



University of Kentucky Department of Entomology Insects in the Classroom - Lesson Plan **Web of Insects**

For Intermediate Grades (K-5)
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Activity Description

Objective: Students use yarn to demonstrate the importance of insects in food webs.

Age Group: Grades K-5

Time: 15 min - 1 hr to make "name cards," 15 minutes to conduct activity

Materials needed: ball of yarn, index cards, crayons/markers, string, and access to the Internet or animal and plant field guides

Academic Expectations

The above objectives fall under KERA's Science Academic Expectations:

2.2 Identify and analyze systems and the ways their components work together or affect each other.

Program of Studies

S-4-LS-9 Organisms change the environment. These changes may be detrimental or beneficial.

Core Content

SC-E-3.3.3 All organisms, including humans, cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms; other changes are beneficial.

Insects A-Z

Insects are everywhere. We see them everywhere we go, indoors and out. However, many students do not realize how important insects are to plants and other animals, including humans. In this exercise, adapted from the classic "web of life" activity, students will act as insects and other parts of the environment to show what happens to the environment when the insects are removed. This simple exercise can work as a great engagement activity for a unit or lesson on food webs and the environment.

Essential question for this activity: "Why are insects important to food webs?"

Name Cards

For this activity, each student in the class needs to act as either an insect or some other part of the environment, and each needs to make a corresponding name card (using an index card). They can also draw pictures of the animals or plants on their card using pictures from the internet and field guides, if you have enough class time. When they are finished with their cards, attach strings so that the students can wear their cards around their necks.

To get a list of names for the food web, try to think of several "couples", each with an insect and another organism that depends on that insect. You should also

add further links: think of what would happen 2 “levels” up in the food web when an insect is removed from the web – this is where humans are often affected. Here are several examples that you can use:

Termite and **Oak Tree** and **Human**: termites feed on dead trees in the forest, returning the nutrients to the soil for future oak trees. Humans need oak trees for wood.

Bee and **Badger**: bees make honey, which badgers feed on. Badgers also eat bee larvae

Butterfly and **Apple Flower** and **Human**: most of the colorful flowers in the world, including flowers on apple trees, depend on butterflies and other insect pollinators (bees and flies are also important pollinators). Humans feed on apples and other fruits, none of which would be able to form without pollination.

Mayfly Nymph and **Fish** and **Human**: many fish species feed on aquatic insects, including mayfly nymphs. Humans feed on fish.

Moth and **Bat**: most bat species specialize on night-flying insect prey, such as moths

Flycatcher and **Fly**: birds such as flycatchers depend on insects as their primary food source

Activity

With their name cards on, have the students stand in a circle that represents “the environment.” Around the circle, alternate the “insects” with the other organisms. Start the yarn with one of the “insects” and have that student throw the yarn to the animal or plant that depends on that insect, keeping hold of the end of the yarn. Then that student will throw the yarn either to another insect, or to a “human,” if humans depend on that animal. Then the human will throw the yarn to the next insect.

For instance, your ball of yarn may start with “mayfly nymph.” That student throws the ball to “fish,” keeping hold of the end of the yarn. “Fish” throws to “human.” “Human” throws to “moth” who throws the yarn to “bat”. “Bat” throws the yarn to “butterfly” who throws to “apple flower,” on to “human” again. Eventually, every student should be holding the yarn and a web should form within the circle.

During this activity, you should tell each “insect” who to throw the yarn to next, but have the students try and figure out *why* each organism depends on each insect before they throw the yarn again.

When the web is complete, ask the students what they think would happen if all of the insects in the world disappeared. Then tell all of the “insects” to drop their yarn at the same time. All of the other organisms that depend on insects should drop their yarn next, leaving the “human” with no links!