

Physical Changes



Water boiling is a physical change.



Wood being sawed is also a physical change.

A **physical change** is any change in matter that does not change the matter's molecules. When any kind of mixture is formed, a physical change takes place. But the molecules that make the mixture do not change.

Another kind of physical change takes place when matter changes state. You know that three of the states of matter are solid, liquid, and gas. A solid or a gas can become a liquid. A liquid can become a solid or a gas. The state of matter depends mostly upon its temperature.

Heat makes molecules move faster. They move faster in liquids than in solids. They move faster in gases than in liquids. Heat also changes how molecules are held together. They are usually closer together in solids than in liquids. They are closer together in liquids than in gases. The amount of heat needed for a substance to change state is not the same for all matter. Water takes more heat to become a gas than many liquids do. Ice takes less heat to become a liquid than most solids. Can you name some other solids that can easily be melted, or made into liquids? What are some solids that would take a great amount of heat to melt?

A third kind of physical change takes place when there is a change in the shape of the substance. When you saw wood, some of it is changed into sawdust. The molecules in sawdust are the same as the molecules in the piece of wood. Only the shape of the wood has changed.

A. Underline the correct words.

1. A physical change is any change in matter that does not change the matter's (molecules, shape).
2. A physical change takes place when matter changes (color, states).
3. The state of matter depends mostly on its (molecules, temperature).
4. A solid or a gas can become (steam, a liquid).
5. Ice is a (gas, solid).
6. When you saw wood, you cause a (chemical, physical) change.

B. Answer True or False.

1. When mixtures are formed, a physical change takes place.

2. A liquid cannot become a solid or a gas. _____
3. Heat makes molecules move slower. _____
4. The amount of heat needed for a substance to change state is not the same for all matter. _____
5. A physical change takes place when you change the shape of a substance. _____
6. The molecules in sawdust are different from the molecules in pieces of wood. _____

C. Use each word to write a sentence about the physical changes in matter.

1. water _____

2. wood _____
