



BUILDING BLOCKS OF PHYSICAL SCIENCE

Matter and Its Properties

What is matter, and how is it grouped and measured? Follow the funny character "Matter" as he goes bowling, enters a volcano, and shrinks down to atomic size to find out!

What did you learn?

QUESTIONS

- Which is made of matter?
 - River water
 - Clouds
 - Stars
 - All of the above
- Mass is the amount of _____ in an object.
 - Matter
 - Heat
 - Water
 - Magnetism
- The number of _____ determines the type and size of an atom.
 - Electrons
 - Protons
 - Neutrons
 - Hydrogens
- Scientists group almost all elements of matter into which two categories?
 - Metals and nonmetals
 - Solids and nonsolids
 - Liquids and nonliquids
 - Gases and nongases
- Describe what is inside an atom's nucleus.
- Explain the difference between an element and a compound.

TRUE OR FALSE?

- | | |
|--|---|
| _____ 1. Matter is anything that has mass and volume. | _____ 4. Energy can cause matter to change states. |
| _____ 2. Mass, volume, and light are the properties of matter. | _____ 5. Nearly all nonmetals are solid at room temperature. |
| _____ 3. In a liquid, molecules move very slowly. | _____ 6. Nonmetals generally do not conduct heat or electricity well. |

ANSWERS

- 1. d. All of the above.** According to page 5, we know that, "The water in a river is made of matter. The clouds above you are made of matter. The stars in the sky are made of matter." So, the correct answer is D.
- 2. a. Matter.** According to page 6, we know that, "Mass measures the amount of matter in an object." So, the correct answer is A.
- 3. b. Protons.** According to page 14, we know that, "The number of protons determines the type and size of an atom." So, the correct answer is B.
- 4. a. Metals and nonmetals.** According to page 20, we know that, "Scientists group almost all elements of matter into two categories: Metals and nonmetals." So, the correct answer is A.
- 5.** According to page 13, we know that, "Atoms have a nucleus, or center. Protons and neutrons are tiny particles inside the nucleus."
- 6.** According to page 14, we know that, "An element is another word for a substance with only one type of atom. A compound is a molecule with two or more different types of atoms."

TRUE OR FALSE? ANSWERS

- 1. True.** According to page 5, we know that, "Matter is anything that has mass and volume." So, the correct answer is True.
- 2. False.** According to page 8, we know that, "Mass, volume, and density are the properties of matter." So, the correct answer is False.
- 3. False.** According to page 16, we know that, "In a solid, molecules move SLOWLY. In a liquid, the molecules move faster." So, the correct answer is False.
- 4. True.** According to pages 17 and 18, we know that, "So what causes matter to change states? Energy!" So, the correct answer is True.
- 5. False.** According to page 22, we know that, "Nearly all metals are solid at room temperature." So, the correct answer is False.
- 6. True.** According to page 23, we know that, "Nonmetals generally do not conduct heat or electricity well." So, the correct answer is True.