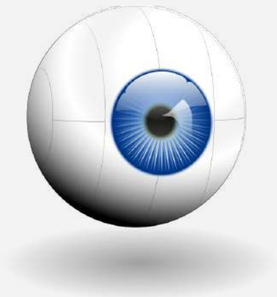
Photosynthesis Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 1

Watch It

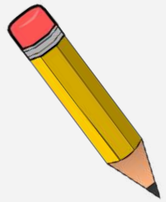


Station 2

Video It

Station 3

Write It



Station 4

Examine It

Photosynthesis Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 5

Answer It

Station 6

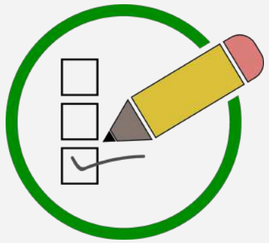
Perform It

Station 7

Read It

Station 8

Evaluate it



Watch It – Station 1

What organisms undergo photosynthesis?

Question 1

Where specifically does photosynthesis take place?

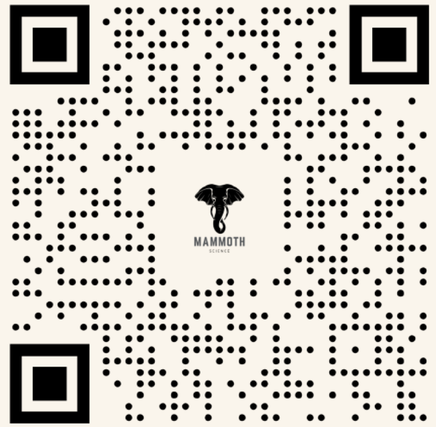
Question 2

Differentiate between autotroph and heterotroph

Question 3

Directions

Watch the following video



Answer the v eft from ided

Stations 1-4

Station 1 – Continued

What is the role/function of the guard cell?

Question 4

Identify and describe the parts of the chloroplast

Question 5

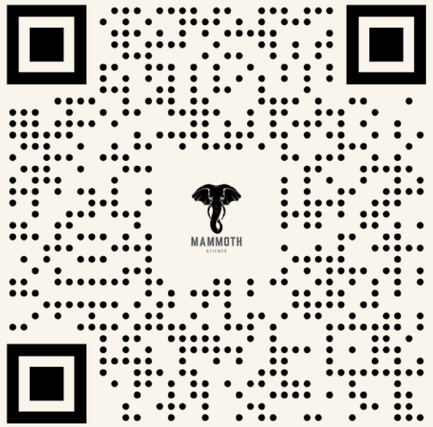
Differentiate between the Light dependent and light independent cycles in terms of location, reactants and products.

Question 6

Directions

Watch the following video

Answer the v eft from ided



Stations 1-4

Station 1 – Continued

What is the energy conversion that takes place in photosynthesis?

Question 7

If a plant cell has a mutation that produces less Thylakoids inside the chloroplast, what would be the end result of the plant mutation?

Question 8

What forms of energy drive the light dependent and light independent reactions?

Question 9

Directions

Watch the following video

Answer the v eft from ided

Stations 1-4

Station 2 – Video It

Directions

Make a video of about 3 minutes. Your video should include the following information, using the sentence stems right.

Insert (copy & paste) your video link into your answer doc

Some Video creation suggestions:

- Loom
- Screencast-o-matic
- Screencastify
- Animoto

"Sunlight is the main..."

"There are two different reactions in photosynthesis. They are..."

"The location of photosynthesis inside the plant cell are..."

"Only certain organisms perform photosynthesis because..."

Stations 1-4

Write It

In a quickwrite (3-5 Sentences) - Using the image below...

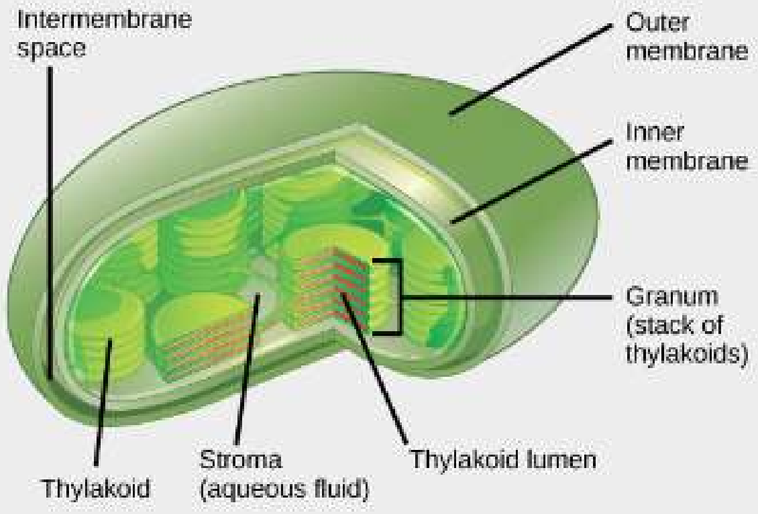


Figure 8.6 Photosynthesis takes place in chloroplasts, which have an outer membrane and an inner membrane. Stacks of thylakoids called grana form a third membrane layer.

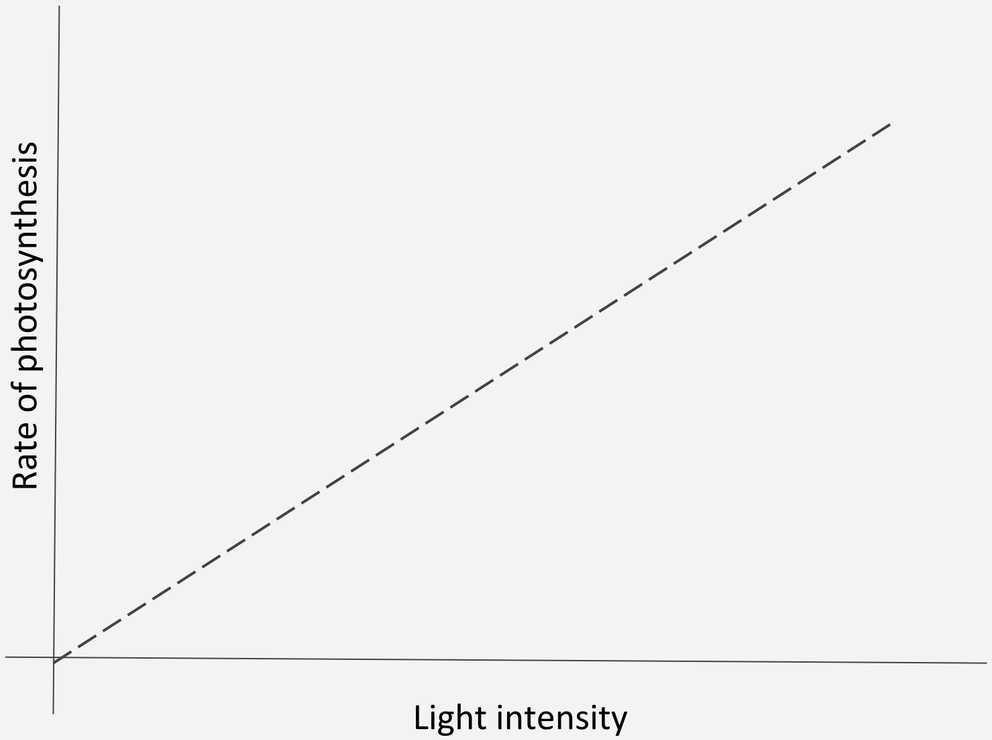
On a hot, dry day, the guard cells of plants close their stomata to conserve water. What impact will this have on photosynthesis?

Stations 1-4

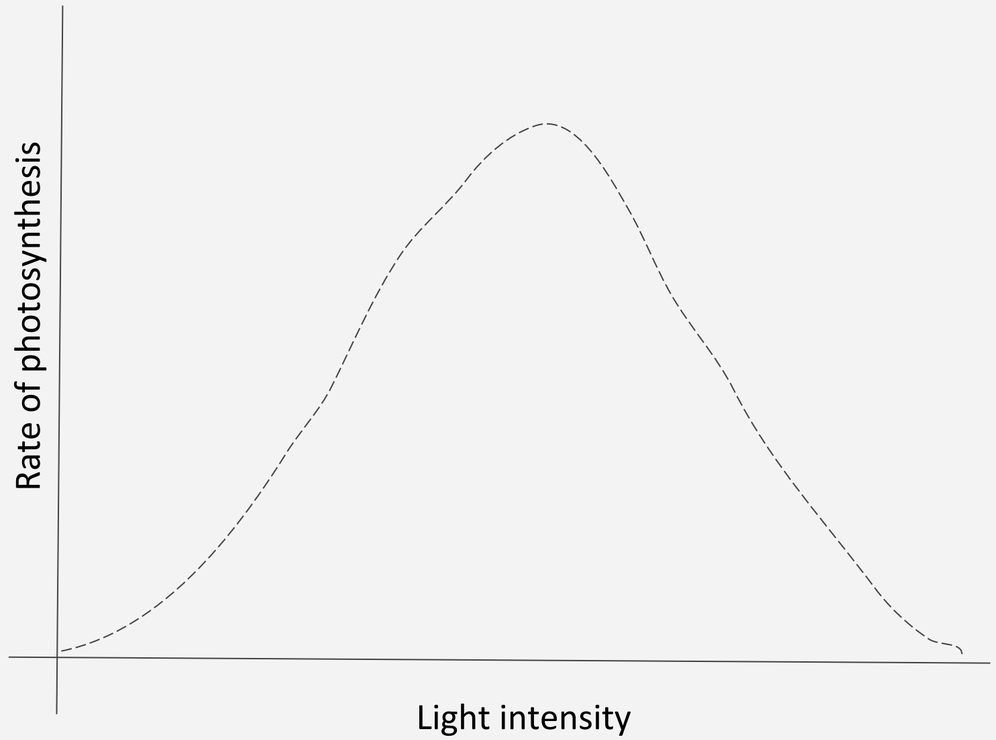
Examine It

How would photosynthesis be affected by light intensity? Choose the correct graph and explain your reasoning

Graph A



Graph B



Stations 1-4

Answer It

1. *What is the overall outcome of the light reactions in photosynthesis?*
2. *Why are carnivores, such as lions, dependent on photosynthesis to survive?*
3. *Describe how the grey wolf population would be impacted by a volcanic eruption that spewed a dense ash cloud that blocked sunlight in a section of Yellowstone National Park.*
4. *How does the closing of the stomata limit photosynthesis?*
5. *What are the roles of ATP and NADPH in photosynthesis?*
6. *How and why would the end products of photosynthesis be changed if a plant had a mutation that eliminated its photosystem II complex?*
7. *Imagine a sealed terrarium containing a plant and a beetle. How does each organism provide resources for the other? Could each organism survive if it was the only living thing in the terrarium? Why or why not?*
8. *Compare the flow of energy with the flow of nutrients in a closed, sunny ecosystem consisting of a giraffe and a tree.*

Stations 5-8

Perform It – Station 6

Use the QR code right or follow the LINK here.

Directions

One of the major claims being made surrounding "A" of the light reaction model is that light energy is absorbed by chlorophyll and used for the hydrolysis of water and to create a concentration gradient of hydrogen ions? How could you test the idea that solar energy is required for the hydrolysis of water during photosynthesis?

Question 1

Is this idea that solar energy is required for the hydrolysis of water during photosynthesis supported by the simulation? Justify your response with evidence from the simulation.

Question 2

Directions

Watch the following lab simulation

Answer ... eft from the ... ided

Stations 5-8

Station 7 – Read It

Main Idea

summary

Article

Inferences

How is it connected to learning

Stations 5-8

Station 8 – Evaluate It

what do I know?

List at least 5 items:

what do I wonder?

List at least 4 items:

what have I learned?

List at least 5 Items:

Stations 5-8