

Endangered Animals Teacher's Guide

Feel free to use this as a tool but change anything that is needed for your students in particular. Email any questions at eschissler@oxy.edu or under the feedback section under the tab "Resources."

Day 1 of Endangered Animals

Objectives

- Learn what an endangered animal is and why animals go endangered
- Learn why bees are endangered
- Understand how bees contribute to the environment

Material needed

- Endangered Animals information guides - these guides include more information about each topic and help with answering questions
- Paper and writing material to take notes
- Attached google slide
- Access to the internet
- Worksheets found on the website (optional) - can be filled out during or after the lesson
- Videos found under educational videos on websites (Optional)

Recommendations

- Encourage students to take notes and draw during the lesson
- Encourage them to interject, tell them to feel free to tell stories
- Encourage kids to be curious and ask questions. If you don't know an answer to something, try to respond with something like, "let's look it up together."

Introduction

- Endangered animals are animals that are at risk of disappearing forever, otherwise known as going extinct.
- Although we see bees everywhere, some bees are in danger of going extinct which could lead to a huge decrease in important foods such as fruits that not only feed us but other wildlife as well.
- Starting question: Do you know of any animals that aren't around anymore? (ie. dinosaurs)

Instruction (40 minutes, 20 minutes per topic)

- Lesson: Endangered Animals

- An animal or plant is endangered when there are so few left alive on the planet that the entire species is in danger of vanishing forever. When a species is completely gone—and not a single one survives anywhere on Earth—it is considered extinct.
- Main reasons why animals become endangered:
 - Destroying or damaging habitats - no longer has the home and resource it needs
 - Overhunting, overfishing, and poaching - hunted until extinction.
 - Introducing invasive species - species that are introduced from elsewhere in the world and typically have no natural predators which upsets the food chain and ecosystem.
 - Polluting - introducing harmful substances into the environment like trash
 - Taking animals out of the wild for the exotic pet trade - decline or disappearance of species in their natural habitat.
 - Contributing to climate change - changes in climate lead to habitat destruction.
- Activity:
 - For this activity, we will have up-close photos of some endangered animals, and you will have to guess what it is
 - Use the shared google slides and project it so the kids can see, let the kids guess for a bit until one can guess the correct answer.
 - https://docs.google.com/presentation/d/1LOIUJnsE0EbSk85LK_e6KjZCHduUPCiuNJWPhVeovlY/edit?usp=sharing
 - Go through each slide explaining why each animal is endangered (which is in the notes below the slides.)
- Lesson: Bees - Rusty Patched Bumblebee
 - Gather pollen and nectar from nearby flowering plants and make honey.
 - Since 2000, this bumblebee has been reported from only 13 states and 1 Canadian province.
 - The body typically has black and yellow coloration and striped patterns with blackheads. Only female bees have stingers.
 - Endangered due to habitat destruction, disease, use of pesticides, land-use changes, invasive species, and climate change.
 - Help with our food security, the healthy functioning of our ecosystems, and also for creating seeds and fruits that feed wildlife as diverse as songbirds and grizzly bears.
- Activity:

- Watch Waggle dance to learn how bees communicate
<https://www.youtube.com/watch?v=pb1IRI-YePU>
- Now kids practice doing the waggle dance at different lengths to communicate like bees.
- Mimic the actions of the bees in the videos (where they shake and walk in a straight line, turn to the left, and walk in a circle back to the start and repeat but turning to the right side this time)
- Have the kids do this at a different distance (which is how far the flower is) and in different directions (which shows what direction the flower is)
- (Optional) If you have time, there are other educational videos you can watch as a class about bees and endangered animals

Conclusions

- Today we learned about what an endangered animal is and what it means for an animal to be endangered.
- We also learned about the reasons why bees are endangered and how they help the environment.
- Does anyone have any last questions before we wrap up?
- Next lesson, we will be learning more about some specific endangered animals, the whale shark and green sea turtle.

Day 2 of Endangered Animals

Objectives

- Learn why whale sharks and green sea turtles are endangered
- Understand how whale sharks and turtles contribute to the environment
- See how whale sharks and green sea turtles are similar
- Learn how you can help endangered animals

Recommendations

- Encourage students to take notes and draw during the lesson
- Encourage them to interject, tell them to feel free to tell stories
- Encourage kids to be curious and ask questions. If you don't know an answer to something, try to respond with something like, "let's look it up together."

Introduction

- Green sea turtles are one of seven different sea turtles and endangered because of the loss of their habitat as well as pollution and other human activities.
- Whale sharks are endangered for many reasons, such as being hunted to be used as food and eating tiny plastics in the water.
- To help endangered animals, we must be aware of the human impact we have on endangered species and what we can do to protect them.
- Starting question: Have you seen any bees around recently? What do you know about sharks and green sea turtles?

Material needed

- Endangered Animals information guides - these guides include more information about each topic and helps with answering questions
- Paper and writing material to take notes
- Bingo sheets found below
- Access to internet
- Worksheets found on the website (optional) - can be filled out during or after the lesson
- Videos found under educational videos on websites (Optional)

Instruction (40 minutes, 20 minutes per topic)

- Lesson: Green sea Turtles and whale sharks
 - Whale sharks
 - The whale shark is the largest fish in the world and the largest fish known to have lived on this planet.
 - Whale sharks are highly migratory, meaning they move a lot.

- Diet consists of zooplankton (ex: krill, jellies, and small fishes). Affect local populations of zooplankton by consuming these organisms and keeping them from overpopulating. (Overpopulation is when there are too many of one species which creates harmful effects)
 - Specific threats to whale sharks include entanglement in fishing nets, boat strikes, eating marine debris and microplastics, and in some cases, human interference (demand for shark fins, liver oil, skin, and meat).
- Sea Turtles
 - Semi-aquatic, spend most of their time in the water, but some of their time is on land, and they breathe air.
 - Very migratory.
 - They have a strong, tear-drop shaped shell, called a 'carapace,' which covers most of their body, except for their head and four flippers.
 - Adults are herbivores - mostly seaweed, seagrass, and algae.
 - Keeps seaweed, seagrass, and algae from overpopulation.
 - Endangered due to population, habitat destruction, and human activities like fishing incidents and poaching.
- Activity:
 - Next, we will be playing a bingo game with the animals we just learned about!
 - To set up different bingo cards: click <https://bingobaker.com/>, scroll down to **"Paste on a list of words"** in blue and copy and paste the following:
 - Whale shark weight
 - Whale shark size
 - Whale shark diet
 - Whale shark importance
 - Green sea turtle weight
 - Green sea turtle diet
 - Green sea turtle size
 - Green sea turtle importance
 - At the top of the bingo card, where it says "5x"5 change to "3x3" and change the title from "Untitled Bingo" to "Green sea Turtles vs. Whale Sharks."
 - Click "Generate" in the yellow box at the bottom.
 - On the side with the yellow box under 'Print Bingo Cards,' select the number of bingo cards you want to select under "print ___ pages" and then print.
 - Distribute the printed bingo cards to the kids and give them a pencil to mark the bingo squares.
 - Read the following statements out loud in a random order, and students will then mark the box they think that statements applies to:

- Whale shark weight - This animal weighs 21.5 tons in weight. (4,300 pounds).
 - Whale shark size - This animal is almost the size of a large school bus, between 18-32.8 feet.
 - Whale shark diet - This animal feeds on tiny zooplankton.
 - Whale shark importance - This animal prevents the overpopulation of zooplankton.
 - Green sea turtle weight - This animal weighs 350 - 700 pounds.
 - Green sea turtle diet - This animal eats seaweed and seagrass.
 - Green sea turtle size - This animal is around 4 feet in length.
 - Green sea turtle importance - This animal prevents the overpopulation of sea grass and other plants at the bottom of the sea floor.
- Read the statements until a student gets bingo (meaning they can make a line horizontally, vertically, or across the page with the checked off boxes) or until all the questions are red.
- Lesson: How you can help endangered animals
 - There are many ways you can personally help endangered animals like:
 - Help out at your local animal shelter or a wildlife preserve through donations, volunteering, fostering, or adopting animals.
 - Donate to a group working to preserve an endangered species, such as “adopting an animal” on World Wildlife Fund’s website.
 - Teach others about animal issues by studying and researching animals and informing other people to increase awareness. (Ask teachers to dedicate one of their lessons to teach about an endangered species, like this one we are learning right now!)
 - Fundraise to donate money to organizations that help endangered animals, such as having a bake sale, a lemonade stand, or an endangered species themed party.
- Activity
 - One of the ways we can help endangered animals is by learning more about them.
 - Have students choose an animal from the first page of the World Wildlife Fund species page:
https://www.worldwildlife.org/species/directory?direction=desc&sort=extinction_status
 - Look up an endangered animal on <https://animaldiversity.org> and bring 3 facts to the class that you learned.
 - Have the students share their facts with the class and draw a photo of their animal.
 - (Optional) If you have time there are other educational videos you can watch as a class about whale sharks, green sea turtles, and endangered animals.

Conclusions - 5 min

- Today we learned about green sea turtles and whale sharks and how they help the environment.
- We also researched some animals to expand our knowledge of endangered animals!
- Does anyone have any last questions before we wrap up?
- Look forward to the next unit where we continue to talk about how to help Endangered Animals in our conservation discussion!

If you want to learn more, please reference the supplemental and website document at the bottom of the “Curriculum” pages.

References will be under the references tab on the website.