

8th Grade Science

Introduction to Matter Book

Chapter Two: States of Matter Sections One, Two & Three: (pg 32-45)

Answer each of the following questions on a piece of notebook paper, **in a complete sentence, restating the question in your answer.** Failure to follow these rules will result in the student having to rewrite the assignment to earn their points.

1. What are the three states of matter?
2. What substance occurs naturally on Earth in all three states of matter?
3. Describe the motion of particles in a solid.
4. Describe the motion of particles in a liquid.
5. Describe the motion of particles in a gas.
6. Compare the viscosity of honey and water.
7. If the volume of a helium tank is equal to 5 balloons, how is it possible that one tank has enough helium in it to fill up 700 balloons?
8. Classify each substance according to its state of matter: apple juice, bread, a textbook and steam.
9. What two things affect the volume of a gas?
10. Explain what would happen to a balloon filled with helium that is put in the freezer. Why?
11. Compare the volumes of liquids and gases.
12. If two balls can hold the same volume of air, what would make one ball harder than the other?
13. How does changing the volume of a gas affect its other properties?
14. You have 3L of gas at a certain temperature and pressure. What would the volume of the gas be if the temperature doubled and the pressure stayed the same?
15. All changes of state are what type of change?
16. When a physical change happens, what does not change?
17. When the temperature of an object increases, what happens to its molecules?
18. Why do humans sweat?
19. A scientist has 6 grams of iron fillings in one cup and 1.9 Kilograms of iron fillings in another cup. Which of the iron fillings would have a higher boiling point? Explain.
20. Is atmospheric pressure the same everywhere on Earth? Explain.
21. It is a cool day, only 28 degrees Fahrenheit out and there is a thin layer of ice on the sidewalk. The temperature never gets above freezing all day, but the ice is gone in a couple hours. How is this possible?
22. What is dry ice?
23. The volume of a substance in the gaseous state is about 1000 times the volume of the same substance in the liquid state. How much space would 18 mL of water take up if it evaporated?
24. Would using dry ice in your holiday punch cause it to become watery after several hours? Why or why not?