

RESOURCE LIBRARY
ACTIVITY : 45 MINS

Mapping Biodiversity

Students select and map an area. Then they practice finding direction, determining scale, and identifying natural and human features.

GRADES

3 - 5

SUBJECTS

Biology, Geography, Human Geography, Physical Geography

CONTENTS

1 Image

OVERVIEW

Students select and map an area. Then they practice finding direction, determining scale, and identifying natural and human features.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/mapping-biodiversity/>

Program

bioblitz

DIRECTIONS

1. Build background about mapping.

Ask students to imagine the following scenario: They are birds flying above Earth. They look below to locate food, water, and a safe place to build a nest. They depend on natural

resources to survive. Explain to students that scientists studying biodiversity use a birds'-eye view to make maps of Earth. Show students the map illustration. Explain that on the maps, scientists mark the locations of natural resources and the species that live nearby. These maps show important patterns. Ask: *How do you think these maps are made?*

2. Model creating a map.

On the board, model creating a map by doing the following with student input:

- Choose an area to map as a class.
- Think about the space or area you are mapping. Ask: *Is it small or large? Is it a city block or a continent?*
- Determine the scale. Ask: *Should one inch on the map represent 10 feet or 1,000 miles?* Explain to students that maps of smaller areas contain more detail than maps of larger areas.
- Check direction. Remind students that, on location, they can check direction (north, south, east, west) using a GPS unit or compass. On your class map, add a north arrow or compass rose.
- Add details such as land and water features, vegetation, signs of animals, and signs of human influence.

3. Introduce the mapping activity.

Divide students into small groups. Tell the groups they will select and map an area of their own. Assign an area or ask them to select an area to map. If needed, suggest the school playground, cafeteria, library, or classroom.

4. Review map elements and have students map their areas.

Review the elements students should include on their map:

- natural features
- human features
- a north arrow or compass rose indicating direction
- a scale bar indicating scale

Have students map their chosen or assigned areas.

5. Have students reflect on the process.

When the groups have completed their maps, invite a volunteer from each group to share their maps and the process they used to create their maps. Ask:

- *What details did you think were important to include?*
- *How did you determine direction?*
- *How did you determine scale?*

OBJECTIVES

Subjects & Disciplines

Biology

Geography

- Human Geography
- Physical Geography

Learning Objectives

Students will:

- select and map an area
- find direction, determine scale, and identify natural and human features

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions
- Hands-on learning

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Applying
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Organizing Geographic Information

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- Standard 1:

How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

NATIONAL SCIENCE EDUCATION STANDARDS

- (K-4) Standard C-3:

Organisms and environments

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Paper
- Pencils
- Pens

REQUIRED TECHNOLOGY

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

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction
- Small-group instruction

BACKGROUND & VOCABULARY

Background Information

A BioBlitz is a way for communities to learn about the biological diversity of a geographical area and to better understand how to protect the species found at that location. In order to undertake a BioBlitz, students need to have a specific set of skills. These skills involve observing natural phenomena, identifying different species of organisms, classifying them into categories, and mapping the data for conservation and management in the future. Maps can reveal patterns between a specific landscape and the organisms that live there.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
bioblitz	<i>noun</i>	a field study in which groups of scientists and citizens study and inventory all the different kinds of living organisms within a given area.
biodiversity	<i>noun</i>	all the different kinds of living organisms within a given area.

For Further Exploration

Websites

- [National Geographic: BioBlitz](#)

PARTNER



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