



LESSON PLAN

Oceans

GRADE LEVEL: ELEMENTARY

brainchild.com | grades 3, 4, 5



Oceans

Elementary Lesson Plan

OVERVIEW OF ACTIVITY

Students will use their researching skills to uncover how and why bioluminescence is used by five highlighted sea creatures. Students will record their findings with a labeled diagram and written responses before they share findings with the class.

DURATION

Approximately 1 class period.

STANDARDS ADDRESSED

Next Generation Science Standards

- **3-LS4-3** - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- **4-LS1-1** - Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Common Core Learning Standards

- **CCSS.ELA-LITERACY.CCRA.W.4** - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- **CCSS.ELA-LITERACY.CCRA.W.7** - Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

OUTLINE OF LESSON

- Teacher will introduce topic of the Brainchild “Oceans” episode.
- Class will view the “Oceans” episode.
- Students will research bioluminescent sea creatures and consider how the adaptation is used for survival.
- Class will share findings.

ACTIVITY PROCEDURE

- Teacher will activate prior knowledge on oceans, facilitating a class discussion on what students know about them. Teacher will introduce the idea of bioluminescence (if a student has not brought up the topic already). This should not go into too much depth to allow for students to learn more from the “Oceans” episode.

- Whole class will view the “Oceans” episode, with special attention to bioluminescence.
- Whole class can read over the background and directions for the research activity. Teacher should clarify and reteach the concept of bioluminescence and stress the point that it is a survival tool. Students can work in partnerships, small groups, or independently depending on the needs of your group. Teacher should assign particular sea creatures to partnerships, have students circle their creature, and remind students of online researching tips. Assigned sea creatures should be circled or highlighted on the Activity Resource. Be sure students understand that a visual representation with labels, a description of the creature’s habitat, and an explanation of bioluminescence as a survival tool are the end goals.
- Students will research the assigned sea creature using classroom resources, primarily computers unless sea creature books are available. Entering the creature name followed with “bioluminescence” or “glowing” into the search engine should help students track down important information. Notes can be taken on the front of the activity resource. *Note: The Caribbean ostracod is the most difficult to research.*
- Teacher cheat sheet:
 - **Vampire squid** use bioluminescence as camouflage to go undetected by prey. They blend in with the light from above. Some sources show that they can also use their bioluminescence to avoid predators as well. They live in the twilight zone and midnight zone.
 - The female **Deep-sea anglerfish** have bioluminescent lures dangling over their heads to bring prey almost right into their mouths. They live in the twilight zone and midnight zone.
 - **Comb jellies** emit glowing particles into the water in order to mimic plankton, confuse a predator, or produce a flash of light to startle a predator. They live in the sunlight zone.
 - **Caribbean ostracod** perform a light show to attract a mate. They live in the sunlight zone.
 - **Lanternfish** use bioluminescence that comes from their sides, obscuring their silhouette so that potential predators do not detect them. They live in the twilight zone by day but have been known to come to the sunlight zone to feed in the night.
- Teacher will facilitate a share out of each sea creature, their habitat, and how bioluminescence is used for survival.

FOLLOW-UP

Students will edit and revise their written responses and make final touches on their diagrams for homework or during another class period.

MATERIALS LIST

- Student Activity Resource, 1 per student
- Computers for research