

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Answer Key: Unlocking the Magic Dozen: Mole Counting Quiz for 3rd Graders

Students practice basic recall and identification of grouping units, translating abstract chemical counting into concrete, everyday sets to build early conceptual scaffolding.

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**1. In a bakery, if you buy 12 cupcakes, what do we call that group?**

**Answer:** B) A dozen

Just as a dozen always means 12, a 'mole' is a special word scientists use to group a very large number of tiny particles together.

**2. True or False: Scientists use the 'mole' to count things that are so small we can't see them with our eyes.**

**Answer:** A) True

Moles help scientists count atoms and molecules, which are much too small for us to see one by one.

**3. One mole of sugar and one mole of salt have the same \_\_\_\_ of tiny pieces.**

**Answer:** C) Number

No matter what substance you have, one mole always represents the exact same number of particles.

**4. If you have a group of something called a 'mole,' are there a lot of pieces or just a few?**

**Answer:** C) A huge amount of pieces

A mole is a giant number because atoms are so tiny that we need a lot of them to even see a small pile.

**5. The word \_\_\_\_ refers to how we measure and balance recipes in a science lab.**

**Answer:** A) Stoichiometry

Stoichiometry is the big word for the math scientists use to make sure they have the right amount of ingredients.

**6. True or False: A 'mole' in chemistry is a furry animal that lives underground.**

**Answer:** B) False

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While there is an animal called a mole, in chemistry, a mole is a units used for counting atoms.

**7. When scientists follow a 'recipe' for a reaction, they use a balanced equation. This is like a recipe for:**

**Answer:** A) Baking a cake

Just like you need 2 eggs for 1 cake, stoichiometry tells us how many moles of one thing we need to make another.

**8. If you have 1 mole of iron and 1 mole of gold, they have different weights because their \_\_\_\_ are different.**

**Answer:** B) Atoms

Even if the number of pieces is the same (one mole), a gold atom is heavier than an iron atom.

**9. Which of these is a way to group things, just like a mole?**

**Answer:** B) A pair of shoes

A 'pair' always means 2, just like a 'mole' always means a specific (very large) number.

**10. True or False: Stoichiometry helps scientists predict how much 'stuff' they will make in a reaction.**

**Answer:** A) True

By using the mole concept, scientists can calculate exactly how much product they will get from their ingredients.