

Physical Science

Assignment 3-2

Name _____

Class Period _____

Date _____

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Read section 3-2. Then, based on the information in your textbook, answer the following questions :

1. What percent of the Earth's atmosphere is water (all three phases combined)?

2. What causes the difference in the phases of matter?

3. Look at figure 3-12 on page 69 and describe the energy transfer that is taking place as the ice cube changes phase on the hot glass surface (Which way is the energy going? Where to? Where from?)

4. Explain why a steam burn is often more serious than a hot water burn.

5. What do we have to do in order to make matter change from one phase to another?

6. List all the different phase changes that take place in matter **and** give an example of each.

7. What is the boiling point of table salt?

8. What is the boiling point of diamond?

9. What is the freezing point of a mixture of equal parts of water and ethylene glycol?

Please continue on the other side.

10. Explain why spraying oranges with water during freezing weather can help save the crop. (See photo on page 60.)

11. Explain what is meant by **sublimation**.

12. Explain why the **evaporation** phase cannot take place without a transfer of energy.

13. Explain why the **condensation** phase cannot take place without a transfer of energy.

14. What is meant by the term **freezing point**?

15. How are the **freezing point** and **melting point** of a substance related?

16. Food cooked in boiling water has to be cooked for a longer period of time at an altitude of 6,230 feet than the same food cooked at 800 feet above sea level. Explain why.

17. During the phase change known as **condensation**, is energy being absorbed or released by the matter that is changing phase?

18. During the phase change known as **melting**, is energy being absorbed or released by the matter that is changing phase?

19. During the phase change known as **freezing**, is energy being absorbed or released by the matter that is changing phase?

20. Explain the difference in the energy level of particles of ice and particles of water.

21. Look at the graph on page 74. What is happening to the temperature during section B?
