

LESSON TITLE: If Sharks Disappeared

Teacher Name: Kate Zimmer

Standards Of Learning: Next Generation Science Standards (NGSS) 2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.

Grade level, student audience: 2nd grade; small group

Objective

Students will be able to define and explain the terms "predator", "prey", and "ecosystem" as used in the book *If Sharks Disappeared*.

Lesson Assessment

Students will use a graphic organizer to define and apply the following academic vocabulary terms: prey, predator, and ecosystem.

Opening

Hook: Active prior knowledge about the beach.

- Raise your hand if you have ever gone to the beach? What was your favorite part?
- Give me a thumbs up if you have ever seen a shark up close.

Well today I want you to dive into the depths of the ocean with me as we embark on an exciting journey to uncover the secrets of the underwater world.

Objective Sharing: Explain that today we are going to learn 3 new vocabulary words that will help us understand why sharks are an important part of our environment.

Model

Read aloud: Before Reading engage students in a quick discussion about the book and ask some prediction questions.

- Have you ever thought about what would happen if sharks disappeared from the ocean?
- Kid friendly definition of each of the three words. Provide examples and non-examples of each:
 - **Predator** is an animal that hunts and eats other animals for food. Just like in a game of hide-and-seek, predators are the ones doing the seeking, looking for their next meal. They have special tools like sharp teeth, claws, or strong beaks to catch their prey. Lions, sharks, and eagles are examples of predators in the wild
 - **Example: Lion:** Known as the "king of the jungle," lions are apex predators in many African savannas, preying on a variety of animals including zebras, wildebeests, and antelopes.
 - **Prey:** It's an animal that another animal hunts and eats to survive.
 - **Example: Cow:** While cows are herbivores that consume plant matter, they do not actively hunt and prey upon other animals. Instead, they graze on grass and other vegetation.
 - **Ecosystem:** is like a big team of living things, from plants to animals, all working together in their home. It's not just about the creatures, but also the air, water, and soil where they live. Think of it as a community where

everyone has a role to play, like how bees pollinate flowers or how trees give us oxygen. Each part depends on the others to stay healthy, just like how we need our friends and family to thrive

- **Rainforest Ecosystem:** Rainforests are lush, biodiverse ecosystems found in tropical regions around the world. They are characterized by dense vegetation, high rainfall, and a wide array of plant and animal species. Rainforests play a crucial role in regulating the Earth's climate, producing oxygen, and providing habitat for countless species, from insects to mammals.
- **Desert Ecosystem:** Deserts are arid environments characterized by low precipitation and extreme temperatures. Despite their harsh conditions, deserts are home to a surprising diversity of plants and animals adapted to survive in dry environments. Desert ecosystems include species like cacti, succulents, camels, snakes, and lizards

Read "If Sharks Disappear" aloud to the class. During reading, ask a variety of questions:

- What do you think would happen if there were no more sharks in the ocean?
- Why are sharks important to the ocean ecosystem?
- Did you learn anything new or surprising about sharks from the book?

Guided Practice

Have students define the 3 academic words in their own words. Next, use the animal cards to model my thinking on deciding if an animal is a prey, predator, or both. Then do about 3 additional animal cards and scaffold questioning to elicit student thinking. If students appear to be struggling add additional cards if needed. Below are some additional examples if needed.

Provide examples of different predators in the animal kingdom for students to identify.

- **Lion:** Known as the "king of the jungle," lions are apex predators in many African savannas, preying on a variety of animals including zebras, wildebeests, and antelopes.
- **Great White Shark:** As one of the most iconic predators of the ocean, great white sharks are apex predators that hunt a wide range of marine animals, including seals, sea lions, and smaller sharks
- **Orca (Killer Whale):** Orcas are apex predators of the ocean and are known to hunt a variety of marine mammals, including seals, sea lions, dolphins, and even larger whales.

Provide examples of prey and have students think aloud on why they would not be a predator.

- **Rabbit:** Rabbits are also herbivores that primarily feed on plants, grasses, and vegetables. They do not possess the physical adaptations or behaviors necessary for hunting and consuming other animals.

- Predator: various carnivorous mammals such as foxes, coyotes, bobcats, and domestic pets like cats and dogs. Birds of prey such as hawks and owls also hunt rabbits
- **Butterfly:** Butterflies are insects that primarily feed on nectar from flowers. They undergo metamorphosis from caterpillars to adults and do not exhibit predatory behavior toward other animals.
 - Predators: including birds (such as sparrows and swallows), insects (such as spiders and praying mantises), and small mammals (such as bats)
- **Elephant:** Elephants are herbivorous mammals that consume various plant matter, including grasses, leaves, and fruits. They do not hunt or prey upon other animals for food.
 - While adult elephants are not typically preyed upon by other animals due to their large size and strength, young or weakened elephants could potentially be targeted by large carnivores like lions, tigers, and crocodiles.

Discuss how ecosystems function and the role of each organism within them.

- **Freshwater Ecosystem:** Freshwater ecosystems include lakes, rivers, ponds, and wetlands where water with low salt concentration flows or accumulates. These habitats support a wide variety of aquatic plants and animals, including fish, amphibians, insects, and birds. Freshwater ecosystems are essential for drinking water, irrigation, and maintaining biodiversity
- **Arctic Tundra Ecosystem:** The Arctic tundra is a cold, treeless biome found in the northernmost regions of the Earth. It is characterized by permafrost, low temperatures, and a short growing season. Despite its harsh conditions, the tundra is home to a variety of plants, such as mosses, lichens, and shrubs, as well as mammals like caribou, polar bears, and Arctic foxes

Monitor student understanding through observation and questioning.

Independent Practice

Students will complete a vocabulary graphic organizer. In this assessment students will have the 3 words (predator, prey, and ecosystem). Students will have to provide the definition, draw a picture, and use it in a sentence.

Extension: Have them select an additional vocabulary word that they learned during the lesson.

Closing

Remind students of the learning objective. Have them restate the definition of each academic vocabulary word.

If Sharks Disappeared Vocabulary Packet Page 1

predator

Write a definition for the word.

an animal
that eats
other animals

Draw a picture of the word.



Use the word in a sentence.

A wolf is
a predator.

ecosystem

Write a definition for the word.

all the animals
and plants need
each other
to live

Draw a picture of the word.



Use the word in a sentence.

A ocean
is a
ecosystem

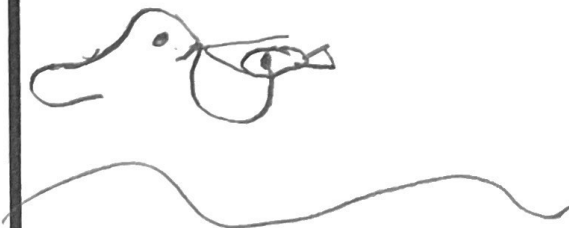
If Sharks Disappeared Vocabulary Packet Page 5

prey

Write a definition for the word.

an animal
that a
other
animal
eats

Draw a picture of the word.



Use the word in a sentence.

Write a definition for the word.

Draw a picture of the word.

Use the word in a sentence.

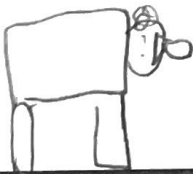
If Sharks Disappeared Vocabulary Packet Page 1

predator

Write a definition for the word.

predator something
that hunts
other animals

Draw a picture of the word.



Use the word in a sentence.

Sharks eat cats.

ecosystem

Write a definition for the word.

ecosystem is a
group.

Draw a picture of the word.



Use the word in a sentence.

ecosystem is a group.

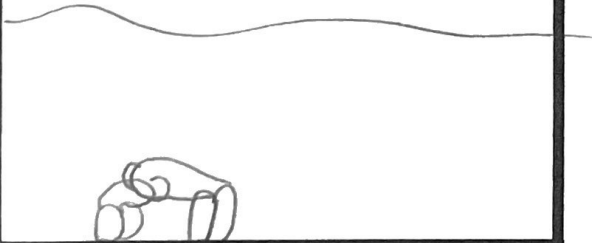
If Sharks Disappeared Vocabulary Packet Page 5

prey

Write a definition for the word.

prey is something
gets eaten

Draw a picture of the word.



Use the word in a sentence.

Prey is a thing
that gets eaten

Write a definition for the word.

Draw a picture of the word.

Use the word in a sentence.

If Sharks Disappeared Vocabulary Packet Page 1

predator

Write a definition for the word.

nothing eat's
that animal

Draw a picture of the word.



Use the word in a sentence.

that animal
is a predator

ecosystem

Write a definition for the word.

All part
and need
live, animals
each other to

Draw a picture of the word.



Use the word in a sentence.

An ocean is
a ecosystem

If Sharks Disappeared Vocabulary Packet Page 1

predator



Write a definition for the word.

nothing eat's
that animal



Draw a picture of the word.



Use the word in a sentence.

that animal
is a predator

ecosystem



Write a definition for the word.

all parst
and animals
live, need each other to



Draw a picture of the word.



Use the word in a sentence.

An ocen is
a ecosystem

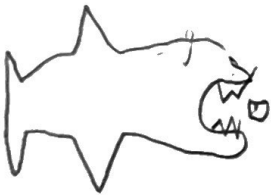
If Sharks Disappeared Vocabulary Packet Page 5

prey

Write a definition for the word.

a animal
that gets
eaten

Draw a picture of the word.



Use the word in a sentence.

it is
that's shark
prey

Write a definition for the word.

Draw a picture of the word.

Use the word in a sentence.