

Activity: Draw A Deep sea Dweller

Materials: Black construction paper, white crayons, iPads

Directions:

- Instruct the students to draw what they think an organism that lives without light looks like with a white crayon on black construction paper
- After activity, present pictures of interesting deep sea organisms using the iPads.

Volunteer Tips:

Photic Zones	Sea Level	Light
Euphotic (top layer)	200 m	Ample light
Disphotic (middle)	200 – 900 m	Some light penetrates
Aphotic	Can start from 200 - 1000 m to ocean floor	No light

- Very deep parts of the ocean are called abysses (4000-6000 m) and the very deepest reaches are in the trenches.
- The deepest point in the ocean is the Marianas Trench at almost 11000 m depth.

Discussion Questions:

- Q1: What is bathymetry?
- Q2: Why do scientists have to explore the deep sea with rovers--or why can't a scuba diver go to the deepest parts of the ocean?
- Q3: Which zone do you think plants live in? Which zone do they not live in? Why?
- Q4: What food do you think creatures in the aphotic zone eat?

Answer Key:

- A1: The study of the depth of the ocean floor.
- A2: As rovers or scuba divers go deeper into the ocean, the pressure increases. Scuba divers can safely dive to about 40 meters and deep sea rovers can go to about 600 meters.
- A3: **(A)** Euphotic **(B)** Aphotic **(C)** Due to the lack of light in the aphotic zone, photosynthesis can't occur which produces food for plants. However, in the euphotic zone, plants can grow and live due to light reaching this zone.
- A4: They eat plants and animals that float from the aphotic or disphotic zones.



ANIMAL ADAPTATIONS:
DEEP OCEAN

ANGLER FISH

- Habitat: Atlantic Ocean, Antarctic Ocean
- Ocean Adaptation: Female Angler Fish have a glowing light hanging above their mouths to attract prey!
- Fun Fact: there are over 200 different types of anglerfish!



FRILLED SHARK

- Habitat: Tropical Ocean areas
- Ocean Adaptation: It has an extremely large liver that allows it to float through the ocean – it doesn't have to swim!
- Fun fact: It has 25 rows of teeth – 300 teeth in total!



VAMPIRE SQUID

- Habitat: Temperate and tropical oceans
- Ocean Adaptation: Its blood transports oxygen faster than most animals, allowing it to live in parts of the ocean that have almost no oxygen!
- Fun Fact: Vampire squid have organs called photophores that make distracting light displays to get away from predators.



FANGTOOTH FISH

- Habitat: Worldwide deep ocean
- Ocean Adaptation: They rely on their sense of smell to find prey, and often “bump” into their prey, catching fish quickly in their mouths.
- Fun fact: Fangtooth fish are named for their teeth – the largest teeth, in proportion to body size, of any kind of fish.



PACIFIC VIPER FISH

- Habitat: Worldwide
- Ocean Adaptation: They have photophores on the bottom of their bodies to attract fish for food. The same organs as the vampire squid!
- Fun fact: Their teeth are so big, they can't close their mouths!

