

Online Balancing Activity

Name: _____ Per: _____

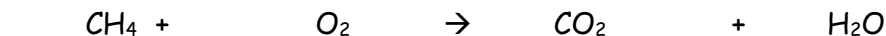
1. Go to google and search for "phet balancing equations". Click on the first result.
2. Click the Play button. Click on "introduction".

Introduction:

3. The reaction shown is $\text{___ N}_2 + \text{___ H}_2 \rightarrow \text{___ NH}_3$.
 - a. In the top right click the arrow for the drop down Tools box and select the last option (picture that shows "Bar Charts"). The bars will keep track of how many of each type of atom you have on each side of the reaction.
 - b. Balance (make the left side equal the right side) the equation by clicking the up or down arrows by each formula to change the number of molecules or atoms. This will change the coefficients (number in front of the atom or compound).
 1. Start by changing the coefficient of each molecule to 1.
 2. Look at the drawn molecules and the bar charts to see which type of atoms are not equal.
 3. Change the coefficients as needed to make all of the types of atoms equal (equation is balanced). Change atoms other than H and O first.
 4. You may need to change the coefficients more than once to get them to "balance."
 - c. When you have the equation balanced (you will see a ☺), write the coefficients in the reaction above.
4. At the bottom of the screen select "Separate Water."
 - a. Balance the equation as in 3b steps 1-4 above & write the correct coefficients in the blanks below.
 - b. Draw the correct number of molecules below each compound as you see them on your screen. Label each atom drawn with the element symbol.



5. At the bottom of the screen select "Combust Methane."
 - a. Balance the equation as in 3b steps 1-4 above & write the correct coefficients in the blanks below.
 - b. Draw the correct number of molecules below each compound as you see them on your screen. Label each atom drawn with the element symbol.



Balancing Game:

6. Along the bottom of the screen click "Game."
7. Choose "Level 1", and turn the sound "Off".
8. You will be shown 5 equations to balance.
 - a. Balance each one and click "Check" to check your answer.
 - b. Once you have each one balanced write the correct equation here before you click "next":

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____

- c. Write your final score here: _____ out of 10. If you have less than 8, repeat this activity until you get at least 8/10.

9. Play the game again but this time on level 2. Follow the same instructions as above.

1) _____

2) _____

3) _____

4) _____

5) _____

Score: ____/10

10. Try it again on level 3. Follow the same instructions as above.

1) _____

2) _____

3) _____

4) _____

5) _____

Score: ____/10