

NGSS Standard: 4-PS4-2



Adventure Description:

In this adventure, you will think like a zoologist and create a new class for people to take at the zoo to learn about a new creature that was just discovered!



Activity

Teacher Notes:

- Before class, you will need to prepare a few materials for students. See [Handout: Teacher Prep](#). This will take 10-15 minutes.
- This activity is long and can be completed across multiple days. Complete Steps 1-3 on one day and Step 4 on another day.

Step One: Background Information on Zoologists (5 minutes)

- Show [Video: Animal Sight](#).
- Explain that zoologists are experts on animals! Some zoologists specialize in animal vision. Explain that people can see all of the colors of the rainbow, but some animals can't see all of the colors. Show [Handout: How Animals and Humans See Color](#).
- Next, explain that some zoologists help design new exhibits and programs at a zoo! Show [Handout: Examples of Programs and Exhibits](#).
- Ask students why zoologists would be involved in designing new programs and exhibits (e.g., they are experts on animals and want to make sure that accurate information is being given to visitors; they want to make sure that exhibits are designed properly so animals are safe and healthy).

Step Two: Activity Setup (5 minutes)

- Explain to students that they will imagine they are zoologists who are creating a class for a zoo that teaches visitors about a new animal that has just been discovered in the wild.

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- Show [Handout: Creating a New Class at the Zoo](#). As a class, read through what their program needs to include.
- Divide students into pairs or small groups. Provide each group with the following materials:
 - Cardboard pieces or thick paper
 - Tape
 - Scissors
 - 2 color squares (for their assigned animal) and [Handout: Goggles Cutout](#)
- Show students the colored squares. Explain that each one is transparent, meaning that you can see through it. Each one of these squares only allows part of white light to travel through it. For example, a blue square only lets the blue light through and a green square only lets the green light through.

Step Three: Creating Goggles (20-25 minutes)

- Explain to students that they will first create their animal goggles that people will use during the class.
- As students are working, ask the following questions:
 - Where is the light coming from that lets animals see color? (The light comes from the sun or a light bulb. the light reflects off of the things that animals see.)
 - What colors can your animal see?
 - Can your animal see grass, the sky, or flowers, like a human can?
- Walk around the room and ensure that students are noticing the differences between what they see with human eyes (without the filters) and the colors that they see when the light is filtered by the color squares.
- If time permits, discuss how all animals see things that are white. This is because white contains all of the colors of the rainbow. No matter what color an animal sees, it will see things that reflect white light.

Step Four: Creating a Script for the Class (20 minutes)

- When students are finished creating their goggles, they will create a script that they will use when they teach their class.
- Have students follow the steps to create their script.
- When students finish their script, have them practice giving their class!

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Zoologist: Animal Sight

- When all students finish, have students volunteer to give their class.
- Teacher note: Have students give their presentation to a different class at your school. This is a great way to promote collaboration and learning across different classes and grade levels!
- Extra Time? Have students switch goggles with each other so they can see the world like a different animal would.

Materials List

Provided online:

- Video: Animal Sight
- Handout: Teacher Prep
- Handout: How Animals and Humans See Color
- Handout: Examples of Programs and Exhibits
- Handout: Creating a New Class at the Zoo
- Handout: Goggles Cutout

Not provided (each pair of students needs):

- Cardboard pieces or thick paper
- Tape
- Scissors
- One pair of transparent squares (depending on assigned animal). Each bullet point is enough for one group.
 - 2 red squares of transparent material that is 1½" x 1½"
 - 2 yellow squares of transparent material that is 1½" x 1½"
 - 2 green squares of transparent material that is 1½" x 1½"
 - 2 blue squares of transparent material that is 1½" x 1½"

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