

**PRE-VISIT**

# FOODOLOGY

## PIZZA PLANT?

Ask students to write down all the foods they ate for lunch.

- Take a closer look at where some of their favorite foods come from.
- Ask the students, "Where do the different components come from for a slice of pepperoni pizza? For example, what is the crust made of? Where does the dough come from? The objective is to trace each item all the way back to plants and animals.

### Pepperoni Pizza example:

- Crust → dough → flour → plants
  - Tomato sauce → tomatoes → plants
  - Cheese → milk → cow (A cow must eat plants to have the energy needed to produce milk.)
  - Pepperoni → pig (A pig must eat some plant products in order to grow.)
- Tell the students to focus on plants. Plants need food, air, and water just as our bodies do!



## TALK ABOUT IT!

Why is eating fruits & vegetables important to a healthy diet?

## CREATE!

Ask students to collect garden materials or use paper to create their own "plant creatures" incorporating the six different plant parts.



## WHERE DID THEY COME FROM?

- Research common foods like apples, corn, tomatoes, watermelon, etc. to learn more about their origins.
- Place seeds, pictures of food or real food on a map to reflect where it originated.
- Discuss potential ways of how the seeds, plants, flowers or fruits made it to our grocery stores.

## PLANTS AT WORK!

Watch different parts of the plant at work with either or both of the following activities to demonstrate the vascular system of the plant stem.

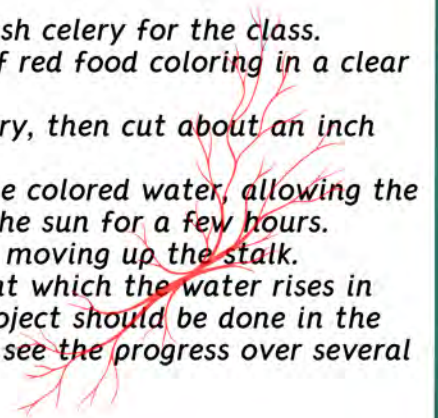


### Activity #1: PEA PODS

- Bring in fresh pea pods for the class.
- Remove the peas from each of the pods.
- Line the inside of a clear cup with a wet paper towel. The paper towel should cover the inside of the cup from the bottom almost all the way to the top.
- Carefully place two or three peas between the paper towel and the side of the cup about halfway up the side of the cup. Make sure that the peas are spaced about one inch apart.
- Place the cup in a sunny place and watch the root systems start to grow.
- Check daily and add a small amount of water to the cup as soon as the paper towel starts to dry out.

### Activity #1: CELERY

- Bring in one bunch of fresh celery for the class.
- Place five to ten drops of red food coloring in a clear cup full of water.
- Remove one stalk of celery, then cut about an inch off the bottom.
- Place the cut end into the colored water, allowing the cup and celery to sit in the sun for a few hours. Watch the colored water moving up the stalk.
- Chart and plot the rate at which the water rises in the stalk. Ideally, this project should be done in the morning so students can see the progress over several hours.



MISSOURI BOTANICAL GARDEN

# FOODOLOGY

## MEET THE THREE SISTERS

- CORN, BEANS, and SQUASH are the three key crops of many Native American tribes throughout the U.S.
- Read or watch the story: The Legend of the Three Sisters.
- Students can act out the legend while the teacher or other students read the story out loud.
- Learn about growing the "three sisters".
- Read seed packets to find out about basic soil, sun and water requirements.
- Conduct online research to learn about the best bean, corn, and squash varieties as well as how beans and other legumes help the soil.
- Try growing bean or squash seeds indoors.
- Have each student plant a seed to grow in the classroom and chart the growth.

## FLOWER DISSECTION

- Gather or purchase fresh flowers for the class.
- Ask students to examine a flower, looking for the different flower parts.
- Guide students through dissecting the flower(s).

### TALK ABOUT IT!

- Flowers are the reproductive organs of plants.
- They come in many different shapes, sizes, colors, and of even smells!
- After fertilization, part of the flower develops into a fruit containing seeds.
- Seeds are the next generation of plants – little embryos in a state of suspended development.
- Fertilization occurs when pollen is transported from the male part of the flower (stamen) to the female part (pistil).
- Pollen is transported either by wind, water, or by pollinators.
- The most well-known pollinators are butterflies, birds, bees, and bats!

## Garden Writing

After leaving the Missouri Botanical Garden, ask students to select a garden plant that was of interest to them and begin learning more about it.

- Allow the students time to research their plant of choice.
- Ask them to write an informal piece describing how to grow this plant and if acceptable, how to prepare this plant or part of the plant for eating.
- Invite students to create large illustrations to allow for more detail.

\*Educator may need to prepare a list plants found at the Garden and find online or text resources for students prior to the assignment.