Video name: Nitrogen in rain, Photsysnthesis

Supplemental Worksheet 1

Supplemental Worksheet 2

Supplemental Worksheet 3

Lesson plan:

Core concepts:

-Plants absorb nitrogen in the form of nitrates to help them grow

-Nitrogen is present in the atmosphere but must be transformed into nitrates through a process called nitrogen fixation

-Plants perform photosynthesis to create sugar & oxygen from carbon dioxide, water, & light

Materials needed: Copy from previous pilot

Learning Objectives:

Structure: Copy from previous pilot

Assessment: Copy from previous pilot

10 MC questions:

What % of the atmosphere is composed of nitrogen?

21%

56%

78%

92%

Nitrogen mixes with what element to create nitrogen oxide?

Nitrogen

Oxygen

Carbon

Uranium

What is the form of nitrogen that plants can use?

Nitrogen gas

Nitrogen Oxide

Ammonia

Nitrates

What is the process that transforms atmospheric nitrogen into a form that plants can use?

Nitrogen breakdown

Nitrogen fixation

Nitrogen dissolution

Nitrogen caellation

Nitrogen is a component of which molecules?

Chlorophyll

Mitochondria

Glucose

Cellulose

Which of the following performs photosynthesis?

Chlorophyll

Mitochondria

Glucose

Cellulose

Which of the following is needed for photosynthesis?

Sugar

Heat energy

Oxygen

Water

Which of the following is a product of photosynthesis?

Sunlight

Carbon dioxide

Sugar

Nitrogen

Which of the following equations best describes photosynthesis?

Glucose + O2 = H20+CO2+light

H20+CO2+light = glucose + O2

CO2+heat = N2 + O2

N2 + O2 = CO2+heat

Why are plants important?

They provide food

They provide oxygen

They are important for the ecosystem

All of the above

4 open-ended questions:

Describe the process of photosynthesis in your own words:

How does nitrogen get from the atmosphere to inside a plant?

Are plants necessary for life? Why or why not?

What would happen if humans could photosynthesize? Would you like to live in a universe where humans performed photosynthesis?

3 external resources: