

# 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



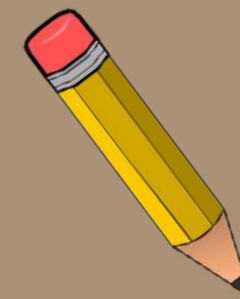
Station 2

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



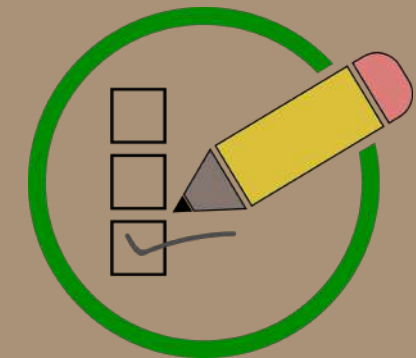
Station 7

Read It



Station 8

Evaluate it





# Watch It – Station 1

***What organisms undergo photosynthesis?***

Question 1

***Where specifically does photosynthesis take place?***

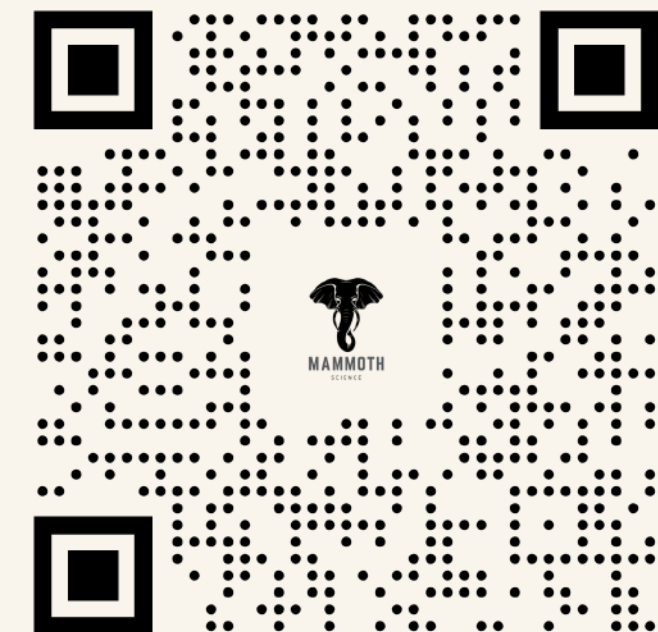
Question 2

***Differentiate between autotroph and heterotroph***

Question 3

## Directions

Watch the following video



Answer  
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# Station 1 – Continued

***What is the role/function of the guard cell?***

Question 4

***Identify and describe the parts of the chloroplast***

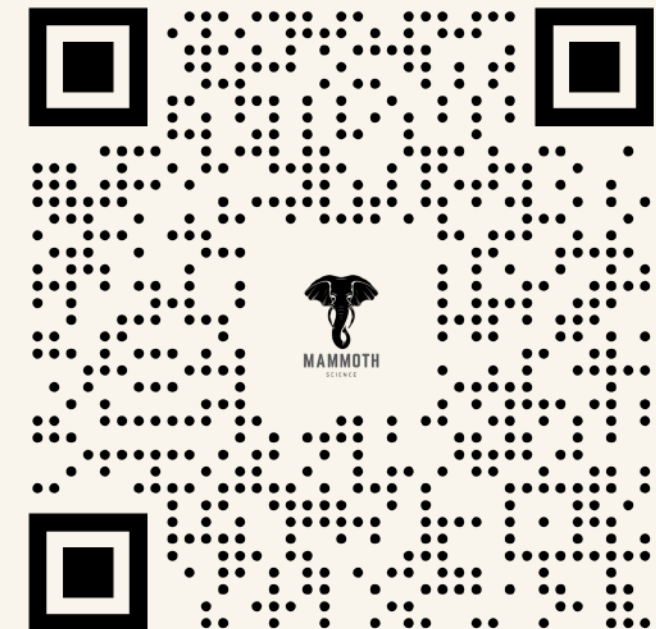
Question 5

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

Question 6

## Directions

Watch the following video



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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?***

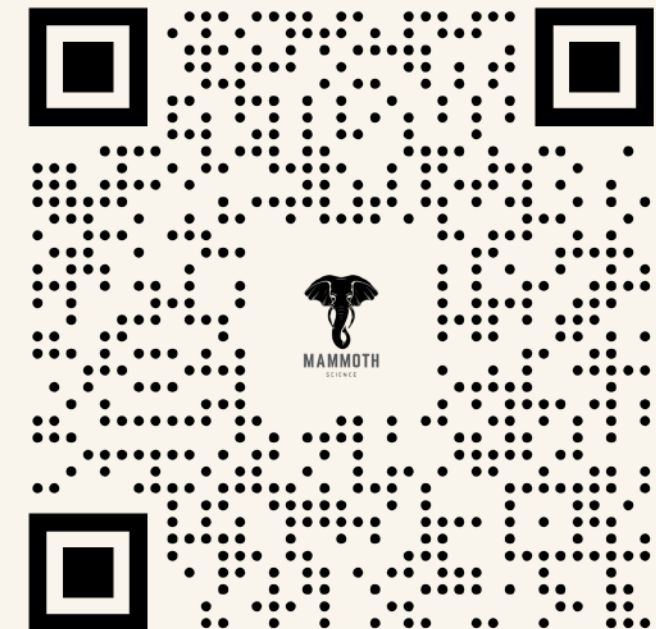
Question 8

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

Question 9

## Directions

Watch the following video



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## Station 2 – Video It

### Directions

Using Loom - make a video of about 3 minutes. Your video should include the following information, using the sentence stems right.



***"Sunlight is the main..."***

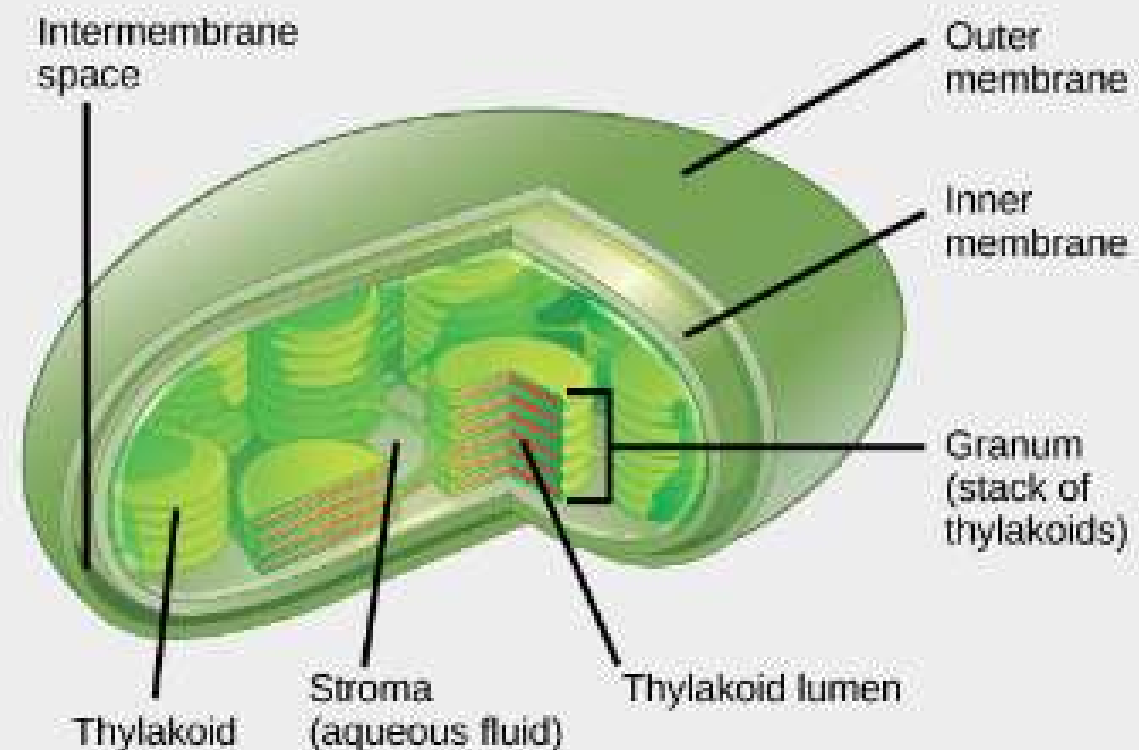
***"There are two different reactions in photosynthesis. They are..."***

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

***"Only certain organisms perform photosynthesis because..."***

# 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?***

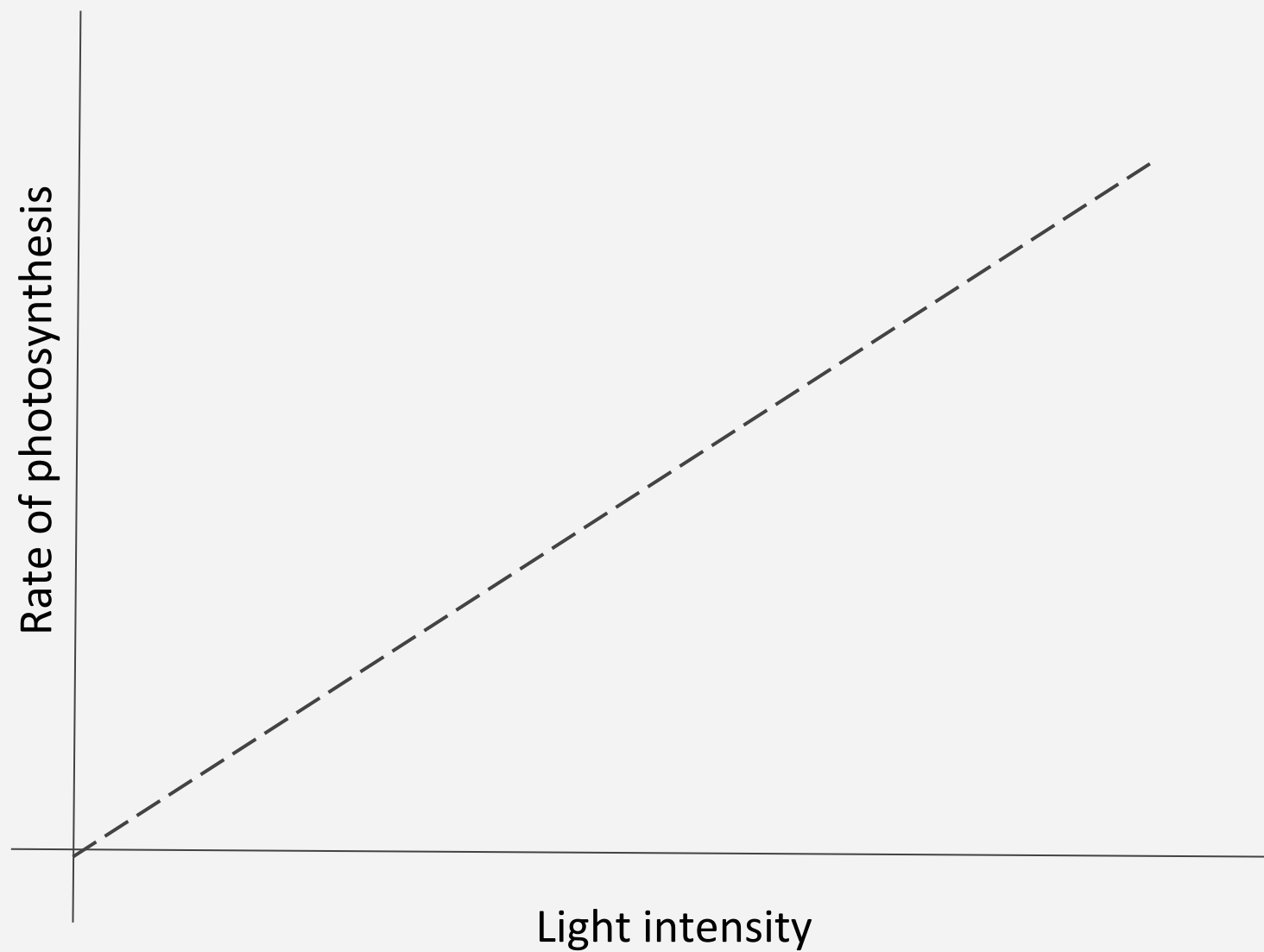




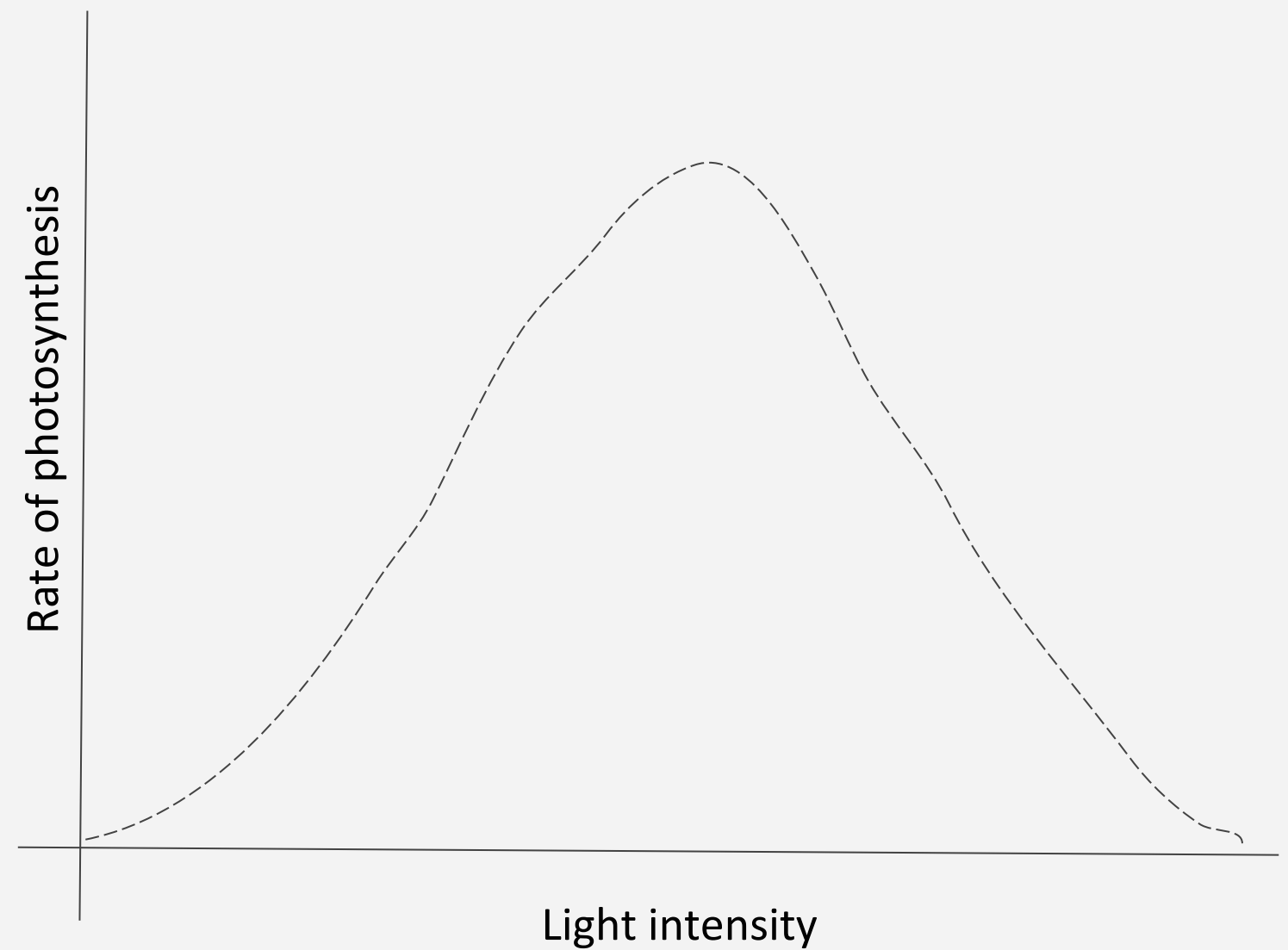
# Examine It

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 do the light reactions in photosynthesis make?*
- 2. Why do meat-eating animals like lions need photosynthesis to live?*
- 3. What would happen to the grey wolves if a volcano erupted and blocked sunlight with ash in part of Yellowstone National Park?*
- 4. How does closing the stomata slow down photosynthesis?*
- 5. What do ATP and NADPH do in photosynthesis?*
- 6. How and why would the results of photosynthesis change if a plant didn't have photosystem II?*
- 7. Think about a closed terrarium with a plant and a beetle. How do they help each other? Could they live if one of them wasn't there? Why or why not?*
- 8. How is the movement of energy like and different from the movement of nutrients in a sunny, closed ecosystem with a giraffe and a tree?*



# Perform It – Station 6

*Use the QR code right or follow the LINK here.*

## Directions

**One big idea about the first step of photosynthesis is that light energy is taken in by chlorophyll and used to split water and create a lot of hydrogen ions. How could you test the idea that sunlight is needed to split water during photosynthesis?**

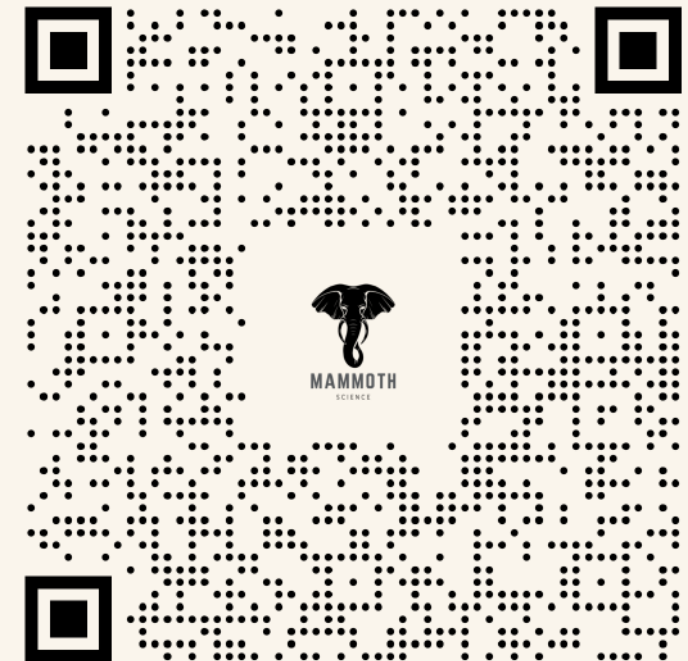
## Question 1

**Does the simulation show that sunlight is needed to split water during photosynthesis? Explain your answer with proof from the simulation.**

## Question 2

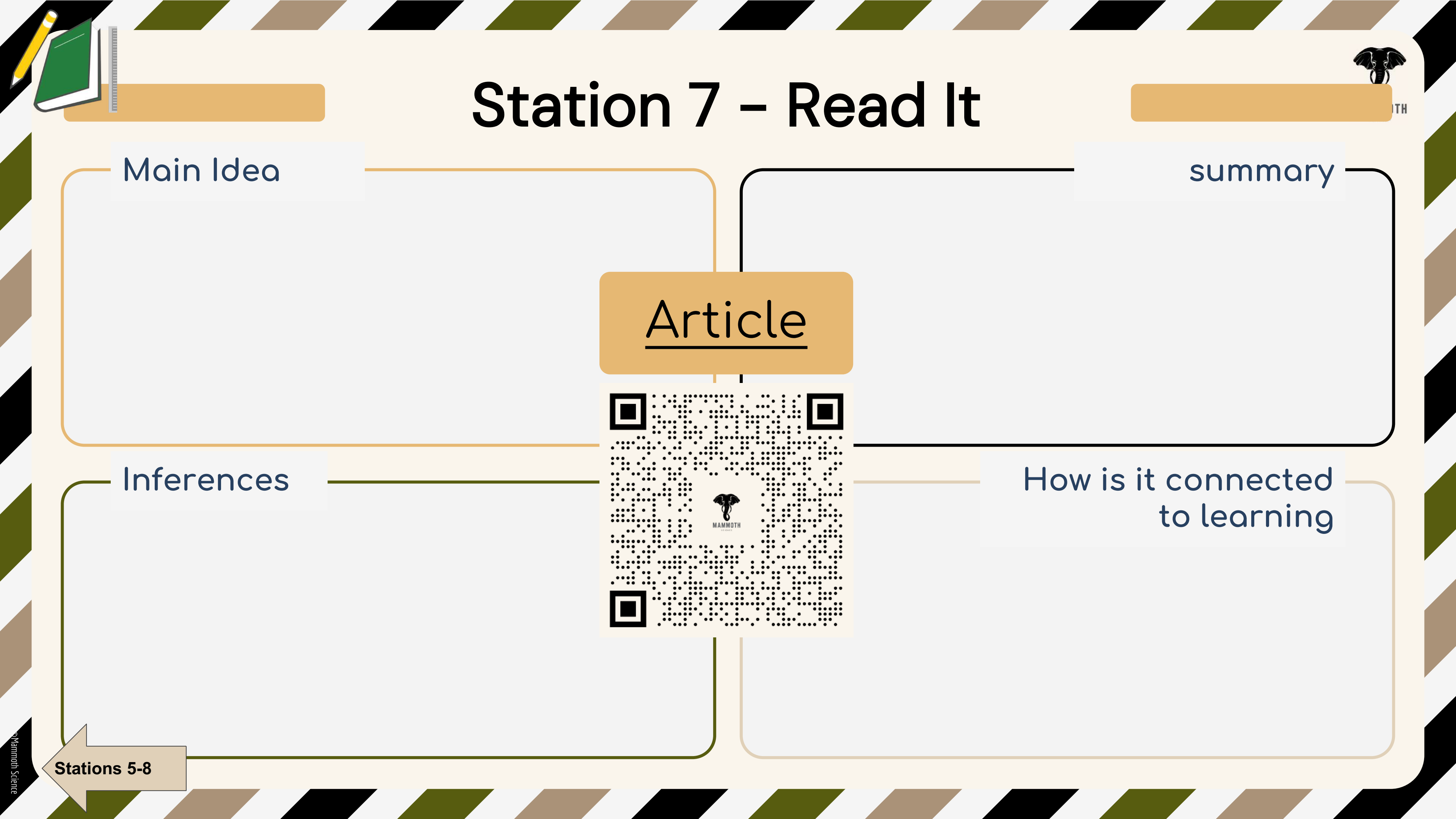
## Directions

Watch the following lab simulation



Answer  
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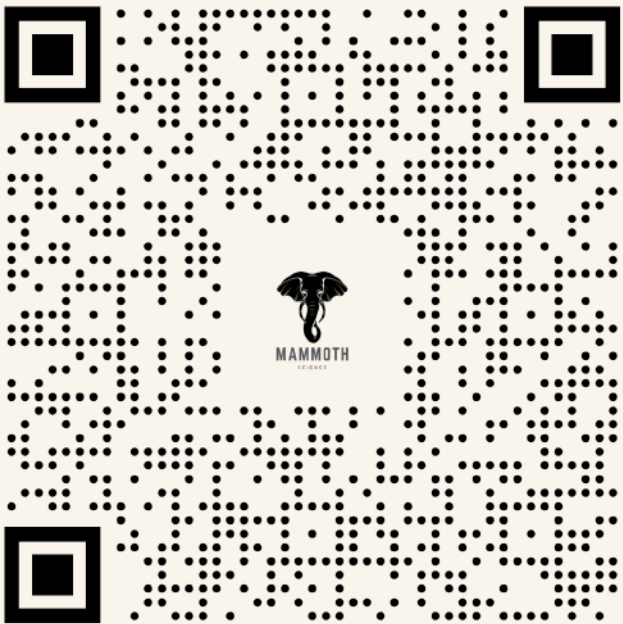


# Station 7 – Read It

Main Idea

summary

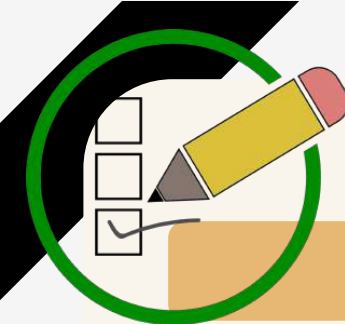
Article



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:

