



Thank you for your purchase –

Please be sure to save a copy of this activity to your computer!

**This activity is copyrighted by AIMS Education Foundation.
All rights reserved.**

No part of this work may be reproduced without written permission of AIMS, unless such reproduction is expressly permitted by federal copyright law, with the following exceptions:

- A person or school purchasing this AIMS activity is hereby granted permission to make up to 200 copies of any portion of it, provided these copies will be used for educational purposes and only at one school site.
- Workshop or conference presenters may make one copy of a purchased activity for each participant, with a limit of five activities per workshop or conference session.

For unlimited duplication rights and current copyright information, please visit www.aimsedu.org, e-mail us at permissions@aimsedu.org, or call us at 1.888.733.2467.

Habitat Changes

by Dave Youngs
AIMS Research Fellow

Topic
Habitats

Key Questions

1. What impact did the change in the classroom have on you?
2. What impact does the change in the habitat have on the organisms living there?

Learning Goals

Students will:

1. identify whether changes to habitats are beneficial, harmful, or neither;
2. determine whether these changes are natural or caused by human activity; and
3. discuss how human technology can have helpful and/or harmful results on a habitat.

Guiding Documents

Project 2061 Benchmark

- *Changes in an organism's habitat are sometimes beneficial to it and sometimes harmful.*

NRC Standards

- *All organisms cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.*
- *Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms.*

Science

Life science
organisms
habitats

Integrated Processes

Observing
Comparing and contrasting

Materials

Student sheets

Background Information

All living things—plant and animal—are organisms. The environment in which an organism lives is called its habitat. Changes in an organism's habitat can

sometimes be harmful and sometimes beneficial. In any particular habitat or environment, changes that are beneficial for some organisms may be harmful for others. For example, a forest fire is harmful to the trees that are burned, but beneficial for the grasses and shrubs that spring up after the fire because they are no longer in the deep shade of the trees.

Key Vocabulary

Organism: a living thing, plant or animal

Habitat: a particular environment in which a plant or animal lives, a home

Beneficial: helpful, good, gives favorable results

Harmful: bad, causes damage or harm

Management

1. *Part One* of this activity requires advanced planning. To model how a change in an organism's habitat affects that organism, think of a change you can make in your classroom that will have some impact on your students. (In this part of the activity, the "habitat" is your classroom, and the "organisms" are the students.)
2. Decide if the change is going to be dramatic and obvious, like removing all the chairs from the classroom, or more subtle, like turning off the water to the class drinking fountain.
3. You also need to determine if the change is going to be beneficial, like placing healthy snacks in various areas of the classroom; harmful, like blocking access to the cubbies where students store their lunches; or neither, like moving the location of the teacher's desk.
4. The change in the classroom habitat needs to be something you can quickly implement during a recess or lunch break.
5. The lesson can start right after the students return to the room if you've made a radical change like removing the chairs. If you've made a more subtle change, like turning off the water to the drinking fountain, you should wait until a student notices the change before beginning.
6. *Part Two* of the activity might require a lot of teacher guidance. Students may need help when brainstorming habitats, possible changes to those habitats, organisms that live in those habitats, and the impact of the changes on organisms in the habitats.

7. Ideally, you should list habitats and organisms that are found in your area.

Procedure

Part One

1. While the students are out of the room at recess or another break, make the classroom change previously decided upon (see *Management*).
2. When students return to the room and notice the change, have them discuss what impact the change has or might have on them.
3. Introduce the *Key Vocabulary*: organism, habitat, beneficial, and harmful. Explain that in this activity the students are playing the part of organisms and the classroom is the habitat.
4. Ask the first *Key Question* and state the *Learning Goals*.
5. Discuss whether students felt the classroom change was beneficial, harmful, or neither.
6. Distribute the first student sheet. Have students brainstorm other changes that could be made to the classroom “habitat” and classify these changes as beneficial, harmful, or neither. Have students list the changes under the appropriate headings on the student sheet.

Part Two

1. Ask students to think of some natural habitats (e.g., woods, ponds, meadows, etc.) that they might find in the local area. List these habitats on the board.
2. Have students brainstorm changes (fires, floods, roads being built, dams being constructed, droughts, etc.) that might occur in each of these habitats and list them on the board.
3. Discuss the various organisms—both plants and animals—that might live in the brainstormed habitats and list them on the board.
4. Distribute the second student sheet.
5. Have students select one habitat and one change to that habitat.
6. Ask the second *Key Question*.
7. Have students fill in the information on the sheet regarding that habitat.
8. Close with a discussion of the impact changes have on habitats and the organisms living there.

Discussion

Part One

1. How did the change the teacher made in the classroom affect you?
2. Was this change beneficial, harmful, or neither?
3. What are some other changes that can be made to your classroom habitat? [Various answers. For example: turn the chairs around, turn off the lights, bring in padded chairs, turn off the heater or air conditioner, etc.]

4. Which of these changes were beneficial? ...harmful? ...neither?

Part Two

1. What are some natural habitats? [woods, forests, lakes, ponds, rivers, swamps, meadows, grasslands, etc.]
2. What are some organisms that live in these habitats?
3. What are some changes that might occur in these habitats? [fires, floods, impact of severe weather, drought, road construction, building of a dam, housing projects going in, etc.]
4. What impact might these changes have on the organisms in the habitat? [cause animals to leave the area, destroy some plant life, help some types of plants flourish, have different animals move into the area, etc.]
5. Which of these changes are beneficial? Which are harmful? Which are neither?
6. Which of these changes are caused by nature? Which are caused by humans?
7. The human changes, like building dams, roads, or houses, are examples of technology. How is this technology helpful to the organisms in the habitat? [Various answers. For example, dams would prevent flooding and thus help the plants and animals in the habitat.]
8. How is technology harmful to the habitat? [Various answers. For example, roads built through a habitat would expose animals to the danger of being hit by cars.]
9. What are you wondering now?

Extensions

1. Have students draw before and after pictures for their habitats.
2. Let students research natural habitats and the organisms living there.
3. Invite local experts to share their knowledge of local organisms and habitats.
4. Take a field trip to a nearby habitat and observe the organisms living there.



Habitat Changes

Part One

Your teacher made a change in your classroom "habitat."

Was this change beneficial, harmful, or neither? Why?

What other changes could be made?
List these changes under the appropriate heading.

Beneficial	Harmful	Neither

Habitat Changes

Part Two

As a class, brainstorm some natural habitats that are found in your area. Next, brainstorm changes that might occur in these habitats. Then, brainstorm organisms that live in these habitats. Finally, decide how these changes affect the organisms.



Pick one habitat and write the information about it below.

Habitat:

Organisms that live in the habitat:

One change in the habitat:

Impact—beneficial, harmful, or neither—this change has on the organisms in the habitat: