



Garden Journey Video #307

Developed for Grades: 2nd - 5th

The WOW videos have been developed to inspire students to learn more about **NGSS Life Science and/or Earth Science Disciplinary Core Ideas**. These could include:

- Plants and animals (including humans) can change their environment.
- Living things need water, air, and resources from the land.
- Humans use natural resources for everything they do.
- All organisms have internal and external structures that serve various functions in growth, survival, behavior and reproduction.
- Importance of ecosystems and habitats
- Cross cutting concepts like patterns, cause and effect, etc.

The WOW videos and their support documents can also be used with **English Language Arts**. Here are some ideas:

1. Select a few questions from the Know-It-All section and have students write their answers.
2. Have students write a story related to the topic. They could even add illustrations. For some grades students could read their stories and/or video tape their readings to share.
3. Students could write a poem, a play, or a song based on something in the video that created an emotional response for them.
4. Key words in the video can be used in creative writing assignments.
5. Older students could explore the difference in learning from video as opposed to a book. What are the advantages and disadvantages?



Answer Key for Know-It-All

1. What are the 6 plant parts? What does each part do to help the plant

- Roots - the first plant part to grow. This part helps the plant access nutrients and water from the soil.
- Stems - this plant part helps hold the plant up straight. The water and sugars are transported to different parts of the plant through "inner pipelines" called the Xylem and Phloem.
- Leaves - this is the part of the plant where photosynthesis is happening - the process that plants use to take the energy from sunlight and use it to convert carbon dioxide and water into food.
- Flowers - this plant part is extremely helpful for reproduction. The flower attracts pollinators so they can help spread the pollen and create new life for the plant by spreading genetic material (pollen) to other flowers.
- Fruit - this plant part attracts animals to eat it and spread the seeds to other locations. The fruit is the fleshy outside that protects the seeds within.
- Seeds - this is the baby plant, like an egg, that will be planted and out will grow a new plant.

2. Give examples of how Nicole used her five senses in the garden. How do you use your five senses to explore the world outside?

- Nicole used her 5 senses as follows:
 1. Smell - Nicole smelled the lavender plant, but I bet she also smelt the compost when she walked by it.
 2. Touch - Nicole touched the Lamb's Ear, Lavender, Calendula, Sorrel, Beets, water in the sink, and soil.
 3. Sight - There is so much to see in the garden! Answers may vary, but anything visible in the video could be a viable answer.
 4. Hearing - Nicole heard the tractor going by and also heard a crow, a hummingbird and other birds in the garden.
 5. Tasting - Nicole tried the Calendula that tasted like sunshine, the Sorrel that tasted sour, and the Beet that was sweet and crunchy.

3. What do plants need to survive?

- Plants need water, soil, sunlight, nutrients, and space to grow!

Answer Key for Know-It-All continued on Page 2



Answer Key for Know-It-All Continued

4. **Not all of the plants in the garden are used to feed people. What other purposes do plants have?**
 - Not all plants feed people. Plants can also be used as medicine, for their beauty or pretty smells, in tea, as food for other animals (like birds), or even as homes for animals.
5. **The garden is all about cycles. At the end of the video Nicole gave some finished compost (with its many nutrients) back to the garden. Explain this cycle and which organisms are working on breaking down left over food and other plant waste.**
 - A planted seed grows out of the soil, obtaining nutrients and water from the soil through its roots and the sugars it needs by the process of photosynthesis and harnessing the sun's energy to store later as "food". When we eat part of a plant and put the remainder in the compost, we are allowing decomposers to break down the leftover nutrients in those unwanted plant parts, creating nutrient-rich soil. We can mix the finished compost into the soil to return those much-needed nutrients back into the ground for new plants to benefit from. This is extremely important on an organic farm because we do not add any artificial fertilizers to the soil. The organisms that are helping break down the compost are part of the FBI - Fungus, Bacteria, and Invertebrates (like worms).
6. **We often talk about how our surrounding wilderness helps the garden grow. Can you think of a few ways that our wild neighbors can help support the garden? For example, bees and butterflies help to pollinate the flowers in the garden so we can enjoy the fruit in the fall. How might a bird help our garden? What about a lizard?**
 - Birds, lizards, bobcats, hawks, and gopher snakes (to name a few) can help the garden by eating pests. Some of these animals (like birds) might also eat part of the plants in the garden that we want, but we are willing to share in exchange for their help with pest control. Birds and lizards might eat the bugs that want to eat the plants. Hawks and gopher snakes might eat the rodents that are eating plants in the garden!

