

STRAWBERRIES

The Berry Bucket

A lesson plan for third graders



LESSON PLAN OVERVIEW



Purpose

To teach students the names and functions of major plant parts (roots, leaves, stems, flowers).

Subject Area Addressed

Science

Common Core/Essential Standards

SCIENCE:

ES 3.L.2: Understand how plants survive in their environment

Vocabulary

flowers leaves nutrients pollinators roots runners stems

Materials Provided

Strawberry cap pattern, strawberry flower pattern, strawberry plant

Materials Needed

WEBSITE: <http://extension.umn.edu/distribution/horticulture/images/M1238-1-lg.jpg>

CRAFT MATERIALS: red paper cups, green pipe cleaners, hole punch, green foam or cardstock, black marker, straw (or small square fabric pieces), brown yarn, green ribbon or yarn, leaves (plastic, leaf fabric, real), drinking straws, strawberry plant

TEACHING STRATEGY



Preparation

PRIOR TO LESSON

- Cut drinking straws into fourths
- Punch holes in red cup (on opposite sides near the top of the cup)
- Pre-cut green yarn or ribbon (various lengths to represent runners)
- Put all materials for the strawberry bucket inside the cup
- If a strawberry plant is available, place it in the science center along with magnifying glasses several days before this lesson.

Instructions

1. Show a strawberry plant or images from <http://extension.umn.edu/distribution/horticulture/images/M1238-1-lg.jpg>. Ask students what they notice about the plant. What are the names of the plant parts?
2. Review vocabulary words (above) and inform students they will be learning what the strawberry plant parts are and the functions of each part.
3. Explain the parts of the strawberry plant and discuss each of the functions.
 - **Roots:** absorb nutrients
 - **Stems:** provide support. In strawberries, the stems are compressed at the base of the plant and called crowns.
 - **Leaves:** synthesize food
 - **Flowers:** attract pollinators

INSTRUCTIONS CONTINUED...

Instructions Continued

4. Show a completed sample of “The Strawberry Bucket.” Have students create a strawberry bucket that will hold the parts of the strawberry plant. Distribute materials for activity. Model these step by step instructions:
 - a. Trace and cut out the top of the strawberry plant from green foam or cardstock.
Ask: “What is this part called?” “Why is that important to the strawberry?”
 - b. Have students punch two holes on the sides of the strawberry cap.
 - c. Attach strawberry cap to the red cup using the green pipe cleaner. Pull the pipe cleaner through the strawberry top and hook ends through the holes in the cup. (It forms a bucket handle).
 - d. Draw seeds on the red cup with a black permanent marker. While students are drawing seeds or catching up, explain that on average, there are approximately 200 seeds on a strawberry. Ask: “Why are we drawing seeds on the outside of the strawberry?” “Can you think of other fruits with seeds on the outside?” Inform students that strawberries are the only fruit with seeds on the outside.

Explaining the Bucket Items

5. Place the following items into the “bucket,” holding up and discussing each part as it is placed inside.
 - **Brown yarn:** Ask “What do you think this represents?” Accept and discuss answers.
The yarn represents the fibrous root system, which provides the plant with nutrients and water.
 - **Pre-cut drinking straw:** “What could this represent?” This represents the main stem or the crown.
This is the sturdy part of the plant where the strawberry starts growth.
 - **Leaf/leaf fabric:** “Are there leaves on a strawberry plant?” Yes, the leaves grow in threes. Under the leaves is where you pick the strawberries. Strawberry plants also develop runners which help produce new plants.
 - **Flower:** Strawberry blossoms are usually white. These flowers develop into strawberries.
 - **Runner:** Tie to handle of bucket: “This is the runner. It begins to grow after the plant has produced fruit.
These become ‘daughter’ plants.”
 - **Straw/fabric pieces:** “What do you think will happen if it turns cold and frost gets on the strawberry plants?”
Strawberry plants are pretty tolerant of cold, but the flowers are not! “What can we do to protect the plants?”
“Can we cover them with plastic?” No. The straw or fabric is used to cover the plants during the winter season to keep the flowers warm and protected from frost.
6. Review the lesson and the plant parts in the “Strawberry Bucket.”

EXTENSION ACTIVITY

Instructions

- Place a strawberry plant and another plant in a center.
- Have students compare/contrast the two plants.
- What's the same/different?

Background Information

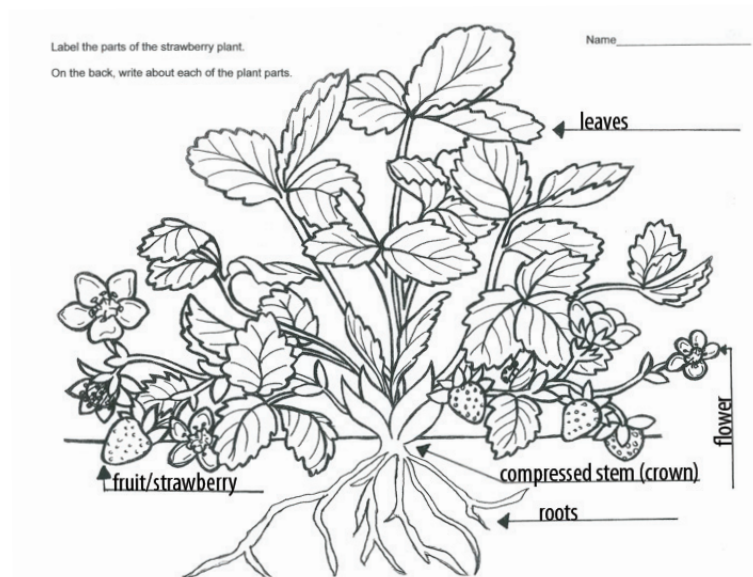
- **Roots:** Strawberry roots grow shallowly, remaining mainly in the top three to six inches of soil, depending on the variety. They must compete for water with other plants unless you weed them scrupulously.
- **Leaves:** Develop from points on the crown called "nodes" or "auxiliary buds." Three jagged-edged, oval leaflets bud from the end of each bud stalk.
- **Flowers:** Fruit develops from the flowers, which appear on thin, leafless stems that grow from the crown. Flowers on the same stem open and ripen at different times. The first flowers on the stem usually make the biggest berries.
- **Runners:** Auxiliary buds produce runners: long stems whose ends form crowns, take root and become new "daughter plants." Depending on the variety, you may see many runners or only a few.

Assessment

"Strawberry Plant"

Assessment Key

See image to the right.



Label the parts of the strawberry plant.

On the back, write about each of the plant parts.



Name _____

