B. SOLIDS

Exploring Matter: Solids and Their Properties

Have you ever wondered why some things are hard and don't change their shape? Or why water can be poured into different containers? The answer lies in something called "matter." Matter is everything around us, including the things we see and touch. Let's dive into the world of matter, specifically solids, and discover their unique properties.

What is Matter? Matter is anything that takes up space and has weight. It can be found in different forms, such as solids, liquids, and gases. Today, we will focus on solids and their interesting characteristics.

Solids are a form of matter that have a definite shape and volume. This means that solids keep the same shape no matter how you move or hold them. Imagine holding a toy car. No matter how you twist or turn it, it will always look like a car. This is because the particles in solids are tightly packed and don't move around as freely as in liquids or gases. Solids have some unique properties that set them apart from other forms of matter. Let's explore a few of them:

1. **Hardness**: Solids are usually hard and cannot be easily squished or compressed. Think of a rock or a wooden block. They are both solid and have a firm structure that can't be easily changed.

2. **Rigidity**: Solids are rigid, meaning they hold their shape even when a force is applied to them. If you try to bend a solid object like a ruler or a book, it won't easily bend or change its shape.

3. **Density**: Solids have a certain density, which refers to how tightly packed the particles are in an object. Some solids are denser than others. For example, a metal block is denser than a foam ball because the particles in the metal block are packed closer together.

4. **Melting and Boiling Points**: Solids have specific melting and boiling points. The melting point is the temperature at which a solid changes into a liquid, and the boiling point is the temperature at which a liquid changes into a gas. Every solid has its own unique melting and boiling points.

Examples of Solids
Solids can be found all around us. Here are some examples of everyday solids:
- Books: They have a definite shape and volume and are made up of tightly packed pages.
- Toys: Action figures, building blocks, and toy cars are all examples of solid objects.
- Furniture: Tables, chairs, and beds are solid objects that maintain their shape and volume.
- Rocks: Rocks are natural solid substances found in nature. They come in various shapes, sizes, and textures.

Now, let's see how well you understood the passage with some multiple-choice questions:

1. What is a unique property of solids?
a) They can easily change shape
b) They have a definite shape and volume
c) They can turn into gases

Answer: b) They have a definite shape and volume
Explanation: Solids have a fixed shape and volume, meaning they maintain their shape no matter how they are moved or held.

2. What is the hardness of solids?
a) They can be easily squished
b) They are usually soft
c) They are usually hard

Answer: c) They are usually hard
Explanation: Solids are generally hard and cannot be easily squished.

3. What happens to the shape of a solid when you move or handle it?
a) It changes easily.
b) It stays the same.
c) It flows like a liquid.

Answer: b) It stays the same. Explanation: Solids keep their shape when you move or handle them.

4. Can solids easily compress or expand?
a) Yes, they can.
b) No, they cannot.
c) Sometimes, depending on the solid.

Answer: b) No, they cannot. Explanation: Solids do not easily compress or expand.

5. What is the volume of a solid?
a) The amount of space it takes up.
b) The color of the solid.
c) The weight

B. Answers

1. b) They have a definite shape and volume
Explanation: Solids have a fixed shape and volume, meaning they maintain their shape no matter how they are moved or held.

2. Answer: c) They are usually hard
Explanation: Solids are generally hard and cannot be easily squished.

3. b) It stays the same.
Explanation: Solids keep their shape when you move or handle them.

4. b) No, they cannot.
Explanation: Solids do not easily compress or expand.

5. A) The amount of space it takes up
Explanation: The volume of a solid refers to the amount of space it occupies.