

RESOURCE LIBRARY
ACTIVITY : 50 MINS

Clues to Human Migration

Students imagine they are detectives and figure out ways to solve the mystery of how humans migrated around the world.

GRADES

9 - 12+

SUBJECTS

Anthropology, Biology, Geography, Human Geography

CONTENTS

1 Video

OVERVIEW

Students imagine they are detectives and figure out ways to solve the mystery of how humans migrated around the world.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/clues-to-human-migration/>

Program



DIRECTIONS

1. Have students put themselves in a detective's shoes.

Tell students to imagine that someone just hired them to find a person who has mysteriously disappeared. Have them brainstorm how they would go about tracking down that person.

Ask: *Where would you start? Who would you talk to? What questions would you ask? What would you look for?* Help students understand that in order to solve this mystery, they would have to talk to different people, visit different places, look for different kinds of clues, perhaps conduct DNA tests, and figure out how all the evidence fits together.

2. Discuss the mystery the Genographic Project is trying to solve.

Explain that scientists also search for clues, much like detectives do. Introduce the Genographic Project, and explain that researchers on this project are trying to solve a mystery that is much bigger and much more complex than finding a missing person. This mystery took place over a long period of time—starting about 60,000 years ago. Have students look at a wall map of the world. Ask: *Which continents do humans live on today? Have humans always lived on every continent? Where did humans evolve? How did they come to populate the entire world?* Explain that researchers on the Genographic Project are looking for clues that reveal how our ancestors migrated from Africa, where humans evolved, to all the other continents. Make sure students understand what human migration means—it is the movement of people from one country or place to another.

3. Have students brainstorm how to solve the migration mystery.

Divide students into small “detective teams.” Tell each team to imagine they are researchers working on the Genographic Project. Their job is to determine when humans left Africa, where they migrated first, what routes they took as they spread around the world, and how long it took them to reach different places. Tell students to brainstorm how they would go about that task and make a written list of the ideas they like best. Encourage them to think as broadly as possible. Write these questions on the board for them to consider: *Where would you start? Where would you go? What clues would you look for? What technologies and scientific techniques would you use?*

4. Discuss students’ ideas about how to solve the migration mystery.

Have groups share their ideas, and list their solutions on the board. If students do not mention genes or DNA as one possible clue, tell them that the name of the project—Genographic—is an important clue.

5. Have students explain the research goal of the Genographic Project.

Have students watch the video “The Genographic Project.” Ask students to write what they think the name of the project means on a piece of paper as they watch the video. The name relates to the use of genetics to study human migration over time. Make sure students understand what terms *genes* and genetics mean. Emphasize that like most detectives,

researchers on the Genographic Project use different kinds of clues. But the primary clue they use is genetics. Finish up the activity by revisiting the responses to questions in step 3: *Where would you start? Where would you go? What clues would you look for? What technologies and scientific techniques would you use?* Ask students to discuss changes to their initial responses based on what they learned from the video.

Extending the Learning

- Show the video *Journey of Man*, about the Genographic Project. Go to the [PBS](#) website to find out where you can get the *Journey of Man* documentary.
- If you participated in the project yourself, share the results and the materials from the project kit.

OBJECTIVES

Subjects & Disciplines

Anthropology

Biology

Geography

- Human Geography

Learning Objectives

Students will:

- explain that the Genographic Project is trying to reconstruct ancient human migration routes
- give examples of the kinds of clues project researchers use to reconstruct these routes

Teaching Approach

- Learning-for-use

Teaching Methods

- Brainstorming

- Discussions

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Analyzing
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Answering Geographic Questions

National Standards, Principles, and Practices

IRA/NCTE STANDARDS FOR THE ENGLISH LANGUAGE ARTS

- **Standard 7:**

Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- **Theme 3:**

People, Places, and Environments

NATIONAL GEOGRAPHY STANDARDS

- **Standard 3:**

How to analyze the spatial organization of people, places, and environments on Earth's surface

- **Standard 9:**

The characteristics, distribution, and migration of human populations on Earth's surface

NATIONAL SCIENCE EDUCATION STANDARDS

- (9-12) Standard A-2:

Understandings about scientific inquiry

NATIONAL STANDARDS FOR HISTORY

- World History Era 1 (5-12) Standard 1:

The biological and cultural processes that gave rise to the earliest human communities

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Lined or ruled paper
- Pencils
- Pens
- Wall map of the world

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, Projector, Speakers

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction

BACKGROUND & VOCABULARY

Background Information

The Genographic Project studies where our early human ancestors came from and how humans came to populate the entire planet. It relies on the identification of genetic markers—occasional mutations to DNA that are passed on through generations. Different populations carry distinct genetic markers. Following the markers through thousands of human generations enables scientists to track our human origins back to Africa and to determine the pattern of routes by which humans migrated around the world.

Prior Knowledge

["genes","genetics","migration"]

Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
gene	<i>noun</i>	part of DNA that is the basic unit of heredity.
genetics	<i>noun</i>	the study of heredity, or how characteristics are passed down from one generation to the next.
Genographic Project	<i>noun</i>	National Geographic project that uses genealogy to trace the migratory history of the human species.
human migration	<i>noun</i>	the movement of people from one place to another.

For Further Exploration

Articles & Profiles

- [National Geographic Explorers: Spencer Wells, Geneticist](#)

Books

- [Wells, Spencer. *The Journey of Man: A Genetic Odyssey*. New Jersey: Princeton University Press, 2002. Print.](#)
- [Wells, Spencer. *Deep Ancestry: Inside The Genographic Project*. Washington, D.C.: National Geographic, 2006. Print.](#)

Websites

- [National Geographic: The Genographic Project](#)
- [National Geographic: The Genographic Project—Genetics Overview](#)

FUNDER



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