BEFORE YOU VISIT THE GARDEN…

Lesson Ideas for **Grade 4**

Activity #1: What do you eat?

Lesson Objective:
Students will understand the importance of plants and animals in an ecosystem or food web.
Students will be able to describe the living and nonliving components of an ecosystem necessary for survival.

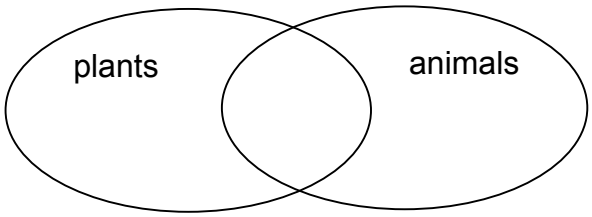
Materials:
Chart paper or blackboard

Background:
Koi fish are **omnivorous** and will eat almost anything. In the wild, Koi are bottom feeders, also referred to as benthic feeders, which means that they suck insects, larvae, algae and plant waste from the bottom of the pond. At the Japanese garden, students will have the opportunity to feed the koi formulated pellets, and can observe while they literally suck the pellets into their mouths from the top of the pond.

Procedure:
1. Ask students what we need in order to survive. As they give appropriate suggestions, write the words "food," "water," "shelter," and "space" on the board or chart paper. Try to keep these key terms on display in the classroom throughout the lessons.

2. Explain to students that today you are going to focus on one of these elements: food. However, all of these things are important for survival.

3. Draw a large Venn diagram on the board or on chart paper. In one circle, write "plants," and in the other write "animals."



4. Ask students if they eat plants, then have them generate examples of the kinds of plants they eat. Ask them if they eat animals and again have them generate examples. Explain to students that animals like humans who eat both plants and animals are called **omnivores**. Write this heading above the

center of the diagram and have a student write *humans* inside the overlapping circles. Explain that the **koi fish** they will be observing at the Japanese Garden are also omnivores and eat both plants and animals. Write *koi* next to *humans*. Have students think of other omnivores and write them in the diagram. (Examples include raccoons, skunks, and bears)

5. Next, ask students what kind of animal is left to enter into the diagram. Write **herbivore** above the remaining circle. Explain that herbivores are animals who eat only plants. Have students think of herbivorous animals and write them in the diagram. (Examples include mice, deer and rabbits)

6. Finally, ask students if they know the term for animals who only eat other animals. Write **carnivore** above one of the Venn circles. Have students think of carnivorous animals and write their names in the diagram. (Examples include: bobcats, mountain lions (and even domestic cats), coyotes and foxes)

7. Have students observe the interconnectedness of the Venn Diagram. Ask students what would happen to all of the animals listed on the board, the herbivores, omnivores and carnivores, if there were no plants to eat. What would happen to the herbivores? [Have a student erase all of the animals that eat plants; this includes the herbivores and the omnivores.] Ask students what will happen to the carnivores if there are no plant-eating animals. [Because they feed off herbivores, they would run out of food and die as well…]

8. Remind students that plants actually make their own food using sunlight and gases from the air. For this reason, we sometimes call plants **producers**.