon).
2. Begin with Level 1, to balance chemical equations. As you improve your ability to balance chemical equations, you can advance to Level 2, then Level 3. Levels become more challenging.
3. Use the chart below to fill in equations you have successfully balanced at each level, underlining the coefficients in each chemical equation.

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| Level 1 | Level 2 | Level 3 |
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