



Lesson Plan (LP)	Author: Hannah McTier
Course: Basic Agricultural Science (02.47100)	
LP Title: What Nutrients does a Squash Plant Need?	
Estimated Time: 45 minutes	
Grade Level: 9 th – 12 th Grade	

Materials, Supplies, Equipment, References, and Other Resources:
<p><u>Materials:</u> access to technology and/or library for research purposes and slide creation, SmartBoard with Projector</p> <p><u>References:</u> https://www.georgiaffa.org/curriculum2/topic.aspx?ID=6&TID=29 .</p>
Standards:
<p>AFNR-BAS-13 Explain and demonstrate basic plant science principles including plant health, growth and reproduction.</p> <p>13.6 Explain the roles of essential plant nutrients for plant growth and reproduction.</p>
Essential Questions/Objectives:
<p>The student will be able to...</p> <ol style="list-style-type: none"> 1. Explain the roles of essential plant nutrients for squash plant growth and reproduction by contributing to the creation of a slideshow on the 16 essential plant nutrients.

Accommodations
<p>For students with disabilities, the instructor should refer to the individual student's IEP to insure the accommodations specified in the IEP are being provided within the classroom setting. Instructors should familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation within any given instructional activity or requirement.</p>



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GA Standards

45 min

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Interest Approach	Estimated Time: 5 minutes
<p>Pull up a picture of a nutrient deficient squash plant on the projector for all students to see. Engage students by asking what they think is wrong with the plant. Why does it look the way it does? Is it dying? Can the symptoms be remedied? Explain to the students the plant they see has a nutrient deficiency and that, yes, it can be saved as long as all of the necessary nutrients are provided to it.</p>	

Learning Activity 1	Estimated Time: 20 minutes
Instructor Directions/Materials/Teaching Procedure	Brief Content Outline
<p><i>Essential Plant Nutrient Research and Slide Creation</i></p> <p>Assign nutrients Monitor computer usage Walk around the room and answer questions Encourage pictures and artistic slides if students have time Compile the slides into one slideshow</p>	<p>There are 16 essential plant nutrients: Carbon, Nitrogen, Phosphorus, Hydrogen, Oxygen, Potassium, Iron, Magnesium, Calcium, Sulfur, Manganese, Molybdenum, Chlorine, Copper, Boron, Zinc – assign each nutrient to either a single student or to a pair of students.</p> <p>The students are tasked with finding out what exactly their assigned nutrient does to help a squash plant grow and remain healthy. Does it help the seed store energy, assist in fruit production, contribute to plant growth, etc.?</p> <p>The students must quickly find this out and create one PowerPoint slide on their nutrient and submit it to the teacher (I recommend Google Slides for this). Because this is such a quick exercise, I would not worry about the overall look of the slide, but the information presented.</p>

Learning Activity 2	Estimated Time: 15 minutes
Instructor Directions/Materials/Teaching Procedure	Brief Content Outline
<p><i>Review of Essential Plant Nutrient Slideshow</i></p> <p>Encourage note-taking Be wary of inaccurate data Share slideshow with class</p>	<p>Once all of the slides have been submitted and compiled into one slideshow, work through the slideshow with the class. Have each individual or pair of students stand up to recite what they discovered on their nutrient and how it contributes to a healthy squash plant.</p>

Summary (Reflection)	Estimated Time: 5 minutes
<p>Show the picture of a nutrient deficient squash plant to the class again. Ask them now what they believe to be wrong with the plant and how to remedy that problem. Teach the students the following phrase as a way of remembering all 16 essential plant nutrients: C HOPKNS CaFe Mg B Mn CuZn CIMo > C. Hopkins Café Managed By My Cousin Clomo</p>	



Assessment

Formative: Assign a formative grade based on student participation in the research and slide creation activity. Every student should participate.

Summative: N/A



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