Unit 4 Essential Plant Nutrients

Content Area: **Science**
Course(s): **Horticulture 2**
Time Period: **May**
Length: **8 blocks**
Status: **Published**

Enduring Understandings

At the end of this unit of instruction students will be able to identify major plant nutrients and discuss the role of each in healthy plant growth.

Essential Questions

What are consumers looking for in fertilizer?

When can too much of a good thing turn bad?

Content

Vocabulary:

nitrate of soda, ammonium nitrate, ammonium sulfate, urea formaldehyde, superphosphate, treble superphosphate, rock phosphate, ammonium phosphate, muriate of potash, sulfate of potash, nitrate of potash, calcium carbonate, acidic, alkaline

Objectives

List and describe the major nutrients needed by plants.

Recognize plants affected by too little or too much nutrients in their soil.

Manipulate and measure nutrients and recognize the impact on greenhouse plants.

Explain the role of fertilizers in horticulture.

Recognize and explain the environmental impacts of human manipulation of plant nutients.

Resources

Standards

HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

HS-LS2-3 Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.

HS.SF	Structure and Function
CCC.1	Patterns.
	Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.
CCC.2	Cause and effect: Mechanism and explanation.
	Events have causes, sometimes simple, sometimes multifaceted. A major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.
HS.MEO	Matter and Energy in Organisms and Ecosystems
9-12.HS-LS2-3	Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
9-12.HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Resources

Text:

Introductory Horticulture 8th ed(Cengage Learning), Hardcover (2011)
by H Edward Reiley, Carroll L Shry

Greenhouse

Planting Materials including soil, water, seeds, Fertilizer.

Fertilizer Samples