

RESOURCE LIBRARY | ACTIVITY : 1 HR 40 MINS

Researching a Region's Migratory Animals

Students consider how games can be designed to raise awareness and inspire action, then research three assigned species from a geographic area to identify migration patterns. They create critter cards and migratory route maps for their animals.

GRADES

6, 7, 8

SUBJECTS

Conservation, Geography, Social Studies, Storytelling

CONTENTS

2 PDFs, 1 Link

OVERVIEW

Students consider how games can be designed to raise awareness and inspire action, then research three assigned species from a geographic area to identify migration patterns. They create critter cards and migratory route maps for their animals.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/researching-regions-migratory-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. Prepare students to think like game designers.

- As a class, revisit the goals of the final project: creating a tabletop game that will raise awareness about animal migration and inspire people to care about human impacts on migratory routes. Ask students: *What have we created so far that can be used for your game?* (Answers: Human impact cards, the start to a geographic game board map, and a description of the setting).
- In this activity, students create critter cards that can be the characters in their game and a map of each critter's migratory route that will go with their setting descriptions. These maps will inform stylized sections on students' game boards.
 - For example, migratory routes might be portrayed as a series of spaces for pieces to move along.
- Ask: *What other components are often included in tabletop games besides a board, cards, and a setting?* (Possible answers: *dice, spinner, player pieces*)
 - Encourage students to think about what else will help create an engaging and inspiring game.

2. Guide student research of migratory species in each group's focal geographic area.

- Distribute a copy of the [Creating the Critter Cards](#) handout to each group and have each group create a set of three critter cards that relate to their geographic area.
- Prepare the class for the research process by first reading the directions on *Creating the Critter Cards* together.
 - Support students in starting their online research by giving them suggestions for search terms from the critter card directions (see "Tips" section for additional support for research).

- Introduce students to the [National Geographic Photo Ark](#) and model how to search for an animal, such as the [Atlantic loggerhead turtle](#), and use the information provided to develop a critter card (note: not all animals listed will be found in the Photo Ark).
- Each group will be researching three species; ask groups: *What will be the best collaborative approach to accomplish this task?*
- As students are creating their critter cards, circulate to remind groups of the required project components and encourage students to make connections by using the following prompts:
 - Prompt for animal and regional habitat description: *Tell me a little about your animal and where it lives.*
 - Prompt for explanations of why and how their animal migrates: *Why does your animal need to migrate? How do they get from point A to point B and back again?*
 - Additional questions to ask students:
 - *What are some of the biggest human threats to your animal? Why?*
 - *What is the status of the species? Are there healthy populations or is the species endangered? Why?*
- At the end of the activity, collect the student-created critter cards for informal assessment.

3. Guide groups to create a migratory route map for each animal.

- Distribute a copy of the [Migration Route Map](#) to each group. This initial migratory mapping will lead to the future design of each group's game board.
- Have each group use their research findings to draw and label the migratory route of each of their focal species on the map. Each migration route should include:
 - Starting point, labeled with when the migration begins.
 - Path of migration, labeled with the animal, the type of migration, and reason for migration.
 - Ending point, labeled with when the migration ends.

4. Revisit the class Know and Need to Know chart.

- Discuss the following questions as a class:

- *What answers were we able to find today?*
 - *What new questions do we have based on what we learned?*
- Explain that in the next activity students will be applying their research to their game designs.

Tip

Step 2: As needed, provide instruction for effective online research and online literacy. Set boundaries for students on where they can do additional research on their species. Let students know that .gov, .edu, and .org resources are more reputable/reliable than .com pages. You may want to restrict students' use of websites to those that fall into those three categories.

Tip

Step 2: Set expectations for whether students can print and/or draw images of their animals for their critter card.

Tip

Step 2: Scaffold students' research using the critter card requirements such as, “[name of the animal] migratory route in [geographic area]” or “[name of the animal] habitat.”

Tip

Step 2: When using the Photo Ark, let students know that this is a good place to start research, but not all animals will be found here, nor may all of the information needed for a complete Critter Card.

Tip

Step 2: To create sturdier game cards, consider providing card stock paper to groups.

Informal Assessment

Critter Cards: Review completed critter cards and maps to ensure groups have acquired complete and accurate information.

OBJECTIVES

Subjects & Disciplines

- Conservation
 - Geography
 - Social Studies
 - Storytelling

Learning Objectives

Students will:

- Research and describe migratory patterns and geographic range of specific species.
- Create maps of migratory routes for particular species.

Teaching Approach

- Project-based learning

Teaching Methods

- Discussions
- Multimedia instruction
- Research

Skills Summary

This activity targets the following skills:

- Geographic Skills
 - Acquiring Geographic Information

- [Analyzing Geographic Information](#)
- [Answering Geographic Questions](#)
- [Asking Geographic Questions](#)

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- [CCSS.ELA-LITERACY.RH.6-8.2:](#)

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

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

- [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

- Colored pencils
- Glue
- Cardstock paper
- Scissors

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, 1 computer per learner, Color printer, Monitor/screen, Printer, Projector

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group learning
- Small-group work

RESOURCES PROVIDED: WEBSITES

- National Geographic Photo Ark

RESOURCES PROVIDED: HANDOUTS & WORKSHEETS

- [Migration Route Map](#)
- [Creating the Critter Cards](#)

BACKGROUND & VOCABULARY

Background Information

Migrating animals commonly take well-defined routes on their migration journey. Animal migrations can take different types of routes. Animals might travel on land, water, or air. They may move back and forth across both ocean and land. They move in all cardinal directions, vertically, and across different topographies. These routes sometimes cover short geographic distances, but can also cross multiple continents. Being able to map movement using regional geography helps reveal the impact of these migrations, as they cross continents, habitats, and political boundaries.

Animals' migratory routes are tracked by humans using various methods like banding (in the case of birds), GPS tracking, drones, remote cameras, acoustic tags, and satellite tracking. Some animals' migratory routes are increasingly imperiled by human activities and changing landscapes, making this research important to the future of a wide range of species. When students focus on the migratory patterns of one particular animal, it provides an opportunity to understand multiple facets of an issue through this use of regional geography. For example, the migration of javelinas brings them across the US-Mexico border, which has a range of implications.

Prior Knowledge

Recommended Prior Activities

- [Geography Matters](#)
- [Intersecting Actions](#)
- [Map That Game Board](#)

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.
key	<i>noun</i>	an explanation of symbols and abbreviations used on a map, also known as a legend.
map	<i>noun</i>	symbolic representation of selected characteristics of a place, usually drawn on a flat surface.
mapping	<i>noun</i>	making and using maps.
migration route	<i>noun</i>	path followed by birds or other animals that migrate regularly.

For Further Exploration

Images

- [National Geographic: Long-Distance Ocean Travels](#)

Websites

- [University of Wyoming: Wyoming Migration Initiative: Elk Migrations of the Greater Yellowstone](#)
- [National Park Service: Elk](#)



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