



## PRE-TRIP LESSON: THROUGH THE SEASONS

**Overview:** Students investigate seasonal effects on a tree in the neighborhood by creating a season wheel, and make predictions about what they will encounter on the farm.

**Sauvie Island Center Field Trip Connections:** Seed to Harvest, Plant Parts, Soil

### Objectives

**Students will be able to:**

- Identify changes in plants as they grow through seasons and through life cycles
- Make and defend predictions about what conditions they will encounter during their farm visit, including what life cycle plants are likely to be in and what vegetables they might see and taste.

**NGSS Essential Questions:**

- *How do organisms grow and develop?*
- *How do the structures of organisms enable life's functions?*

**Grades:** K-3

**Time:** 45 minutes to 1 hour

**Location:** In classroom and outside of school

**Materials:**

- Paper plates (or large paper circles) - 2 per student
- Brads - 1 per student
- Scissors
- Markers, crayons, or colored pencils



Lesson Outline:

1. In the classroom, ask students to list the four seasons, and write them on the board. What season are we in right now? Discuss what weather we associate with each season. How do our activities change in each season? What kinds of changes do we notice in plants in each season?

# PRE-TRIP LESSON: THROUGH THE SEASONS CONT.

## Lesson Outline cont:

2. Create the season wheel: Pass out 2 paper plates to each student. On one plate, students should divide the plate into four quadrants and write “Winter,” “Spring,” “Summer,” and “Fall” at the outside edge of each quadrant. On the other plate, students should cut out one quadrant of the plate, being sure to leave space in the center. On the remaining part of the plate they can write “My Tree through the Seasons. Then students can poke the brad through the middle of both plates to create a season wheel. (see diagram at bottom) Ask, why do you think we have the seasons organized in a circle?

3. Go outside. Instruct each student to choose a tree. In the appropriate quadrant of their season wheel, draw what their tree looks like that day. Then, have them make predictions about how their trees will look in each other seasons, and why. When will the tree be bare, grow buds, grow new leaves, lose their leaves? If students choose an evergreen tree, when will the tree grow new needles or produce cones? Students can also think about how animal life in the tree might change through the seasons. Students should use their predictions to draw a picture of the tree in each season in the appropriate quadrant of the wheel.

4. Return to the classroom (or better yet, continue the discussion outside if weather permits). Allow students to share their wheels, and discuss the changes they predicted. How are these changes related to the plant’s life cycle? What time of year does the tree reproduce and make seeds? What time of year do new baby trees grow?

5. Explain that during the field trip to the Sauvie Island Center, students will see many different kinds of plants growing on the farm, Sauvie Island Organics. Just like trees, the crops are strongly impacted by the season. However, while trees are perennial, meaning they continue growing from year to year, most of the vegetables grown on the farm are annual, and go through their whole life cycle in less than one year. Discuss how a season wheel might look for an annual plant that grows on the farm, like pumpkins or tomatoes. How is it different from the season wheel for the tree?

6. What season will it be during the field trip? What will the weather be like? Explain that just like a tree changes through the seasons, the farm undergoes a drastic transformation from season to season. In this season, what life cycle stages are we likely to see on the farm? Write suggestions on the board.

- Spring: seeds and sprouts beginning to grow, perennial plants growing flowers
- Summer: many mature plants reproducing and growing fruits, and seeds
- Fall: mature reproducing plants and some plants dying

7. Discuss how different plants are grown at different times of year on the farm. What are some crops do you think we might see growing in this season? Encourage students to think about what they’ve seen growing in gardens, or what foods they often find in the grocery store in each season. Write suggestions on the board, or have students write or draw them on the back of their season wheel with the appropriate season. Here are some crops students are likely to see in each season:

- Spring: lettuce, kale, and other greens, fennel, peas, beans
- Summer: Tomatoes, zucchini, greens, peppers, onions, cucumber, carrots, kale
- Fall: Winter squash, pumpkins, corn, potatoes, cabbage, beets, kale

# PRE-TRIP LESSON: THROUGH THE SEASONS CONT.

## Extension Opportunities:

- Return to the trees in other seasons. Bring along the season wheels to compare and see if predictions were correct.
  - Older students can track other changes through the seasons, like monitoring temperature, day length, sun and shadow direction, etc.
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## Disciplinary Core Ideas:

### Life Science 1.B: Growth and Development of Organisms *How do organisms grow and develop?*

- Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)
- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)

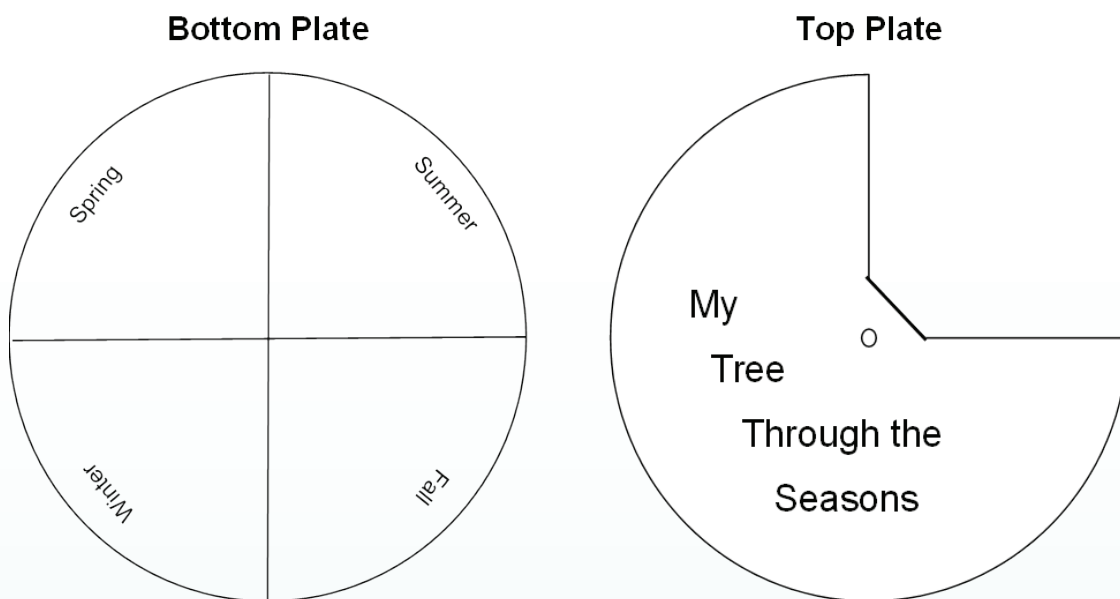
### Life Science 1.A: Structure and Function *How do the structures of organisms enable life's functions?*

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)

## Science and Engineering Practices:

- Engaging in Argument from Evidence

## Background Information Example of season wheel:



For more on what the farm may be harvesting in each season, check out the Sauvie Island Organics CSA page: <https://www.sauvieislandorganics.com/csa/projected-harvest/>

## References:

Inspiration for this lesson came from The Growing Classroom lesson "Me and the Seasons" (Jaffe and Appel, 2007) and Project Learning Tree lesson "Adopt a Tree" (American Forest Foundation, 2013)