Name _____ Date _____ Class _____

Chapter 15

STUDY GUIDE

15.1 PRESSURE

Write T *for true or* F *for false. If a statement is false, replace the underlined word or phrase with one that will make the statement true, and write your correction in the blank.*

_____ 1. All matter is composed of <u>small particles</u>.

_____ 2. Particles that make up matter are always <u>stationary</u>.

_____ 3. Collisions between particles of matter are perfectly elastic because there is <u>no change</u> in the total kinetic energy of the particles before and after the collision.

_____ 4. Under ordinary conditions, each molecule of a gas undergoes a few <u>million</u> collisions each second.

_____ 5. A barometer is <u>an open-arm</u> manometer used to measure atmospheric pressure.

_____ 6. Standard atmospheric pressure is <u>one pascal</u>.

Complete the statement or answer the question.

7. What is one pascal?

_____

8. In using any manometer, what measurement must you make?

_____

9. What physical property of the liquid in a manometer must you know?

_____

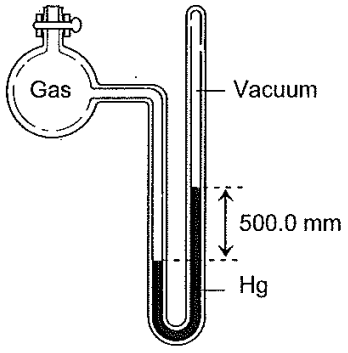
10. Why is the measurement of gas pressure with a closed-arm manometer independent of the atmospheric pressure?

_____

11. Standard atmospheric pressure will support a column of mercury _____ mm high.

12. One kilopascal equals _____ mm Hg.

13. A closed-arm mercury manometer is shown being used to measure the pressure of a gas in a closed container. What is the pressure of the gas in kilopascals?



Name _____ Date _____ Class _____

Chapter 15

STUDY GUIDE

15.2 MOTION AND PHYSICAL STATES

Answer the following questions.

1. Complete the following table comparing the three common states of matter.

State of matter	Shape	Volume
solid		definite
	assumes the shape of its container	
gas		

2. What two factors determine the average speed of the particles in a gas?

_____

3. Define *absolute zero.*

_____

4. In which direction does energy flow between two objects at different temperatures?

_____

5. What is the SI unit of temperature?

_____

6. What is absolute zero on the Celsius temperature scale?

_____

7. What equation can be used to convert Celsius temperatures (°C) to Kelvin temperatures (K)?

_____

8. Convert the following temperatures to the Kelvin scale.
   a. 15°C _____
   b. –100°C _____
   c. 0°C _____

9. Convert the following temperatures to the Celsius scale.
   a. 0 K _____
   b. 100 K _____
   c. 722 K _____

10. What is the difference between heat and temperature?

_____

_____