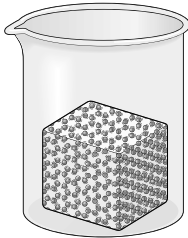


Name: \_\_\_\_\_ Date: \_\_\_\_\_

## The Particle Model of Matter

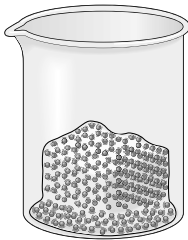
Use the following words to fill in the blanks in the chart.

**absorbs condensation empty evaporation fills fixed freely freezing gas  
larger liquid melting shape slowly small solid reverse vibrate**



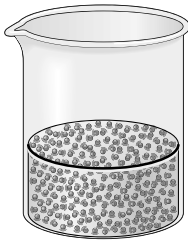
The particles in a solid are held together strongly. The spaces between the particles are very \_\_\_\_\_.

A \_\_\_\_\_ has a fixed shape and a fixed volume because the particles can move only a little. The particles \_\_\_\_\_ back and forth but remain in their fixed positions.



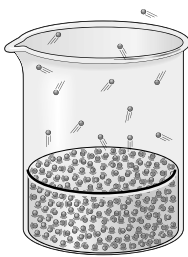
As a solid is heated, the particles vibrate faster and faster until they have enough energy to break away from their fixed positions. When this happens, the particles can move about more \_\_\_\_\_. The change from a solid to a liquid is called \_\_\_\_\_.

The reverse of melting is called \_\_\_\_\_ or solidification. This is the change from a liquid to a solid. As a liquid cools, the particles in the liquid lose energy and move more and more \_\_\_\_\_. When they settle into fixed positions, the liquid has frozen or solidified.



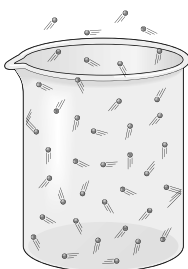
The particles in a liquid are separated by spaces that are large enough to allow the particles to slide past each other.

A \_\_\_\_\_ takes the \_\_\_\_\_ of its container because the particles can move around more freely than they can in a solid. They are held close together, however. Therefore, a liquid has a \_\_\_\_\_ volume, like a solid.



When a liquid \_\_\_\_\_ heat energy, the particles move about more and more quickly. Some of the particles gain enough energy to break free of the other particles. When this happens, the liquid changes to a gas. The change from a liquid to a gas is called \_\_\_\_\_.

The \_\_\_\_\_ process—the change from a gas to a liquid—is called \_\_\_\_\_. As a gas cools, the particles in the gas lose energy and move more and more slowly until the gas condenses to a liquid.



The particles in a gas are separated by much \_\_\_\_\_ spaces than the particles in a liquid or a solid. Therefore, a gas is mostly \_\_\_\_\_ space.

A \_\_\_\_\_ always \_\_\_\_\_ whatever container it is in. Since the particles are moving constantly in all directions, they spread throughout their container, no matter what volume or shape their container is.

Use with textbook pages 246–253.

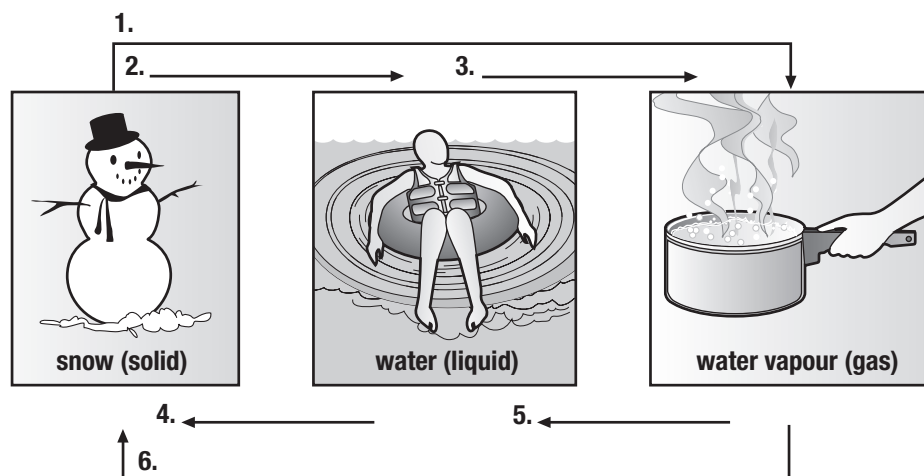
## What's the matter?

### Vocabulary

condensation  
deposition  
evaporation

melting  
solidification  
sublimation

Use the terms in the vocabulary box to label the diagram. Place the terms on the numbered arrows.



Complete the following table by describing the change of state. The table has been partially completed to help you.

	Change of state	Heat added or released
condensation		released
deposition		
evaporation	liquid to gas	
melting		added
solidification		
sublimation		