



Lesson 1: Butterfly Habitat

Key Concepts:

- An organism's habitat contains the things it needs to survive.
- Organisms interact with a variety of other organisms in their habitats. These interactions may benefit or harm them.

Skills:

- Brainstorming
- Observation
- Recording observations
- Drawing

Materials:

- Field notebooks or paper on a clipboard
- Field guides (plants, weeds, insects, butterflies)
- *Butterfly Habitat Field Trip* (student handout)

Objective

In this lesson, students will discuss habitat needs and survey a butterfly habitat and surrounding area for species interactions. They will observe many kinds of interactions between the different kinds of organisms that live in a habitat, learning that an intricate web of relationships exists in the natural world.

Background

A habitat is a place in which individuals of a particular species can usually be found. An organism's habitat contains the things that the organism needs to survive and reproduce (such as food, water, shelter, and other individuals of its species). It is important to think about *what happens* in the habitat and the kinds of interactions that take place between species. A specific example of an interaction that you might observe in a monarch habitat is a bee pollinating a flower. Both parties are affected by this interaction; the bee gains pollen or nectar for food, and the flower may benefit if the bee carries pollen to or from it.

If possible, follow this lesson with lessons 2, 3, and 4, *Interspecific Interactions*, *Make a Plant Field Guide*, and *Make a Butterfly and Moth Field Guide*, in which students explore host plants of monarchs and other Lepidoptera.

Procedure

Part 1: Discussion

1. Discuss the concept of habitat with your students. Be sure that this discussion includes the concept of a space where all of the things that an organism needs (food, water, shelter, others of its kind) are available.
2. Have students describe the habitat needs for two animals from contrasting habitats. For example, they might choose bears and frogs, and come up with the following lists:

Bears:

- *Food: berries & fruit, nuts, plants, insects, garbage*
- *Water: stream, lake, river*
- *Shelter: dense vegetation, wooded areas, dens*
- *Other bears: usually solitary, except for females with cubs and adults during the mating season*

- *Need large territories*
- *Can't live in a city with many people around*

Frogs:

- *Food: tadpoles eat algae, adults eat insects*
 - *Water: need moisture for skin and standing water for egg-laying and tadpole development. The water must be unpolluted.*
 - *Shelter: ponds, vegetation for camouflage*
 - *Other frogs: adults are solitary except during mating season, tadpoles are usually in groups*
 - *Don't need large territories*
3. Have students describe the habitat needs of monarchs. You may wish to discuss the different summer and winter habitat needs of the monarch.
- *Food: larvae eat milkweed, adults eat nectar from flowers*
 - *Water: from plant source, adults sometimes drink dew or water from streams*
 - *Shelter: larvae seek hidden locations to pupate, adults seek shelter at night and from rain*
 - *Other monarchs: solitary in summer except for mating, over-winter in large groups*
 - *Can't survive in an area with lots of pesticide use*



Part 2: Field Trip

1. Visit a nearby butterfly habitat (e.g. butterfly garden, schoolyard, roadside area with milkweed, prairie) and conduct a survey. To make the most of the time outside, this survey can serve for two lessons: this lesson, along with lesson 2 in which students explore species interactions, and lesson 3, in which they develop a plant field guide. Bring field guides along for help with identification.
2. Give students the *Butterfly Habitat Field Trip* handout, and have them fill it in during a survey of the area.

Butterfly Habitat Field Trip

Name _____

1. List at least five different kinds of living organisms that you observe in this habitat. If you aren't sure what they are, try to learn their names by using a field guide. It is also OK if you just describe the organism (like a small yellow butterfly or a plant with long thin leaves and purple flowers in clumps).

- 1.
- 2.
- 3.
- 4.
- 5.

2. Observe 4 interactions between 2 different living organisms. For example, you might see a bird using a tree as a perch, or a bird eating an insect, or a bee getting nectar or pollen from a flower. Describe the interactions that you observe below.

- 1.
- 2.
- 3.
- 4.

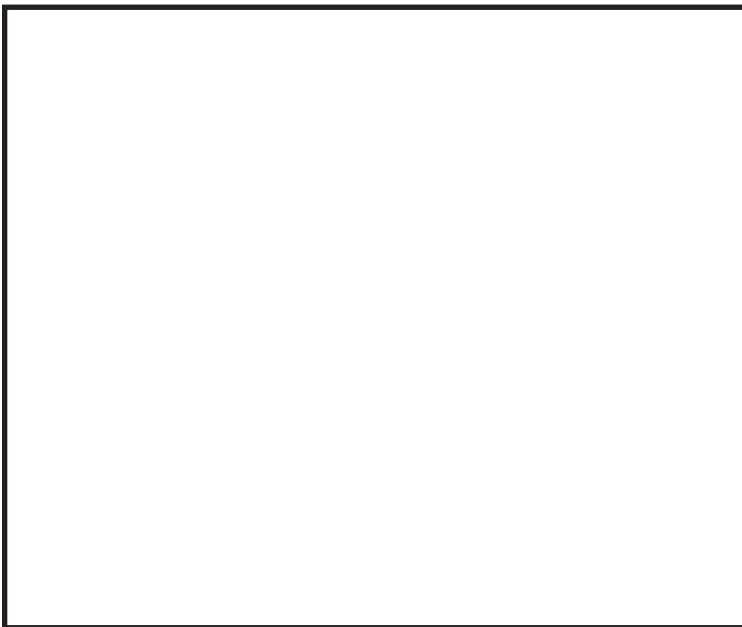
3. Choose one or two plant species in this habitat. Carefully draw pictures of them below, filling the entire spaces. Label colors on the plant so that you will be able to draw a color picture later. Describe how tall it is and other important features. If you observe any insects or other organisms on the plant, make note of this.



Colors _____

Size _____

Features _____



Colors _____

Size _____

Features _____