

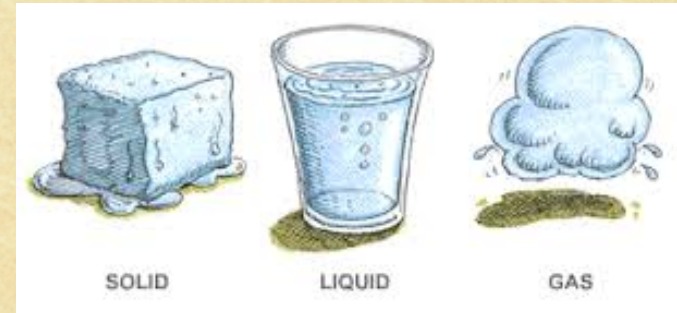
What Are the States of Matter?

Chapter 10 Lesson 2
Part 1

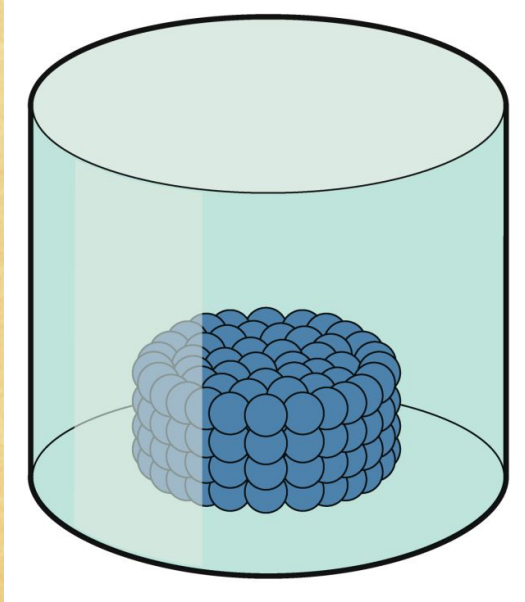
ByDesign Science, Level 4
By Allyssa Sharpe

Solid, Liquid, or Gas

- ♦ An important property of matter is its state at room temperature.
- ♦ Solid, liquid, and gas are three states of matter that are common on Earth.
- ♦ The fact that matter can exist in different forms illustrates the design and care by which God creates.
- ♦ You can tell if matter is a solid, liquid, or gas by analyzing its shape and volume.



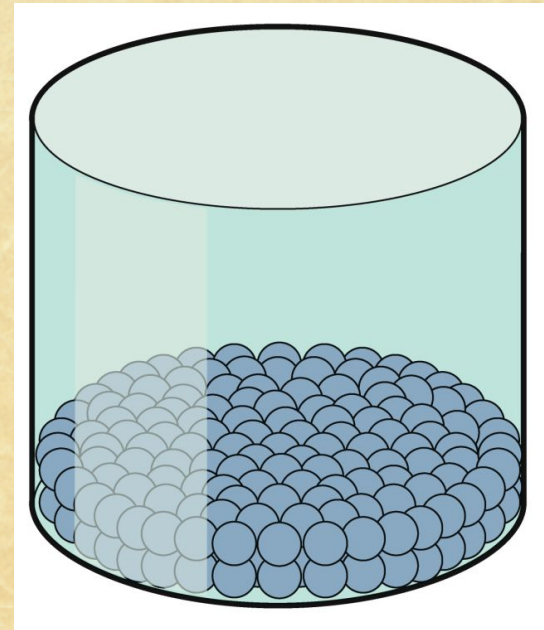
Solid, Liquid, or Gas



- ♦ A *solid* has a definite volume and a definite shape.
- ♦ An ice cube is a solid.
- ♦ Look around and see if you can find other examples of solids.

Solid, Liquid, or Gas

- ♦ A *liquid* has a definite volume, but it has an indefinite shape.
- ♦ A liquid can change shape if you place it into a different container.
- ♦ Water is a liquid at room temperature.



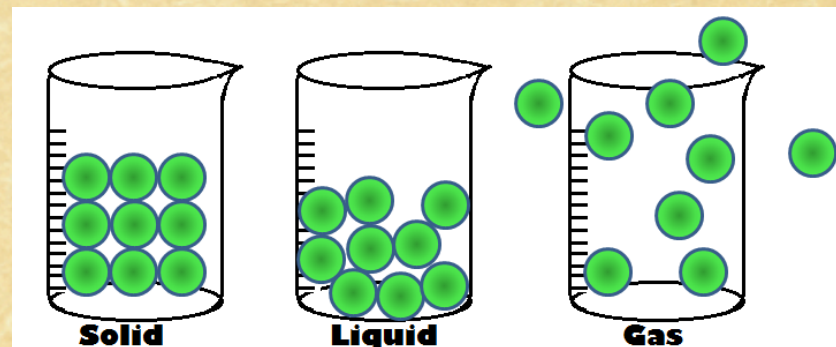
Solid, Liquid, or Gas

- ♦ If you pour some water into a glass, it takes the shape of the glass.
- ♦ Suppose you pour the same water into a vase.
- ♦ Its volume is the same, but its shape changes.



Solid, Liquid, or Gas

- ♦ A *gas* has both an indefinite volume and an indefinite shape.
- ♦ A gas takes the shape of its container.
- ♦ Air is made up of different gases.



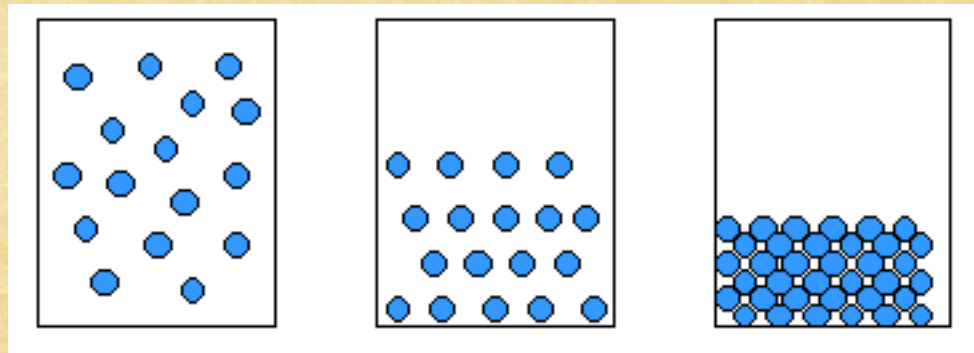
Solid, Liquid, or Gas

- ♦ If you blow up a balloon, the air takes the shape of the balloon.
- ♦ When you let the air out of a balloon, the gases in the air spread all around.
- ♦ A gas has an indefinite shape and always spreads out to fill any available volume.

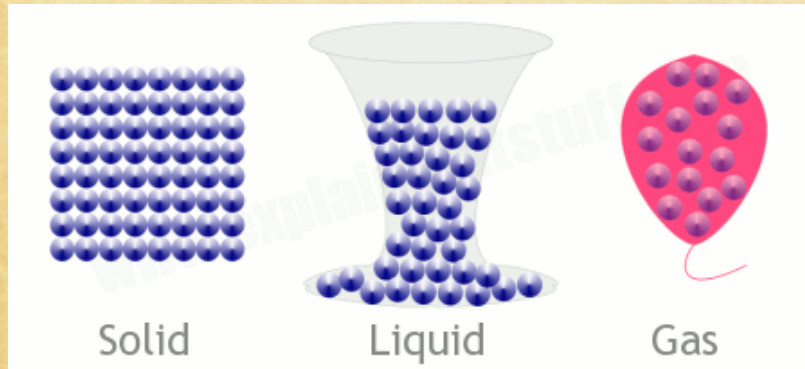


Solid, Liquid, or Gas

- ♦ You have learned that all matter is made of tiny particles called atoms.
- ♦ The atoms in matter have different arrangements in each different state of matter.
- ♦ Atoms also move differently in the different states of matter.



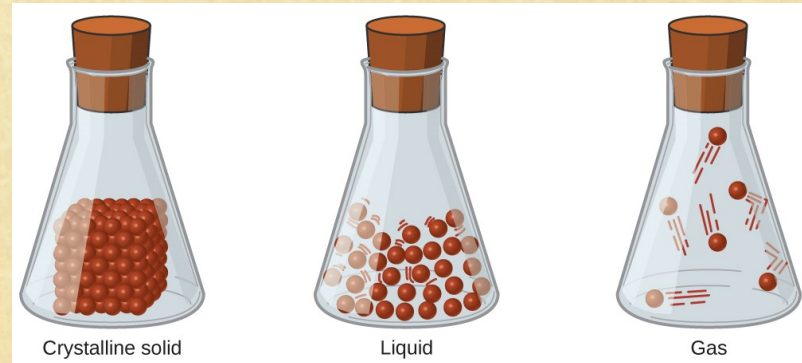
Solid, Liquid, or Gas



- ♦ A solid keeps a certain shape because its atoms are packed closely together.
- ♦ The atoms in matter are always moving.
- ♦ In a solid, the atoms vibrate, or move back and forth.
- ♦ They do not exchange places with one another.

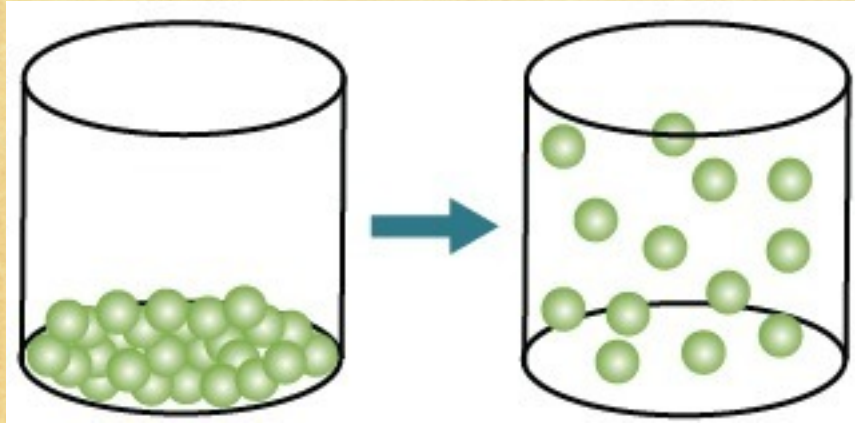
Solid, Liquid, or Gas

- ♦ Atoms in a liquid are farther apart than those in a solid, and they vibrate faster.



- ♦ The atoms are not packed together, so they can slide around one another.
- ♦ Therefore you can pour a liquid and why a liquid can change its shape.

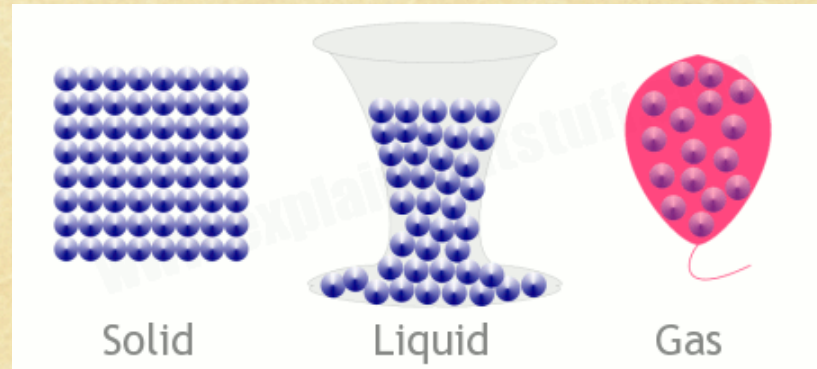
Solid, Liquid, or Gas



- ♦ The atoms in a gas are not packed together strongly.
- ♦ They are farther apart than those in a liquid.
- ♦ Therefore it is easier to move through the air than to push through the water in a swimming pool.

Solid, Liquid, or Gas

- ♦ Gas particles move around much faster than atoms of solids or liquids.



- ♦ They move around freely, and bounce off one another.
- ♦ So, they can spread out and fill any available space.

Solid, Liquid, or Gas

