

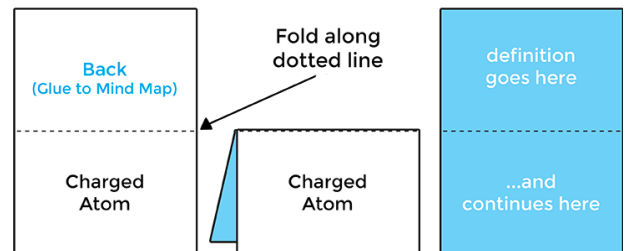


Photosynthesis Lesson 1: *The Solve*

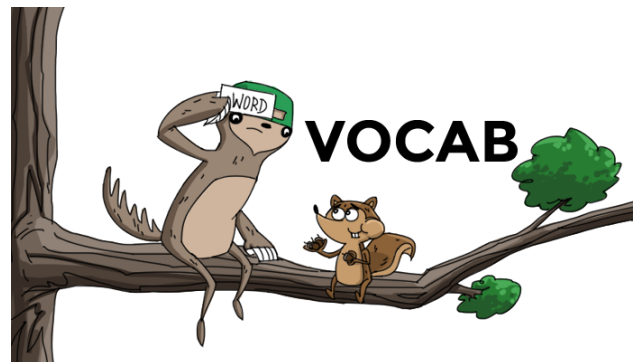
Student Handout

I. Vocabulary Warm up

1. Using the materials at your table, cut out your vocabulary cards along the **solid lines**. Note: Do not cut the cards at the dotted lines.



2. Fold the cards at the dotted lines.
3. Write the definition of the term on the inside of the card using the definitions below.
4. Use the clues from the Mind Map images, definitions, and vocabulary terms to place the cards in the correct location on the Mind Map, explaining your thinking to group members as you go.
5. When you're ready to glue or tape, raise your hand so you can check your Mind Map with your teacher.
6. Use glue or double-sided tape to connect the back of the vocabulary card to the correct place on the Mind Map.
7. Use your completed Mind Map to discuss these questions with your group:
 - a. What does a plant need to make glucose that they can use for energy?
 - b. What is different about what plants need to take in and what humans need to take in? Why?

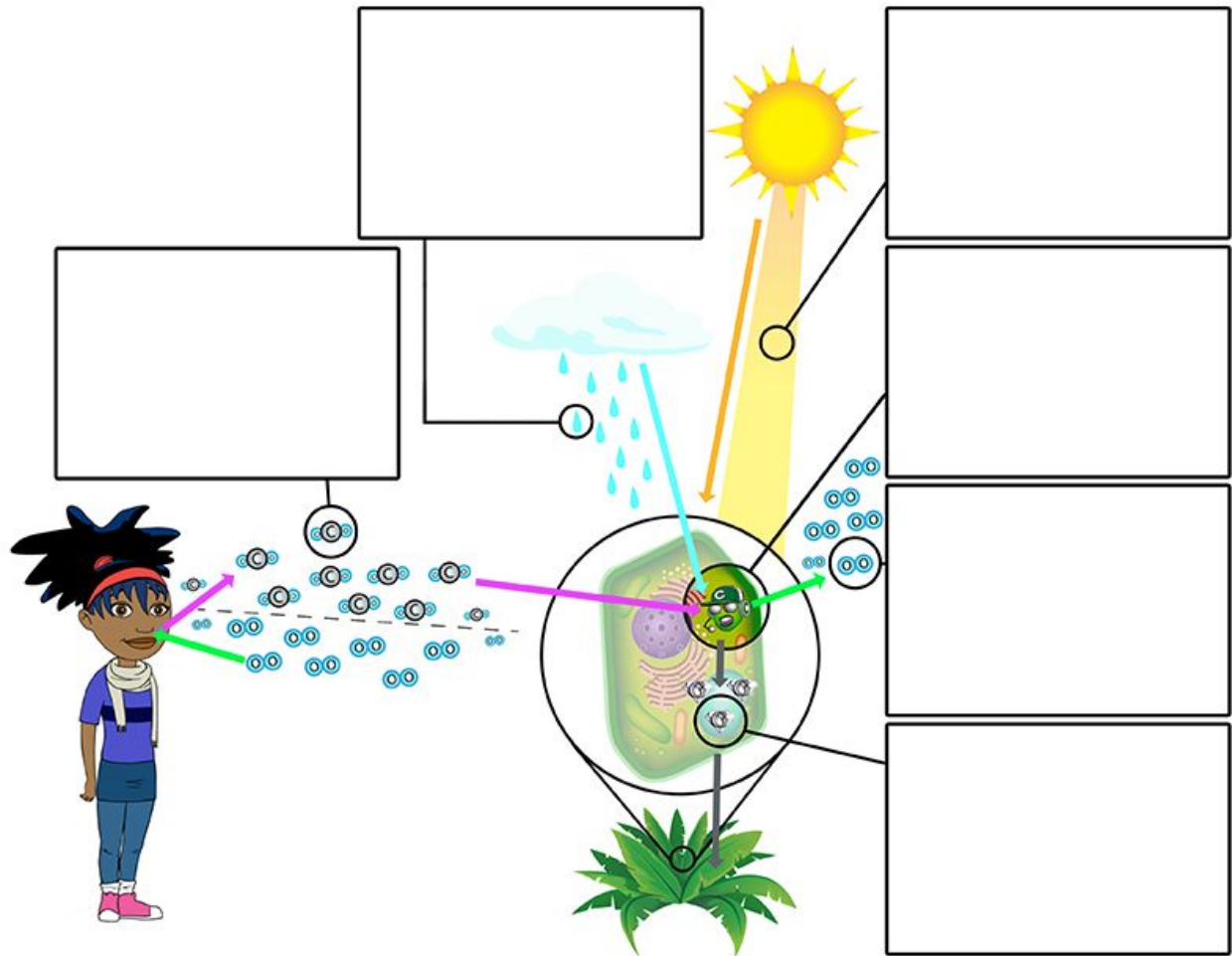




MOSA MACK SCIENCE

STUDENT GUIDE

Photosynthesis Mind Map





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Photosynthesis Vocabulary Cards

Water

Sunlight

Chloroplast

Oxygen

Glucose

Carbon Dioxide

Photosynthesis Vocabulary

- photosynthesis: the process by which plants use energy from the sun to make glucose
- chloroplast: the cell part in plants responsible for photosynthesis
- carbon dioxide: a molecule used to make glucose during photosynthesis
- oxygen: a molecule that is released as a byproduct of photosynthesis
- glucose: a simple sugar that can be converted into usable energy, made through photosynthesis
- sunlight: light from the sun, used as energy in photosynthesis
- water: basis of fluids of living organisms, used in photosynthesis



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II. Watch Mosa Mack

Either on your own, in a small group, or as a class (your teacher will let you know), watch Mosa Mack's episode on Photosynthesis. Then, fill out the questions below. Include a time code in your answer as evidence of where you found your answer.

Name: _____

Date: _____

Episode Questions

1. What did the healthy fern notice about the sick fern that caused her concern?
2. "I make energy for the plant" – Chloroplast. Describe the role of the chloroplast in making energy for plants? Include the inputs (what goes in) and outputs (what comes out) of photosynthesis in your explanation.
3. Billy, the toolbox, took out a bag of sugar when he heard that the fern was in need of glucose. But the chloroplast said there was no need. Why?
4. What are the similarities between how plants and humans use glucose?
5. From where does the fern get the carbon dioxide required for photosynthesis?
6. Mosa tells the sick fern that in order for her to thrive, she needs one more ingredient. Identify that ingredient. How do you know what it is?



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III. Exit Ticket: Check for Understanding

Complete the exit ticket below or you can take the quiz online!

Name: _____

Date: _____

1. What cell part is responsible for capturing sun energy for a plant?
 - a. Mitochondria
 - b. Chloroplast
 - c. Nucleus
 - d. Cell membrane
2. What is the scientific name of the process that the chloroplast does?
 - a. Light Synthesis
 - b. Energy Respiration
 - c. Photosynthesis
 - d. Cellular Respiration
3. What substances are needed in order for the cell to make this process happen? Choose all that apply.
 - a. Water
 - b. Glucose
 - c. Oxygen
 - d. Carbon dioxide
4. What do plants emit as waste?
 - a. Water
 - b. Glucose
 - c. Oxygen
 - d. Carbon dioxide
5. Which types of cells are able to make their own glucose, which can then be converted into energy?
 - a. Human cells
 - b. Plant cells
6. What key ingredient is the sick fern missing?
 - a. Water
 - b. Sunlight
 - c. Oxygen
 - d. Carbon dioxide