

Part C ching

Match each description in Column B to the correct term in Column A.

Column A	Column B
<u>c</u> 15. collisions of particles	a. used to compress a gas in a cylinder
<u>d</u> 16. 10 times the diameter of a particle	b. the SI unit of pressure
<u>e</u> 17. compressibility	c. result in pressure exerted by a gas
<u>a</u> 18. piston	d. distance between particles in an enclosed gas at room temperature
<u>b</u> 19. kilopascals	e. a measure of how much the volume of matter decreases under pressure

Part D Questions and Problems

Answer the following in the space provided. 3 assumptions out of 4.

20. Explain each assumption of the kinetic theory of gases in your own words.

- ① The motion of particles in a gas is constant and random.
- ② The particles travel in straight paths until they collide w/ other particles or the walls of their container.
- ③ No significant attractive or repulsive forces between particles in a gas, which is why a gas can expand to take the shape and volume of its container.
- ④ Gases are compressible since the volume of the particles in a gas is small compared to the overall volume of a gas.

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14.1

THE PROPERTIES OF GASES

Section Review

Objectives

- Explain why gases are easier to compress than solids or liquids are
- Describe the three factors that affect gas pressure

Vocabulary

- compressibility

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Gases are easily 1, or squeezed into a smaller volume because of the 2 between particles in a gas. The four variables used to describe a gas are pressure, (P), 3 (V), 4 (T), and number of 5 (n).

You can use 6 theory to predict and explain how gases will respond to a change in conditions. Doubling the amount of gas in a rigid container 7 the pressure. You can raise the pressure exerted by a contained gas by 8 its volume. As the temperature of an enclosed gas decreases, the pressure 9.

1. Compressed
2. space
3. volume
4. temperature
5. moles or particles
6. kinetic
7. doubles
8. reducing
9. decreases

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- AT 10. According to kinetic theory, the volume of the particles in a gas is small compared to the total volume of the gas.
- ST 11. Air will rush into a sealed container when the container is opened.
- NT 12. Gas flows from a region of lower pressure to a region of higher pressure.
- ST 13. Adding air to an object will cause the object to inflate.
- ST or AT 14. Four variables are used to describe a gas, P , V , T , and n , where n = number of moles.

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