MOLECULAR CONNECTIONS

Ever wonder how everything around you—from water and air to sugar and salt—is made? It's all about tiny building blocks called atoms, and when these atoms join together, they form molecules! Get ready to discover how atoms bond, how to read molecular formulas, and how these invisible building blocks make up the stuff we see, touch, and even breathe.

Recommended Reading

- 🍄 *Chemistry for Curious Kids*, by Lynn Huggins-Cooper, pp. 30-31
- The Illustrated Encyclopedia of the Elements, by Lisa Congdon, pp. 12-13
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ACTIVITY Edible Elements: Creating Molecular Models

A molecule is a group of atoms that are connected together! Atoms are the tiny building blocks that make up everything around us. From the air we breathe to the food we eat, everything is made up of molecules! In this activity, we're going to use food to build some of these amazing molecular structures and see how atoms join together to form bigger things. It's time to get creative and tasty as we learn about chemistry—one bite at a time!

SUPPLIES

For atoms, choose three of the following:

- 🖗 Grapes
- 🖗 Blueberries
- 🔗 Mini marshmallows
- 🖗 Cheese cubes
- 🖗 Gummy snacks
- 🍄 Or other small food items

For connecting atoms, choose one of the following:

- Toothpicks
- 🕸 Pretzel sticks
- Or another item you'll use to connect atoms

INSTRUCTIONS

- Choose three different food items (or different colors of the same food item) to represent the elements you'll be working with today: hydrogen (H), oxygen (O), and Carbon (C).
- 2. Fill out the key below by drawing pictures in the boxes of which food item corresponds to which element.

Oxygen (O)	Carbon (C)	Hydrogen (H)



3. Look at the picture and molecular formulas of the molecules below. Use your food atoms to create edible molecule replicas of these molecules. Sketch your molecules in the boxes.







QUESTION:

What type of formula shows exactly how many atoms of each element are in a molecule?

LESSON 7

ANSWER:

Molecular formula



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MOLECULAR CONNECTIONS Lesson 7 Quiz

1. What is a molecule?

- A) A type of atom
- B) A group of two or more atoms bonded together
- C) A liquid
- D) A kind of energy

2. Which of the following is NOT a molecule?

- A) Water (H_2O)
- B) Carbon dioxide (CO₂)
- C) Oxygen (O₂)
- D) Sodium (Na)

3. What does the $"_2"$ in O_2 mean?

- A) There are two types of atoms in the molecule.
- B) The molecule is made up of two oxygen atoms.
- C) The oxygen molecule has two different atoms.
- D) The oxygen molecule is two times bigger.

4. What do atoms share to form a bond with each other?

- A) Protons
- B) Neutrons
- C) Electrons
- D) Colors

- 5. What is the molecule made of two hydrogen (H) atoms and one oxygen (O) atom?
 - A) Water (H_2O)
 - B) Oxygen (O_2)
 - C) Carbon dioxide (CO_2)
 - D) Salt (NaCl)

6. What do we use to show how many atoms are in a molecule?

- A) Periodic table
- B) Atomic number
- C) Molecular formula
- D) Chemical reaction

7. What happens when atoms bond together to form molecules?

- A) They become smaller.
- B) They form a new type of atom.
- C) They stick together to create a new substance.
- D) They disappear.