



Title: Habitat Models

Adapted from a lesson by Bonnie Jason

Theme: All living organisms need habitat to survive.

Objectives:

- Students will know that a habitat is a natural home.
- Students will construct a habitat model for an animal.
- Students will be introduced to the specific habitat requirements of different animals.

Duration: 3 hours, can be divided into short sessions

Age Range: 2nd-8th Grade

Materials:

- Graph paper
- Whiteboard (or easel with paper)
- Dry erase markers (or markers)
- Pencils/pens/markers
- Large pieces of cardboard (for model foundations)
- Local animal identification & information books
- Habitat Registration Form
- Miscellaneous construction items (popsicle sticks, pipe cleaners, construction paper, cardboard scraps, tissue paper, egg cartons, wood scraps, felt pieces, yarn, glue, tape, etc.)
- Habitat Model Rubric

Background:

This activity is designed to introduce the concepts of habitat and habitat requirements. The construction of models is a creative way to make these concepts more concrete. Feel free to have the students craft their models from whatever you have available. It could also be a good activity for students to work on outside of school.

Preparation:

Cut the cardboard into pieces for the foundation. Prepare and arrange the available construction items. Make enough copies of the Habitat Registration Form for each student.

Introduction:

Begin the lesson with a whole-group brainstorming session. Choose an animal that students know well, such as an eagle. Write the name of the animal at the top of the whiteboard. Ask students what the eagle needs to survive. Use leading questions as necessary. As students shout out their ideas, organize them into three un-labelled categories based on food, shelter, and water. After each list has been developed, ask the students what similarities they see within each category. Introduce the terms food, water and shelter as habitat requirements for all animals. Discuss how these habitat requirements must all be present to be useful to the animal.

Activities & Procedures:

Break the class into small groups. Instruct each group to choose a local animal with which they are familiar. Have resources available so that students can research their animal to get more information. Tell the groups that they are going to construct a model of their animal's habitat that includes all of the habitat requirements. Provide groups with a copy of the Habitat Model Rubric, or review the expectations with them.

Ask students to first work together in their group to sketch a draft of their habitat on graphing paper, making sure that it includes all the habitat requirements for their animal. Have students use the graph paper to ensure that there are large areas of the habitat devoted to each of the three requirements. Discuss the concepts of proportion and area more directly if you would like to connect with math topics.

Once they have completed the drafting process, groups should then construct their habitat models using the provided materials. As the models dry, students should complete the Habitat Registration Form to make sure their habitat meets the requirements and their animal will be able to survive there.

Wrap-up:

Tour all of the habitats and have each group present their animal, where it gets its food, where it gets water, and where it takes shelter within the habitat. Discuss similarities and differences between habitats and animal requirements. Ask students what might happen to the animals if a habitat changed. (It might be harder for some animals to survive but easier for others in a changing habitat). If possible, go outside to observe habitats near the school and decide what animals might be able to survive in nearby habitats.

Have students create a poem, story, or explanatory caption about each habitat and display it alongside their habitat model in a visible area.

Evaluation:

Use the Habitat Model Rubric to evaluate the student habitat models and group work.

Habitat Registration Form

Before your habitat (home site) can be approved by the Housing Commission, you must answer the following questions. Please return to your habitat site and fill out this application. Thank you.

1. Your animal name _____

2. Location of your home site _____

3. Materials needed for construction or repair of your home:

4. How are you protected from weather, wind, rain, snow, etc.?

5. Where do you get your food?

6. Where do you store your food?

7. Where is your water supply? How far is it from your home?

8. What do you do with your waste?

9. Would your children be safe in your home if you left them alone?

10. How do you improve your community?

Habitat Model

Teacher Name: _____

Student Name: _____

CATEGORY	4	3	2	1
Group Work	The group functioned exceptionally well. All members listened to, shared with, provided feedback, and supported the efforts of others. The group (all members) was almost always on task!	The group functioned pretty well. Most members listened to, shared with, provided feedback, and supported the efforts of others. The group (all members) was almost always on task!	The group functioned fairly well but was dominated by one or two members. The group (all members) was almost always on task!	Some members of the group were often off task AND/OR were overtly disrespectful to others in the group AND/OR were typically disregarded by other group members.
Habitat Design	Students create a habitat that adequately addresses all 3 of the habitat requirements of the animal.	Students create a habitat that attempts to address all 3 of the habitat requirements of the animal, but one need is not adequately addressed.	Students create a design that adequately addresses 2 habitat requirements of the animal.	The habitat does not adequately address the habitat requirements animal.

Habitat Construction	Habitat model is sturdy, easy to understand, and visually appealing.	Habitat model is easy to understand and visually appealing, but is not sturdy.	Habitat model is easy to understand, but flimsy and unappealing.	Habitat model is not easy to understand.
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Habitat Model Standards

Science As Inquiry and Process: Students develop an understanding of the processes and applications of scientific inquiry.

SA3

Students develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and that local applications provide opportunity for understanding scientific concepts and global issues.

The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by:

[4, 5] SA3.1 identifying the local limiting factors (e.g., weather, human influence, species interactions) that determine which plants and/or animals survive

Concepts of Life Science: Students develop an understanding of the concepts, models, theories, facts, evidence, systems, and processes of life science.

SC1

Students develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.

The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution by:

[4] SC1.1 showing the relationship between physical characteristics of Alaskan organisms and the environment in which they live

SC2

Students develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.

The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by:

[4] SC2.2 describing the basic characteristics and requirements of living things

Concepts of Earth Science: Students develop an understanding of the concepts, processes, theories, models, evidence, and systems of earth and space sciences.

SD2

Students develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.

The student demonstrates an understanding of the forces that shape Earth by:

[3] SD2.1 identifying and comparing a variety of Earth's land features (i.e., rivers, deltas, lakes, glaciers, mountains, valleys, and islands)