

Moving In



Grade level: 3-6

Time Frame: One class period

Materials:

Painting:

Paint/crayons/colored pencils (white, brown, tan, yellow, black)
Construction Paper

Key Words:

Science:

Cryptic
Camouflage
Adaptation
Substrate

Art:

Camouflage
Organic and geometric shapes
Light
Form

Activity Summary

In this lesson, students will create a piece of original art after discussing the properties of the polka dot batfish. They will learn the characteristics of the fish and its properties and how best to create their own interpretation of this interesting fish. Students will learn the role camouflage plays in the survival of certain marine fish.

Learning Objectives

Art

Students will be able to

- Glean information from the environment, using the five senses.
- Identify colors, textures, forms, and subjects in the environment
- Create artworks, using a variety of colors, forms and lines
- Learn to coordinate their hands and minds in explorations of the visual world
- Learn to make choices that enhance communication of their ideas
- Make connections between visual arts and other disciplines

Science

- Communicate observations and provide reasons for explanations

Ocean Literacy Principles

The Ocean, and life in the ocean shape the features of the Earth

The Ocean supports a great diversity of life and ecosystems

Background Information

The polka dot batfish is of interest because it lives on the ocean bottom and exhibits cryptic behavior which makes it a good subject for art inspiration as well as a science study.

The polka dot batfish inhabits the ocean floor and uses its colorations and designs to its advantage for protection and for predation. It is brownish in color, and often looks like a piece of rock or netting. The polka dot batfish relies on cryptic adaptations for protection and to catch prey.

Activity:

The image at the beginning of this activity is half complete – you can see the difference between how the fish looks complete and what needs to be done.

In nature, there is a strong evolutionary pressure for animals to blend into their environment or conceal their shape, or to become cryptic. Prey animals need to avoid predators and predators need to be able to sneak up on prey. There are two ways that an animal can achieve this: one is for the animal to blend in with its surroundings, while another is for the animal to disguise itself as something uninteresting or something dangerous.

If we were diving, we might swim right over the polka dot batfish and not even realize it was there! When scientists study a marine animal they make observations. So, let's think about what we might see. First we see polka dots, camouflage, brownish-yellowish fins that look like hands. The fish actually looks like a rock. We might think it looks really old. We also might see it take in water through its mouth and out through its gills.

The top of the fish might feel really hard. Underneath it will feel really soft and smooth and it will have a slimy texture. It has a pair of fins that look very much like hands.

If we flip this fish over, we can see another pair of fins.

Let's draw this creature.

Begin by drawing the head and the body. The head has a roughly triangular shape, like an arrow. Remember we discussed the two types of shape yesterday? This fish will have an organic shape. Sketch the fish's head and then the body and end with a tail. This fish swims by moving its tail from side to side so try to curve the body and the tail.

Now, draw some fins. Remember we said the fins look like hands? Spread the fins out at the ends like fingers. Now, you can also show the other pair of fins showing out from underneath the body of the fish.

The fish is a brownish sand color. Color your fish, and then think about what else you saw in the image. The fish has spots. These spots are not perfectly round – that would be a geometric shape. This fish has organic shapes that are somewhat round. They are dark brown in color. You can also use a Q-tip to create your spots. The spots go from the eye to the tail. They also help break up the shape of the fish as it lies on the sea bottom, waiting for prey.

Look at the snout of this fish. It looks like a smaller rock, and it is right near the fish's mouth.

Imagine if you were a small fish trying to escape from a predator. You would be glad to see a small rock under which you could hide. The problem for the small fish is that the polka dot batfish is very quick on the draw when it comes to catching food!

Don't forget to color the ends of the fins and tail. The end band of color is brown, the mid band of color is yellow and the third band of color is white. You can design where to place the spots.

Also, notice the body of the fish has small fins along the side of the body. This will help it blend into the substrate or sea bottom.

Evaluation

Students create their version of the polka dot batfish clearly showing that they understand that this is a cryptic animal in their work. They should show this by the shape of the animal, the colors of the animal and the patterns of the animal.

Extension

Students use the internet to research the prey of the polka dot batfish.

Resources

<http://www.flmnh.ufl.edu/fish/gallery/Descript/Batfish/Batfish.htm>

This article describes the polka dot batfish in detail; it's habitat and its prey as well as showing several good images of the polka dot batfish.

Acknowledgements

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