

Advanced Physical Science Knowledge

Physical Science · Answer Key · 8 Questions

1. What is the specific name for the phenomenon where an electron is emitted from a material when light hits its surface?

- A) The Compton Effect
- B) The Photoelectric Effect**
- C) The Zeeman Effect
- D) The Tyndall Effect

2. In the context of fluid dynamics, which principle states that an increase in the speed of a fluid occurs simultaneously with a decrease in static pressure?

- A) Pascal's Principle
- B) Archimedes' Principle
- C) Bernoulli's Principle**
- D) Torricelli's Law

3. Which element has the highest thermal conductivity of all pure metals at room temperature?

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

4. What is the IUPAC name for the simplest alkyne, commonly known as acetylene?

- A) Ethyne**
- B) Propyne
- C) Butyne
- D) Ethene

5. In particle physics, which fundamental force is mediated by the gluon?

- A) Weak nuclear force
- B) Electromagnetic force
- C) Gravitational force
- D) Strong nuclear force**

6. Which law of thermodynamics states that the entropy of a perfect crystal at absolute zero is exactly zero?

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

7. What unit is defined as the amount of substance that contains as many elementary entities as there are atoms in 0.012 kilograms of carbon-12?

A) Dalton

B) Mole

C) Equivalent

D) Atomic mass unit

8. Which type of radioactive decay involves the emission of a high-energy photon without changing the atomic number or mass number of the nucleus?

A) Alpha decay

B) Beta-minus decay

C) Gamma decay

D) Positron emission