



# Changing Environments

## ***Grade Level***

Grade 2

## ***Engage***

This activity is designed to start your students in recognizing themselves as scientists and thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. As with all lessons provided, please feel free to adapt them according to your students' abilities. Some of your students may be early readers, in which case you may find it more successful to lead activities and discussions as a whole group rather than using individual Research Plan sheets. Certain scientific vocabulary may or may not be appropriate for your students' level of understanding. Take these ideas, make them your own and your students will have a greater chance at success.

**In what ways does a beaver dam change the landscape and impact other animals living the environment?**

1. Begin this lesson by telling students they will be investigating how animals make changes to the environment, and those changes can affect other living things in that environment.
2. If your students are familiar with brainstorming and recording their ideas, break them into small groups. If your students need more guidance, work with them as a large group. Engage your students in a discussion of what they predict the answer to this question to be. More importantly, why do they think this?

## ***Explore***

3. Continue with the above discussion and encourage the group to come up with ways that they could investigate the question and test their predictions scientifically (all suggestions are welcomed). What tools might they need to carry out their suggested explorations? Are there materials that would help them find the answer? Should they be making observations? What kinds of records will they need to keep? What will they do with the information once they have it? And how will they know that they've successfully answered the question? Allow a wide variety of ideas and encourage conversation amongst the students to refine the details of their ideas.

4. Ideas should be recorded on the Research Plan sheets. Small groups can record their own answers or you can record ideas as a group.

### ***Explain***

5. Explain to the group that you have an activity that might help to give them some insight into the situation and answer the research question.
6. Tell the students that they are all going to help write a book about how the environment is affected after a beaver builds a dam. However, they only get to see the very last page of the book. The rest of the story will be up to the students and their research to create their own page.
7. Display for the class or provide a paper copy for all students the page about Baxter the Beaver. Read aloud to the class. Ask the students what it means for a beaver to build a dam. Make notes on what the students know, focusing their discussion on what the environment was like before the dam was built and what it was like afterwards.

### ***Expand***

8. Assign each student or group of students an animal that shares the environment with a beaver (see list).
9. Allow each student or group time to research their assigned animal, and collect information on how it would be affected by a beaver building a dam.
10. Each student or group, should then write and illustrate their own page of the story from their assigned animals' perspective.
11. When finished, compile all student pages together to create the book, with the provided Baxter the Beaver page as the last page. Read each page aloud as a group.
12. Together, write an introduction to the story and allow students to discuss their findings about how a beaver building a dam changes the environment and can impact other animals living there.

### ***Assess***

13. As the students think about the situations that they have just discovered through the activity, have them reflect on what happened, and how the environment and each animal is impacted.
14. Was the outcome, or answer to the research question the same as what they had predicted?
15. If the students are working in small groups, observe their work and review what they are writing on the Research Plan. If working as a whole group, fill in the Research Plan together.

***Standard***

Ohio Academic Content Standards
Grade 2 Life Science Topic: Interactions Within Habitats Living things cause changes on Earth



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## Supplemental Materials

### My Research Plan

**1. What is my research question?**  
**Is it a good question?**



In what ways does a beaver dam change the landscape and impact other animals living the environment?

**2. How can I get my information?**



**3. What will I do with this information?**



**4. How will I know I did my job well?**



## **Animals to assign for book pages:**

Wood Duck

Hint: likes to swim in ponds

Great Blue Heron

Hint: easier to catch fish in still water

Green Frog

Hint: slow moving water is a good place to lay eggs

Salamander

Hint: prefers faster moving water

Painted Turtle

Hint: hibernates under logs/stumps and basks on logs

Mayflies

Hint: prefers fast moving water

Dragonflies

Hint: prefers slow moving water

Mink

Hint: Fish in ponds for food

White-Tailed Deer

Hint: Drink from ponds

Trout

Hint: prefer cool, deep pools

Baxter the Beaver is tired.  
It takes a lot of work to build a dam.

But now that he has finished, he has  
time to sit back and relax and enjoy  
his new neighborhood.

