

## COULD MARK WAGNEY HAVE ACTUALLY GROWN POTATOES ON 3% NUTRIENT LEVEL?

### **MATERIALS**

- Corn seeds (alternatively seed potatoes)
- Sand (on the front island)
- 3 bottle containers
- 3 Saucers (e.g. aluminum pie plates) on which to place containers to catch drained water
- Volumetric cylinders to add nutrient solutions and water to pots.
- Sunny location to place pots (keep them in your designated place under the grow lights)

**OBJECTIVE:** Test growth of maize using different amounts of nutrients.

### **PROCEDURES:**

1. Fill containers with sand.
2. Sow three seeds in each container.
3. Label each container based on the nutrient levels on your data sheet.
4. Add water in 30 mL increments until dripping out of the bottom
5. Once seedlings emerge to 2 cm, add 20 mL nutrient solution to each pot at concentrations of 3%, 33%, and 100% of recommended. Afterwards, add water in 20 mL increments until dripping.
6. Record plant heights, leaf length and color, and roots.
7. Every 5 to 7 days afterwards repeat adding water to pots and record observations on plants.

### 3% NUTRIENT CONCENTRATION

DATE	Water added (milliliters)	Longest Shoot Length	Shoot Observations	Root Observations
		0	0	0

### 30% NUTRIENT CONCENTRATION

DATE	Water added (milliliters)	Longest Shoot Length	Shoot Observations	Root Observations
		0	0	0

### 100% NUTRIENT CONCENTRATION

DATE	Water added (milliliters)	Longest Shoot Length	Shoot Observations	Root Observations
		0	0	0

## CER

**QUESTION:** Could Mark Watney have actually grown plants on 3% nutrient level?

**CLAIM:** Mark Watney could have or could not have grown plants on 3% nutrient level.

*(Circle either "could" or "could not")*

**EVIDENCE:**

**REASONING:**

