

Conservationist: Protecting Species

NGSS Standard: 3-LS4-4



Adventure Description:

In this adventure, students will think like a conservationist and create a new piece of technology that can track endangered animals!



Activity

Step One: Background Information on Conservationists and Endangered Animals (10-15 minutes)

- Ask students if they know what it means to conserve something.
 - Tell students that conserving something means to protect or save it.
 - For example, some conservationists develop ways to conserve clean water. These conservationists come up with laws and steps for people to follow that help protect the water supply. For example, conservationists in hot desert locations, like Las Vegas, have recommended that people do not water their grass during the day. They are only allowed to water at night when it is cooler.
- Explain to students that some conservationists are experts in finding ways to help conserve endangered animals. Show *Handout: Animal Conservation*. Walk through the handout together as a class. Ask students if they can think of other ways to help protect endangered animals.
- Explain to students that protecting and conserving animals is very important. This is because changes to the number or type of animals in a certain location can affect all other components of the environment around them. Show *Handout: Animals and the Environment*. Discuss how the removal of one animal from the environment caused several other problems in the food web.
- Explain to students that conservationists want to avoid problems with food webs like they saw on the handout. Conservationists created tracking systems to see where animals go in their environment. A tracking device is a special computer that goes on the back of animals. It tells conservationists where animals travel.
 - Ask students why conservationists would want to track where animals go.

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- Explain that conservationists want to know where animals are so that they can study them. If the conservationists know the animal's habits, like where they sleep and what they eat, they can help come up with ways to protect them.
- Show **Handout: Tracking Devices**. These trackers have GPS locators on them that help track an animal's movements. This can help conservationists because it lets them know where the endangered animals are. That way, conservationists can go check on the animal or perform observations on them, where they write down what they see and try to develop a new way to help the animal.
- Ask students if they can think of any problems with the current tracking devices. As a group, brainstorm potential problems with current tracking methods.
 - Need help? Give students the following prompts:
 - Would the tracking device fit on a really small animal, like a small monkey?
 - What happens if the tracking device runs out of battery or isn't charged?
 - What happens if the device falls off of an animal?
- Explain to students that because of these problems, conservationists are working with engineers to create new tracking devices! Tell students that they will think like a conservationist and develop a tracking device for an animal.

Step Two: Building a Model of an Animal (10–15 minutes)

- Explain to students that they will first choose an animal that they want to build a tracking device for. Provide students with **Handout: Building a Tracking Device**. As a class, read through the handout.
- Teacher note: Students can work in pairs or small groups.
- Explain that students will complete Step 1, choosing an animal to build a tracking device for.
- Students will then complete Step 2 and build a 3-dimensional version of their animal. Tell students that they will use their animal in the next step when they place the tracking device on the animal.
- Provide students with clay and art supplies to build their animal model.
- Teacher Note: This step is meant to be quick. Students should only spend 10 minutes building their animal so they can move on to building their tracking device.

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Step Three: Building a Prototype of a New Tracking Device (15-20 minutes)

- Explain to students that they will now create a tracking device for their animals.
- Have students move on to Step 3 on the handout, building a tracking device.
- Provide students with art supplies and building materials to create their tracking devices.
- While students are working, ask them the following questions:
 - Why do you think it is important that we track endangered animals in their environment?
 - How will your tracker help endangered animals?
 - How will your tracker attach to your animal?

Step Four: Discussion (5 minutes)

- Have students place their tracking device on their animals. Give each group time to discuss their animal and tracker in front of the class.
- Have a concluding class discussion about how conservationists use tracking devices to make sure that endangered animals are safe in their environment. Trackers can provide information about where the animals sleep, eat, and spend their days. This information can be used to help protect the endangered animals. If these animals are not protected, it can alter the food web in the environment. This can lead to other animals becoming endangered or becoming overpopulated in an area.

Materials List

Provided online:

- Handout: Animal Conservation
- Handout: Animals and the Environment
- Handout: Tracking Devices
- Handout: Building a Tracking Device

Not provided (each pair of students needs):

- Art supplies and building materials
- Modeling clay

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