

Odyssey Expeditions

SEA Voyages

Environmental Service and Academic Credit

Knowledge Reviews

Please complete these knowledge reviews after reading the accompanying articles.
Please use full sentences and proper English for your answers and print legibly.

The more thoughtful and thorough your answer, the more you are learning, please take it seriously and enjoy!

Name _____

Review Questions from **'Our World, Our Water, Project Aware'**

1. What is Project AWARE Foundation's Mission and Purpose?

Give an example of what Project AWARE is doing in partnership with PADI to protect underwater environments.

2. What are the two primary freshwater ecosystems and what distinguishes them?

3. The ocean is made up of two zones — the _____ zone or the zone of perpetual darkness and the zone of light penetration, which is the _____ zone.

4. Why are coral reefs important to the aquatic environment?

5. List and briefly describe the single, most important, global threat to coral reef environments:

6. What are the main sources of pollution in the aquatic environment?

7. Why are many worldwide fisheries facing collapse?

8. What are the main problems faced by the world's most environmentally threatened regions?

9. List and briefly describe three of the Project AWARE's "Ten Ways a Diver Can Protect Underwater Environments"?

10. Give an example of how you could be involved in conservation activities with Project AWARE Foundation?

Name _____

Review Questions- Introduction to Oceans

1. List the four major oceanic basins.
2. Draw a cross section of an ocean showing the ocean floor.
3. Describe the characteristics of the different zones along the ocean floor.

4. Discuss the distribution and characteristics of the major marine biomes with special focus on the abiotic factors that influence these biomes.

Name _____

Review Questions- Characteristics of Water

1. Why does the molecular configuration of H₂O cause liquid water to be “sticky”?
2. Diagram the hydrologic cycle.
3. Discuss how density, the influence of gravity, compressibility, oxygen holding capacity, and light penetration in aquatic habitats differs from that in terrestrial habitats.

Name _____

Review Questions- Coral Reefs

1. Discuss how Darwin's subsidence theory of coral reef formation explains the different characteristics of fringing reefs, barrier reefs, and atolls.

2. Discuss the factors responsible for determining the geographic distribution of coral reefs?

3. Discuss the factors that cause reef building and erosion.

4. How do corals get energy and nutrients?

5. How does reproduction occur in corals?

Name _____

Review Questions- Coral Reef Zonation

1. Place the coral reef zones listed below in order from the sea to the shore and list at least one species of coral that is commonly found in that region.

	<u>Order</u>	<u>species</u>
Buttress Zone	_____	_____
Reef Crest	_____	_____
Fore Reef Slope	_____	_____
Shore	_____	_____
Palmata Zone	_____	_____
Fore Reef Escarpment	_____	_____

2. Discuss the role that wave action plays on the zonation of coral species abundance and the zonation of coral growth forms

3. Discuss the role of light intensity in determining the abundance and growth form of corals.

Name _____

Review Questions- Introduction to Ichthyology

1. What is a fish?
2. List the characteristics that distinguish the 3 different classes of fishes.
3. Discuss how fish "breathe".

4. Discuss how fish sense their environment.

5. Describe how fish swim.

Name _____

Review Questions- Fish Behavior- Symbiosis and Parasites

1. Describe how would you design an experiment to test whether cleaners had a mutualistic or parasitic relationship.

2. Describe how Cymothoid isopods deal with the challenge of finding a make.

Name _____

Review Questions- Coral Reef Fish Community Ecology

1. Discuss the role that larval ecology, competition, and predation play in determining patterns of species diversity in coral reef fishes.

Name _____

Review Questions- Introduction to Science

1. Use inductive reasoning to develop a hypothesis and deductive reasoning to develop a prediction based on that hypothesis.

2. List the steps of the hypothesis testing protocol.

3. When do you need to estimate the true answer using the sample answer? Why?

4. What are sources of sampling error? What can researchers do to minimize the effects of sampling error.

Odyssey Expeditions SEA Voyages Final Exam Essays

Responses to be typewritten and submitted electronically. Answer in full sentences, using proper English, in essay paragraph format.

1. 30 points

Not surprisingly, the reef fishes in the Caribbean can vary greatly in their morphology and behavior. Choose three very different species of reef fish and discuss how and why these species differ.

2. 20 points

Humans have had a variety of effects on tropical marine fish communities. Using observations you made during your voyage, discuss how humans have had positive and negative effects of reef fishes.

3. 10 points

What was the most interesting fish species you saw during your voyage? Why?

4. 20 points

For many people living in the Caribbean fish harvested from the reef are a major source of protein and income. Discuss how you think we should try to balance reef fish conservation and the needs of the local peoples.

5. 20 points

What can you do to help the conservation of tropical coral reefs and coral reef fishes.

6. 10 points

How has your experience on an Odyssey Expeditions voyage changed your view of the world?