

**Ellen Alderton**

**Lesson Plan: The Pond Food Web**

**Discipline:** Environmental Education

**Grade Level:** 2.0

**Class Size:** At least seven students.

**Objectives:**

- To complete a sorting exercise in order to write a list of pond-dwellers.
- To watch a video of a pond and write the plants and animals featured in the video.
- To use the body to represent a member of the pond food web.
- To create and manipulate, as a class, a pond food web using twine.
- To describe in writing and drawing how it feels to be part of a pond food web.

**Lesson Time:**

50 minutes

**Materials:**

- Hand-outs of Appendix A: Who lives at the pond? (Sorting Exercise)
- Video of a pond. <https://www.youtube.com/watch?v=uHdZb0LJZNQ>
- Overhead projection of Appendix A: Who lives at the pond?
- Whiteboard and projector.
- Paper slips with pond creatures and their diets and predators: one for each child. If the class has more children than cards, create extra algae and other plant cards. If the class has fewer than 13 students, the following cards may be discarded: dragonfly, trout, water lily, tree, grass, insect, minnow, tadpole. (Paper slips of pond creatures are included in Appendix B).
- Large ball of twine.
- Word wall.

**Activating Prior Knowledge:**

(12 minutes)

Divide students into pairs and hand out the sorting exercise (Appendix A). Circulate among the students and help those pairs who are more challenged by the exercise. Help students to spell the words correctly.

Once students have completed the exercise, project page 1 of Appendix A on the whiteboard. Ask children which creatures live in or near the pond and circle correct answers until all of the

correct answers have been identified. Go over any new vocabulary words such as algae, minnow, trout and reed.

### **Guided Practice Part 1: Video**

(10 minutes)

Tell students they will watch a short video of a pond. As they watch the video, they should write down the names of the plants and animals they see or hear at the pond. Tell them to write down as many plants and animals as they can.

Once the video is complete, ask students what plants and animals they noticed, and write the answers on the board:

The following plants and animals are featured in the video (in this order): grass, reeds, trees, birds, tadpoles, frog, dragonfly, water insects, water lilies, turtles.

If any animals or plants are missing, include them in the list on the board. Re-emphasize any new vocabulary words, such as reed, minnow, trout or algae.

Have the students read the list of pond denizens on the board chorally.

### **Closure: Food Web Game**

(15 minutes)

Tell students that they are going to play the parts of the different plants and animals that live at the pond. Hand out the paper slips with pond denizen names on them (Appendix B), and make sure that every student understands what his/her slip says. Bring the students to the center of the room and tell them that, in a real pond, the different members of the pond eat each other. They are now going to pretend to eat each other, and they are going to make a “food web.”

Have the students stand in a circle, with all the plants standing in the middle. Give all of the students a few moments to pretend to be their pond denizen. Encourage them to make gestures and noises.

The twine will now be used to create a food web. Give the plants the ball of twine, and have them wrap it around their hands. Build the food web by passing the twine along to the appropriate predators. For example:

1. Ask the class, what eats algae? Ducks, insects, minnows and tadpoles. Hand the twine to the duck and then back to the algae; to the insects and then back to the algae, etc.
2. Ask the class what eats insects? Minnows, trout, frogs. Hand the twine from the insect to the minnow then back again; hand the twine from the insect to the trout and then back again, etc.

Continue in this manner until the students have created a complex food web.

(Discussion)

Have the students pull the twine tight. Tell them they are now a balanced food web. Ask the students to describe the food web. The students should describe the web as complex and interconnected. Ask the students, which member of the food web don't eat anything? The answer is the plants. Explain to the students that plants, unlike animals, make their own food from the sun. Ask the students which animals eat plants? Which animals eat animals? Which animals eat both plants and animals? Have the different members of the food web raise their hands (and twine) as they answer questions.

Now tell the class that something bad has happened to the pond. A farmer has let the rain wash his weed-killer to the pond. It has killed all the plants. Have the plants "die" by dropping their twine. What happens to the rest of the food web when the plants die? (The twine goes slack, which means the rest of the food web has nothing to eat.) Have each member of the food web die dramatically as his/her twine goes slack.

### **Independent Practice**

(13 minutes)

Assign the students to write the answers to the following questions:

1. What member of the pond food web were you?
2. What did you eat? If you were a plant, where did you get your energy?
3. What members of the food web ate you?
4. How do you feel about the farmer's weed-killer killed the pond? Draw a picture of how you feel about the pond food web dying.

(Add new words to the word wall.)

### **Assessment**

Collect the writing samples. Check answers to questions 1 to 3 for accuracy and an understanding of how a food web works. Check for proper spelling. Review the answers to question 4 and note whether each student expressed his/her feelings. Note whether the affect expressed in words matches the affect expressed in the drawing.

(Appendix A) **Who lives at the pond?**

dragonfly		trout	water lily
reed	lightbulb	oven	nail
chalkboard		tree	grass
alligator	fireplace	gasoline	hammer
dishwasher	tadpole		frog
duck	bathtub	turtle	ladder
automobile	algae	insect	minnow

Lives at the pond

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**Appendix B: What eats what? Hand-outs for the pond food web game.**

algae – eaten by ducks, insects, minnows, tadpoles.

alligator – eats frogs, ducks, trout, turtles.

dragonfly – eaten by frogs, ducks, turtles, trout; eats insects and minnows.

duck – eats algae, reeds, frogs, grass, minnows, tadpoles. Is eaten by alligator.

frog – eats insects, dragonflies.

grass – is eaten by ducks, insects.

insect – eats grass, algae, water lilies, trees, reeds. Is eaten ducks, minnows, frogs.

minnow – is eaten by ducks, trout. Eats algae, insects.

reed – is eaten by ducks, insects.

tadpole – eats algae. Is eaten by minnows, trout, ducks, turtles.

tree – is eaten by insects.

trout – eats minnows, insects, dragonflies. Is eaten by alligator.

turtle – eats minnows, tadpoles, frogs, grass, water lilies. Is eaten by alligator.

water lily – is eaten by insects, turtle.