

Marine Biology Fundamentals

Marine Biology · Answer Key · 25 Questions

1. Which of the following marine mammals is known for its complex vocalizations and social structures, often referred to as 'songs'?

- A) Dolphin
- B) Seahorse
- C) Humpback Whale**
- D) Jellyfish

2. What is the primary photosynthetic pigment found in most marine algae and phytoplankton?

- A) Hemoglobin
- B) Chlorophyll a**
- C) Melanin
- D) Carotenoid

3. The Great Barrier Reef, the world's largest coral reef system, is located off the coast of which country?

- A) Brazil
- B) Indonesia
- C) Australia**
- D) Mexico

4. Which marine invertebrate phylum is characterized by radial symmetry and a water vascular system?

- A) Mollusca
- B) Arthropoda
- C) Echinodermata**
- D) Annelida

5. What is the process by which marine organisms convert dissolved carbon dioxide into organic matter?

- A) Respiration
- B) Decomposition
- C) Photosynthesis**
- D) Osmosis

6. Which zone of the ocean is characterized by the complete absence of sunlight and high pressure?

- A) Photic zone
- B) Twilight zone
- C) Abyssal zone**
- D) Intertidal zone

7. What is the scientific term for the symbiotic relationship between coral polyps and zooxanthellae algae?

- A) Parasitism
- B) Commensalism
- C) Mutualism**
- D) Predation

8. Which of the following is a sessile, filter-feeding marine invertebrate belonging to the phylum Porifera?

- A) Octopus
- B) Jellyfish
- C) Sponge**
- D) Starfish

9. What drives ocean currents on a global scale?

- A) Tides and lunar cycles
- B) Marine mammal migration
- C) Wind and density differences**
- D) Submarine earthquakes

10. Which marine reptile is known for its long-distance migrations and nesting on sandy beaches?

- A) Sea otter
- B) Manatee
- C) Sea turtle**
- D) Penguin

11. What is the primary source of energy for most deep-sea hydrothermal vent ecosystems?

- A) Sunlight
- B) Geothermal heat
- C) Chemosynthesis**
- D) Organic matter from the surface

12. Which group of marine fish is characterized by a cartilaginous skeleton and placoid scales?

- A) Bony fish
- B) Ray-finned fish
- C) Sharks and rays**
- D) Eel-like fish

13. What is the term for the upward movement of nutrient-rich deep ocean water to the surface?

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

14. Which marine invertebrate is known for its ability to change color rapidly for camouflage and communication?

- A) Lobster
- B) Crab
- C) Squid**
- D) Sea urchin

15. The process of bioluminescence in marine organisms is primarily used for:

- A) Heat regulation
- B) Attracting prey or mates, and defense**
- C) Buoyancy control
- D) Filtering food particles

16. What is the largest marine mammal in the world?

- A) Sperm whale
- B) Fin whale
- C) Blue whale**
- D) Humpback whale

17. Which type of marine environment is characterized by fluctuating salinity levels and a mix of freshwater and saltwater?

- A) Open ocean
- B) Deep sea
- C) Estuary**
- D) Coral reef

18. What is the scientific name for the hard, protective outer shell of many marine invertebrates like crustaceans and mollusks?

- A) Endoskeleton
- B) Exoskeleton**
- C) Cartilage
- D) Chitin

19. Which marine bird is flightless and adapted for swimming and diving in cold waters?

- A) Albatross
- B) Pelican
- C) Penguin**
- D) Seagull

20. What is the primary role of decomposers in a marine ecosystem?

- A) Producing oxygen
- B) Breaking down dead organic matter**
- C) Grazing on algae
- D) Hunting other animals

21. Which marine fish is famous for its unique method of reproduction, where the male carries the fertilized eggs?

- A) Tuna
- B) Salmon
- C) Seahorse**
- D) Anglerfish

22. What term describes the collective term for all the living organisms in a particular marine environment?

- A) Habitat
- B) Niche
- C) Biota**
- D) Ecosystem

23. Which marine invertebrate is known for its stinging cells (nematocysts) used for defense and capturing prey?

- A) Sea slug
- B) Anemone**
- C) Barnacle
- D) Clam

24. What is the name of the phenomenon where certain marine organisms emit light?

- A) Photosynthesis
- B) Chemosynthesis
- C) Bioluminescence**
- D) Scavenging

25. Which factor is most crucial for the survival of organisms in the intertidal zone?

- A) Constant darkness
- B) High salinity
- C) Ability to withstand desiccation and wave action**
- D) Absence of predators