What Are Solids, Liquids, and Gases?

Science Words

Say each word quietly to yourself. Then read the meaning.

Read the tip to help you remember.

matter [MAT•er] anything that has mass and volume

Matter and mass begin with the same sound. If something has mass, it is matter.

temperature [TEM•per•uh•cher] a measure of the energy of motion of the particles in matter

Temperature and *degrees* have three e's. You use a thermometer to measure *temperature* in degrees.

liquid [LIK•wid] a substance that has definite volume but does not have a definite shape

Liquid and *lack* begin with the same sound. A *liquid* lacks a definite shape. It takes the shape of its container.

solid [SAHL•id] a substance with a definite shape and volume

Solid and *set* begin with the same sound. Something definite is set or fixed. A *solid* has a set size and shape.

gas [GAS] a substance that does not have a definite shape or volume

Gas and *fits* end with the same sound. A *gas* fits into the size and shape of the space it has. An amount of *gas* will spread out to fill a big container and contract to fit into a small container.



Particles in a solid



Particles in a liquid



Particles in a gas

volume [VAHL•yoom] the amount of space something takes up

When someone asks you to turn up the *volume* on a TV, the person wants more, or louder, sound. In science, something with more *volume* takes up more space.

Volume ends with the sound at the beginning of *millileter*. You measure the *volume* of a liquid in millileters.

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Science Concepts

Read the Ideas more than once. Do your best to remember them.

- 1. Matter cannot be created or destroyed, but it can change form from solid to liquid to gas.
- 2. You can observe physical properties of matter without changing the matter into something new.
- 3. Temperature—a measure of how fast particles in matter are moving—is a physical property.
- 4. Density—how much matter is in a specific volume—is a physical property.
- 5. To find the density of an object, divide the mass of the object by its volume.
- 6. Matter is made of tiny particles; the particles have energy and are always moving.
- 7. Particles in a solid vibrate close together, so the solid keeps its shape.
- 8. Particles in a gas have a lot of energy and are far apart, so a gas spreads out.
- 9. When water gives off energy, it cools and may change from a liquid to a solid, ice.
- 10. When water takes in energy, it heats up and may change from a liquid to a gas, water vapor.

Name