ALL ABOUT SOIL NUTRIENTS

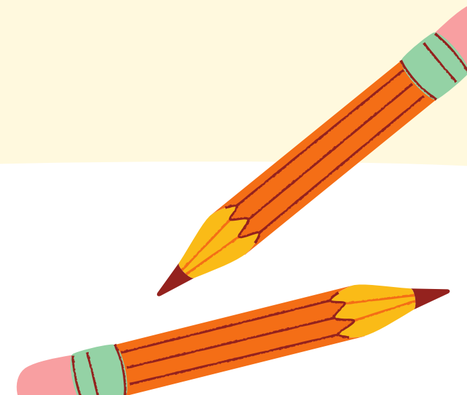
Tuesday, Jan. 12th

OBJECTIVES

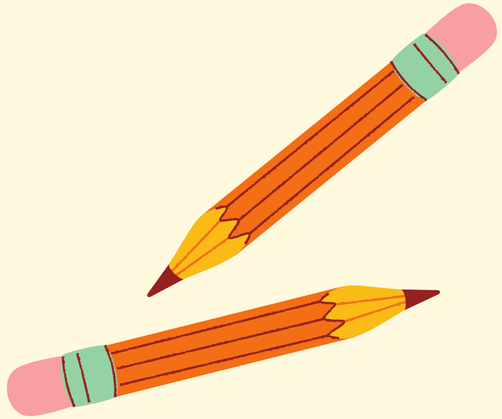
1: Identify all three groups of soil nutrients

2: Assign nutrients into each group

3: Research a nutrient and define its importance to plant health



SOIL NUTRIENT GROUPS



MACRO NUTRIENTS

SECONDARY NUTRIENTS

TRACE

~or~

MICRO NUTRIENTS

NUTRIENTS

Primary

Found in the LARGEST amounts of all the groups

- Nitrogen
- Phosphorus
- Potassium

Secondary

Medium amounts

- Calcium
- Magnesium
- Sulfur

Trace

Found in the TINIEST amounts of all the groups

- boron
- chlorine
- copper
- iron
- manganese
- molybdenum
- nickel
- zinc

***NO MATTER WHAT THE AMOUNT, THEY ARE ALL IMPORTANT**

MOST LIMITING NUTRIENT

Crop yields are restricted by the nutrient in shortest supply.

For example: adding nitrogen isn't going to help the bucket hold more, but increasing sulfur will!

Individual Nutrients

Macronutrients

Nitrogen

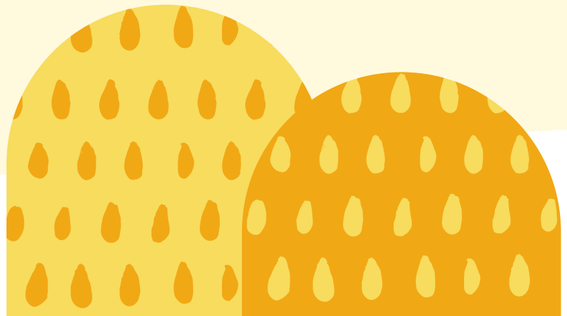
- building block of plant protein
- mostly found in organic matter in soil

Phosphorus

- used by pants to make DNA and RNA
- also used to store and transfer energy

Potassium

- used for starch formation and translocation of sugars



Individual Nutrients

Secondary Nutrients

Calcium

- building block of plant cell walls
- must be present to make new cells

Magnesium

- Component of chlorophyll, so extremely important for photosynthesis

Sulfur

- Important in plant protein synthesis

Individual Nutrients

Trace/ Micronutrients

Zinc

- Involved in the production of chlorophyll and protein

Iron

- required for the formation of chlorophyll in the cells of the plant

Manganese

- activator for plant enzymes in the growth process

Copper

- activator of several plant enzymes, and a deficiency impacts protein synthesis

Boron

- regulates the metabolism of carbohydrates

Molybdenum

- essential to help plants USE nitrogen

Chlorine

- required for photosynthesis reactions

Nickel

- component of urease, which prevents toxic amounts of urea

RESEARCH TIME

Pick a secondary or trace nutrient to research and answer these questions:

1.Where can we find this nutrient supplement? (what fertilizer?) (include at least 1 picture)

2. What happens when there is too much of this nutrient?

3. What happens if there is a deficiency of this nutrient? (Include at least 1 picture)

Create a slideshow presentation introducing your nutrient, answering the questions, and providing pictures and examples. Be sure to cite your sources!