



Concept Attainment Quiz

Name: _____ Date: _____

I. Vocabulary Matching

Match each term on the right to the correct definition.

- | | |
|--|--------------------------------|
| 1. <u>B</u> The total number of atoms of each element is not changed during a chemical reaction. | A. Chemical reaction |
| 2. <u>A</u> When atoms of substances rearrange themselves into a new configuration | B. Law of conservation of mass |
| 3. <u>E</u> To prevent the loss of something | C. Mass |
| 4. <u>D</u> The smallest part of all matter | D. Atom |
| 5. <u>C</u> How much matter is in an object | E. Conserve |

II. Identification

Use the clues provided to fill in the blanks.

Word Bank

subscript	balanced	mass	atoms	destroyed
products	law of conservation of mass	coefficient		

- When the number of each reactant's atoms and the number of each product's atoms are equal, the chemical reaction is balanced.
- The LOCOM states that matter is not created or destroyed in a chemical reaction. The total number of atoms is conserved, and the mass does not change.
- The coefficient is the number placed in front of a chemical symbol in a balanced equation.
- The subscript is the number written below and to the right of a chemical symbol to show how many atoms are present.



Independent Practice

Name: _____ Date: _____

Part I: Break the Code

Directions: Read the clues and write the words using the code. Match each number under the line to the pair of letters for that number. Decide which letter to use to correctly spell each word.

AB	CD	EF	GH	IJ	KL	MN	OPQ	RS	TU	VW	XY
1	2	3	4	5	6	7	8	9	10	11	12

1.	A pure substance that is present before a reaction but not after	$\begin{array}{cccccccc} \text{r} & \text{E} & \text{a} & \text{c} & \text{t} & \text{a} & \text{n} & \text{t} \\ \hline 9 & & 1 & 2 & 10 & 1 & 7 & 10 \end{array}$
2.	A written representation of a chemical reaction	$\begin{array}{cccccccc} \text{e} & \text{q} & \text{u} & \text{a} & \text{t} & \text{i} & \text{o} & \text{N} \\ \hline 3 & 8 & 10 & 1 & 10 & 5 & 8 & \end{array}$
3.	To prevent loss	$\begin{array}{cccccccc} \text{C} & \text{o} & \text{n} & \text{s} & \text{e} & \text{r} & \text{v} & \text{e} \\ \hline 8 & 7 & 9 & 3 & 9 & 11 & 3 & \end{array}$
4.	A number placed in front of a chemical symbol or formula in order to balance the equation	$\begin{array}{cccccccccc} \text{C} & \text{O} & \text{e} & \text{f} & \text{f} & \text{i} & \text{c} & \text{i} & \text{e} & \text{n} & \text{t} \\ \hline 2 & & 3 & 3 & 3 & 5 & 2 & 5 & 3 & 7 & 10 \end{array}$
5.	When atoms rearrange to form new substances	$\begin{array}{cccccccc} \text{C} & \text{h} & \text{e} & \text{M} & \text{i} & \text{c} & \text{a} & \text{l} \\ \hline 2 & 4 & 3 & & 5 & 2 & 1 & 6 \\ \text{r} & \text{e} & \text{a} & \text{c} & \text{i} & \text{o} & \text{n} & \\ \hline 9 & 3 & 1 & 2 & 10 & 5 & 8 & 7 \end{array}$

Directions: Fill in the missing information so that each reaction obeys the law of conservation of matter.

$4 \text{ g hydrogen} + 32 \text{ g oxygen} \longrightarrow \boxed{36} \text{ g water}$
$\text{C}_2\text{H}_4\text{O}_2 + \text{NaHCO}_3 \longrightarrow \text{NaC}_2\text{H}_3\text{O}_2 + \text{H}_2\text{O} + \text{CO}_2$
$3\text{H}_2 + \text{N}_2 \longrightarrow \boxed{2}\text{NH}_3$



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Modeling Conservation of Mass

In the Before Reading column, circle either **A** for agree or **D** for disagree next to each statement. After reading "Modeling Conservation of Matter," go back and read the statements again and respond in the After Reading column.

Before Reading	Statements	After Reading
A D	The law of conservation of matter states that matter can be created.	A <input checked="" type="radio"/> D
A D	A bond is a chemical attraction between two atoms.	<input checked="" type="radio"/> A D
A D	A chemical formula is a representation of the smallest unit of a compound.	<input checked="" type="radio"/> A D
A D	Subscripts are used in the chemical formula to show the number of each element.	<input checked="" type="radio"/> A D
A D	Reactants are located on the right side of a chemical equation.	A <input checked="" type="radio"/> D
A D	Products are located on the left side of a chemical equation.	A <input checked="" type="radio"/> D
A D	Coefficients describe the number of molecules of each substance.	<input checked="" type="radio"/> A D
A D	Coefficients can be changed to balance the chemical equation.	<input checked="" type="radio"/> A D
A D	Subscripts can be changed to balance the chemical equation.	A <input checked="" type="radio"/> D
A D	In the chemical formula for water, H ₂ O, the subscript is 2.	<input checked="" type="radio"/> A D

These statements give a preview of the main ideas that will be the focus of the reading passage about conservation of matter. After reading, revisit the Anticipation Guide to find out if you have changed your mind about any of the statements.