

QRAC the Code

The four steps:

Question: transform the subheading of a section of the chapter into a question.

What is photosynthesis and how is the sun's energy involved?

Read: Read the section and then pause.

Read the section Photosynthesis and the Sun's Energy from [ON Science 9](#) (p.21-23 in the text). [Click here to access the text.](#)

Answer: Ask yourself if you can respond to the question using the information you read. Circle your response:

Yes

No

Check: Check your answer to the question in order to be sure that your response is correct and that it correctly summarizes the section read. If you weren't able to respond to the question, use the strategies proposed below:

1. Did you understand the vocabulary? If not, check the definitions of key words, particularly those in bold.

chlorophyll:

the pigment that gives leaves their green colour

photosynthesis:

a process that changes solar energy into chemical energy

glucose:

a molecule composed of oxygen, hydrogen, and carbon

stomata:

formed by two stoma cells in the epidermis of a leaf; small pores where carbon dioxide enters and oxygen leaves

2. Are there clues within the text? Study any maps and figures.

Figure 112:

shows the parts of a plant involved in the capture of the sun's energy and the release of oxygen

Chemical formula for photosynthesis:

shows the reactants and products for the chemical reaction of the process

Figure 113:

visual of the chemical reaction of photosynthesis

3. Do you know anything else about this subject? Use your prior knowledge.

- I know that energy can't be created or destroyed, therefore a plant must transform energy from one form into another
- I know that there are interactions between the biotic and abiotic elements of ecosystems
- I know that energy is transferred through food chains and that plants are producers
- I know that plant cells are different than animal cells

4. Were you unable to find the answer to your question? Try to summarize the section:

- What is being discussed in this section?

This section talks about conversion of the sun's energy by plants

- What happens in this section?

This section describes:

- How chlorophyll is involved in the process of photosynthesis
- What happens in the cell of a plant during the process of photosynthesis
- Sources of oxygen

- Explain what this section is about in less than two sentences.

This section talks about the process of photosynthesis and how the sun's energy is transformed into oxygen and glucose molecules.

5. Are you really stuck? Re-read the section and try again!

Question:

What is photosynthesis and how is the sun's energy involved?

Answer:

Photosynthesis is a process where the energy of the sun, water, and carbon dioxide are converted by a plant to produce glucose and oxygen. The sun's energy is necessary because it is transformed into chemical energy that is used to nourish the plant.