

Physical Science

Assignment 17-4 & 17-5

Read pages 439-449. Then, based on the information in your textbook, answer the following questions :

Name _____

Class Period _____

Date _____

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1. Define **phase change**.

2. Define **heat of fusion**.

3. Define **heat of vaporization**.

4. How much heat is needed to change 10 g of water into steam? _____

5. How many calories of heat are needed to melt 5 g of ice (at 0°C) without raising the temperature above 0°C? _____

6. What do the **freezing point** and **melting point** of a substance have in common?

7. Explain why there is no temperature change during a phase change.

8. How many calories of heat are needed to change 1 gram of ice at 0°C to 1 g of steam at 100°C? _____

Please continue on the other side.

9. What device can be used to measure the heat given off in a chemical reaction? _____

10. How much heat would be given off by a chemical reaction that raised the temperature of 150 g of water 10°C? _____

11. Explain what happens to the atoms or molecules of a piece of matter during **thermal expansion**.

12. Explain why, under certain conditions, water is an exception to the rule of thermal expansion.

13. Explain what would happen with our lakes in Michigan if water molecules behaved like all other matter during thermal expansion and contraction.

14. What is a **bimetallic strip**?

15. Explain how a **thermostat** can automatically turn a house furnace on when the temperature drops below a certain point in the house.

16. Why do icebergs float?
