



Vegetables and Rain Garden Plants

NGSS (Next Generation Science Standards (k-12 science content standards):

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
8. Obtaining, evaluating, and communicating information

Topic Keywords: Vegetables, Fruits, Native Plants, Rain Garden, Photosynthesis

Content Background: The students should have some understanding of soil and compost from previous lessons. Students should also be aware of pollution, stormwater, and how Paradise Parking Plots helps out marine life by preventing pollution. Students should also be aware of different marine life, where they are, and the history of the land they stand on.

Learning target: This is a combined lesson on plants with the rain gardens and garden plots we have.

K-1st: Students will be able to identify some vegetables, why we need plants in general, and what is needed for the plants to grow. *Note: the K-1st group was very advanced.

2nd-4th: Students will be able to identify some vegetables, why we need plants, and what is needed for the plants to grow.

5-8th: Students will be able to identify some vegetable and other plants, why we need plants, and what is needed for the plants to grow.

Activity Overview: Students will identify different vegetables, find out what plants need in order to grow, and that different regions grow different plants based on what is most available. They will also be able to identify Washington native plants using rain gardens that we have on site.

Presentation(s)/Print out(s) (Email for access): Used in this lesson plan: K-1st & 2nd-4th Presentations, Flashcards, Videos, Print outs, Resources, Native plant Flashcards.

Materials:

- All grades (real vegetables): Carrots, Peas, Lettuce, Spinach, Potato
(K-1st): Tape, monitor, flyswatter
(5th -8th): Hologram video of plants/plants growing, whiteboard, picture of the plant life cycle
(2nd-4th): Monitor for the videos, flashcards

VOCABULARY: Any vegetable or garden plant

Plants that are in the rain gardens for Paradise Parking Plots: Flowering red current, Nootka rose, Peafruited rose, Salmon berry, Snowberry, Red osier dogwood

Preparation: Have the monitors and presentations ready.

Activity:

Age Adjustments:

Inside:

K-1st:

1. Play a vegetable song or a plant identification video. (5 mins)

Ask students if they could identify the following plants (These plants will be real and bought from grocery store, any common grocery plant will do). Have students repeat the different plants to the teacher each time. (5-10 mins)

- a. Carrot

- b. Peas
 - c. Lettuce
 - d. Spinach
2. Native plant identification (10 mins)
 - a. Show the different rain garden native plants with flashcards and have students name the different plants.
 - b. Ask students the difference between rain garden plants and vegetable plants.
 - i. Answer: Both are edible (some rain garden plants are edible), but rain garden plants help pick up pollution and vegetables helps us create food to eat.
 3. Ask students "why do we need plants?" (2 mins)
 - a. Answer: We eat them! What else?
 4. What is needed for plants to grow? (2 mins)
 - a. Water and sun. Remember the water cycle?
 5. Play flyswatter game (10-15 mins) *we did not use this part of the lesson plan but it will be useful.
 - a. When instructor says the name of a plant, the students will flyswat the flashcard with the plant.
 - b. Make sure to tape the flashcards onto the table.
 6. Play a dance party song related to plants (5 mins)

2nd-4th:

1. Ask students what plants they know. What different plants and vegetables do they eat at home?
2. Go over the different types of fruits & vegetable presentation. Have students repeat the different fruits & vegetables.
3. Have each student hold a flashcard of a vegetable over their head and have the other students describe the item without saying it. This should be a fun game and see who gets their item first. (10 mins)
4. Ask students why we need plants? (5 mins).
 - a. Answer: We eat them! Yes...but what else? Answer: Insects need them! They give us air.
5. Ask students what is needed for plants to grow? (2 mins)
 - a. Answer: Water and sun.
 - b. Remember the water cycle? Have a student demonstrate what a water cycle does.
6. Bring out the U.S. map, ask students what grows here?
 - a. Show New Mexico (cactus state) vs Idaho (potato state) vs Washington (apple state) vs California (almond state)

- b. Mention the difference of water in each place.
7. Native plant identification. (Students don't need to memorize these, we can use when we are outside).
 - a. Show the different plants with flashcards
 - b. Mention that Washington plants need a lot of water.

5-8th:

1. Show students a diagram of the different categories of plants.
 - a. Root
 - b. Vegetable
 - c. Fruits
2. Ask students, what is the difference between root plants, garden plants, fruits, etc.
 - a. Show a PowerPoint or visuals showing the difference.
 - b. Allow students to guess what plants could be in each category.
3. What do plants need?
 - a. Let student guess.
 - b. Sun & Water.
 - c. Have them reiterate the water cycle!
 - d. Plants can also soak up pollution, refer to the rain garden plants. Like evaporations, plants can transpire, which means they can bring water through the plant and then into the air.
4. Play hologram of plants to spark interest / timelapse of plants growing.
 - a. Bring out a whiteboard, and have students guess what a plant life cycle may be.
 - b. Show a picture of the plant life cycle when there are no more ideas of what the cycle could be.
5. If there is time available go over the different rain garden plants.
 - a. Show the different plants with the flashcards

OUTSIDE:

- K-1st: Have students go to a garden plot and try to name the garden plants.
 - If they are doing really well, go into on-site native plant identification
 - Ask the students if they can identify the plant. Go around the garden and see how many plants they can identify and locate.
- 2-4th: Students go to a garden plot and identify what plants are in that garden plot.
 - If they are doing well, go into on-site native plant identification

- Ask the students if they can identify the plant
- 5-8th: Have students go to a garden plot and identify what each type of plant is – Root, Veggie or Fruit
 - Rain Garden plants
 - Identify rain garden plants
 - Compare rain garden plants vs garden plants
 - Rain garden: Water loving
 - Garden plants: We eat them!
 - Eating plants – Pulling them off the stem

Supplementary Activities/ Lesson extensions:

- Go to the rain garden for the native plants and show students the plants they know from the native plant I.D. flashcards.
 - Tip: Based on the summer season, the plants shown will not be easily identifiable. You will need to show the students where the plant is and tell students the name of the plant. Then the students can look for the name on the flashcard.

Supplemental 2-4th:

- Search up online and share pictures of plants that students have heard of but have never seen how it is grown.
- Play a game of memory with the vegetable flashcards.
 - Do a card matching game with the vegetable flashcards. Allow the students to take turns on flipping the flashcard. (10-15 mins)
 - Word to picture.
 - Carrot to vegetable type.
 - Radish to root type.
- Play the Learn Roots & Stem & Leaves song – From Rainer Beach Farm (email for access).