This is a Class 1 exam

Lebanon Evangelical School for Boys and Girls

Lebanon Evangelical School
for Boys and Girls Loueizeh - Baabda

SE02 Exam

15DEC2025

Do NOT write in this box. Your MARK will be placed here.

Subject :	Chemistry	
Class :	8A, 8B, 8C and 8E	
Teacher :	Mrs. Rita Bekeredjian	
Duration :	1 hour	
You are to answer the questions to this exam on : This exam paper		
Your name :		*Time taken to complete exam*
Your Class :		
Exam Room :		
How many sheets, including cover sheet :		

- Do not open this paper until the teacher in charge instructs you to do so.
- The most important thing to remember in taking an exam is NEVER PANIC.
- If you are caught cheating in this exam, you will be awarded zero for ALL exams that are taken on this day.

I- Identify the letter of your choice that best completes or answers the statement. [1pt each]

___ 1-Which is the best example that something has kinetic energy?

A. a car parked on a steep hill
B. a tennis ball rolling across the court
C. a picture hanging on the wall
D. a piece of coal before it's burned

___ 2- When gas particles are squeezed into a smaller space, the pressure:
A. Drops
B. Increases
C. Disappears
D. Stays constant

___ 3-Which quantity describes how much force is spread over a surface?
A. Mass
B. Pressure
C. Volume
D. Motion

___ 4-When a solid melts, what happens to its particles?
A. They become arranged more tightly
B. They begin sliding past each other
C. They stop vibrating
D. They completely separate

___ 5-A solid turning directly into a gas is called:
A. Evaporation
B. Condensation
C. Sublimation
D. Freezing

___ 6-When a cold object warms up, what happens to its particles?
A. They stop moving
B. They vibrate more and move faster
C. They lose all kinetic energy
D. They become heavier

___ 7-Which change of state requires the addition of thermal energy?
A. Freezing
B. Condensation
C. Melting
D. Deposition

___ 8-Boyle's Law can be observed when:
A. A balloon expands in sunlight
B. A syringe is pushed and air compresses
C. Ice melts into water
D. Water boils into steam

___ 9-When the kinetic energy of particles increases, what happens to their motion?
A. They move more slowly
B. They stop moving completely
C. They move faster
D. They become heavier

___ 10-When the potential energy of particles in a substance increases, what usually happens?
A. Particles move closer together
B. Particles spread farther apart
C. Temperature drops suddenly
D. The particles lose all motion

II- Each of the sentences below is false. Make the sentence true by replacing the underlined word(s) with a term from the list below. Write your changes on the lines provided. [1pt each]

Condensation - deposition - evaporation - kinetic energy - sublimation – temperature - thermal energy - vaporization

_____1. The process of <u>thermal energy</u> is the opposite of the process of evaporation.

_____ 2. The average kinetic energy of the particles in a substance is measured by the substance's <u>condensation</u>.

_____ 3. It rained yesterday; however, due to <u>vaporization</u>, the puddles are all gone today.

_____4. The gaseous state of a given substance has greater <u>deposition</u> than the liquid or solid states because the particles of the substance are moving more in the gaseous state than in the other states.

_____5. The process of <u>thermal energy</u> is the opposite of the process of deposition.

_____6. <u>Temperature</u> is the sum of the total potential energy and kinetic energy of an object.

_____ 7. Temperature results in matter changing from gas directly to a solid, without going through the liquid state.

_____8. Evaporation and boiling result in sublimation of a liquid.

III- Fill in the blanks with appropriate terms. [1pt each]

a. The only substance that exists naturally on Earth in all three states is _____

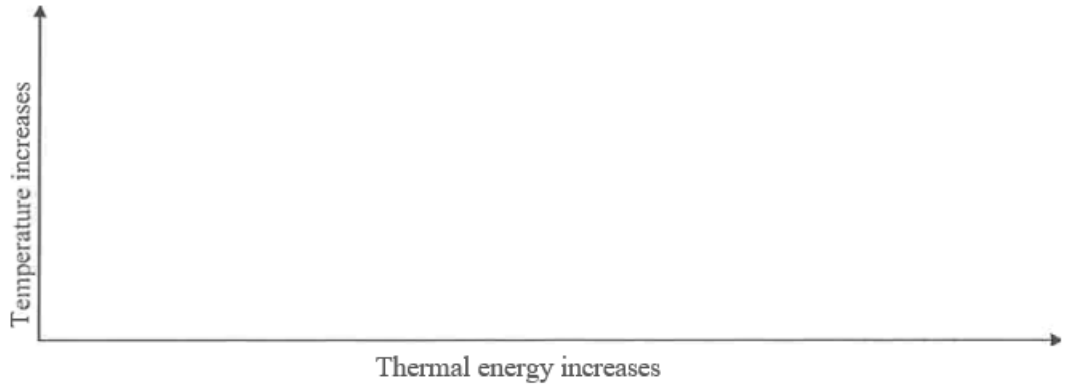
b. When you add _____ energy to ice, the temperature of the ice increases, which means that the _____ energy of the water molecules increase.

c. At the _____ point of water (0°C), water molecules vibrate so fast that they begin to move out of their places and _____ occurs.

d. Once a substance melts, the average _____ energy of its particles begins to increase again as more _____ energy is added.

e. When water reaches its _____ point (100°C), liquid water begins to change to water _____.

IV- **Draw** a line to indicate the thermal energy versus temperature changes as a solid change to a liquid. **Label** the line to indicate the changes in state, temperature (T) and potential energy (PE). [4 pts]



V- Short Answer Questions

a- Describe two ideas in the kinetic molecular theory. [2 pts]

1-_____

2- _____

b- For a gas at a constant temperature in a fixed container, how are pressure and volume related? What is this relationship called? [2 pts]

_____

_____

_____

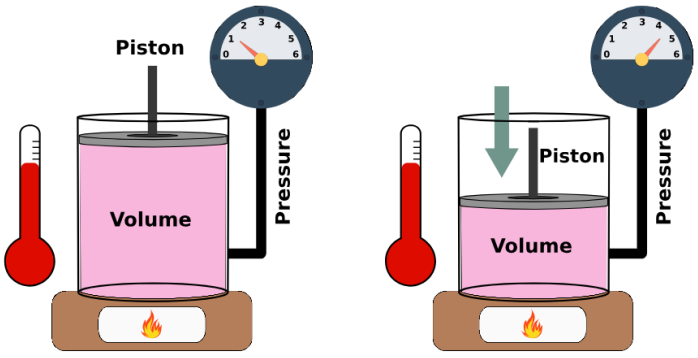
c- For a gas at constant pressure, how are temperature and volume related? What is this relationship called? [2 pts]

d- Explain, Why the evaporation flask doesn't have bubbles below the surface? [1 pt]

e- Describe an example of Boyle's law in action. Use the words temperature, volume, and pressure in your description. [1 pt]

f- Describe an example of Charles's law in action. Use the words temperature, volume, and pressure in your description. [1pt]

VI- Refer to the diagram below to answer the questions. [1 pt each]



a- What happens to the pressure and volume when the piston is pushed down?

b- Which factor is kept constant?

c- Write the name of the principle that is illustrated in the above diagram.

_____

VII- Application Questions

Explain what will happen in this situation:

1- A closed soda can is left inside a hot car on a summer day. [1 pt each]

a- What happens to the pressure inside the can?

_____

b- Why might the can bulge or even explode?

_____

2- A ball is sitting on a shelf. [2pts each]
When it falls, its energy changes.

a- When the ball is on the shelf, does it have potential energy, kinetic energy or both? Explain why.

_____

_____

_____

b- How do its potential energy and kinetic energy change as it falls? Explain what happens to both.

_____

_____

_____

Answer Key - Grade 8 ABCE

I- [1pt each]

1. B

2. B

3. B

4. B

5. C

6. B

7. C

8. B

9. C

10. B

II- [1pt each]

1. Condensation

2. Temperature

3. Evaporation

4. Kinetic energy

5. Sublimation

6. Thermal energy

7. Deposition

8. Vaporization

III- [1pt each]

a. water

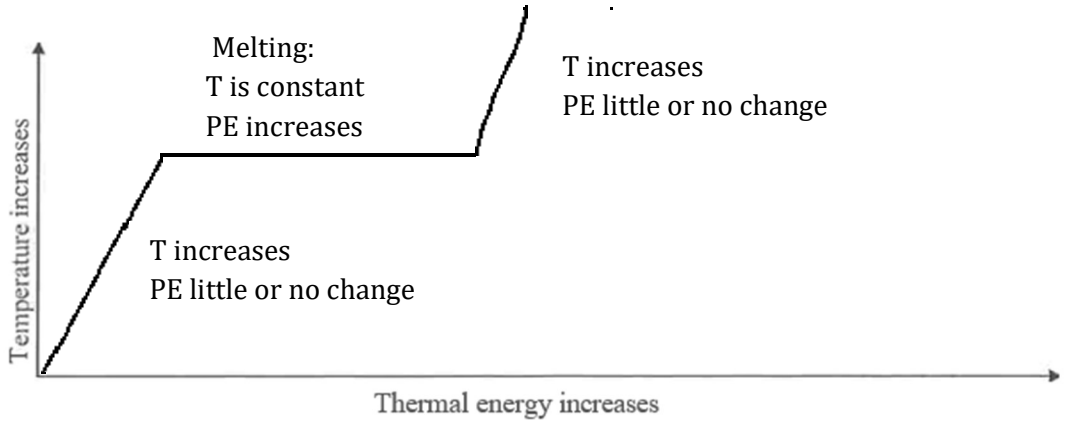
b. thermal, kinetic

c. melting, melting

d. kinetic, thermal

e. boiling, vapor

IV- (1pt : drawing; 1pt x3 for labeling each phase)



V-

a- Kinetic Molecular Theory: [2 pts]

1. Particles are in constant random motion.

2. Particles collide when they are moving or any other correct answer.

b-Boyle's Law: Pressure and volume are inversely related at constant temperature. [2 pts]

c- Charles's Law: Temperature and volume are directly related at constant pressure. [2 pts]

d-No bubbles form because evaporation occurs only at the surface, not throughout the liquid. [1pt]

e- Example of Boyle's Law: any real-life example that explains the effect of pressure on volume at a constant T. [1pt]

f- Example of Charles's Law: any real-life example that explains the effect of temperature on volume at a constant pressure. [1pt]

VI- [1pt each]

a-Pressure increases and volume decreases when the piston is pushed down.

b-Constant factor: Temperature

c-Principle: Boyle's Law

VII-

1- [1pt each]

a-Inside a hot car, the pressure inside the soda can increases.

b- The can may bulge or explode because rising temperature increases particle motion and pressure.

2- [2pts each]

a-On the shelf, the ball has potential energy because of its height.

b- As it falls, potential energy decreases while kinetic energy increases.