

Fundamentals of Thermodynamics

Physics · Practice Test · 10 Questions

1. What is the standard SI unit used to measure heat energy?

- A) Watt
- B) Joule
- C) Pascal
- D) Ampere

2. Which law of thermodynamics states that energy cannot be created or destroyed, only transformed?

- A) First Law
- B) Second Law
- C) Third Law
- D) Zeroth Law

3. What term describes the transfer of heat through direct contact between materials?

- A) Convection
- B) Radiation
- C) Conduction
- D) Insulation

4. Absolute zero is the theoretical temperature at which molecular motion ceases. What is its value in Kelvin?

- A) 0 K
- B) 273 K
- C) 100 K
- D) 373 K

5. In which direction does heat naturally flow between two objects of different temperatures?

- A) From cold to hot
- B) From hot to cold
- C) It does not flow
- D) Only in a vacuum

6. What is the primary method of heat transfer through a vacuum, such as sunlight reaching Earth?

- A) Conduction
- B) Convection
- C) Radiation
- D) Diffusion

7. Which property of a substance determines how much heat is required to raise its temperature by one degree Celsius?

- A) Density
- B) Thermal Conductivity
- C) Specific Heat Capacity
- D) Volume

8. When a substance changes from a solid to a liquid, the process is known as:

- A) Condensation
- B) Freezing
- C) Melting
- D) Sublimation

9. What device is commonly used to measure the amount of heat involved in a chemical or physical process?

- A) Barometer
- B) Calorimeter
- C) Thermometer
- D) Voltmeter

10. Which state of matter typically undergoes the most significant expansion when heated?

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