Lesson Plan Title
Awesome Adaptations: Owls

Grade Level
4th Grade

Subject Area
Science

MSCCRS

● L.4.2.1 - Compare and contrast life cycles of familiar plants and animals.

● L.4.2.2 - Develop and use models to explain the unique and diverse life cycles of organisms other than humans (e.g., flowering plants, frogs, or butterflies), including commonalities (e.g., birth, growth, reproduction, or death).

Art Form
Visual Arts

MSCCR Creative Arts Standards

Cr1.1.4 Generate and conceptualize artistic ideas and work.
a. Brainstorm multiple approaches to a creative art or design problem.
Cr1.2.4 Generate and conceptualize artistic ideas and work.
a. Collaboratively set goals and create artwork that is meaningful and has purpose to the makers.
Cr2.2.4 Organize and develop artistic ideas and work.
a. When making works of art, utilize and care for materials, tools, and equipment in a manner that prevents danger to oneself and others.
Cr3.1.4 Refine and complete artistic work.
a. Revise artwork in progress on the basis of insights gained through peer discussion.

Duration
2 class periods

Materials
Pictures of animals and/or stuffed animals
Chart paper or whiteboard and markers
Animal Adaptations Web printable
Read-aloud book about owls (I like to use Owls by Gail Gibbons, but there are several read-aloud suggestions on my Overboard for Owls Book List)
Pictures of owls
Pinto beans
Lima beans
Rice
Small plastic bags for food, 3 per pair of students

Plastic knives, 1 per pair of students
Plastic spoons, 1 per pair of students
Pairs of chopsticks, 1 per pair of students
Small paper cups, 1 per pair of students
Adaptation Activity Worksheet printable

Objectives
Demonstrate an understanding of animal adaptations
Compare and analyze various adaptations
Create owl artwork

Vocabulary
Adaptation
Characteristics
Wildlife
Camouflage
Habitat
Environment

Art Vocabulary
Revise
Refine
Organize
Develop

Lesson Description
SET UP
Cut out several pictures of animals from magazines or copy images from books. Make sure the pictures represent a variety of animals. You will also need a set of pictures of only owls for Day 2.
Copy class sets of the Animal Adaptations Web printable and the Adaptation Activity Worksheet printable. Links in the lesson extension section below.
Students will be working in pairs for the Adaptation Activity. Before class, prepare the following for each pair of students:
1 plastic bag of rice
1 plastic bag of pinto beans
1 plastic bag of lima beans
1 plastic knife
1 plastic spoon
1 pair of chopsticks
1 small paper cup

DAY 1: AN INTRODUCTION TO ADAPTATIONS

Step 1: Gather students and show them a photo of an animal using a picture, a book, the Internet, or a stuffed animal. (If you have an actual preserved animal that works great.)

Step 2: Ask students to describe what the animal looks like.

Step 3: Explain that adaptations are characteristics or traits that help the animal survive in its environment.

Step 4: Draw an animal adaptation web on a piece of chart paper or a whiteboard and ask students for examples of adaptations they can see on the animal and how these adaptations help the animal.
Step 5: Show various photos of animals and ask for examples of adaptations.

Step 6: Divide your class into pairs. Pass out photos of animals and copies of the Animal Adaptations Web printable to pairs of students.

Step 7: Have students work together to complete an Animal Adaptations Web for their animals. When everyone is finished, have pairs share their webs with the class.

DAY 2: ADAPTATION ACTIVITY
Step 8: Review the definition of adaptations.

Step 9: Read aloud *Owls* by Gail Gibbons to introduce owls to students.
https://www.youtube.com/watch?v=z1tLd3hpaTI

Step 10: Show students several pictures of owls and ask them to identify examples of adaptations.

Step 11: Lead a discussion by asking how a beak is an adaptation.

Step 12: Explain that beaks are shaped differently to adapt to the type of food the animal eats.

Step 13: Break students into pairs again and explain that they will be working with three differently shaped beaks: plastic knives, chopsticks, and plastic spoons. Hand out the Adaptation Activity Worksheet printables to students and discuss each step of the activity. Walk students through the process of making and writing their predictions.

Step 14: Hand each pair of students the following: 1 bag of rice, 1 bag of beans, 1 small paper cup, 1 plastic knife, 1 plastic spoon, and 1 pair of chopsticks.

Step 15: Set a timer for 30 seconds. At the start of the timer, one student in each pair should begin to collect the "food" into the paper cup beginning with the plastic knife and rice. One partner should count the rice as the other partner deposits the rice into the "mouth" (the paper cup) using the plastic knife.

Step 16: Show students how to record their food count on the Adaptation Activity Worksheet printable. Only students who performed the activity should record their food count.
Step 17: Have the partners switch roles and start the 30-second timer again. Have the second set of partners record their food counts on their copies of the worksheet.
Step 18: Have students repeat steps 15–17 using the plastic knife to collect the rice, and then repeat steps 15–17 using the chopsticks to collect the rice.

Step 19: Continue switching beaks and food until all data has been collected.

Step 20: Provide several minutes for partners to analyze the data after all the beaks and food have been tested. Students should record their answers to questions 1, 2, and 3 on the worksheet. If students are waiting for other pairs to finish, they should answer the last question on the worksheet.
Step 21: Discuss the findings together as a class.

Recommended Resources
When introducing animals to the class, label the animal body parts on the animal pictures.
Have a chart/pictures printed from the Internet of different shaped beaks.
There are many Internet sites that have webcams that allow viewers to observe animals in their habitats. Share the live view with the class so students can make a visual connection of the animals' behavior in their environment.
Working with partners helps build vocabulary for students not familiar with vocabulary.

Lesson Extensions
Students can create a Venn Diagram to compare and contrast adaptations of animals. They can write a paragraph comparing and contrasting information.
Students create a fictional animal with adaptations from various animals. They cut out body parts from animal pictures and glue them together. Students write a paragraph or story describing the environment the fictional animal lives in related to the adaptations it has.
Invite a local wildlife expert as a guest speaker to discuss owls with the students. For a small donation, educators will bring an owl to the classroom. (Southern California classrooms, please contact Project Wildlife.)
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https://www.scholastic.com/content/dam/teachers/lesson-plans/migrated-featured-files/adaptations.pdf

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