

RESOURCE LIBRARY | ACTIVITY : 50 MINS

Mapping a Region's Migratory Animals

Groups use their research on migratory species to design game boards that reflect their focal animals' migratory routes. Students consider how to design persuasive and creative game boards, and receive peer feedback through a gallery walk.

GRADES

6, 7, 8

SUBJECTS

Geography, Social Studies, Storytelling

CONTENTS

1 Video

OVERVIEW

Groups use their research on migratory species to design game boards that reflect their focal animals' migratory routes. Students consider how to design persuasive and creative game boards, and receive peer feedback through a gallery walk.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/mapping-regions-migrating-animals/>

In collaboration with



DIRECTIONS

Interrupted Migrations Unit Driving Question: How can human activities help or hinder animal migrations?

Mapping Migratory Routes Lesson Driving Question: How do migratory animals move throughout the world?

1. Use the Butterfly Surveillance video to focus groups on game design and the final project.

- Remind students they will be using what they have learned about their focal animals and geographic area to create a game that inspires people to understand and care about animal migration.
- As a class, watch Butterfly Surveillance. Pause the video at 0:47 to bring students' attention to the migratory map in the video and connect with their game boards. Ask students to discuss with a neighbor:
 - *What do you notice about the monarch butterfly's migration route* (Possible answers: it spreads out as it goes north, it crosses many regions, it crosses national borders, there are a lot of opportunities for human interruption).
- Watch the rest of the video as a class. Then, have student discuss with a neighbor:
 - *How does this video make you hopeful about people supporting monarch butterfly migration?*
- In this activity, students add the animals' migratory routes to their game boards. Encourage a persuasive and strategic mindset by discussing the following question as a class:
 - *What strategies can you use in your game design to convince people to care about the migrating animals in your region?* (Possible answers: players take on roles of migrating species, give the animals feelings, have people's survival depend on the animal's ability to successfully migrate)

2. Student groups add the migratory routes of their species to their game boards.

- Have students discuss how they want to use the migratory routes in their games. Have groups discuss the following questions and share out their decisions with the class:
 - *Will the routes be spaces that animals move along?*

- *How will you balance accurate representation of migratory routes with the way the game is played? (For example, will players have to complete a full life cycle or simply arrive at one destination?)*
 - *How will you make sure that human impacts disrupt or support animal migration in the game?*
- Next, have students review their findings from the *Researching a Region's Migratory Animals* activity and have each group decide how to represent their species' migratory routes on their game boards. Routes may be fully contained within the area, or they may begin, end, or cross through the area.
 - Encourage students to be creative! By thinking about how the migratory routes will be used, they are really thinking about some integral structures for their games.
 - Then, have students add the migratory route of their species to their game board that they created in the *Map That Game Board* activity. Provide materials for creating and illustrating game boards, such as cardboard, colored paper, markers, colored pencils, scissors, and glue.
 - As groups are working, circulate to ensure that human developments on their game board contact, or potentially contact, the migratory route of their species.

3. Lead students in a gallery walk of game boards for peer feedback.

- Begin by having groups display their game boards and migratory route maps from the activity *Researching a Region's Migratory Animals* for students to see as they walk around the room. Before beginning the gallery walk, have each group briefly share the way that migratory routes will be used in their game.
- Then, have students walk around the room providing feedback on sticky notes to each group in response to one or two of the following questions:
 - *What challenges to the migrations do you predict will result from human developments and geographical features on the game board?*
 - *What geographical information is clearly communicated through the game board about the region? Which features are missing or could be more clearly communicated?*
 - *How clear is the game's focus on migration? What additions would help clarify the focus?*

- After the gallery walk is complete, have groups read through the sticky notes left by their peers in order to refine their design and game play for their final game design.

Tip

Step 2: If students struggle with thinking about how to use the migratory routes, encourage them to think about board games they have played and how players moved around the board.

Informal Assessment

Assess group game boards for accurate representation of a close-up section of the migratory routes that are in the focal geographic area.

OBJECTIVES

Subjects & Disciplines

Geography

Social Studies

Storytelling

Learning Objectives

Students will:

- Understand and map the migratory routes of particular species.
- Design a functional game board that represents migratory routes in a specific geographic area.

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning

- Discussions
- Hands-on learning

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Creativity and Innovation
 - Critical Thinking and Problem Solving
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Creating
 - Evaluating
 - Remembering
 - Understanding
- Geographic Skills
 - Analyzing Geographic Information
 - Answering Geographic Questions
 - Organizing Geographic Information

National Standards, Principles, and Practices

THE COLLEGE, CAREER & CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS

- **D2.Geo.1.6-8:**

Construct maps to represent and explain the spatial patterns of cultural and environmental characteristics.

- **D2.Geo.3.6-8:**

Use paper-based and electronic mapping and graphing techniques to represent and analyze spatial patterns of different environmental and cultural characteristics.

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Blank transparencies
- Colored paper
- Colored pencils
- Glue
- Magazines
- Markers
- Art supplies
- Cardboard
- Scissors
- Sticky notes

REQUIRED TECHNOLOGY

- Internet Access: Optional

PHYSICAL SPACE

- Classroom

SETUP

Students will need to have chairs and desks/tables that can be easily rearranged into small groups.

GROUPING

- Homogeneous grouping
- Small-group learning
- Small-group work

RESOURCES PROVIDED: UNDEFINED

- Butterfly Surveillance

BACKGROUND & VOCABULARY

Background Information

As migrating animals are threatened by human impacts on the environment, it is important to map and narrate their migratory routes and raise awareness of how humans can help or hinder these journeys. Understanding where human interactions overlap with migratory routes is key to diagnosing a way forward for these species.

Scientists use a wide range of technology to help track migratory patterns, and that data is used to learn how to support animal populations impacted by humans. Their results are often shared using the principles of regional geography, which provide a fuller ecological and social lens for viewing data. In this case, when information is shared through a game, it provides a relevant avenue for engaging an audience, as games have been shown to promote interest and action related to civic pursuits.

Prior Knowledge

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Recommended Prior Activities

- [Geography Matters](#)
- [Intersecting Actions](#)
- [Map That Game Board](#)
- [Meet Migratory Animals](#)
- [Researching a Region's Migratory Animals](#)

Vocabulary

| Term | Part of Speech | Definition |
|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| animal migration | <i>noun</i> | process where a community of animals leaves a habitat for part of the year or part of their lives, and moves to habitats that are more hospitable. |
| mapping | <i>noun</i> | making and using maps. |
| migration | <i>noun</i> | movement of a group of people or animals from one place to another. |

| Term | Part of Speech | Definition |
|--------------------|---------------------------|-----------------------------------------------------------------|
| migration route | <i>noun</i> | path followed by birds or other animals that migrate regularly. |



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