

OBJECTIVE:

Investigate what part of the sweet potato is needed to grow a sweet potato plant.

MATERIALS AND EQUIPMENT:

- Three Large sweet potatoes (3)
- Potato peeler
- Knife
- Cutting board
- Tape Measure
- Toothpicks (approximately 20).

You can use colored toothpicks or you can color the toothpicks with markers.

- Six 18 oz. cups (6) - large enough that the narrow part of the sweet potato can fit in the cup.
- A sunny and warm window

HYPOTHESIS:

PREDICTION:

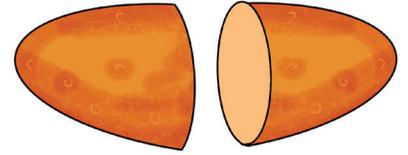
STEM PROJECT SPROUTING WITH SWEET POTATOES

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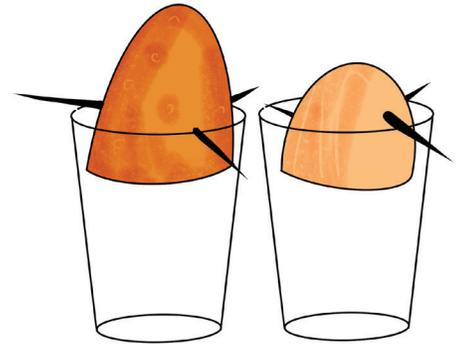
PROCEDURE/OBSERVE:

1. Cut all 3 sweet potatoes in half (width-wise). Keep the halves together so that you know which halves go together. Ask an adult for help with cutting if needed.



2. Next use the peeler to peel one half of each sweet potato. Try to peel it the same amount all around, and make sure no skin is visible.

3. Place 3 or 4 toothpicks into each sweet potato half, putting each toothpick about 3 cm up from the cut-off part. Evenly space them around the sweet potato. For each pair of halves, use the same-colored toothpicks to help you keep track of which halves make up the same sweet potato. Assign a number to each sweet potato, label your cups and on your observation sheets, write down which number goes with each toothpick color.



4. Put each sweet potato half in a cup so that the cut-off part is sitting facing down in the cup.

5. Fill each cup to the very top with water, and place the cups indoors near a sunny and warm window.

6. Leave the sweet potato halves by the window for approximately ten weeks. Throughout the experiment, make sure the sweet potato halves are always touching water in the cupst.

7. Use the data tables below to record your observations every 5 days. Remember that it can take several weeks for slips to sprout. You may need to be patient!

- a. Check on the water in the cups every 3 days. If the water level gets low, carefully remove the sweet potato from the cup and rinse and add new water. Then put the sweet potato half carefully back in the cup.

b. Do not worry if some of the halves become rotten because that can happen quite frequently. You can throw it out, but be sure to write down that you did this in your data table along with your observations.

c. While observing make sure you look carefully all around the sweet potato. You are looking for shoots sprouting on the sides and underneath the sweet potatoes. Make sure you write down when/where you see shoots, roots, or leaves appear. Be patient — it may take several weeks for shoots to appear!

		Observations			
Sweet Potato	Sweet Potato Half	Date:	Date:	Date:	Date:
1.	Not Peeled				
	Peeled				
2.	Not Peeled				
	Peeled				
3.	Not Peeled				
	Peeled				

8. After at least ten weeks, you can stop your experiment. Based on your results, fill out the table below.

- a. For each sweet potato half, write down "Yes" or "No" to answer "Did Slips Sprout?" in the data table.
- b. For the sweet potato halves that were not peeled, add up the total number of halves that had slips sprout on them and write this in the data table.

		Observations	
Sweet Potato	Sweet Potato Half	Did Slips Sprout? (Yes / No)	Number of Halves that Sprouted Slips
1	Not Peeled		
2	Peeled		
3	Not Peeled		
1	Peeled		
2	Not Peeled		
3	Peeled		

9. Make a bar graph of your results. Place the type of sweet potato half (not peeled or peeled) on the bottom of the graph (the x-axis) and the number of halves that sprouted slips on the left (the y-axis). Make a bar for the halves that were not peeled, and a second bar for the peeled halves.



10. Look at your results and try to make some conclusions.

Did some of the sweet potato halves not sprout slips? If so, which halves were they?

Did one group of sweet potato halves (the ones that were peeled or the ones that were not peeled) have more halves that sprouted slips than the other group?

What do your results tell you about what parts of a sweet potato are needed for it to make new plants?

