

Lighting Up the Ocean



Animals that live in the depths of the oceans have had to adapt to their environment in various ways. Because sunlight can only reach as far as 1,000 meters (approximately 3,300 feet) into the ocean, the deep sea is an extremely dark habitat. This can make survival difficult for many animals that live in this environment. So how do they do it?

Click on the [link](#), answer the following questions, then continue to the next page:

- 1) What does **bioluminescence** mean?

- 2) Name three ways that bioluminescence helps a marine animal survive and give two examples of each:
 - 1.

 - 2.

 - 3.

- 3) Do bioluminescent animals only live in saltwater? Why or why not?

- 4) Name three organisms that bioluminesce and why they exhibit this behavior:
 - 1.

 - 2.

 - 3.

Bioluminescence Game

Animals are able to communicate using the light that their bodies produce. In this game, you and your friends/family will pretend to be different deep sea animals and try to find each other in the dark depths of the ocean.

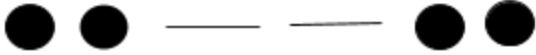
Materials:

- Flashlights
- Species Communication cards (on the next page)

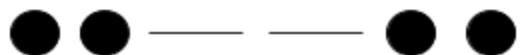
Directions:

- Make sure you have an even number of people to play.
- Have each person pick a deep sea animal as their species (see species cards below).
- Give one flashlight to each person.
- Cut out the species communication cards on the next page and hand one card to each person, making sure there are at least two species of animal in the game (you can print out more copies of communication cards if you have more people.)
- The pattern on the cards represent the length of time your flashlight will be turned on. For example, a dot means that your light will be turned on and off quickly, while a line means that your light will stay on for 2-3 seconds.
- Using the pattern on the cards, each person will use their flashlights (bioluminescence) to try and find another animal of their same species.

Anglerfish



Anglerfish



Vampire Squid



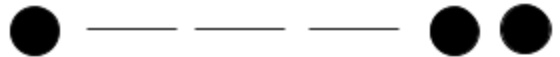
Vampire Squid



Dragonfish



Dragonfish



Gulper Eel



Gulper Eel



BONUS QUESTIONS:

- 1) What do animals use bioluminescence for?
- 2) Why is it important for deep sea creatures to find other animals of the same species?
- 3) What are the consequences of not finding them?
- 4) CHALLENGE QUESTION: what are some other methods of communication that deep sea animals use?