

# Passports



## ***Science in Your Backyard: Spring!***

### **Description of our Tour:**

Winter, spring, summer, and fall! What is happening in your backyard as the seasons change? Scientist, Maria Interlandi, explains to classes the types of science that is happening in trees and earth and animals as each month passes. This month the focus will of course be on spring! The earth is waking up to a new year and your class will wake up to new ideas!

### **Information for Trip Leader:**

#### **Lesson Outcomes:**

The student will be introduced to the following concepts:

- The changes that occur in nature during spring
- The structure of plants
- What plants need to survive



#### **Activities:**

##### ***Activity # 1: Spring Worksheet***

This worksheet asks questions about spring, the parts of a plant, and what plants need to survive. It can be used before participating in the live session to get the students thinking about spring, or after the live session to see how much the students remember. The worksheet is located at the end of this resource guide.

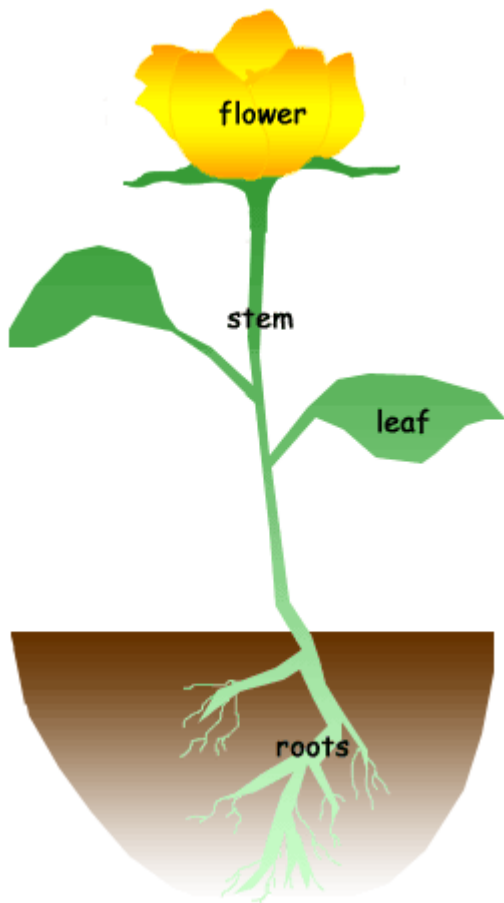
##### ***Activity # 2: A Stem Experiment***

Using a stalk of celery and colored water, students will see that the stem of a plant carries water to the leaves of a plant. The guide for this experiment is located at the end of this resource guide.

##### ***Activity # 3: Water and Light Experiment***

Using germinated seeds, your students can test the effect of water and light on the growth of a plant. The guide for this experiment is located at the end of this resource guide.

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## Challenge Questions:

1. *How does the ground look different in spring compared to winter?*
2. *Why plant parts do you know the names of?*
3. *How do plants help people?*
4. *How do bees help plants?*

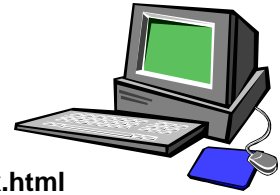
## Responses:

1. Students should mention that in spring the ground has green grass and flowers or plants while in the winter the grass is yellow/brown and there are few or no flowering plants.
2. Students may mention flowers, stems, leaves and roots.
3. They release oxygen which people need for survival. They also absorb carbon dioxide that helps to clean the air.
4. Bees help to pollinate plants so they can reproduce.

## Vocabulary Words:

1. **Stem** - Part of a plant that supports other parts, such as leaves, flowers, buds; part of a plant that carries water and nutrients from the ground to other plant parts.
2. **Root** - Underground part of a plant that serves to anchor the plant in place; also delivers water and nutrients from the ground to the stem.
3. **Leaf** - Lateral outgrowth from the stem whose primary function is food manufacturing.
4. **Bud** - An incompletely opened flower.
5. **Flower** - Part of a plant that is usually colorful and protrudes from the stem; serves in reproduction.

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## Web Resources:

<http://school.discovery.com/lessonplans/programs/tlc-butterflies/index.html>  
This site has activities on pollination for older elementary students.

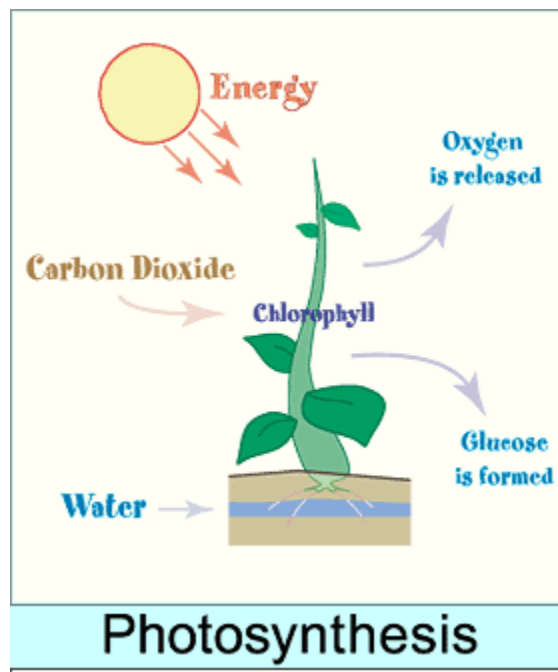
<http://teachers.net/lessons/posts/374.html>  
This site provides information on how to plan a spring activity day for students.

<http://www.abcteach.com/wordpuzzles/Crosswords/springcrossword.htm>  
This is a link to a spring crossword puzzle.

<http://www.coloring.ws/spring1.htm>  
This site has spring coloring pages appropriate for early elementary students

## Writing Prompts:

- I like spring because...
- How is spring different from winter?
- When I see flowers blooming in spring I feel...
- I think flowers are...
- I think plants grow in the spring because...
- Why are bees important for plants?



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## Spring Worksheet

**Directions:** Answer the following questions.

What is the first day of spring?

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How is the weather different in spring compared to the summer?

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Are there more hours of sunlight in the spring or winter?

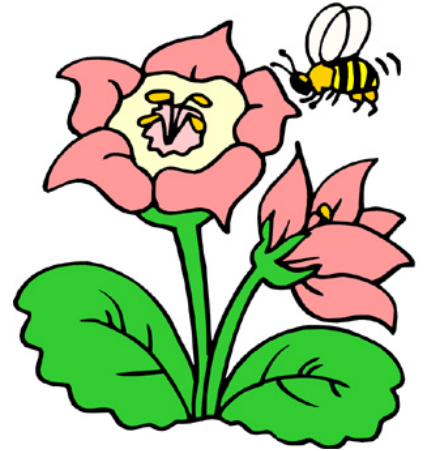
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How does sunlight affect the growth of a plant?

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What is your favorite thing about spring?

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*The following activities you can perform with your students to prepare them for the on-line live session, "In Your Backyard: Spring!"*

## A Stem Experiment

### Materials:

- Food coloring
- A stalk of celery
- Glass with several inches of water

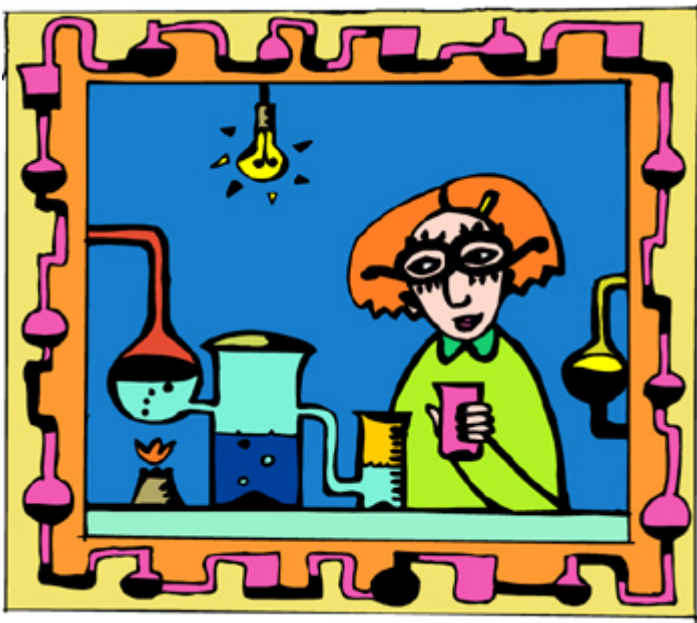


### Procedure:

Cut the stalk of the celery at an angle at the base; do not cut the leaves off. Place the celery stalk in a glass with several inches of water colored with food coloring. Ask students to predict what will happen to the celery stalk. The color from the water will start to rise up the stalk in about 1-2 hours.

### Close:

When all the students agree that the water is going up the stem have the students write descriptions of what happened. Have the students draw pictures of plants that label the roots, stems and leaves. Explain that stems carry water and minerals up from the roots in the soil to the leaves at the top of a plant.



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## Water and Light Experiment

Here are some ideas of experiments you can perform using germinated seeds.

**Note:** No matter where the seeds have germinated you may replant them after the seedlings are four or five inches tall by slowly and delicately rinsing most of the dirt off.

- After you have started a number of seedlings you can start assigning them to different conditions. Label one group "A" and the other group "B". Put "A" in a sunny place and put "B" in a darker place. Always water "A" and "B" the same amount. Have the students write predictions about what will happen. Later, have the students describe and record in writing what happened to the plants.
- Label one group "X" and the other group "Y". Water "X" everyday and never water "Y". Keep both groups in the exact same place. Compare both germination and seedling survival in this way. Model for the students how to record each step in their journals. Write predictions and see the results! Where has the water gone when "X" is dry?
- Keep a plant or vine near a window. Mark one side of the pot "M" and the other side "O". Face the side marked "M" to the window. Show students that many plants will lean toward a window over the course of a few days if they are not receiving enough light.

