

WEEK 6 Lesson 2

Science and Engineering: Alternative Farming Methods
 Children investigate various methods of growing plants with short growing seasons.

S & E Big Ideas	There are different ways to grow plants in places with short growing seasons. All plants need nutrients, light, and air to grow but how the plant gets those can differ.
S & E Guiding Question	What other farming methods are used to grow plants?
Content Objective	I can define and discuss different farming methods. (1-ESS1-2, Standard 6)
Vocabulary	<p>vertical farming: is the agricultural process in which crops are grown on top of each other, rather than in traditional, horizontal rows.</p> <p>hydroponics: A way to grow plants using only air and water without soil.</p> <p>aquaponics: Nutrient-rich water from fish waste is used to grow plants without using soil.</p> <p>aeroponics: A way to grow plants without soil. Plant roots hang in the air and are misted with nutrient-rich water</p>
Materials and Preparation	<ul style="list-style-type: none"> ● <u>Ways to Grow Plants in Short Growing Seasons</u> slides and videos ● <u>Definition sheet</u>, one per child ● scissors, one per child ● glue or glue stick, one per child
Opening 1 minute	<i>Today we will learn about different ways that people farm. We know that Maine has a short growing season. There are new ways of farming to help people have access to fresh fruits and vegetables, even in places with short growing seasons.</i>
Investigation and Discussion 25 minutes	Display the slides and read the information. Have the children make observations about the visuals. Make connections to the names of the farming techniques and the definitions of the prefixes. There is a short

	<p>video on the last slide. The video details a new aquaponic vertical farm being built in Westbrook, Maine. Explain to the children that Westbrook is a city in Cumberland County, Maine. Ask:</p> <p><i>What are the benefits of vertical farming in Maine?</i></p> <p>Harvest some of the children’s ideas and affirm their observations.</p> <p>Distribute glue, scissors, and Definition sheet. Children will work in pairs to match the labels and definitions to the pictures.</p>
<p>Closing 5 minutes</p>	<p><i>How does the farming resource, like the one they are building in Westbrook, help people in Maine?... Yes, this resource helps people have access to fresh lettuce all year long. Fresh food is an important resource in our community.</i></p>
<p>Standards</p>	<p>1-ESS1-2: Make observations at different times of the year to relate the amount of daylight to the time of year.</p> <p>Standard 6: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.</p>
<p>Ongoing assessment</p>	<p>What do children understand about how plants grow?</p>

<p>Notes</p>
