

Name: _____ Date: _____

Bakery Batch Balance: 4th Grade Stoichiometry Quiz

Recipe ratios, ingredient measuring, and batch prediction. This reinforcement activity helps students apply balance concepts to a relatable culinary chemistry context.

1. If one giant cookie recipe requires 2 scoops of sugar and 3 scoops of flour, how many scoops of flour do you need if you use 4 scoops of sugar?

- A. 3 scoops
- B. 5 scoops
- C. 6 scoops
- D. 12 scoops

2. Scientists use a special counting unit called a _____ to group huge numbers of tiny atoms together, much like a baker uses a 'dozen' to group 12 eggs.

- A. Gram
- B. Mole
- C. Liter
- D. Ounce

3. In a chemical reaction, the total weight of the ingredients you start with is the same as the total weight of the finished product.

- A. True
- B. False

4. Imagine a 'Smore' is made of 1 Graham Cracker, 1 Marshmallow, and 2 Chocolate squares. If you have 5 Marshmallows and plenty of everything else, how many Smores can you make?

- A. 2 Smores
- B. 5 Smores
- C. 10 Smores
- D. 1 Smore

5. The study of the relationship between the amounts of reactants and products in a chemical reaction is called _____.

- A. Biology
- B. Stoichiometry
- C. Geology
- D. Astronomy

6. Different atoms, like Oxygen and Hydrogen, have different weights even if you have one 'mole' of each.

- A. True

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B. False

7. In the 'reaction' to build a toy car (4 Wheels + 1 Body = 1 Car), what happens if you have 8 wheels and only 1 body?

- A. You can make 2 cars
- B. You can make 1 car and have 4 wheels left
- C. You can make 8 cars
- D. The car will have 8 wheels

8. To find out the mass of one mole of a substance, scientists look at the _____ mass on the periodic table.

- A. Molar
- B. Speed
- C. Volume
- D. Heat

9. If a chemical recipe says you need a ratio of 1:2, it means for every 1 part of the first thing, you always need 2 parts of the second thing.

- A. True
- B. False

10. Which of these is the best example of a 'ratio' in everyday life?

- A. The color of your shirt
- B. Using 1 cup of milk for every 2 cups of cereal
- C. The time you wake up
- D. The name of your school