

Thermodynamics Fundamentals

Physics · Answer Key · 8 Questions

1. Which state of matter has the highest average kinetic energy of particles at the same temperature when transitioning from a liquid?

- A) Solid
- B) Liquid
- C) Gas
- D) Plasma**

2. What is the scientific term for the total internal energy of a system that can be transferred as heat at constant pressure?

- A) Entropy
- B) Enthalpy**
- C) Viscosity
- D) Convection

3. In a vacuum, how does the Sun's thermal energy primarily reach the Earth?

- A) Conduction
- B) Convection
- C) Radiation**
- D) Evaporation

4. According to the Second Law of Thermodynamics, what happens to the entropy of an isolated system over time?

- A) It stays constant
- B) It increases**
- C) It decreases
- D) It disappears

5. Which material is an example of a poor thermal conductor, also known as a thermal insulator?

- A) Copper
- B) Silver
- C) Wood**
- D) Aluminum

6. At what temperature on the Kelvin scale does all molecular motion theoretically cease, known as absolute zero?

- A) 0 K**
- B) 273 K
- C) 100 K
- D) -273 K

7. What is the process called when a substance changes directly from a solid to a gas without becoming a liquid?

- A) Condensation
- B) Sublimation**
- C) Deposition
- D) Fusion

8. Which form of heat transfer occurs specifically through the movement of fluids like liquids or gases?

- A) Conduction
- B) Radiation
- C) Convection**
- D) Refraction