

Geophysical Physical Science

Physical Science · Practice Test · 12 Questions

1. Which specific atmospheric layer contains the highest concentration of ozone, absorbing the majority of the sun's ultraviolet radiation?

- A) Troposphere
- B) Stratosphere
- C) Mesosphere
- D) Thermosphere

2. What is the primary physical mechanism responsible for the Coriolis effect acting on global wind patterns?

- A) The Earth's axial rotation
- B) Atmospheric pressure gradients
- C) Thermal expansion of gases
- D) Tidal forces from the Moon

3. The 'Great Ocean Conveyor Belt,' or thermohaline circulation, is primarily driven by gradients in what two properties of seawater?

- A) Pressure and viscosity
- B) Depth and luminosity
- C) Temperature and salinity
- D) Turbidity and pH

4. Which seismic wave type is characterized by a compressional motion and is the first to arrive at a seismograph station following an earthquake?

- A) Rayleigh waves
- B) Love waves
- C) S-waves
- D) P-waves

5. The chemical composition of the Earth's inner core is predominantly composed of which two elements?

- A) Silicon and Oxygen
- B) Iron and Nickel
- C) Magnesium and Aluminum
- D) Calcium and Carbon

6. What is the name of the geomorphological process by which glaciers erode rock by plucking and abrasion?

- A) Glacial scouring
- B) Frost wedging
- C) Solifluction
- D) Creep

7. In the context of plate tectonics, which type of plate boundary is primarily associated with the formation of deep-ocean trenches?

- A) Transform boundary
- B) Divergent boundary
- C) Convergent subduction boundary
- D) Passive margin

8. Which mineral property describes a mineral's resistance to being scratched, measured on the Mohs scale?

- A) Cleavage
- B) Tenacity
- C) Luster
- D) Hardness

9. What is the physical phenomenon that causes the 'blue hour' during twilight, specifically the scattering of shorter wavelength light?

- A) Rayleigh scattering
- B) Mie scattering
- C) Refraction
- D) Diffraction

10. The deepest point in the Earth's oceans, the Challenger Deep, is located at the southern end of which trench?

- A) Tonga Trench
- B) Philippine Trench
- C) Mariana Trench
- D) Kermadec Trench

11. Which specific layer of the Earth's interior is responsible for the generation of the planetary magnetic field through convection currents?

- A) Inner core
- B) Outer core
- C) Lower mantle
- D) Asthenosphere

12. What is the term for the maximum amount of water vapor an air mass can hold at a specific temperature?

- A) Dew point
- B) Relative humidity
- C) Saturation vapor pressure
- D) Mixing ratio