

Fundamental Thermodynamics Facts

Thermodynamics · Answer Key · 10 Questions

1. What is the SI unit of temperature?

- A) Celsius
- B) Fahrenheit
- C) Kelvin**
- D) Rankine

2. Which law of thermodynamics states that energy cannot be created or destroyed, only transferred or changed from one form to another?

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

3. What process involves the transfer of heat through direct contact?

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

4. When a substance changes from a liquid to a gas, what type of phase transition is occurring?

- A) Melting
- B) Boiling**
- C) Condensation
- D) Freezing

5. Which of the following best describes heat?

- A) The measure of the average kinetic energy of particles
- B) The measure of the total internal energy of a system
- C) The transfer of thermal energy between systems**
- D) The resistance of a material to heat flow

6. The Second Law of Thermodynamics introduces the concept of:

- A) Conservation of energy
- B) Absolute zero
- C) Entropy**
- D) Thermodynamic equilibrium

7. Which phenomenon is an example of heat transfer by convection?

- A) Sunlight warming your skin
- B) A hot pan heating a spoon
- C) Hot air rising from a radiator**
- D) A fireplace radiating heat

8. What happens to the volume of most gases when they are heated at constant pressure?

- A) It decreases
- B) It stays the same
- C) It increases**
- D) It evaporates

9. What is the point where a substance can no longer exist as a liquid, regardless of pressure?

- A) Melting point
- B) Boiling point
- C) Triple point
- D) Critical point**

10. Which of the following has the highest thermal conductivity (transfers heat easily)?

- A) Wood
- B) Air
- C) Copper**
- D) Plastic