



Jonathan Bird's Blue World

Episode 3 • Giants of the Depths • Study Guide

Jonathan Bird's Blue World: Giants of the Depths is a story about the mysterious Sperm whale. In this adventure, Jonathan travels to Dominica, an island in the Caribbean known for its population of Sperm whales in the deep waters just offshore. Jonathan shows how these whales which are mammals just like people, need to breathe air, and use echolocation to find food. The echolocation makes a specific sound that Jonathan can hear using an underwater microphone called a hydrophone. Their private lives make them hard to approach and film but by using just a mask and snorkel (no scuba gear) Jonathan is able to approach them closely. Even though these animals are the size of a school bus, they are extremely gentle and a little curious about Jonathan and his camera.

Objectives

1. Explain how whales are mammals, have lungs and need to breathe air at the surface, even though they spend their entire lives in the ocean.
2. Introduce the viewer to the world's largest toothed whale, the Sperm whale.
3. Explain what Sperm whales eat and how they hunt it using echolocation.
4. Describe the habitat of the Sperm whale, and why they choose to live where they do.

Questions for before watching the program

1. What is a mammal and what are some traits of mammals? List some mammals.
2. What is echolocation?
3. Does sound travel underwater better or worse than in air?
4. There are two main kinds of whales. What are they? What is the largest of each kind?
5. How did Sperm whales get their name?

Discussion for after watching the program

1. Cows, humans, dogs and Sperm whales are all mammals. What are the common characteristics they all share that make them mammals?
2. Why do Sperm whales like the waters just off the shore of Dominica, rather than other Caribbean Islands? What does Dominica have that other islands lack?
3. How do whale watch boats find the whales from far away?
4. What do Sperm whales eat and how do they find it way down deep where there is no light?
5. Name a famous Sperm whale from a work of fiction!
6. Sperm whales have been recorded at depths beyond 10,000 feet. The pressure in seawater is 14.7 psi (pounds per square inch) for every 33 feet of depth. What is the pressure in psi that a Sperm whale must withstand at 10,000 feet? How much pressure is required to crush a car at a junkyard? (Needs outside research).