



Seeds: Exploration and Discovery

Grade Level(s):3-4

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Estimated Time: 4-5 days
approx. 20-30 minutes each day

Purpose

By this age, students know and understand that most plants they eat contain seeds. However, they do not fully grasp the idea that seeds are pivotal to the regrowth of all fruits and vegetables. In this unit, students will discover that seeds are not only important for regrowth, but are also very common and useful in the foods we eat.

Materials

For whole class:

Seed kit provided by Matt Springer through the Fairbanks Soil and Water Conservation
Variety of foods made from seeds found in FSWC seed kit
Diet food scale that measures in grams and ounces
"A Seed is Sleepy" by Dianna Hutts Aston
"Flip, Flop, Float, Fly: Seeds on the move" by JoAnn Early Macken
"A Fruit is a Suitcase for Seeds" by Jean Richards
Selecting the Best Seeds http://www.livinghistoryfarm.org/farminginthe20s/crops_02.htm

For each student:

Magnifying glass
16oz deli container with lid
potting soil
Science notebook

Vocabulary:

agriculture: the production of crops, livestock, or poultry
endosperm: food inside the seed used to feed the growth of a seed
germinate: to grow or develop
seed: the part of a plant used for growing a new crop, surrounded by the fleshy part of a plant
seed coat: outside protective layer of a seed



Lesson Day 1

Step 1:

Introduce the topic of seeds. Have students quietly think about it to themselves then take two minutes to discuss what their ideas are. Then gather together as a class and create a Circle Map of all the ideas that come to mind when the word seed is mentioned. Include all ideas that are brought up.

Step 2:

Read the book "A Fruit is a Suitcase for Seeds" by Jean Richards to the whole class. Discuss the author's purpose periodically through the book.

Step 3:

Return to the Circle Map and have the students add more ideas they gained from listening to the read aloud.

Step 4:

Students will then write in their science notebooks a paragraph about what they know about seeds.

*It is important that you encourage your students to bring in a seed from home for the activity on Lesson Day 3

Lesson Day 2

Step 1:

Review what students know about seeds.

Step 2:

Introduce the seed kit provided by FSWC. Discuss how each vial has a quantity of seeds that can be found in Alaska.

Step 3:

Divide the class into two groups. Give the labeled seeds to one group of students. Then give the unlabeled set to the other. Have the students find their "seed partner" and match up the vials of seeds. Give them 3-4 minutes. If they seem to be struggling, give them some advice on how to find their partner.

Step 4:

Once they have found their "seed partner," have them take a single seed out of their vials and using a magnifying glass, make observations about the seed.

Step 5: Use Have students draw what they see in their science notebooks. They should include the whole grain and it should be colored to the closest hue they can get.

Lesson Day 3

Step 1: Read aloud from the book, "A Seed is Sleepy" by Dianna Hutts Aston. Have students write down three things they learned from listening to that book using their science notebooks.



Step 2: Display foods that are made from and with seeds. Some examples include: poppy seed muffins, whole grain crackers, tortillas, nuts, fruit, vegetables, mustard etc. Ask students if they know what seeds are used to make these products or from what seed they came from. If allowable, have students sample some of the products and then match them with the seed.

Step 3: Explore the site: http://www.livinghistoryfarm.org/farminginthetwentytwenties/crops_02.htm as a whole class. Then visit the following link for further information on how seeds grow into a plant. https://www.youtube.com/watch?v=IGCZXx_Pczo As the video plays, pause to allow students to record important data in their science notebooks. I.e, new vocabulary words, what it takes to make a seed grow, the parts of a plant that develop and in what order.

Lesson Day 4

Step 1: Using the seeds the students have brought in, have students make observations with their partner. They will need to use a magnifying glass for a closer look. Students will record their observations in their science notebooks.

Step 2: Discuss where the seed came from and look up online photos of what the plant will look like after the seed grows.

Step 3: Review what is needed to make a plant grow.

Step 4: Provide a seed to each student. They may plant the one they chose to bring to class if they prefer.

Step 5: Pass out 16oz deli container and lid to each student. Have them fill it ½ way with potting soil and then plant their seed. Water with a spray bottle and close the lid.

Optional Lesson Day 5

The following are optional activities that can be added as time allows:

Activity 1

Step 1: Using the seeds from the seed kit have students organize the seeds in order they think would be heaviest to lightest.

Step 2: Students record their estimations in their science notebooks. You can label the vials with numbers to make it a quicker process or provide a pre printed bargraph with the seeds you will be weighing.

Step 3: Using a diet scale, have the students weigh the seeds outside of the vials. Step Step 4: Record the individual weights of the seeds on a large bar graph.

Step 5: Have the students compare the results with their estimated data.

Activity 2

Watch: "The Magic School Bus Gets Planted" found at :
https://www.youtube.com/watch?v=_2kx8vJBR_s