

Chapter 3 Section 3 Part 1

SPI 0707.3.1 Compare the chemical compounds that make up the reactants and products of photosynthesis and respiration.

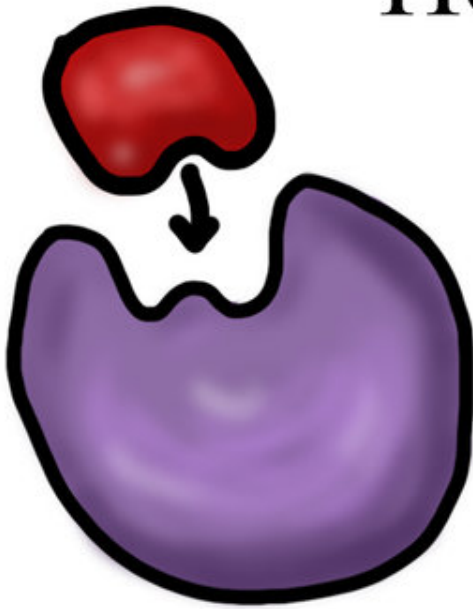
Trapping and Using Energy

- Read the two paragraphs on p. 87 silently to yourself.
- Pick out the most important sentence.
- Write it down in your notes.
- You will then go around your group and share what you selected with your group.
- Be ready to explain why you selected that particular sentence with your group and the class.

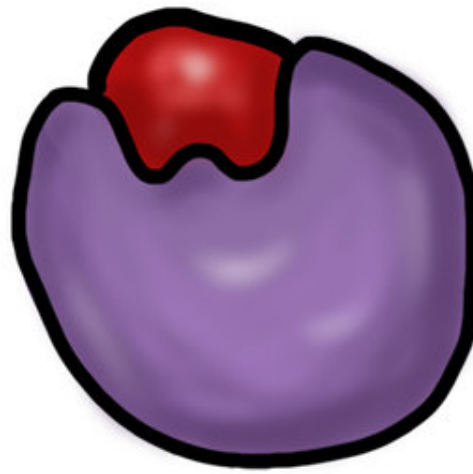
Enzymes

- <https://www.youtube.com/watch?v=tl69AVRW0DU>

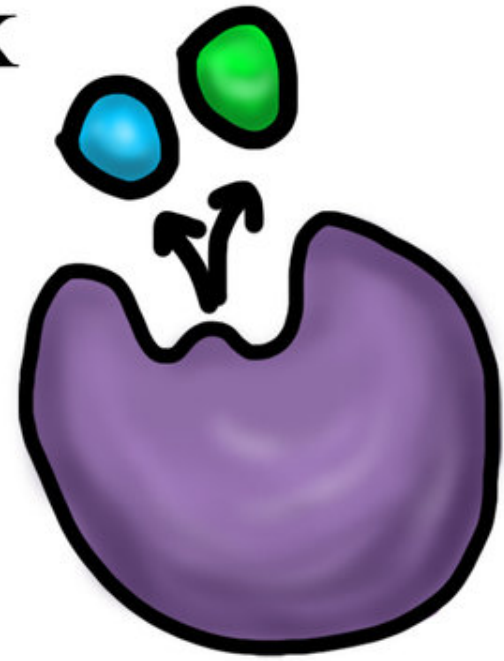
How Enzymes Work



The substrate (reactant) moves toward the enzyme's active site.



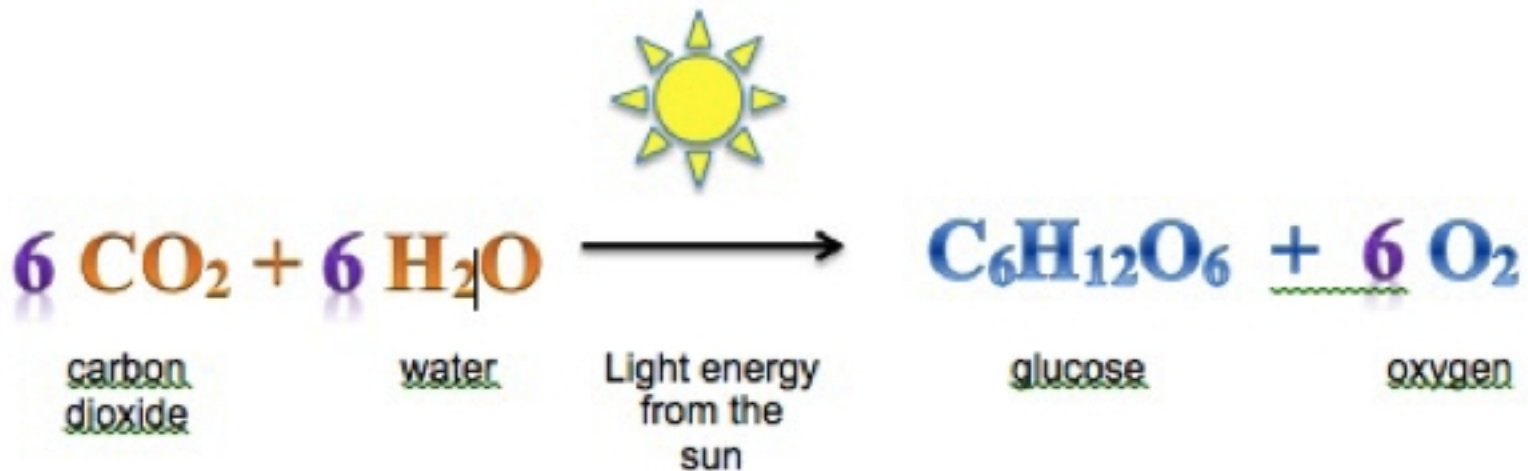
The chemical reaction is triggered by the enzyme.



The enzyme releases the products.

Photosynthesis

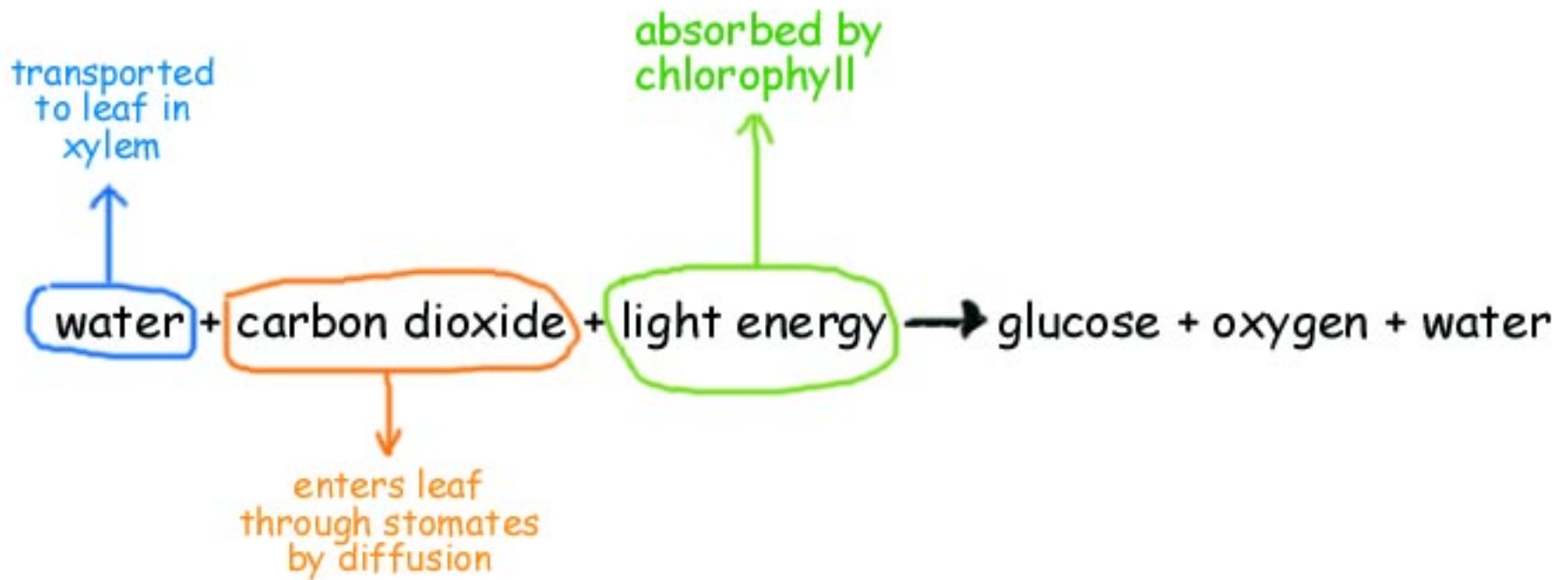
carbon dioxide + water → glucose (sugar) + oxygen



<https://www.brainpop.com/science/cellularlifeandgenetics/photosynthesis/>

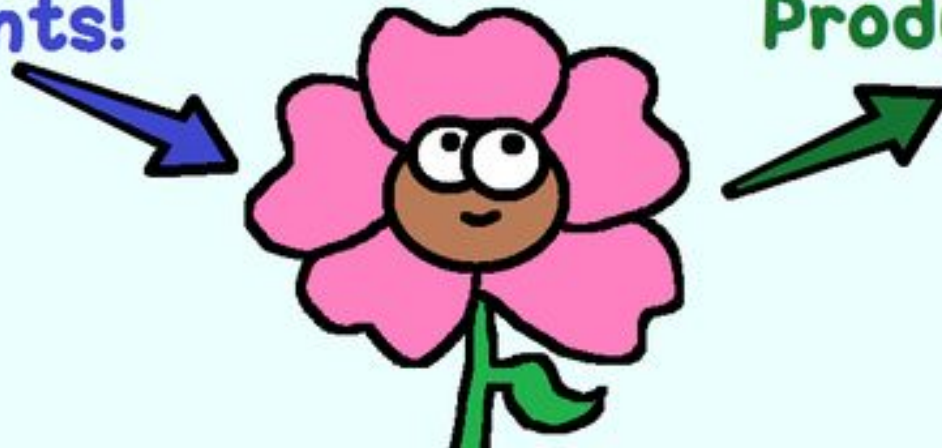
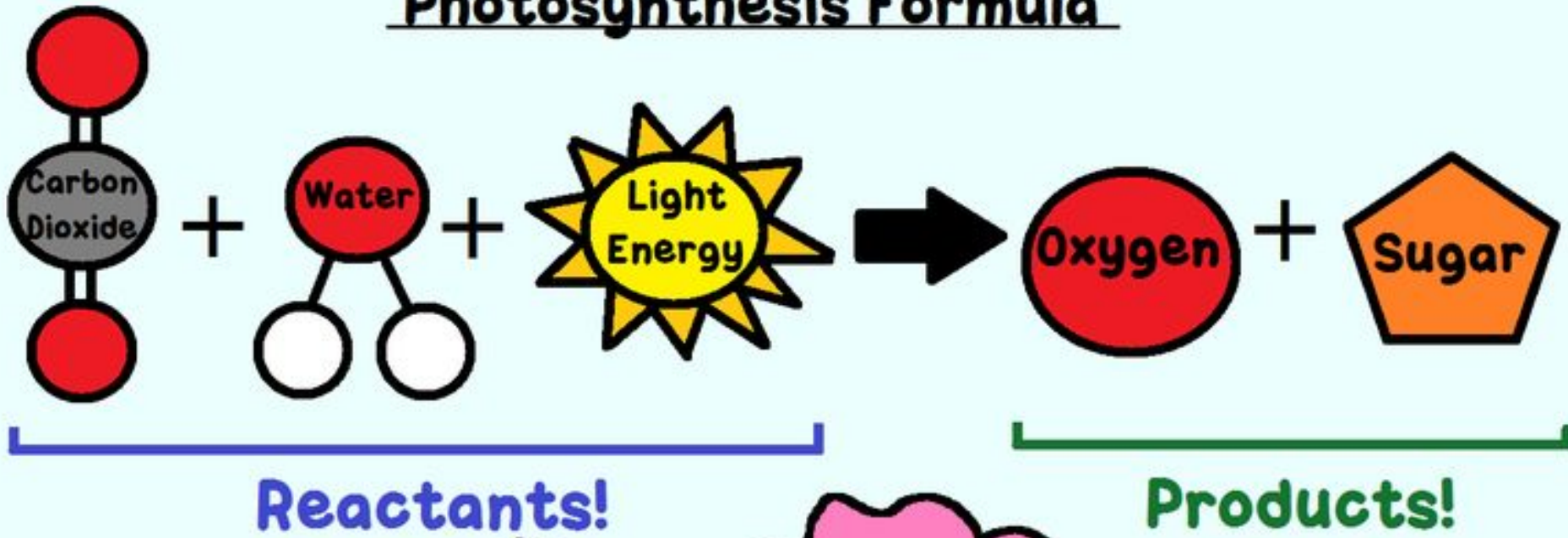
Math Connection

- Think of it like a math problem.



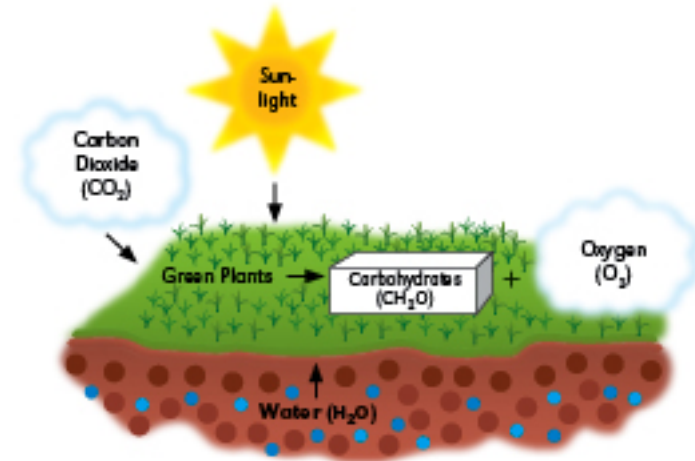
Once Again...

Photosynthesis Formula



Producing Carbohydrates

- Chlorophyll and other pigments are used to capture light energy.
- In plant cells, these pigments are found in chloroplasts.
- The light energy that is captured **POWERS** chemical reactions that produce sugar and oxygen from the raw materials carbon dioxide and water.



Carbohydrate is a fancy way of saying "sugar."

Storing Carbohydrates

- Plants make more sugar during photosynthesis than they need.
- Excess is changed and stored as starches or used to make other carbohydrates.
- Plants use this as food for growth, maintenance, and reproduction.
- Read the second paragraph under Storing Carbohydrates on p. 88. Why is photosynthesis important to you?

Exit Ticket – Silent Work

- Write the formula for cellular respiration. Check yourself in the book.
- If I asked what the reactants were, what would you say?
- If I asked what the products were, what would you say?
- Look at figure 13 on p. 88. Answer the **Determine** question.