**GPS – Balancing Equations Lab**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| I can… |
| *Interpret nomenclature to identify various chemical compounds.*  *Apply the law of conservation of mass to balance chemical equations.* |

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| ***Pre-Lab*** | |
| 1. Before starting, what does the **law of conservation of mass** state? |  |
| 1. What are the 5 types of chemical reactions we have studied? |  |
| 1. In the chemical equation of a reaction, what are the **reactants** and the **products**? |  |
| 1. See the chemical equation for the combustion reaction to the right. How can we adjust it so the law of conservation of mass is satisfied? | \_\_\_CH4 + \_\_\_\_\_O2 🡪 \_\_\_\_H2O + \_\_\_\_CO2 |
| Count the atoms:  Now, add **coefficients** to make them equal!!  *Reactants:* C \_\_\_ H\_\_\_\_ O \_\_\_\_  *Products*: C \_\_\_ H\_\_\_\_ O \_\_\_\_ |

* ***Go to http://shhsphysicalscience.weebly.com/quarter-4.html***
* ***Scroll to the bottom***
* ***Click the link: “***CLICK HERE for the GPS – Balancing Equations virtual lab***”***

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| ***Balancing Equations lab*** | |
| 1. Click on the “Introduction” to complete the first activity.  In the top right corner of the screen, select the Tools with the bar graph.  Now, balance the the equation by changing the numbers in front of the compounds. Write the final coefficients for the equation. | What type of reaction is this?   1. synthesis 2. decomposition 3. single displacement 4. double displacement |
| 1. On the blue bar below, select “Separate water” and repeat. | What type of reaction is this?   1. synthesis 2. decomposition 3. single displacement 4. combustion |
| 1. On the blue bar below, select “Combust Methane” and repeat. | What type of reaction is this?   1. synthesis 2. decomposition 3. single displacement 4. combustion |
| 1. Now, on the black bar at the bottom of your screen, click “Game” and then click Level 1.  Write the balanced equations to the right. You should have 5 ***correctly*** balanced equations. |  |
| 1. Record your score out of 10. | \_\_\_\_\_\_\_\_\_ out of 10 |
| 1. Try Level 2 now! |  |
| 1. Record your score out of 10. | \_\_\_\_\_\_\_\_ out of 10. |
| 1. BONUS: Try Level 3! This level is tough!! |  |
| 1. Record your score out of 10. | \_\_\_\_\_\_\_\_ out of 10. |
| 1. How does balancing an equation with coefficients show the Law of Conservation of mass? |  |
| 1. Why do you think we take the time to balance the equations and we don’t just write an equation without balancing it? |  |