

Name \_\_\_\_\_

Date \_\_\_\_\_

# How Structure Affects Properties

## Part 1

Directions: Answer the following questions after watching each segment of the introduction video.

1. An ice cube is in the \_\_\_\_\_ phase.
2. Solids have a \_\_\_\_\_ shape and \_\_\_\_\_ volume.
3. Describe how the molecules are arranged and moving in the solid phase. Include a picture with your description.

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4. What are some unique properties about ice that differ from liquid water or water vapor?

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5. The phase change from a solid to a liquid is called \_\_\_\_\_.

6. Describe how the structure of the molecules in a solid change as it becomes a liquid.

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7. A glass of water is in the \_\_\_\_\_ phase.

8. Liquids have a definite \_\_\_\_\_ but not a definite \_\_\_\_\_.

9. Describe how the molecules are arranged and moving in the liquid phase. Include a picture with your description.

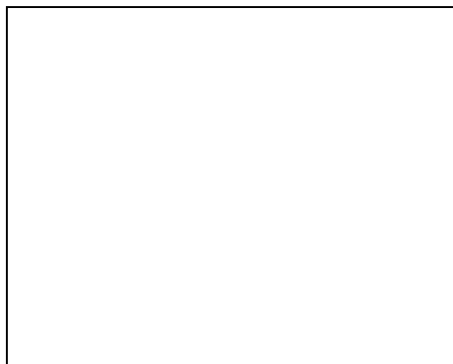
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10. In order to get liquid water to become water vapor energy must be \_\_\_\_\_ to the liquid water.

11. The phase change from liquid to gas is called vaporization. There are two types of vaporization. \_\_\_\_\_ which occurs only at the surface while \_\_\_\_\_ occurs anywhere within the liquid.

12. Gases have no definite \_\_\_\_\_ and no definite \_\_\_\_\_.

13. Describe how the molecules are arranged and moving in the gas phase. Include a picture with your description.

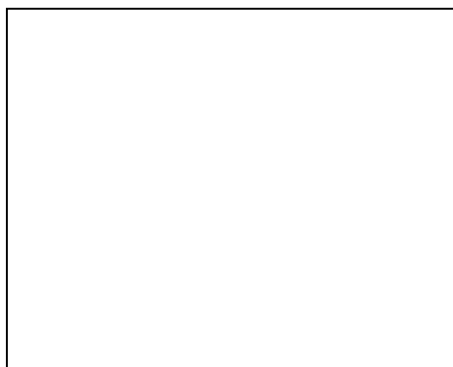
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14. As we changed from an ice cube to water vapor how did the structure of the water molecules change and what properties changed.

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15. The phase change from a gas back to a liquid is called \_\_\_\_\_.

16. During this phase change energy is \_\_\_\_\_ by the gas molecules as they slow down and rearrange into liquid molecules.

17. Describe how taking a shower in a bathroom is an example of condensation.

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18. The phase change from a liquid back to solid is called \_\_\_\_\_.

19. Dry ice turning directly into a gas is an example of what kind of phase change? \_\_\_\_\_

20. On a cold winter morning when you go out to a car and there is frost all over the windows where did the ice come from?

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21. Frost is an example of what phase change? \_\_\_\_\_

22. Pretend you are a molecule of ice. Write a paragraph about how your structure and properties change as you move from solid ice to liquid water, and ending with the gas water vapor.

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