



SCIENCE

Exploring Movement in Nature

ESSENTIAL UNDERSTANDINGS

- **Time Immemorial**
- **Lifeways**

LEARNING OUTCOMES

Student will understand that

- animals change based on their environments,
- Native American Tribes have lived in Oregon since time immemorial, and that they learn from animals to live better, and
- people can learn from animals by observing them.

ESSENTIAL QUESTION

- How do Oregon tribes share what they know about animals?

TIME REQUIRED

- 30 minutes

Overview

In this lesson, students explore how Native American Tribes in Oregon learn from their environment through observation and share this knowledge through various means, including dance. Students learn that dance is one way that tribes honor their natural environment and animals. Tribes' deep knowledge of nature has been passed down for generations through these traditions. Students also learn how animals demonstrate their adaptations through movement, observe how tribal dances depict nature, and create their own representations through movement or drawings.

Background for Teachers

This lesson connects science learning with Indigenous knowledge systems by exploring how Native American Tribes in Oregon have observed and modeled the relationships between animals and their environments since time immemorial.



They have done so to maintain healthy communities and vibrant habitats for future generations.

In many Indigenous communities, knowledge about the natural world is communicated using stories, songs and dance, each of which can serve as a model to illustrate how animals live, move and interact with their environment. These models are deeply rooted in observation and respect for nature. They reflect the understanding that everything—plants, animals, people and places—is connected.

One modern expression of this modeling can be seen at powwows, which are community gatherings held by many Native tribes to celebrate culture through music, dance, regalia and tradition. Although powwows are modern events, the dances performed at these gatherings often draw from older knowledge, stories and environmental relationships. For instance, the Chicken Dance mimics the behavior of prairie chickens or sage grouse, reflecting their courtship displays through repeating movements. This dance teaches about the bird's behavior and honors its place in the ecosystem.

In this lesson, students learn that dance can show how animals move or live in nature. By engaging with these cultural expressions, young learners begin to understand how Indigenous peoples in Oregon have long studied nature through careful observation and creative representation.

STANDARDS

Oregon Science and Art Standards

- **K.LS1.1:** Use observations to describe patterns of what plants and animals (including humans) need to survive.
- **K.DA.Cr1.1:** Explore movement inspired by themes or stories.
- **K.DA.Pr4.1:** Use movement to express ideas and feelings.

KEY WORDS and IDEAS

- **Since time immemorial:** A very, very long time ago, so long that no one remembers when it started.
- **Dance:** Moving your body to show how you feel, tell a story or celebrate something.
- **Adapt:** To change so you can live better in a new place.
- **Nature:** Everything outside that people didn't make, like animals, trees, rivers and the sky.



Considerations for Teachers

Practices

While teaching this lesson, the following principles can help guide your decision-making and engagement with students.

- Focus on teaching the Essential Understandings through discussions of learning through observation.
- When sharing content with students, address the “why” not just the “what.”
- Highlight the strengths and struggles of Oregon’s Indigenous peoples today while also acknowledging their history and tradition.
- Ensure your teaching practices are accessible and appropriate for Native and non-Native students.
- Be clear that trading practices by Oregon Tribes continue to be practiced today.
- Avoid generalizing across all Native American groups.

MATERIALS

What materials are needed for students to engage in this lesson?

- Slide deck
- Drawing supplies
- Chart paper or whiteboard
- Student self-assessment

Assessment

During this lesson, observe and listen to students during discussions and as they work independently and collaboratively to determine how their learning is progressing. Write down what you notice about what students say and do in relation to the success criteria. Use this formative information to provide feedback to students and plan next steps.

At the end of the lesson, provide students with an opportunity to reflect on their learning through a self-assessment. Students can indicate their level of learning relative to specific success criteria. They can also explain why they feel they are at that learning stage.



Success Criteria

- I can explain why Oregon Tribes show animal movements in their dances.
- I can copy animal movements that I observe.
- I can describe one animal movement I observe.

For the following activities, use the slide deck to support your implementation.

Opening

Time: 10 minutes

Step 1:

Activate students' prior knowledge. Ask if students have ever heard a story about animals living in nature. Explain that this is one way people record what they see so they can remember it and share it with others later. Let students know that today they will learn how some people use dance to communicate what they've learned about animals from observing them.

Step 2:

Introduce students to the idea that animals' behavior helps them live well in their environments and that people can observe these behaviors to learn how to also live well in those places. Share that animals move their bodies in different ways to help them live well in places like the mountains or the ocean. When people learn about the way animals adjust, they can sometimes learn useful tricks.

Explain that Native American Tribes honor nature by creating dances that replicate the movements and behaviors of animals in nature. These dances help pass down knowledge from one generation to the next, showing how people, animals, and the land are all connected.

Step 3:

Provide students with the opportunity to observe and respond to real-life animal behavior. Ask students to stand up and prepare to move their bodies. Show them a video of a male sage grouse courting, puffing out his chest and fanning his feathers.

These birds live in the sagebrush of Oregon. Ask students to copy the bird's movements.

Video: [Sharp-tailed grouse have a dance battle in the Badlands](#)

When the video ends, ask students, "What did you notice about how the birds moved their bodies? Do you think it will be easier for you to remember how the sage grouse moves now that you have moved like one?"

Step 4:

Share the essential question with students and ask if they have any ideas about how to answer it. This is intended to spark curiosity and get students thinking about a bigger picture.

Step 5:

Review the learning outcomes and the success criteria with students.

Main Activity

Time: 15 minutes

Step 1:

Provide context for the activity. Explain that Native American Tribes create dances that imitate the movements and behaviors of animals in nature. These dances help pass down knowledge about animals that can be helpful to others.

Share that Native American Tribes in Oregon have lived here for thousands of years—since before anyone can remember. They know a lot about the plants and animals that live here because they pay attention to nature and the world around them. Share that these dances help pass down knowledge from one generation to the next, showing how animals and the land are all connected.

Step 2:

Give students an opportunity to see dance as a way to show what has been learned from animals. Explain that some Native American dances, like the Chicken Dance, are inspired by birds that live in Oregon, such as the grouse. Share that the Chicken Dance is a traditional men's dance often seen at powwows. A powwow is a gathering where

people come together to dance, sing and celebrate their cultures. The Chicken Dance was inspired by the prairie chicken's movements, such as puffing out its chest and shaking its feathers to try to get attention. Dancers copy the bird's movements in the wild. This dance honors the bird and teaches us about its behavior and place in nature.

Watch a short video clip of the dance at a powwow. [University of Oregon Powwow Chicken Dance \(1:00–3:11\)](#)

Step 3:

Students reflect and share. Ask students to share the types of movement they saw, such as small hops, quick steps and shoulder shakes. Record their answers in a table you create on chart paper or on the whiteboard. There is an example table at the end of this lesson plan.

Ask students to share something they noticed about each movement, e.g., was it fast, slow, big, small, sharp, soft? Add this information to the table.

Ask students to think about the effects of the different movements, e.g., were they silly, cute, fun, exciting, scary? Add this information to the table.

Ask students why they think the dancers and the sage grouse might move in those ways. Explain to students that these movements are a way that the grouse tries to get attention from other grouse. Native people in Oregon have tried to learn from the sage grouse.

Let students know that observing and thinking about these movements helps us understand animals and one another. Explain that putting this type of information into a table is another way to show and share ideas with one another. (See the worksheet handout.)

Step 4:

Ask students to pick one of the movements and do a drawing of it. If they can, they can also label it, copying the words about the movement from the shared table.

Have students turn and talk with a peer to share about the movement in their drawing.



Closing

Time: 5 minutes

Step 1:

Facilitate a discussion with students to talk about

- What they learned about observing and representing animals, e.g., through dance, drawing and writing.
- How paying attention to animals in this way also helps Oregon Tribes learn about animals and share that knowledge with others.

Step 2:

Ask students to self-assess based on the success criteria. They can pick their level of learning (yes or not yet) and share with a peer, or you can print out the self-assessment and ask students to fill it out and turn it in.

Additional Resources

Kindergarten lesson by the Confederated Tribes of Grand Ronde, [Animals on the Reservation](#)

Video: [The Greater Prairie Chicken Dance of Love](#)



Handout: Worksheet

Name _____

Directions: Fill out the following table with your observations based on the video.



Name of movement, e.g., steps, hops, shakes	Type of movement, e.g., fast, slow, sharp, soft	Effects of movement, e.g., funny, serious, cute, exciting



Handout: Student Self-Assessment

Name:

Directions: Read the lesson success criteria in the first column to students. Have them indicate if they think they can do each of the success criteria or not yet. Students can use hand gestures, share verbally or mark their answers on the handout.

Success Criteria	Not Yet	Yes
"Can I..."		
explain why Oregon Tribes show animal movements in their dances?		
copy animal movements that I observe?		
describe one animal movement I observe?		