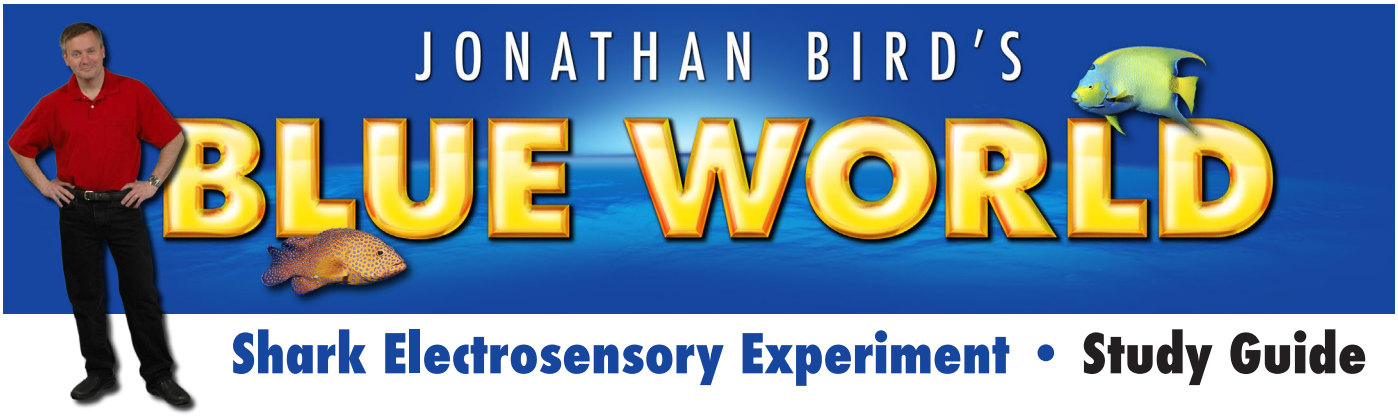

Shark Electrosensory Experiment • Study Guide

Jonathan travels to the Bahamas with shark biologist Dr. Stephen Kajiura from Florida Atlantic University to test the electrsensory system of Lemon sharks in the wild.

Objectives

1. Introduces viewers to the unique sense in sharks to detect electrical fields.
2. Illustrates that sharks are not always aggressive and are not necessarily dangerous to divers.
3. Illustrates building an experiment to test a natural phenomenon.

Questions for before watching the program

1. Sharks have two senses that people lack. Can you name either or both of them?
2. Why might the ability to detect electrical fields in the water be of use to marine animal like a shark?
3. Can an electrical field exist in water?

Discussion for after watching the program

1. Why do sharks often bump underwater cameras?
2. What are the *Ampullae of Lorenzini* and what do they do?
3. What generates an electrical field in a living animal?
4. How does an electrical sense help sharks catch prey?
5. What did the experiment show about the useful range of the electrosensory system?
6. Why is the range of the electrosensory system so limited? (Hint, what happens to an electrical field in a conductive medium like seawater?)
7. How is the electrical "signature" of a living animal simulated in this experiment?