

ECOMORPHOLOGY & UNDERDOG SHARKS

Learning Standards: LS2-4, LS2-5, MS-LS4-4

Part I – Ecomorphology

Ecomorphology – *The study of the relationship between the ecological role of an individual and its morphological adaptations; also called ecological morphology.*

Materials Needed:

- List of shark species (below)
- Pictures of sharks
- Students journals to record answers to discussion questions

A. What Makes Sharks Different?

Directions:

1. Each group of students gets two different “underdog” shark species (photos provided by Ocean Connectors). They then will work together in small groups of around four students each, to identify some defining characteristics both sharks share, and why they think these sharks display these traits, as well as ones that make each of the sharks unique, and again why or what the shark would need the particular characteristic for.
2. Have each group get up and present their findings to the class

B. Create your own shark!

Directions:

Each student will create their own shark based off either: a specific habitat (coastal, open ocean, deep sea), a shark that would be better suited to deal human impacts (i.e. one that resist changes in water temp. or one that has retractable fin teeth that can free themselves from nets), or a shark that would have specific traits that would allow it to provide different ecosystem services (i.e. if there were sharks in an area without herbivores, they could create a omnivorous shark that also grazed algae)

Part II – Support the Underdog

Introduction:

As you now know, many shark species are endangered. However, most people only pay attention to the ones that are commonly seen in the media, such as the great white shark, hammerhead shark, and whale shark. It is important that we learn about these “underdog” species so we can better protect and manage them. Students will work independently as well as in small groups to make observations, form inferences and hypotheses, and communicate their results, in an effort to raise awareness for lesser-known shark and ray species that have urgent conservation needs.

Materials Needed:

- List of shark species
- Pictures of sharks
- Craft supplies
- “Support the Underdog” template worksheet

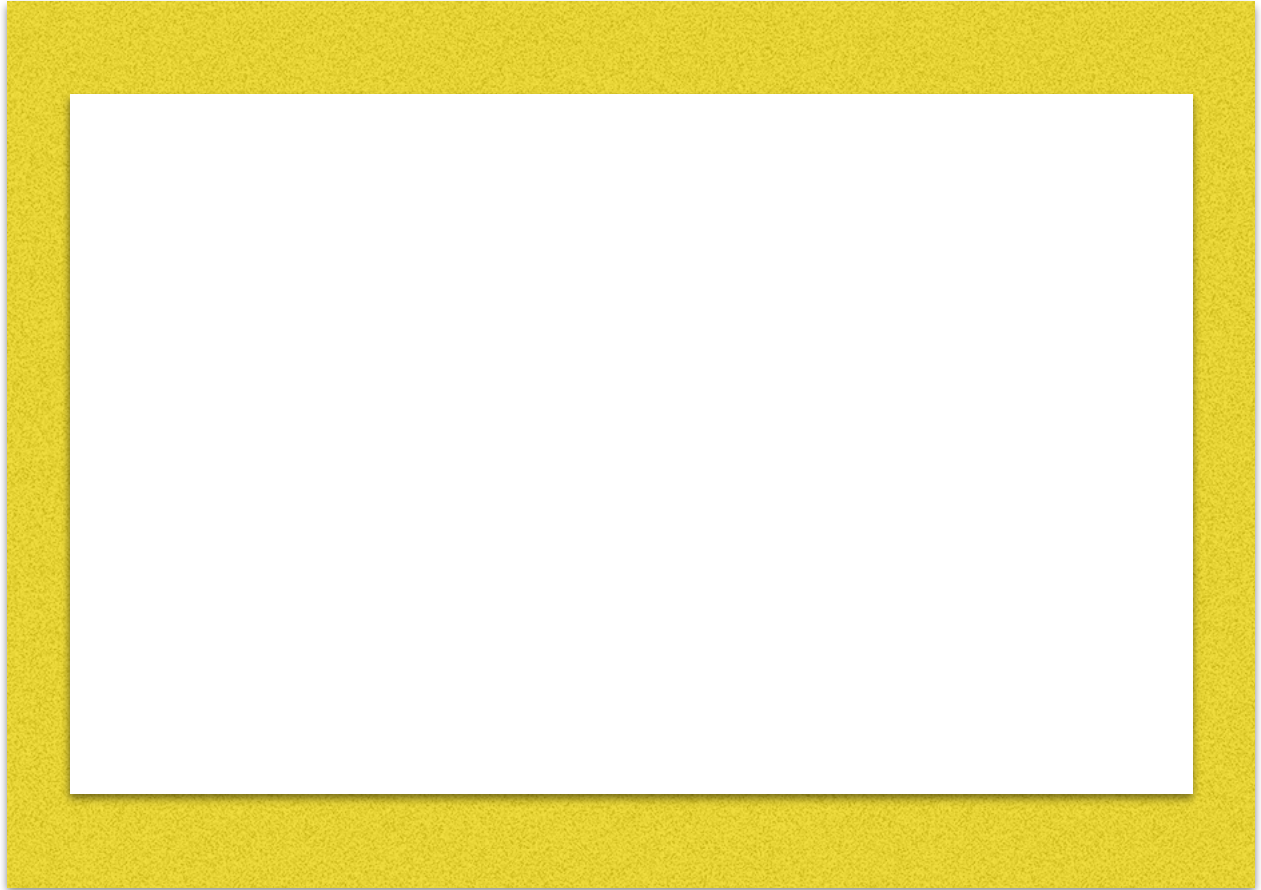
Directions:

1. Following Part I, student groups will be provided with the name of each of the sharks on a worksheet template (see example attached), which the students can then use to answer the activity questions, create and decorate their underdog-shark.
2. Have the students go home and answer the following questions...
 - a. What is the name of your shark or ray species?
 - b. Where does your species live? (i.e. is it demersal or pelagic? Deep sea or coastal?)
 - c. What does your species eat? (have the students figure out where in the food web their shark would sit)
 - d. Does anything eat your species?
 - e. Is your species endangered?
 - f. What is one cool thing about your species that you want others to know?
3. Have the students stand up and introduce their “underdog” and say one cool fact they learned about it
4. Take pictures with the kids and their shark
5. Send images to Ocean Connectors! *#BeAnOceanConnector*

List of Underdog Shark Species

1. Basking shark
2. Dusky shark
3. Angel shark
4. Zebra shark
5. Speartooth shark
6. Ganges shark
7. Northern river shark
8. Natal shyshark
9. Daggernose shark
10. Smoothhound shark
11. Porbeagle shark
12. Pacific sleeper shark (?)
13. Sand shark
14. Shortfin mako
15. Sandbar shark
16. Sixgill sawshark
17. Bluegray carpetshark
18. Ninja shark

My Shark Underdo



My shark's name is: _____

My shark lives: _____

My shark eats: _____

_____ eat(s) my shark.

My shark is _____, **it is** _____ **endangered.**

One cool thing about my shark is _____

One thing I want people to know about sharks is

