

# Fundamentals of Thermodynamics

Physics · Answer Key · 10 Questions

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**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