

Engage

Ask students if they have ever heard of Dr. George Washington Carver. Show them a peanut or sweetpotato (or picture of a peanut and/or sweetpotato). Tell students that Dr. Carver invented 325 different products using peanuts including milk, cooking oil, paper, soaps and wood stains and also many different products using sweetpotatoes such as flour, vinegar, paints, dyes, and writing ink.

Read *In the Garden with Dr. Carver*, asking questions to demonstrate understanding of key details.

Explore

Dr. Carver was a scientist and he used many different tools to study plants. There are other types of scientists too. Today we are going to be meteorologists and study the weather. What kind of instruments do you think we will need? Let's go outside and see what we can observe.

Using hands-on weather instruments (rain gauge, wind sock, anemometer, air thermometer, soil thermometer, water thermometer) make both qualitative and quantitative observations about the weather. Compare the air temperature, soil temperature and water temperature. How do they compare? Why do you think the sun might warm these differently? Use the data recording sheets in this lesson to record your observations.

Math Connection

Let's see if we can grow some plants and make observations just like Dr. Carver.

Make ***square foot seed mats*** using spinach and radish seeds. Working with a partner, one student should make a spinach seed mat and the other should make a radish seed mat. Radish seeds are spaced 16 per square foot, spinach seeds are spaced 9 per square foot. Determine whether they are even or odd while folding the mat. Can the objects be placed in two equal groups? Describe the different arrays 4x4 and 3x3. Use repeated addition to find the sum of the seeds in each mat.

Anchor Text:

In the Garden with Dr. Carver by Susan Grigsby

Primary Standards:

ELA

RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

Math

NC.2.OA.3 Determine whether a group of objects, within 20, has an odd or even number of members by:

- Pairing objects, then counting them by 2s.
- Determining whether objects can be placed into two equal groups.
- Writing an equation to express an even number as a sum of two equal addends.

NC.2.G.3 Partition circles and rectangles into two, three, or four equal shares.

- Describe the shares using the words halves, thirds, half of, a third of, fourths, fourth of, quarter of.
- Describe the whole as two halves, three thirds, four fourths.
- Explain that equal shares of identical wholes need not have the same shape.

Science

2.E.1.1 Summarize how energy from the sun serves as a source of light that warms the land, air and water.

2.E.1.2 Summarize weather conditions using qualitative and quantitative measures to describe:

- Temperature
- Wind direction
- Wind speed
- Precipitation

2.E.1.4 Recognize the tools that scientists use for observing, recording, and predicting weather changes from day to day and during the seasons.

Social Studies

2.H.1.1 Summarize contributions of various women, indigenous, religious, racial, and other minority groups that have impacted American history.

Plant the seed mats outside in the garden. What could you make with spinach and radishes?

Harvest: Measure the length of the radishes and spinach leaves, graph the radishes by color if using Easter Egg Radish seeds.

Your Notes & Ideas

Secondary Standards

ELA

RL.2.5 Describe the overall structure of a story, including describing how the beginning introduces the story, the events unfold in the middle, and the ending concludes the action.

RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Math

Measure and estimate lengths.

NC.2.MD.1 Measure the length of an object in standard units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

NC.2.MD.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.

NC.2.MD.3 Estimate lengths in using standard units of inches, feet, yards, centimeters, and meters.

NC.2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

NC.2.MD.10 Organize, represent, and interpret data with up to four categories. Draw a picture graph and a bar graph with a single-unit scale to represent a data set.

Qualitative Weather Data

Name: _____

[illegible]

Quantitative Weather Data

Name: _____

[illegible]