

What Are the Four Directions?

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Summary

Students create and use compasses to identify the Four Directions.

Grade level

First

Time required

Five 45-minute class periods

Materials

Per student:

- 1 cork or string
- 1 paper clip or needle
- 1 magnet
- 1 tray with water enough to float cork
- 1 commercial compass
- Science journals

Mural making materials – butcher paper, markers, etc.

[Satellite image of the Colville Reservation – see Resources](#)

[Okanogan Salish words for cardinal directions and celestial bodies](#)

Orienteering compasses

Goals

By completing this lesson, students will

- 1) identify the Four Directions,
- 2) gain experience using a compass,
- 3) begin to understand the importance of the directions to Okanogan people and
- 4) gain experience using the process skills.

Science standards addressed

National Science Standards

- Abilities necessary to do scientific inquiry
- Objects in the sky
- Constancy, change and measurement
- Understandings about science and technology

American Indian Science Standards

- An awareness that observations and understandings of nature and ecological relationships traditionally formed an essential base of knowledge among American Indian cultures
- Changes in Earth's surface, weather fluctuations and movements of celestial objects and how they affected historical American Indian community locations, annual migrations, and agricultural and ceremonial cycles

Teacher tips

- Prior to beginning the lesson, use a compass to determine the direction of Magnetic North.
- To make a homemade compass, rub a metal object, such as a needle or straightened paper clip repeatedly in one direction on a magnet. Tie a string to the metal object and suspend it freely or float it on a cork in water to allow it to suspend freely. The object should point to Magnetic North. Do not allow the object to float in the vicinity of other metal objects, since this will deflect it from Magnetic North.

Background information

In times past, Okanogan people determined East and West by observing the movement of the Sun. North was determined by observing that black moss always grew on the north side of trees. The Grandmas pointed out the stars and constellations to children at night and urged them to learn them so they would know how to find their way at night. They had to know the names and the stories about the stars and constellations. Children were taught to rise before the Morning Star came up or else it would scatter bugs in their hair and disfigure them. The women would wash their faces and put water in their mouths and spit it out as the Morning Star went over.

Procedure

Engagement

- 1) Ask an elder to talk with your students about how the Okanogan people determined the Four Directions. Ask them to teach the students the Salish words and meanings for the Four Directions (See Appendix).
- 2) Take students outside with the elder. Have them practice saying the Salish names for directions with the elder. Have them turn to the direction named by the elder and identify the landmarks they see in each direction.

Exploration

- 1) Access prior knowledge of compasses with your students.
- 2) Assist them in making a compass (see Teacher Tips).
- 3) Encourage them to compare the use of commercial compasses with their homemade ones.
- 4) Ask them to draw and write about their compass in their science journal.

Explanation

- 1) Ask students to describe to the class how they used their compass, and how it compared to the commercial compass. Were they able to locate the Four Directions?
- 2) Ask students to describe how they could locate the Four Directions without a compass.

Elaboration

- 1) Have students work in pairs outside to practice using a compass. One partner should hold the compass, while the other directs them to walk North, South, East, or West.
- 2) Show students the satellite image of the Colville Reservation. Ask them to identify landmarks on the image. Ask them to identify the Four Directions on the image.
- 3) Have students make a mural map of the area that includes the major landmarks that are found in each of the Four Directions. Ask them to depict the characteristics that Okanogan people associate with each direction on the mural also. Write the Salish word for each on the map. Ask them to talk to grandparents and other elders to find out where they grew up. Encourage them to draw those locations on the map as well.
- 4) Using the mural as a visual aid, practice saying the Salish words daily.

Evaluation

- 1) Observe students making and using compasses to identify and navigate directions.
- 2) Listen to student discussions as they work together to make the mural. Ask questions to check for understanding of content.

Follow up activities

Make a compass rose with colored masking tape on the floor of the classroom to use throughout the year.

Resources

Web sites

Satellite image of the Colville Reservation

http://yoda.cec.umt.edu/sid/bin/show_newjava.plx?image=colville.sid&client=Native_Lands§ion=Colville%20Reservation&title=Native%20Lands