

**Grade Level: 1**

**Title: What Do Strawberry Plants Need? (October –November)**

**Purpose:**

To recognize the needs of plants to survive.

**Subject Area(s) Addressed:**

Science, Math, Language Arts

**Common Core/Essential Standards:**

**Science:**

1.E.2.1 Summarize the physical properties of Earth materials, including rocks, minerals, soils and water that make them useful in different ways.

1.E.2.2 Compare the properties of soil samples from different places relating their capacity to retain water, nourish and support the growth of certain plants.

1.L.1.1 Recognize that plants and animals need air, water, light (plants only), space, food and shelter and that these may be found in their environment.

1.L.1.2 Give examples of how the needs of different plants and animals can be met by their environments in North Carolina or different places throughout the world.

1.L.1.3 Summarize ways that humans protect their environment and/or improve conditions for the growth of plants and animals that live there (e.g., reuse or recycle products to avoid littering).

1.L.2.1 Summarize the basic needs of a variety of different plants ( including air, water, nutrients, and light) for energy and growth.

**Literacy:**

W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

SL.1.1a Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

SL.1.1b Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

SL.1.1c Ask questions to clear up any confusion about the topics and texts under discussion.

SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

SL.1.6 Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 here for specific expectations.)

L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.1.5c Identify real-life connections between words and their use (e.g., note places at home that are cozy).

**Math:**

1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

**Vocabulary:**

air  
light  
plug  
space  
variable  
water

**Materials Provided:**

“Daily Report Sheet”  
“Labels”

**Materials Needed:**

5 strawberry plugs  
5 pots with soil  
1 plastic bag  
water  
light source (sunlight)  
5 rulers  
Science journal

## Teaching Strategy:

**Review:** Review the needs of all plants. (water, space, air, light). Remind students that plants make their own food in the leaves. Have students predict what would happen if a plant did not get water? Or, light? Or, if it didn't have space? Or, air? Students record their ideas in their science journals.

Over the next few days we are going to investigate what happens if the plants don't get their needs. We will be observing the plants each day, but we're going to take away a need from each plant.

**Activity:** Set out the 5 plants. Using "Labels," mark each plant with a list of the needs it is getting. Cross out the one need on each label that that particular plant will not receive.

Plant 1 Control plant – nothing gets crossed out. It gets sun, soil in the pot, water when needed, and is left in the air.

Plant 2 – cross out "light." Put the plug in a pot with soil, water it at the same time you water plant 1 and leave it in the air. BUT put it in a dark closet.

Plant 3 – cross out "air." Put the plug in a pot, water it at the same time you water plant 1, put it in the sun. BUT put it in a Ziploc bag and try to get out as much of the air as you can. You will need to flatten the bag each time you water it.

Plant 4-cross out "water." Put the plug in a pot, put it in the sun, keep it in the air, BUT do not water it.

Plant 5 – cross out "space." Put the plug in the sun between two plates or pieces of glass so it does not have enough space, or put it in a narrow tube. Allow it to have air, and water it when you water Plant 1.

Draw a picture of each plant on day 1. Encourage precise drawing and labeling.

Using "Daily Report" sheet, each day students will measure and record information by drawing pictures depicting the appearance of each plant on that day. The Daily Report sheet can be used as a class activity or filled out individually. One copy of the sheet will be needed for each plant (5 sheets). As a class, discuss the changes that are noticed. After several days, discuss how the "needs" are important to the plant. Which need appears to be the most important?

## **Background Information:**

Farmers are aware of the importance of the needs of the strawberry plants. They will work hard to provide the best resources for the plants because if the plants are growing in a positive environment, the plants will produce a larger amount of fruit and higher quality fruit -- which is what the farmer wants.

## **Assessment:**

Students will write a conclusion about what plants need to survive making sure they tell what the needs are and how each need is important.

Completed Daily Report Sheets

**North Carolina Strawberry Association – [www.ncstrawberry.com](http://www.ncstrawberry.com)**

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**Daily Report**

**Name** \_\_\_\_\_

**Plant** \_\_\_\_\_

Cross out the variable that this plant does not receive.

**space      water      air      light**

Draw a picture each time you observe this plant. Write the date in the box.

Date	Date	Date

**Labels**

**Plant 1**

**Water  
Space  
Air  
Light**

**Plant 2**

**Water  
Space  
Air  
Light**

**Plant 3**

**Water  
Space  
Air  
Light**

**Plant 4**

**Water  
Space  
Air  
Light**

**Plant 5**

**Water  
Space  
Air  
Light**