

RESOURCE LIBRARY
ACTIVITY : 50 MINS

All Africans under the Skin

Students discuss how genetic evidence that all humans are related might affect personal and political relationships.

GRADES

9 - 12+

SUBJECTS

Anthropology, Biology, Geography, Human Geography

CONTENTS

2 Links

OVERVIEW

Students discuss how genetic evidence that all humans are related might affect personal and political relationships.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/all-africans-under-the-skin/>

Program



DIRECTIONS

1. Discuss the African origins of humans.

Write the following quote from Dr. Spencer Wells, Genographic Project lead scientist, on the board:

*You and I, in fact everyone all over the world,
we're literally African under the skin; brothers and sisters
separated by a mere two thousand generations.
Old-fashioned concepts of race are not only socially divisive,
but scientifically wrong.*

Ask students what the quote means. Have them discuss what the phrase “African under the skin” means to them. Explain that the Genographic Project and other scientific research projects provide evidence that all humans, past and present, can trace their ancestry back to a single ancestor who lived in Africa about 60,000 years ago. Ask students what Dr. Wells meant by “old-fashioned concepts of race.” Explain that genetic evidence shows all humans are 99.9% identical and do not fall neatly into physical categories some people call races. The differences among us—like skin color and hair texture—evolved as humans adapted to different environments. They account for less than one tenth of one percent of our genetic makeup.

2. Follow a photographic journey back in time.

Have students read and click through "In the Footsteps of My Ancestors" on the National Geographic Traveler site. This photo gallery follows the journey of an American journalist, Donovan Webster, who set out to meet the living descendants of his ancient ancestors. Analysis of Donovan's DNA revealed the migration routes his ancestors took over many thousands of years. Donovan started out in Africa and also visited his relatives in Lebanon, Uzbekistan, and Spain. Project the provided world map on a whiteboard. Have students plot the migration route of Webster's ancestors on the map. Ask: *Does it surprise you that all these people from distant places are related? Why or why not?*

3. Explain the source of the evidence for our common ancestry.

Emphasize to students that this genetic evidence for our common ancestry comes from real people. Genographic Project researchers have collected DNA samples from many thousands of people from all over the world. They collected some samples from specific groups of people that have lived in the same geographical place and in relative isolation for many years—like the Hadzabe Bushmen that Donovan Webster met. Researchers also collected DNA from thousands of members of the general public—including students like them.

4. Discuss the possible impact of this evidence.

Ask students if what they have just learned about our common ancestry surprises them or not.

Discuss how this information might impact other people. Ask:

- *Do you think the evidence that we are all related could affect the ways people from different places and cultures treat one another? Why or why not?*
- *Do you think it could lead to better relationships among different governments? Explain.*
- *Why might people from different places and cultures treat other people differently even when 99.9% of our genetic makeup is the same?*

Extending the Learning

- Have students explore the [Genographic Project](#) website to learn more about how DNA evidence is collected and what project researchers have learned.
- 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.

OBJECTIVES

Subjects & Disciplines

Anthropology

Biology

Geography

- [Human Geography](#)

Learning Objectives

Students will:

- explain how scientists know that all humans share a common ancestor
- discuss how the knowledge of common ancestry could impact relationships among living humans

Teaching Approach

- Learning-for-use

Teaching Methods

- Brainstorming
- Discussions
- Multimedia instruction

Skills Summary

This activity targets the following skills:

- 21st Century Themes
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Evaluating
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Answering Geographic Questions

National Standards, Principles, and Practices

NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- Theme 3:

People, Places, and Environments

- Theme 9:

Global Connections

NATIONAL GEOGRAPHY STANDARDS

- **Standard 9:**

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

NATIONAL SCIENCE EDUCATION STANDARDS

- **(9-12) Standard F-1:**

Personal and community health

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Dry erase markers

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per small group, Projector

PHYSICAL SPACE

- Media Center/Library

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. Following genetic 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. The Genographic Project has demonstrated that we are all directly related to a single man and a

single woman who lived in Africa tens of thousands of years ago. Learning about the real evidence of our African origins and shared human ancestry can help students think about possible impacts of this information on human relationships.

Prior Knowledge

["The Genographic Project","early human migrations","DNA"]

Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
ancestry	noun	family (genealogical) or historical background.
DNA	noun	(deoxyribonucleic acid) molecule in every living organism that contains specific genetic information on that organism.
race	noun	grouping of people most often based on physical similarities.

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](#)

FUNDER



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