

Oceanography Exploration

Oceanography · Answer Key · 22 Questions

1. What is the primary process responsible for the formation of hydrothermal vents on the ocean floor?

- A) Volcanic activity at mid-ocean ridges**
- B) The breakdown of shipwrecks
- C) Erosion from deep-sea currents
- D) The accumulation of plankton remains

2. Which layer of the ocean receives the least amount of sunlight and is characterized by extreme pressure and cold temperatures?

- A) The epipelagic zone
- B) The mesopelagic zone
- C) The bathyal zone
- D) The abyssal zone**

3. What is the most abundant dissolved salt in seawater, giving it its characteristic salty taste?

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

4. Which oceanographic phenomenon is caused by the gravitational pull of the Moon and the Sun?

- A) Ocean currents
- B) Tsunamis
- C) Tides**
- D) Upwelling

5. What is the term for large, circular ocean currents that rotate clockwise in the Northern Hemisphere and counter-clockwise in the Southern Hemisphere?

- A) Gyres**
- B) Jet streams
- C) Tidal bores
- D) Thermohaline circulation

6. Coral reefs are often referred to as the 'rainforests of the sea' due to their immense biodiversity. What is the primary symbiotic organism that lives within coral tissues and provides them with color and nutrients?

- A) Bacteria
- B) Zooxanthellae**
- C) Diatoms
- D) Dinoflagellates

7. What geological feature is formed when tectonic plates pull apart, creating a rift valley on the ocean floor where new crust is generated?

- A) Subduction zone
- B) Oceanic trench
- C) Mid-ocean ridge**
- D) Seamount

8. Which process involves the movement of nutrient-rich, cold water from the deep ocean to the surface, supporting marine productivity?

- A) Downwelling
- B) Upwelling**
- C) Thermocline
- D) Halocline

9. What is the deepest known point in the Earth's oceans, located in the Mariana Trench?

- A) Challenger Deep**
- B) Sunda Trench
- C) Puerto Rico Trench
- D) Tonga Trench

10. What are the microscopic, free-floating organisms that form the base of many marine food webs?

- A) Nekton
- B) Benthos
- C) Plankton**
- D) Crustaceans

11. The Coriolis effect, which influences ocean currents and weather patterns, is a result of:

- A) Ocean salinity changes
- B) The Earth's rotation**
- C) Wind speed variations
- D) Deep ocean pressure

12. What is the primary driver of thermohaline circulation, also known as the 'global conveyor belt'?

- A) Wind patterns
- B) Earth's magnetic field
- C) Differences in water temperature and salinity**
- D) Lunar tides

13. What type of marine organism is characterized by being sessile (fixed in one place) and living on the ocean floor?

- A) Pelagic
- B) Planktonic
- C) Benthic**
- D) Nektonic

14. Which factor plays a significant role in determining the density of seawater, influencing its vertical movement in the ocean?

- A) Water clarity
- B) Dissolved oxygen levels
- C) Temperature and salinity**
- D) Light penetration

15. What are submarine canyons, often found on continental slopes, primarily formed by?

- A) Volcanic eruptions
- B) The impact of asteroids
- C) Turbidity currents**
- D) Glacial erosion

16. The 'oxygen minimum zone' in the ocean is characterized by:

- A) Very high oxygen levels
- B) Very low oxygen levels**
- C) High levels of dissolved salts
- D) Extreme temperature fluctuations

17. Which layer of the ocean is also known as the 'twilight zone' because some light penetrates, but not enough for photosynthesis?

- A) Epipelagic zone
- B) Mesopelagic zone**
- C) Bathyal zone
- D) Abyssal zone

18. What is the process by which marine organisms convert chemical energy into food in the absence of sunlight, often found near hydrothermal vents?

- A) Photosynthesis
- B) Chemosynthesis**
- C) Respiration
- D) Fermentation

19. What is the term for the boundary between two different water masses, often characterized by significant changes in temperature and salinity?

- A) Thermocline
- B) Halocline
- C) Pycnocline
- D) Front**

20. Which of the following is a major threat to coral reefs worldwide?

- A) Increased nutrient runoff from agriculture
- B) Ocean acidification and rising sea temperatures**
- C) Overfishing of herbivorous fish
- D) Increased sedimentation from coastal development

21. What are large underwater mountains called, often formed by volcanic activity?

- A) Trenches
- B) Guyots
- C) Seamounts**
- D) Abyssal plains

22. The movement of water horizontally across the ocean surface, driven by wind, is known as:

- A) Thermohaline circulation
- B) Tides
- C) Ocean currents**
- D) Upwelling