

BALANCING AN EQUATION

Calcium and oxygen combine to form calcium oxide. A student's first attempt at balancing this equation is shown below. Look at the equation and answer the following questions:



In this equation:

1. How many calcium atoms are on the left side? _____
2. How many calcium atoms are on the right side? _____
3. How many oxygen atoms are on the left side? _____
4. How many oxygen atoms are on the right side? _____
5. Is the equation balanced? _____

The student's second attempt at balancing this equation is written below. Answer the following questions:



In this equation:

6. How many calcium atoms are on the left side? _____
7. How many calcium atoms are on the right side? _____
8. How many oxygen atoms are on the left side? _____
9. How many oxygen atoms are on the right side? _____
10. Is the equation balanced? _____

What could be done to completely balance the equation?



BALANCED OR UNBALANCED?

Ten equations are listed below. Some are balanced, some are unbalanced. Make a check (✓) in the correct box next to each equation.

	Equation	Balanced	Unbalanced
1.	$\text{Fe} + \text{S} \rightarrow \text{FeS}$		
2.	$\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$		
3.	$\text{C} + \text{O}_2 \rightarrow \text{CO}_2$		
4.	$\text{P}_4 + \text{O}_2 \rightarrow \text{P}_4\text{O}_{10}$		
5.	$\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$		
6.	$\text{Na} + \text{O}_2 \rightarrow \text{Na}_2\text{O}$		
7.	$\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$		
8.	$\text{Cu} + \text{S} \rightarrow \text{Cu}_2\text{S}$		
9.	$\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$		
10.	$2\text{Na} + \text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$		

MATCHING

Match the correct term in column A with the description in column B. Write the correct answer in the space provided.

Column A

- _____ 1. Coefficient
- _____ 2. Subscript
- _____ 3. Balanced equation
- _____ 4. Unbalanced equation
- _____ 5. Law of Conservation of Matter

Column B

- a. States that matter cannot be created or destroyed
- b. Small number after a symbol
- c. Does not obey *Law of Conservation of Matter*
- d. Number in front of a compound
- e. Same number and kind of atoms on both sides of an equation