

## CHICAGO PUBLIC SCHOOLS DAILY LESSON PLAN



Date:

Grade: 6

**Subject: Science Lab**

<b>ILS -</b>	
<b>12.B.</b>	Know and apply concepts that describe how living things interact with each other and with their environment.
<b>12.B.3a</b>	Identify and classify biotic and abiotic factors in an environment that affect population density, habitat, and placement of organisms in an energy pyramid.

<b>MS-LS1-5.</b>	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
<b>PS1-3.</b>	Make observations and measurements to identify materials based on their properties.

- Determine pH of various soil samples.
- Choose a crop(s) best suited to grow in the Chicago area.
- Design a garden for chosen crop(s).

Model all activities for students.  
Provide verbal and written directions in clearly stated steps.  
Provide visual aids, models, or examples.  
Allow more time for completion of class assignments.  
Work in group setting.  
Chunking text for notes.  
Lower level students may choose 2-3 crops.  
Higher level students may choose 5-6 crops and give evidence why other crops are unsuitable.

**Formative:**  
Test various soil samples for pH. Research and collect information on various plants.

**Summative:**  
Write a summary defending your choice of crop(s) suitable for planting within the area based on evidence gathered. Draw a blueprint for a garden using chosen crop(s).

Various soil samples	Small plastic cups or test tubes
Hydrion pH strips	Toothpicks or stirrers
Distilled water	Paper towels
Crop cards	Chicago-area planting fact sheet
Goggles	pH color scale

# Rachel Carson Elementary School

Instruction/ Methodology	<ul style="list-style-type: none"><li>• 10 min. - Hook - Whole group - Teacher will show students a real sample of each of the products listed on the crop cards (corn, soybean, orange, avocado, cotton, etc.) and have students name each of the products. Numbering each product and placing them in a row is best for organizational purposes if students are unfamiliar with the item. Teacher will then ask students: What do all the products have in common? Where do we get these products from? Does it matter where and how these products are grown?</li><li>• 10 min. - Pair and share - Students will turn to their partner to discuss the questions for several minutes. They will then share their answers and background knowledge of the items with the class. Students should write any pertinent information in their journals.</li><li>• 15 min. - Small group - Students will work with a partner for the lab. They will receive several soil samples from various places in the Chicago area. Students will wear goggles while working with the soil samples. Students will place a small amount of each soil sample in a separate plastic cup or test tube. They will add a small amount of distilled water to the soil sample, enough to turn it to mud. After stirring the sample to mix thoroughly, students will place a piece of Hydrion pH strip on top of the mud letting the water soak into the pH strip. Students will compare the pH strip color to the color scale provided and record their results in a chart. Students will discard pH strips and mud in the garbage. Plastic cups/test tubes will be rinsed off.</li><li>• 25 min. - Small group - Students will receive a set of crop cards listing various plants and their ideal growing conditions. They will also receive a growing fact sheet for the Chicago area. After reviewing the crop cards, students will decide which crop(s) would be best suited to grow in the Chicago-area based on the fact sheet and their collected data. They must have evidence to support their decisions. If a student chooses a crop not suited for this area, they must support their choice by arguing how they could make accommodations for that crop to grow (fertilizer, greenhouse, adding soil supplements, etc.). Students will write a conclusion for their findings.</li></ul>
Closing	Discuss/review results with class. Properly store equipment and clean personal area.
Homework	Draw a blueprint of a garden with the crops selected in class.