Five Little Seeds

Five little seeds,
Five little seeds.
Three will make flowers,
And two will make weeds.

Under the leaves,
And under the snow,
Five little seeds are
Waiting to grow.

Out comes the sun,
Down comes a shower.
And up come the three,
Pretty pink flowers.

Out comes the sun,
That every plant needs,
And up come two,
Funny old weeds.

Poem Found at:

http://www.canteach.ca/elementary/songspoems22.html

Lesson One

Grade Level:

Fourth Grade

Objective:

Students will infer about the connection between the plants life cycle and function and the environment around it.

Core Content:

SC-04-3.4.3 DOK 3

Students will:

- Compare a variety of life cycles of plants and animals in order to classify and make inferences about an organism.

Materials:

- lima beans; soak in water overnight
- magnifying glasses
- illustration of lima bean with baby plant inside
- Ziploc bags, wet paper towels

Procedure:

I. Introduction:

a. Begin the lesson by reading the book The Tiny Seed by Eric Carle.

i. This is a description of the book The Tiny Seed by Eric Carle. In autumn, a strong wind blows flower seeds high in the air and carries them far across the land. One by one, many of the seeds are lost -- burned by the sun, fallen into the ocean, eaten by a bird. But some survive the long winter and, come spring, sprout into plants, facing new dangers -- trampled by playing children, picked as a gift for a friend. Soon only the tiniest seed remains, growing into a giant

flower and, when autumn returns, sending its own seeds into the wind to start the process over again.

b. Discuss the book as a whole group. Have the students analyze the different ways the seeds were filtered out. Why did the one tiny seed survive? Have them infer into the structure of a plant life cycle by what they have read in the story.

II. Seed poem

a. Talk about the seed poem

Five Little Seeds

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Down comes a shower.
And up come the three,
Pretty pink flowers.

Out comes the sun,
That every plant needs,
And up come two,
Funny old weeds.

b. Have the students discuss the different needs of a plant and seed.
    i. Water, air, sunlight, and nutrients

III. Seed Activities

a. Place the students into small groups or partners depending upon the number of students you have.
b. Place them at the various activities and allow them to travel to each activity to complete each task.
c. Seed Activities
    1. Plants Maze
        a. The have to lead the seeds through the maze to the flower it will become.
    2. How Seeds Travel
        a. They will match up the different ways that seeds can travel and who or what makes them travel in that way.
    3. Super Seeds Game
        a. In this game they will take turns using the spinner to answer questions about seeds and seed travel.
    4. Seed Dissection
        a. Students will dissect a lima bean (seed)
        b. They will diagram the parts of a seed based on the chart at the activity.

IV. Closer
a. Bring the students back to together after they have completed the activities.
b. Discuss the various tasks that they completed in their groups. Have them share the things that they like and learned from the activities.
c. Reread the Five Little Seeds poem.

Assessment:

The form of assessment for the lesson will be observation of the students during their activities. There will also be assessment in the questioning during the class discussions.

Resources:

http://www.canteach.ca/elementary/songspoems22.html

http://www.atozteacherstuff.com/pages/343.shtml

Carle, Eric. The Tiny Seed. Aladdin Paperbacks, New York, NY 1987.

Lesson Two

Grade:

Fourth Grade

Objective:

- Students will identify the reproductive structure of a flowering plant.

Core Content:

SC-4-3.4.1 DOK 3

Students will:

- Compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organism;
- Make inferences about the relationship between structure and function in organisms.

Materials:

LCD Projector or Smart board

A shallow container with drainage holes. (Styrofoam trays that fruit is wrapped in works well.) This is your laboratory

- Potting soil
- A large plastic bag
- A variety of plant parts
    - grass or sprout seeds
    - spider plant plantlets
    - onion sets
    - potato tubers
    - ivy
    - jade plant leaves

Procedure:

I. Introduction:
   a. Review the seed poem and the different parts of a seed, and how they spread and grow.

II. Flower Parts

a. Together as a class do the Plantenstien Mystery on the Internet.
    i. http://www.urbanext.uiuc.edu/gpe/case4/c4brief.html
        1. Start at the case briefing
        2. Then go through the steps of the case until it is completed as a class.
    ii. Divided the class into small groups, about 4 or five.
    iii. Complete the Plantenstien Activity
        1. http://www.urbanext.uiuc.edu/gpe/case4/c4a.html

III. Closer
a. After the completion of the website activities discuss the different parts of the plant and the function of these parts.

Assessment:

The questioning that will come from the discussions as well as the completion of the activity in their groups. Observe how they are using the information that they are being taught.

Resources:

http://www.urbanext.uiuc.edu/gpe/case4/c4brief.html

Lesson Three

Grade:

Fourth Grade

Objective:

- Students will identify the reproductive structure of a flowering plant.

Core Content:

SC-4-3.4.1 DOK 3

Students will:

- Compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organism;
- Make inferences about the relationship between structure and function in organisms.

Materials:

Computer access for one of the groups in the activities

Procedure:

I. Introduction:
   a. Review the parts of a plant.
   b. Introduce the Parts of a Plant Song.
      i. Sing the song a few times as a class.

II. Group Activities:
   a. Place the students into groups to complete the following activities.
      i. Parts of a Plant
         1. They will match the parts of a plant into the correct order
      ii. Plant Parts Crossword
         1. They will complete a crossword that establishes the parts of a plant.
      iii. Plant Parts Diagram
         1. They will use cards to make the right part to the correct location on the plant.
      iv. Plant Parts and Functions

1. They will match the cards with the plant parts, same cards use above, to the function of that part.

v. Create a salad of plant parts
   1. http://www.hhmi.org/coolscience/vegquiz/plantparts.html
   2. Go to the site above to complete the salad activity.

III. Closer
   a. Bring the students back together as a whole group. Discuss the activities and what they have learned from them.
   b. Sign the Plant Part Song together a few times.

Assessment:

They will turn in their pages from the activities. These will show the level of comprehension of the plant parts and their function.

Resources:

http://www.hhmi.org/coolscience/vegquiz/plantparts.html

Lesson Four

Grade:

Fourth Grade

Objective:

- Students will infer about the connection between the plants life cycle and function and the environment around it.

Core Content:

SC-04-3.4.3 DOK 3

Students will:

- Compare a variety of life cycles of plants and animals in order to classify and make inferences about an organism.

Materials:

Beans by Melanie Mitchell
Crayons or coloring utensils
White construction paper

Procedure:

I. Introduction:
   a. Review that has been happening in the classroom through out the unit.
II. Life cycle Poems:
   a. Choose a few of the life cycle poems from the pumpkin website and share them with the class.
   b. http://www.shuntington.k12.ny.us/schools/countrywood/Ferrara/webpage/pumpkinpoetry.html
III. Life Cycle of a Bean:
   a. Read the book *Beans* by Melanie Mitchell
      i. This is a description of the book *Beans* by Melanie Mitchell. A basic overview of the life cycle of a bean plant. Includes information about different kinds of beans and their uses.
   b. Share the stages of a bean life cycle. You can use the link below.

        i. http://www.sparta.k12.il.us/SID/plantunit/growthofbeanseed.htm

IV. Brainstorm Life Cycle:
    a. As a class brainstorm the different stages or steps of a plant life cycle.
        i. Write them on the board when the class has agreed upon the correct steps of the plant life cycle.

V. Changes to the Plant:
    a. Discuss the changes to the environment and how they will affect a plants life cycle.
        i. Storms, seasons, drought, etc.

VI. Share the Life Cycle Comic Strip
    a. Look a various examples of come comic strips.
    b. http://www.amazing-kids.org/akcomics.htm#akcindex
    c. Identify the components of a comic strip
        i. Colorful, word bubbles, short, boxes, and stages.
    d. Have the students brainstorm their own plant life cycle as a comic strip
    e. Give them time to complete a plant life cycle comic strip.

VII. Closure:
    a. Have students volunteer to share their comic strips and have the class analyze if their comic strip has the stages of the life cycle that the class decided upon.

Assessment:

Comic strip

Resources:

Beans by Melanie Mitchell

http://www.amazing-kids.org/akcomics.htm#akcindex

http://www.sparta.k12.il.us/SID/plantunit/growthofbeanseed.htm

http://www.shuntington.k12.ny.us/schools/countrywood/Ferrara/webpage/pumpkinpoetry.html

Lesson Five
Performance Event

Grade:

Fourth Grade

Objective:

- Students will identify the reproductive structure of a flowering plant.
- Students will infer about the connection between the plants life cycle and function and the environment around it.

Core Content:

SC-4-3.4.1 DOK 3

Students will:

- Compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organism;
- Make inferences about the relationship between structure and function in organisms.

SC-04-3.4.3 DOK 3

Students will:

- Compare a variety of life cycles of plants and animals in order to classify and make inferences about an organism.

Materials:

Sack lunches

Parent or other teacher volunteers

Procedure:

I. Introduction:
   a. This will be our in the wildlife refuge.
      i. Safety rules of wild life refuge
      ii. Divided into all day groups
      iii. Set purpose of the days activities
         1. The purposes of the day's activities are to use the knowledge that we have gained in the classroom out here in nature with the

real wild life. We are going to apply what we have learned and hopefully learn a few new things about our environment.

II. Exploring the Refuge
   a. Allow the student to go with their groups to the following activities.
      i. Flower dissection
         1. http://www.hometrainingtools.com/articles/flower-dissection-science-project.html
         2. Have the students dissect flowers that were bought and compare it to flowers that they find n the wild life refuge.
      ii. Plant investigation
         1. Have the students investigate the areas around the plants to identify how they get their needs meet.
         2. They can complete the Plant Needs page as they explore.
      iii. Tree and plant Identification
         1. Have them go with an adult to help them identify what trees and plants are in the wild life refuge.
      iv. Plant life cycle
         1. They are to use the life cycle circle paper and find plants in various forms on their life cycle and complete the circle with the pictures that they will draw.

III. Closure
   a. Have the students share their experiences with the class.
   b. Have them write a personal narrative about their experiences at the wild life refuge.

Assessment:

The assessment will be the different worksheets that they are to complete as they explore the wild life refuge as well as the personal narrative.

Resources:
http://www.hometrainingtools.com/articles/flower-dissection-science-project.html

http://naturalsciences.sdsu.edu/classes/lab2.6/lab2.6.html

Resources

Bernath, Stefen. Trees of the Northeast. Dover Publications Inc., New York, NY1979.

Carle, Eric. The Tiny Seed. Aladdin Paperbacks, New York, NY 1987.

Gibbons, Gail. From See to Plant. Holiday House, New York, NY 1991.

Miller, James. Nonnative Invasive Plants of Southern Forests. Southern Research Station. Asheville, NC 2004.

Mitchell, Melanie. Beans.

Morgan, Nina. The Plant Cycle. Thomson Learning. New York, NY 1993.

Symonds, George W.D. The Tree Identification Book. Quill Publishers. New York, NY 1958.

Wexler, Jerome. Flowers, Fruits, Seeds. Prentice Hall Books for Young Readers, New York, NY 1987.

Safety Rules for Wildlife Refuge

Do not take anything with you

Stay close to the trails

No not litter on the refuge

Stay with your group at all times

Do not touch this plant it is Poison Ivy

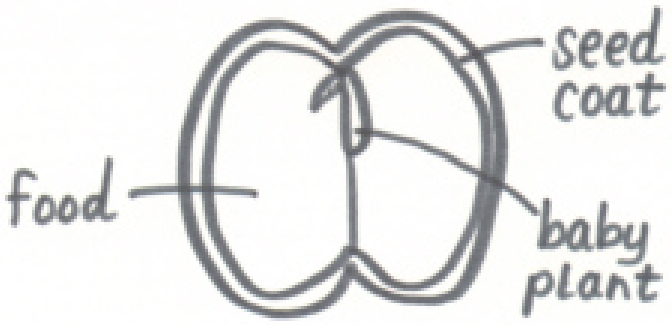
Seed Dissection

Step One: Place seed carefully on the paper towel

Step Two: Carefully take apart the seed. Look with a magnifying glass and see if you can identify the parts of a plant seed.

Step Three: Draw a diagram of your seed and its parts. Be sure to label the parts.

Step Four: Place the seed inside the baggie and put the wet paper towel in side with the seed. Then tape the baggie to the window.



Unit Objectives

- Students will identify the reproductive structure of a flowering plant.
- Students will infer about the connection between the plants life cycle and function and the environment around it.

Unit Core Content

SC-4-3.4.1 DOK 3

Students will:

- Compare the different structures and functions of plants and animals that contribute to the growth, survival and reproduction of the organism;
- Make inferences about the relationship between structure and function in organisms.

SC-04-3.4.3 DOK 3

Students will:

- Compare a variety of life cycles of plants and animals in order to classify and make inferences about an organism.

Unit Outline

I. Lesson One

   a. Needs of plants

   b. Seed dissection

II. The Structure of a plant lesson

   a. Parts of a plant

   b. Function of the plant parts

III. Plant reproduction

   a. Reproduction parts of a plant

   b. Pollination

IV. Plant life cycle lesson

   a. What is a plant's life cycle?

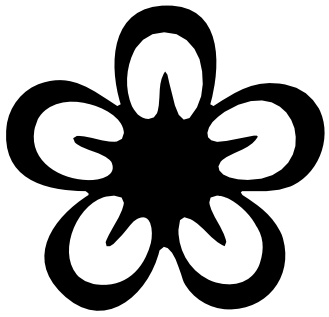
V. Performance event assessment

   a. Field trip to wild life refuge

   b. Flower dissection

Unit Overview

This unit is a hands-on, minds-on, engaging unit that will present the life of a plant. The students will explore what a plant is and the types of plants that they may find in their environment. They will evaluate the reproduction process of a plant and how that ties into the life cycle and its environment. The students will examine and infer how the environment around the plant will affect the plants needs and life cycle. The students will end the unit with a performance event outside to test their comprehension of the content of the unit.



Website Resources

http://www.ckwr.org/
Website for the wildlife refuge

http://www.kathimitchell.com/plants.html
Plants for Kids

http://www.hometrainingtools.com/articles/flower-dissection-science-project.html
Plant dissection

http://naturalsciences.sdsu.edu/classes/lab2.6/lab2.6.html
Plant activity (dissection)

http://www.can-do.com/uci/ssi2001/floweringplants.html
Reproduction activity for kids

http://www-saps.plantsci.cam.ac.uk/worksheets/activ/ralc1.htm
Reproduction and life cycle of a plant

http://www.atozteacherstuff.com/pages/343.shtml
Inside a seed

http://www.urbanext.uiuc.edu/gpe/case4/c4a.html
Plant part activity (Plantenstein)

http://www.urbanext.uiuc.edu/gpe/case4/c4facts1a.html
Flower parts with the above site

http://www.hhmi.org/coolscience/vegquiz/plantparts.html
Salad parts of a plant

http://www.sparta.k12.il.us/SID/plantunit/growthofbeanseed.htm
Bean life cycle

http://www.amazing-kids.org/akcomics.htm#akcindex
Comic strips