

Advanced Oceanography Quiz

Oceanography · Practice Test · 20 Questions

1. Which specific process is primarily responsible for the formation of manganese nodules on the abyssal plains?

- A) Hydrothermal precipitation
- B) Biological decomposition
- C) Hydrogenous sedimentation
- D) Volcanic extrusion

2. What is the primary driver of the thermohaline circulation, often referred to as the 'Global Conveyor Belt'?

- A) Tidal forces from the moon
- B) Density differences caused by temperature and salinity
- C) Prevailing trade winds
- D) Coriolis effect on surface currents

3. Which zone of the ocean is defined by a rapid change in temperature with depth, typically found below the mixed layer?

- A) Pycnocline
- B) Halocline
- C) Thermocline
- D) Euphotic zone

4. What is the name of the phenomenon where deep, nutrient-rich water rises to the surface to replace displaced surface water?

- A) Downwelling
- B) Upwelling
- C) Gyre formation
- D) Tidal bore

5. Which feature of the ocean floor is created at convergent plate boundaries where one tectonic plate subducts beneath another?

- A) Ocean trench
- B) Mid-ocean ridge
- C) Abyssal hill
- D) Guyot

6. What measurement expresses the total amount of dissolved salts in seawater, typically measured in parts per thousand (ppt)?

- A) Turbidity
- B) Salinity
- C) Buoyancy
- D) Viscosity

7. Which wind-driven current is responsible for transporting warm water from the Gulf of Mexico toward Western Europe?

- A) California Current
- B) Gulf Stream
- C) Peru Current
- D) Kuroshio Current

8. What term describes the flat, sediment-covered areas of the deep ocean floor found between the continental rise and mid-ocean ridges?

- A) Continental shelf
- B) Abyssal plain
- C) Seamount chain
- D) Submarine canyon

9. The Coriolis effect, which influences the path of ocean currents, is a direct result of which planetary movement?

- A) Earth's orbital velocity
- B) Earth's rotation on its axis
- C) The Moon's gravitational pull
- D) Changes in atmospheric pressure

10. Which type of marine sediment is derived from the remains of microscopic organisms like diatoms and foraminifera?

- A) Lithogenous
- B) Hydrogenous
- C) Biogenous
- D) Cosmogenous

11. What is the average depth of the world's oceans in meters?

- A) 1,500 meters
- B) 3,700 meters
- C) 6,200 meters
- D) 10,000 meters

12. Which seafloor feature is an isolated volcanic peak that rises at least 1,000 meters above the surrounding deep-ocean floor?

- A) Guyot
- B) Atoll
- C) Seamount
- D) Continental rise

13. What causes the formation of a gyre in the open ocean?

- A) The interaction of Earth's rotation, wind patterns, and landmasses
- B) The sudden release of geothermal energy
- C) Tectonic plate movement at transform faults
- D) Increased evaporation in tropical regions

14. What is the 'benthic zone' of the ocean referring to?

- A) The sunlit upper layer
- B) The entire water column
- C) The ocean floor and the organisms living there
- D) The interface between the atmosphere and the surface

15. During which moon phase are spring tides, which have the greatest tidal range, most likely to occur?

- A) First and third quarters
- B) New moon and full moon
- C) Waxing gibbous only
- D) Waning crescent only

16. Which chemical compound is the most abundant dissolved salt in ocean water?

- A) Magnesium sulfate
- B) Calcium carbonate
- C) Sodium chloride
- D) Potassium bromide

17. What is the primary factor that determines the speed of sound in seawater?

- A) Pressure, temperature, and salinity
- B) Light intensity and water depth
- C) Presence of phytoplankton
- D) Wind speed above the surface

18. Which region of the ocean is most densely populated with marine life due to high nutrient concentrations and sunlight penetration?

- A) Abyssal zone
- B) Neritic zone
- C) Hadal zone
- D) Bathyal zone

19. What is an atoll?

- A) A ring-shaped coral reef that encloses a lagoon
- B) A flat-topped submarine volcano
- C) A deep valley cut into the continental slope
- D) A collection of icebergs in the Southern Ocean

20. What does the term 'halocline' specifically refer to in oceanography?

- A) A layer where temperature changes rapidly
- B) A layer where density is uniform
- C) A layer where salinity changes rapidly with depth
- D) A layer where light penetration drops to zero