Animal Footprints across Oregon

Overview:
In this lesson, students will work in groups to determine the best ecoregion for specific animals found in Oregon. Students will focus on the role of topography in an ecoregion and determine one location, in Oregon, where a particular animal might live.

Geographic Question:
What is topography and how does topography affect where animals live in Oregon?

Connection with Curriculum:
Learning Level (2-3) Social Studies

Objectives:
Students will be able to analyze the topography of Oregon and, with that information, predict where they live in Oregon.

National Geography Standards:
# 3 - How to analyze the spatial organization of people, places, and environments on the Earth’s surface.
# 4 - The physical and human characteristics of places.
# 7 - The physical processes that shape the patterns of the Earth’s surface.

Oregon Geography Standards:
2.7. Use basic information on maps and other geographic tools to locate and identify physical and human features of the community.
3.10. Identify and compare physical features of Oregon and Northwestern states.

English Language Proficiency Standards for ELD:
Expressing and Supporting Opinions

Language Objective:
Function: Expressing and Supporting Opinions
Form: Sentence Structure

  Beginning: I like/don’t like____(concrete topics).

  Intermediate: I think/agree with (don’t)___because___.

  Advanced: If ____ could/would/should/ ____ , I think ___ could/would/should ______.
Targeted Language Skills:

Reading: Students read the vocabulary words, a topography map, and a map of the wildlife of Oregon.

Writing: Students write the vocabulary words, their own maps of Oregon, and reflections.

Speaking: Students discuss the vocabulary words with one another, all areas of the lesson with the teacher, as well as with one another.

Listening: Students listen to the teacher and their peers, discuss the topography map, and other aspects of the lesson.

Vocabulary: Use pictures whenever possible

<table>
<thead>
<tr>
<th>Animal</th>
<th>Map Feature</th>
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</thead>
<tbody>
<tr>
<td>elk</td>
<td>American Beaver</td>
</tr>
<tr>
<td>Black Bear</td>
<td>Western Rattlesnake</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>mountain</td>
</tr>
<tr>
<td>Spotted Owl</td>
<td>desert</td>
</tr>
<tr>
<td>pronghorn</td>
<td>mountain</td>
</tr>
<tr>
<td>Redlegged Frog</td>
<td>topography</td>
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</tbody>
</table>

Materials:

- Six copies of each type of footprint from the *Wildlife Distribution* map from *Student Atlas of Oregon*
- Maps of Oregon for each group
- Topography maps of Oregon from [http://studentatlasoforegon.pdx.edu/PDFs/Map15.pdf](http://studentatlasoforegon.pdx.edu/PDFs/Map15.pdf)
- *Wildlife Distribution* maps
- Glue/Tape
- Large blank map of Oregon, or a smaller one, to display on the document camera
- Pictures of the 8 animals from the *Wildlife Distribution* map, and the different ecosystems (coastal/mountain, mountains, river/mountain, and desert) found in Oregon

Presentation Steps:

1. Brainstorm with students the types of animals that live in Oregon. List these animals on the board.
2. Post the pictures of the 8 animals found on the *Wildlife Distribution* Map on the board, along with the ecosystem pictures.
3. Think-Pair-Share Question: *Where does a Black Bear live?* (Forest, mountain, desert, etc.)

   “I think a _____________ would live in the ____________ because ________________.”

   Model: “I think a Black Bear would live in the forest because it eats plants.”
4. Give each group post-it notes to record what they know about each animal. As a group, after the post-its are posted, discuss prior knowledge about one animal at a time. Clarify misconceptions and note similarities and differences.

5. “Today we are going to use a topography map and what we know about these animals to help us understand where they live in Oregon.”

6. Discuss the topography map with students. What do you notice? Are there patterns that you see? Where are the mountains? Where are the forest areas? Deserts? Valleys? How do you know?

7. Move the ecosystem pictures to the blank map of Oregon, placing them in their general locations.

8. Model for students what is expected during the activity. Place the Black Bear footprint in a forested area on the large Oregon map.

9. Use the rattlesnake as an example to model with the whole group. Discuss where to place the rattlesnake prints and why it might live there. Select students to place the footprints on the large map.

10. Divide students into six groups and assign each group an animal. Display this activity check list on the board or document camera:

   Groups will:
   - Analyze the Oregon topography map.
   - As a group, discuss where they think their animal lives.
   - Tape their animal’s footprints on the Oregon map in places where they think it lives.
   - Share their locations and reasoning with the class.

11. Handout the *Wildlife Distribution* maps to each group and allow time to discuss and compare them.
   - 1. “Our prediction was _______________(correct or incorrect) because________________.”
   - 2. Share and discuss the results as a class. “Were you surprised with the results? What did you learn?”

12. Have students individually write a reflection on what kinds of animals live in which environments in Oregon.

**Assessment:**

*Informal assessment* will take place during group work. The teacher will circulate among student groups to evaluate if students are using the maps correctly, understand the given task, and are able to connect the idea of wildlife to physical environments.

*Formal assessment* will take place through evaluating students’ written reflections about where their animal lives. Students will need to include why they believe their animal would be suited to this environment and can include a picture.

**Adaptations:**

*Below Grade Level:* Students could collaborate with their group members before they write their reflection on what types of animals live in Oregon. They would make a chart of the information they know together before they write their own individual reflection.

*Above Grade Level:* Students could look at other factors affecting wildlife distribution in Oregon such as vegetation, average temperature highs and lows, etc. Students would be asked to include this information in their written reflection.
Extensions:

- Have students create a large class map of all the animals discussed. Students can evaluate how these animals may interact (example: the food chain).
- Research where else these animals live in the country or the world. What does Oregon have in common with these locations?
- Math: Graph the 4 ecoregions and the 8 animals to see what patterns they may find and play a memory match game with the vocabulary cards.

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The final editing and adaptations for an ELL classroom were completed by the OGA Spanish Student Atlas of Oregon Task Force 2011.