

Name _____ Teacher _____ Date _____

Activity 2.4: Atoms and Molecules Quiz

You have studied three important facts about atoms:

1. Atoms last forever.
2. Atoms make up the mass of all materials.
3. Atoms are bonded to other atoms in molecules.

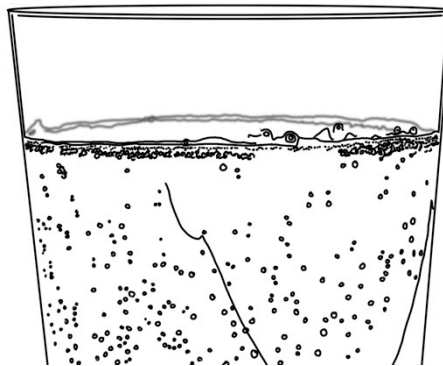
Use these facts and what you have learned about Powers of Ten to answer these questions.

1. These questions are about a glass of soda water that is fizzing.

a. Do you think that the **oxygen atoms** in the water will still exist as oxygen atoms a million years from now? Circle one: YES NO MAYBE

b. Do you think that the **water molecules** will still exist as water molecules a million years from now? Circle one: YES NO MAYBE

c. Explain your answers. Use the facts about atoms if they are helpful.



2. For each material, decide whether it a kind of **atom**, a kind of **molecule**, or **both**. Circle the correct description.

| | | | |
|----------------|---------------|------------------|-----------------------------------|
| Water | ...is an atom | ...is a molecule | ...is both an atom and a molecule |
| Carbon | ...is an atom | ...is a molecule | ...is both an atom and a molecule |
| Nitrogen | ...is an atom | ...is a molecule | ...is both an atom and a molecule |
| Carbon dioxide | ...is an atom | ...is a molecule | ...is both an atom and a molecule |

3. Explain what the difference is between an oxygen **atom** and an oxygen **molecule**.

4. Someone said that if a boy gains mass, then he **MUST** have added atoms as part of his body. Do you agree? Circle one: YES NO MAYBE

Explain your reasoning. What is the connection between adding mass and adding atoms?
