

RESOURCE LIBRARY
ACTIVITY : 20 MINS

Field Investigations

Students watch a video of experts in the field. Then they reflect on the research process and the real-world implications of that research.

GRADES

6 - 12+

SUBJECTS

Biology, Geography, Physical Geography

CONTENTS

1 Video

OVERVIEW

Students watch a video of experts in the field. Then they reflect on the research process and the real-world implications of that research.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/field-investigations/>

Program

bioblitz

DIRECTIONS

1. Activate students' prior knowledge about research and field work.

Ask: *What do you already know about research and field work?* Write students' responses on the board. Then explain to students that the work of researchers is important and affects

almost every aspect of daily life. Tell students that researchers study health problems and find solutions, they analyze conflicts between different nations and advise governments, and they monitor the environment and help regulate pollution and degradation. Tell students it is important that researchers are scientific and unbiased. Then ask the following questions and discuss students' answers and their reasons for their answers:

- *Does all research follow the same method? If not, how do you think it differs?*
- *Do all researchers go out into the field? What can be different about research in the field and research in a laboratory?*
- *Are there dangers when researchers don't follow the scientific method? Explain.*

2. Have students watch the video “Elusive Tree Kangaroo Helped.”

Have students watch the National Geographic video "Elusive Tree Kangaroo Helped," which profiles National Geographic grantee Dr. Lisa Dabek and her team as they use radio collars to trace the elusive Matschie's tree kangaroo. This research offers new insights into tree kangaroo location, range, and habitat use—and may help save this endangered species.

3. Discuss the video.

Explain to students that this video is an example of one specific research project and that research projects require different approaches—not necessarily the one illustrated in this video. Ask students to describe the research method employed by the researchers:

- *What question or issue is the researcher investigating?*
- *What challenges does the researcher face?*
- *What tools are researchers using to gather geospatial data?*
- *What impact might the researcher have on the issue being researched?*

Explain to students that these questions can be used to look at all sorts of different studies, and are a good way to summarize a research project. Invite students to share any questions they have about research using geospatial technologies.

Modification

Use other accounts of research in the news to tie this topic to current events.

OBJECTIVES

Subjects & Disciplines

Biology

Geography

- Physical Geography

Learning Objectives

Students will:

- describe the research process
- explain how researchers approach challenges they face
- discuss different tools researchers use to gather geospatial data
- discuss the impact research might have on the real world

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions
- Multimedia instruction

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Remembering
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- **Standard 8:**

The characteristics and spatial distribution of ecosystems and biomes on Earth's surface;

NATIONAL SCIENCE EDUCATION STANDARDS

- **(5-8) Standard A-2:**

Understandings about scientific inquiry

- **(9-12) Standard A-2:**

Understandings about scientific inquiry

Preparation

What You'll Need

REQUIRED TECHNOLOGY

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

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction

BACKGROUND & VOCABULARY

Background Information

Researchers look at specific questions or issues by using hypotheses. A hypothesis is a question based on observations and theories. Researchers use the scientific method to test a hypothesis. The scientific method involves gathering observations and measurable evidence

in a systematic way. Researchers face a variety of challenges in the field and use many different tools to overcome these challenges. Some geospatial technologies utilized by researchers in the field include Global Positioning System (GPS), Geospatial Information Science (GIS), and remote sensing.

Prior Knowledge

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Recommended Prior Activities

- [Neighborhood BioBlitz](#)
- [North Atlantic Right Whales](#)
- [Plot Study Observations](#)
- [WildCam Observations](#)

Vocabulary

Term	Part of Speech	Definition
cloud forest	<i>noun</i>	wooded area, usually high-altitude, almost always covered by clouds and fog.
degradation	<i>noun</i>	breaking down.
endangered species	<i>noun</i>	organism threatened with extinction.
fieldwork	<i>noun</i>	scientific studies done outside of a lab, classroom, or office.
pollution	<i>noun</i>	introduction of harmful materials into the environment.
research	<i>noun</i>	scientific observations and investigation into a subject, usually following the scientific method: observation, hypothesis, prediction, experimentation, analysis, and conclusion.

For Further Exploration

Websites

- [National Geographic: National Geographic in the Field](#)

- [National Geographic: Tree Kangaroo Conservation Program](#)
- [National Geographic: Committee for Research and Exploration](#)
- [National Geographic: BioBlitz](#)
- [National Geographic: Crittercam](#)



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