



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Sub: Physical Science

Class: 8

Date: 18.01.21

Duration: 40 min

Worksheet Solution 02

Full Marks: 15

MATTER

Choose the Correct options:

- Name the state of matter whose kinetic energy is the least in its constituent particles
(a) Solid (b) Liquid (c) Gas (d) **Bose-Einstein Condensate**
- Two samples of a gas at the same pressure occupy the same volume. One of the samples A show a temperature four times that of Sample B. What can we say about the velocities of the two samples of the gas?
(a) $v_A > v_B$ (b) $v_A = v_B$ (c) $v_A - v_B = \text{constant}$ (d) $v_B = 4v_A$
- The average kinetic energy of a sample of gas A is 100 times greater than the average kinetic energy of sample of the same gas B at constant pressure and volume. What can we determine about the temperatures?
(a) $T_A > T_B$ (b) $T_A = T_B$ (c) $T_A - T_B = \text{constant}$ (d) $T_B = 10T_A$
- A perfume is sprayed in one corner of the room. After some time the fragrance is perceived in another corner of the room. What property of matter is responsible for this phenomenon?
(a) Adhesive force (b) Cohesive force (c) **kinetic motion of molecules** (d) none of these
- Matter is composed of _____
(a) Atoms (b) Molecules (c) Ions (d) **Both (a) and (b)**
- The Botanist, Robert Brown, noticed the motion of pollen grains in water and thus discovered Brownian motion. Brownian motion is due to the kinetic motion of molecules of _____
(a) **Water** (b) Pollen grain (c) Both (a) and (b) (d) none of these
- Crystalline solids have their atoms in fixed positions in a crystal lattice. The atoms vibrate about these fixed positions. If the crystal is heated the vibrations will ____
(a) **Increase** (b) Decrease (c) Remain the same (d) Not be consistent.
- Ink dropped into a bowl of water and a bowl of glycerol will behave ____
(a) Identically (b) **Similarly** (c) Differently (d) Unexpectedly
- A piece of ice is melted and then the water obtained is boiled to form steam. Which of these has the greatest kinetic energy?
(a) Ice (b) Water (c) **Steam** (d) All have the same energy
- Ignition temperature of coal is 580 degree Celsius. Zinc has a melting point of 420 degree Celsius. At 500 degree what will contain larger amount of kinetic energy?
(a) Coal (b) **Zinc** (c) Equal energy (d) Cannot be determined.
- Which of the following states of matter has the highest amount of kinetic energy?
(a) Solid (b) Liquid (c) **Gas** (d) Bose Einstein Condensate
- The nature of Kinetic motion of molecules is
(a) Oscillating (b) Vibrating (c) Random (d) **Different for different states.**
- Which state of matter has the largest intermolecular spaces?
(a) Solid (b) Liquid (c) **Gas** (d) Both (b) and (c)
- Which state of matter has the smallest intermolecular spaces?
(a) **Solid** (b) Liquid (c) Gas (d) Plasma
- If the volume of a gas is decreased very slowly at constant temperature, the gas has less place to move around. So, its motion decreases. What happens to the Kinetic energy?
(a) Increase (b) Decrease (c) **Remain the same** (d) Cannot be determined.