

First Semester Warmups & Closures

- First Six Weeks
- Second Six Weeks
- Third Six Weeks





First Six Weeks

- Week 1: August 10th - 12th
- Week 2: August 15th - 19th
- Week 3: August 22nd - 25th
- Week 4: August 29th - September
2nd
- Week 5: September 5th - 9th
- Week 6: September 12th - 16th



First Six Weeks

Week 1: August 10th - 12th





Prior Knowledge

- Mission Statements
- Classroom Expectations
- Goal Setting - SMART
- Data Folders

Today's Objectives

The student will:

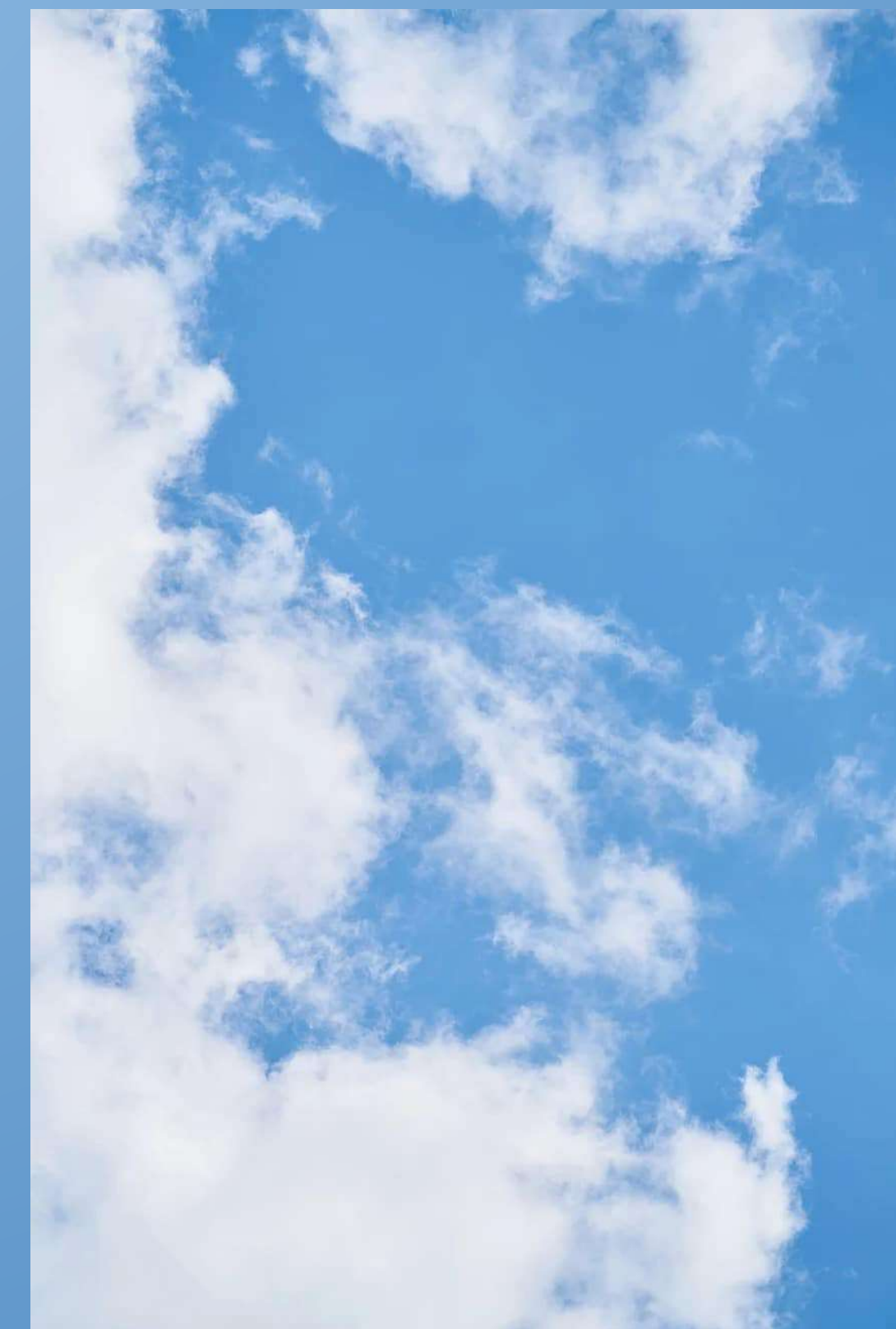
- Set class expectations
- Create class and personal Mission Statements
- Set your goal for this Six Weeks (PDSA)
- Set up your Data Folder

August

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Warm Up

- Watch the following on SMART Goals
- Start writing down on a piece of scratch paper, a few ideas on what you would like to accomplish this year.
- Be ready to discuss



5:00



Prior Knowledge

- Mission Statements
- Classroom Expectations
- Goal Setting - SMART
- Data Folders

Today's Objectives

The student will:

- Set class expectations
- Create class and personal Mission Statements
- Set your goal for this Six Weeks (PDSA)
- Set up your Data Folder

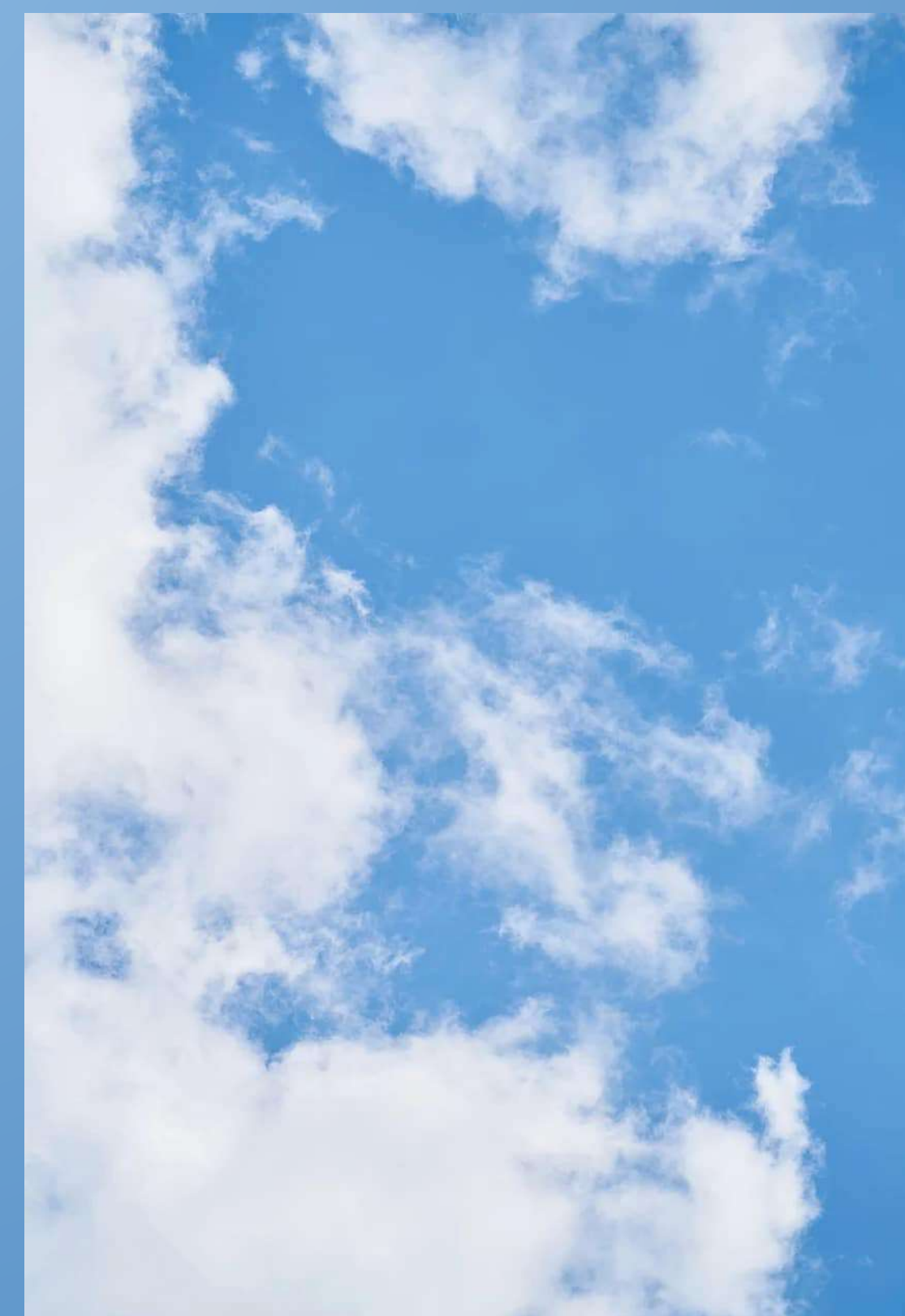
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Closure

On a small slip of paper, you can place your name or it can remain anonymous, write down the stem and complete the following:

1. *One thing I'm really good at in school when it comes to academics is....*
2. *One thing I've always struggled with in the classroom is ...*
3. *One thing I am changing this year over last is...*



5:00



Prior Knowledge

- **Molecules** vs Compounds
- **Macro** vs Micro
- Element: **Carbon**
- **Carbohydrates, Lipids, Proteins, & Nucleic Acids**

Today's Objectives

The student will:

- review definition of **Molecules**
- be able to differentiate between **macro** and micro molecules
- Understand Processes of **dehydration synthesis** & **Hydrolysis** pertaining to **monomers** & **polymers**
- Discuss **Carbohydrates** & **Lipids**

August

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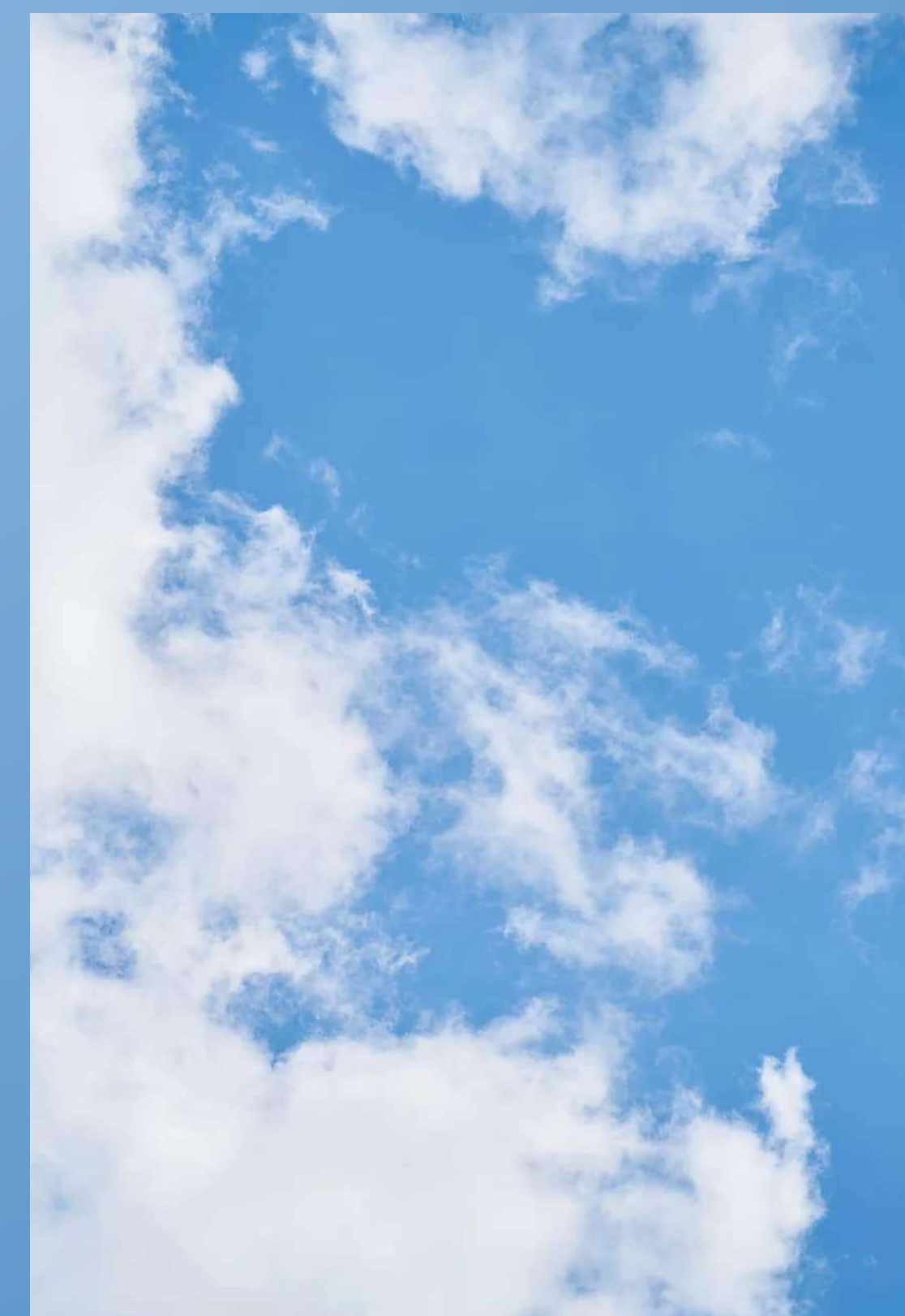
Warm Up

Look at the following terms:

- **Macromolecule / Micromolecule**
- **Monomer / Polymer**
- **Dehydration Synthesis / Hydrolysis**

On your warm up page/journal:

1. Using the following - **"I believe this word means _____ because _____"** - try to come up with your own definitions for the words listed above.
2. Then try to come up with a **picture** representing each and draw that next to each word/phrase.



5:00



Prior Knowledge

- **Molecules** vs Compounds
- **Macro** vs Micro
- Element: **Carbon**
- **Carbohydrates, Lipids, Proteins, & Nucleic Acids**

Today's Objectives

The student will:

- review definition of **Molecules**
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- Understand Processes of **dehydration synthesis** & **Hydrolysis** pertaining to **monomers & polymers**
- Discuss **Carbohydrates & Lipids**

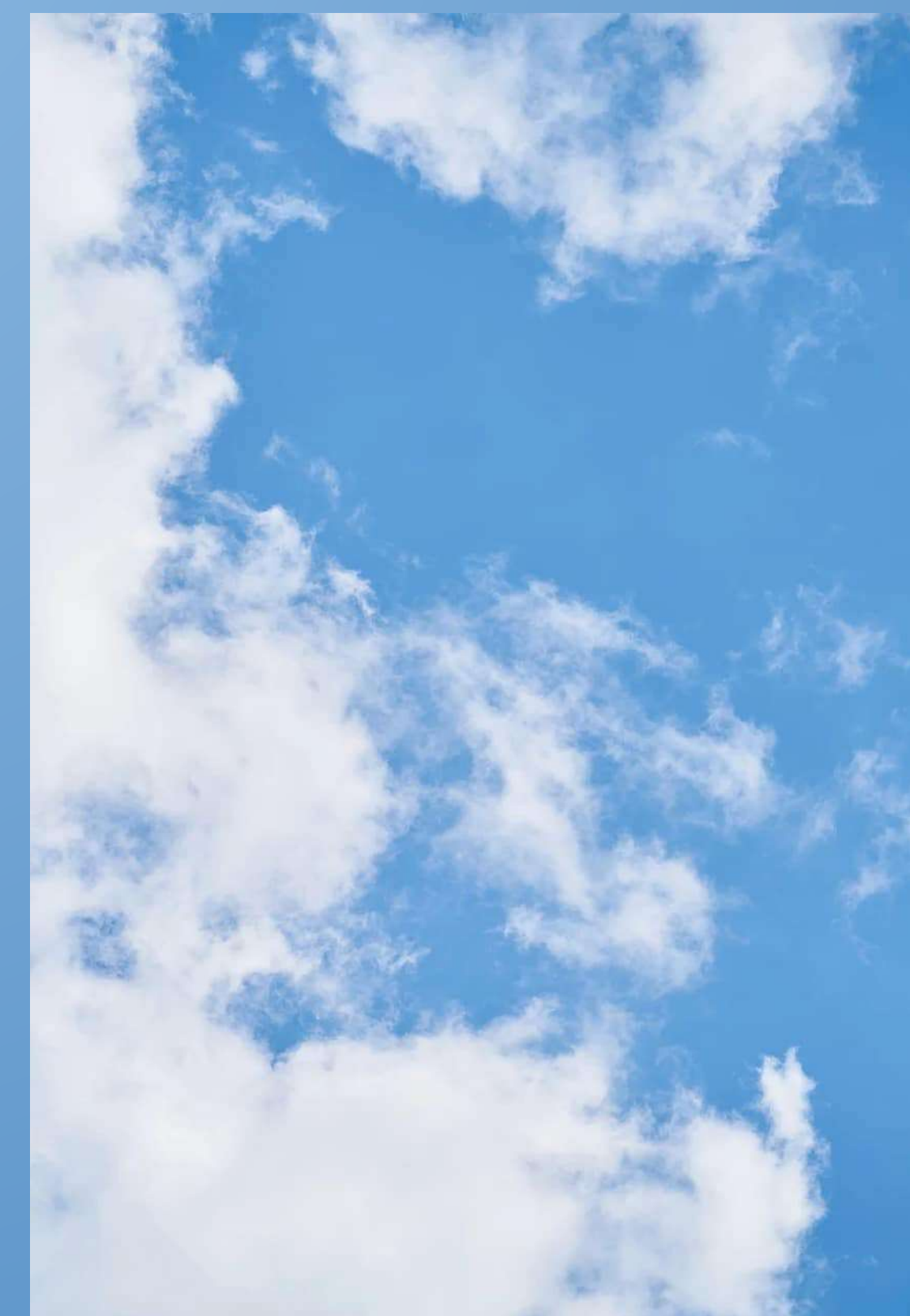
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Closure

On the following **jamboard**: post what

1. **Dehydration synthesis**
2. **Hydrolysis**
3. **Monomers**
4. **Polymers**



5:00



Prior Knowledge

Carbohydrates & Lipids:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body

Today's Objectives

The student will:

- Differentiate between **Carbohydrates** and **Lipids** in terms of:
 1. Function
 2. Structure
 3. Examples
 4. **Monomer/Polymer** System

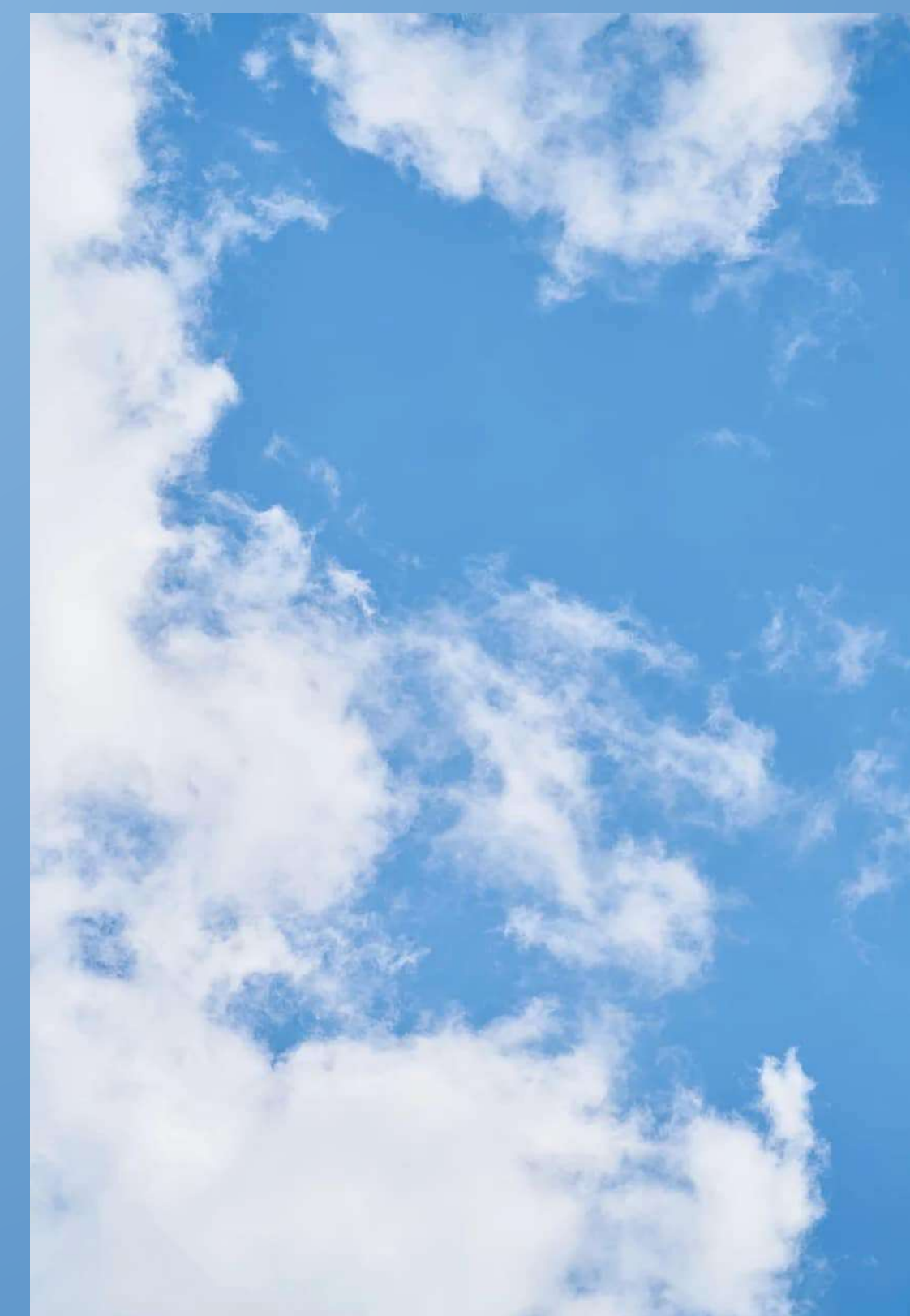
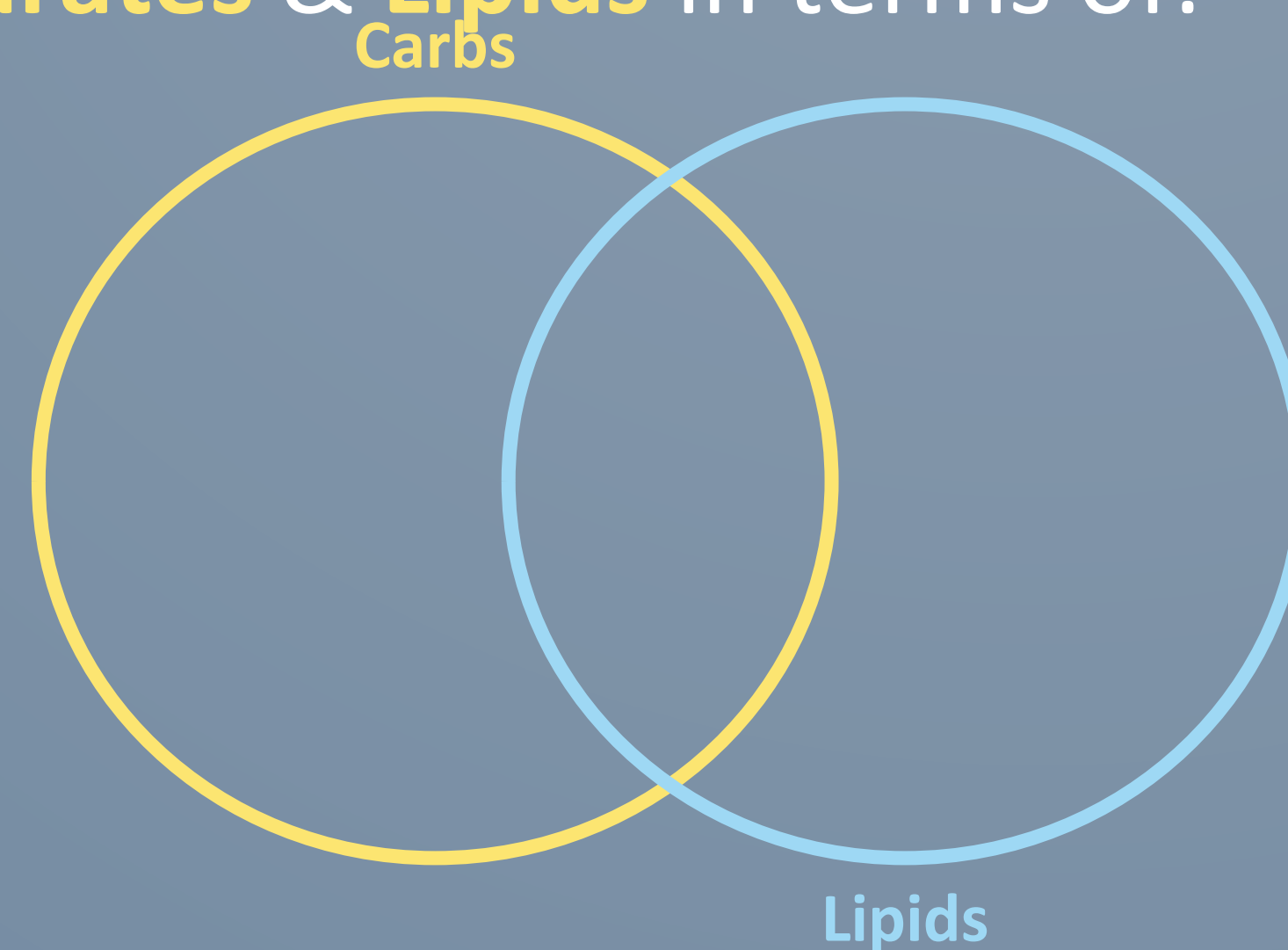
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Warm Up

On the Venn Diagram in your journal / Warm up sheet:
Compare and Contrast - **Carbohydrates** & **Lipids** in terms of:

1. Function
2. Structure
3. Examples
4. **Monomer/Polymer** System



5:00



Prior Knowledge

Carbohydrates & Lipids:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body

Today's Objectives

The student will:

- Differentiate between **Carbohydrates** and **Lipids** in terms of:
 1. Function
 2. Structure
 3. Examples
 4. **Monomer/Polymer** System

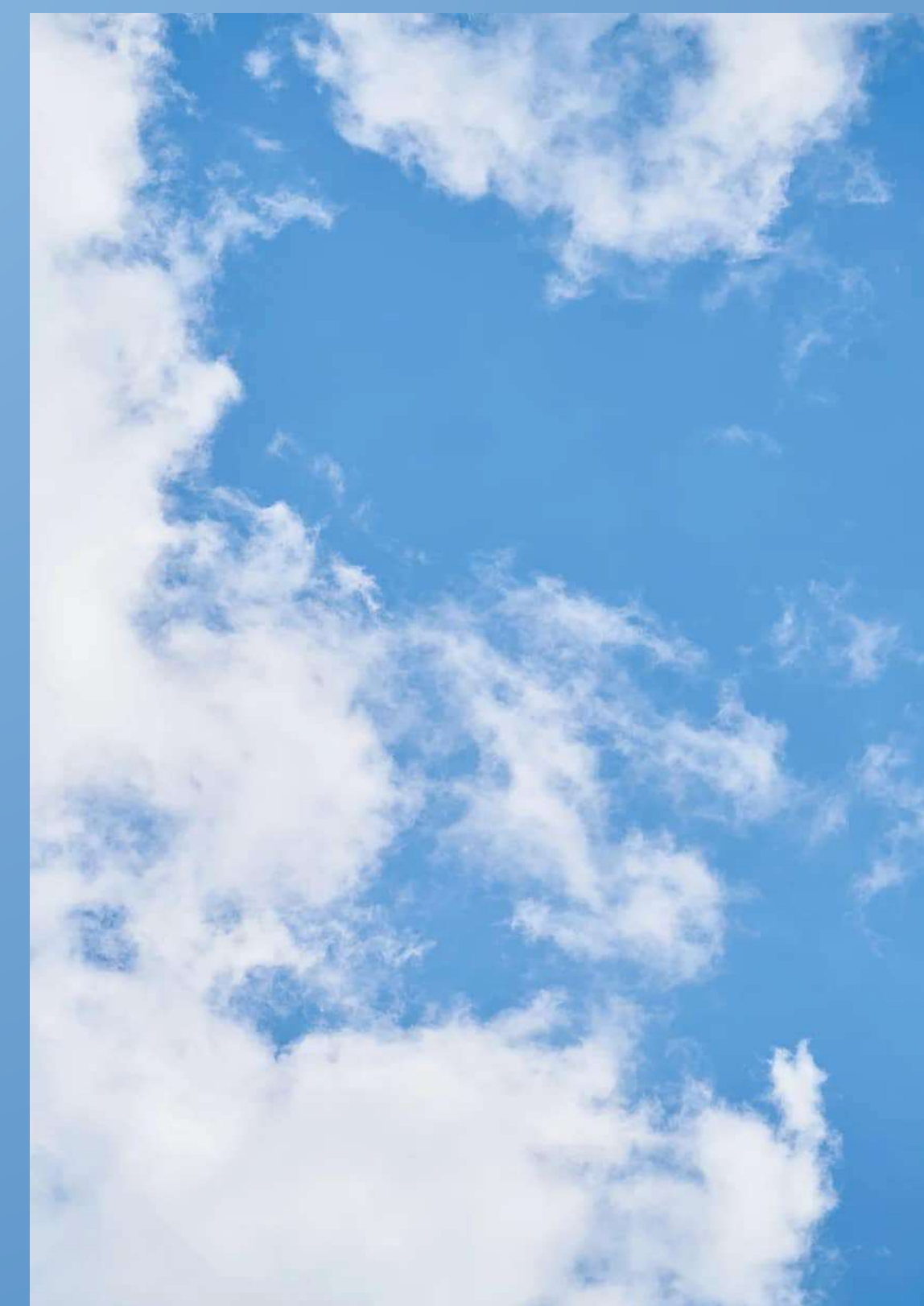
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Closure

Open Flipgrid (<https://flipgrid.com/dafe1dec>) - compare and contrast **Proteins** & **Nucleic Acids**

1. Function
2. Structure
3. Examples
4. **Monomer/Polymer** System



5:00



First Six Weeks

Week 2: August 15th - 19th



Prior Knowledge

Proteins & Nucleic Acids:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body

Today's Objectives

The student will:

- Differentiate between **Proteins** and **Nucleic Acids** in terms of:
 1. Function
 2. Structure
 3. Examples
 4. **Monomer/Polymer** System

August

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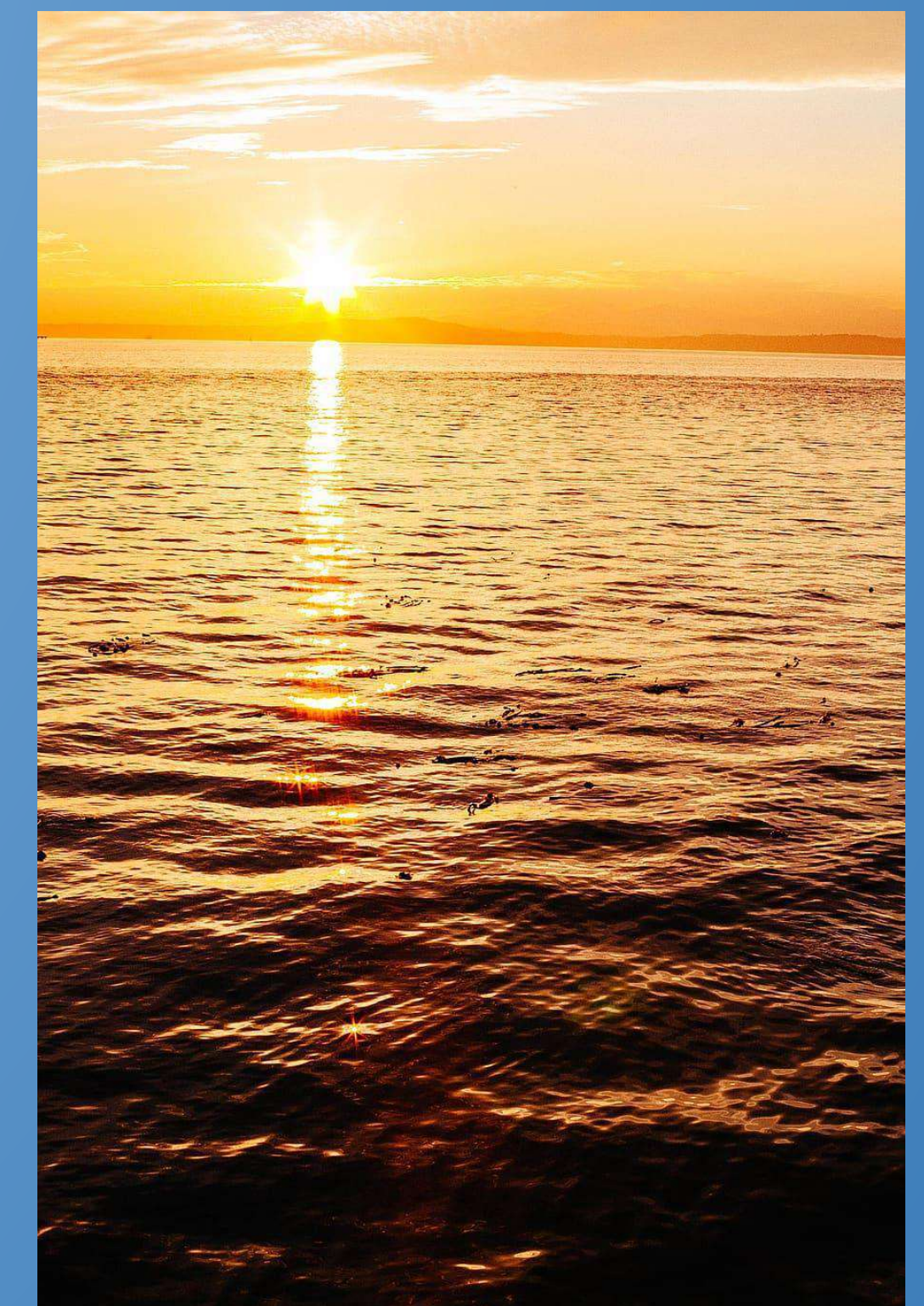
Warm Up

Evaluate the following statement with your shoulder partner:

*Proteins have a monomer called a **nucleotide which is the source of our genetic code**. Its main function is for **immediate cellular energy**. The polymer of a protein is called a **polysaccharide** is made of a chain of **nucleotides** held together by **hydrogen** bonding.*

Rewrite the following statement with what you discussed as the corrections that need to be made in order for the above statement to be true.

5:00





Prior Knowledge

Proteins & Nucleic Acids:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body

Today's Objectives

The student will:

- Differentiate between **Proteins** and **Nucleic Acids** in terms of:
 1. Function
 2. Structure
 3. Examples
 4. **Monomer/Polymer** System

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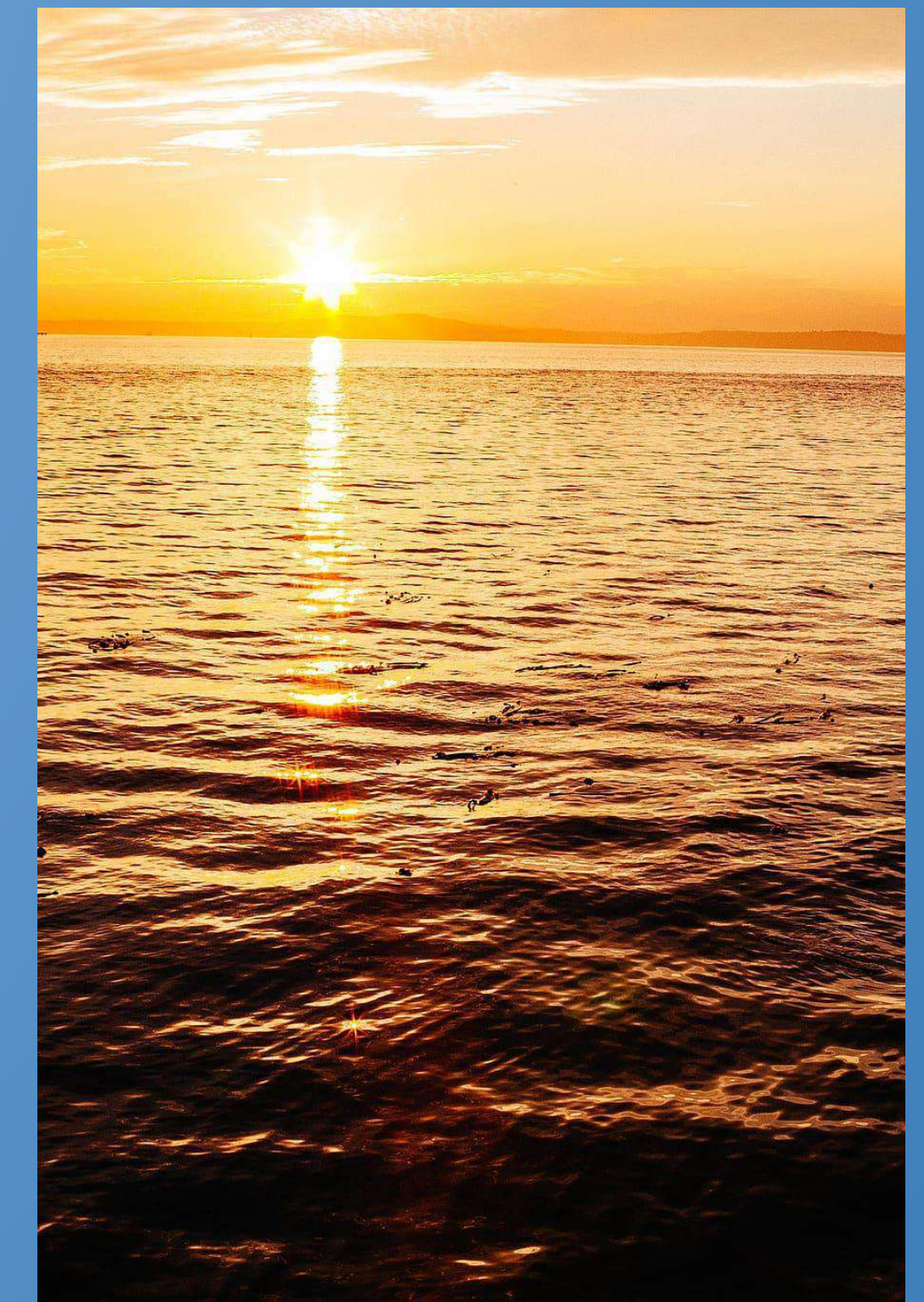
Closure

In a quickwrite (3-5 sentences on your Warm up page or journal), summarize the role of each macromolecule in the body in terms of how we take them in in specific foods, to how they are utilized inside the body.

Some Sentence stems:

- *The macromolecules found in the body are...*
- *We can get each macromolecule from....*
- *When we receive those macromolecules during....then the cells use them by....*
- *The only macromolecule that we don't receive by...is because...*

5:00





Prior Knowledge

All **Macromolecules**:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body
- Biological Tests / Reagents

Today's Objectives

The student will:

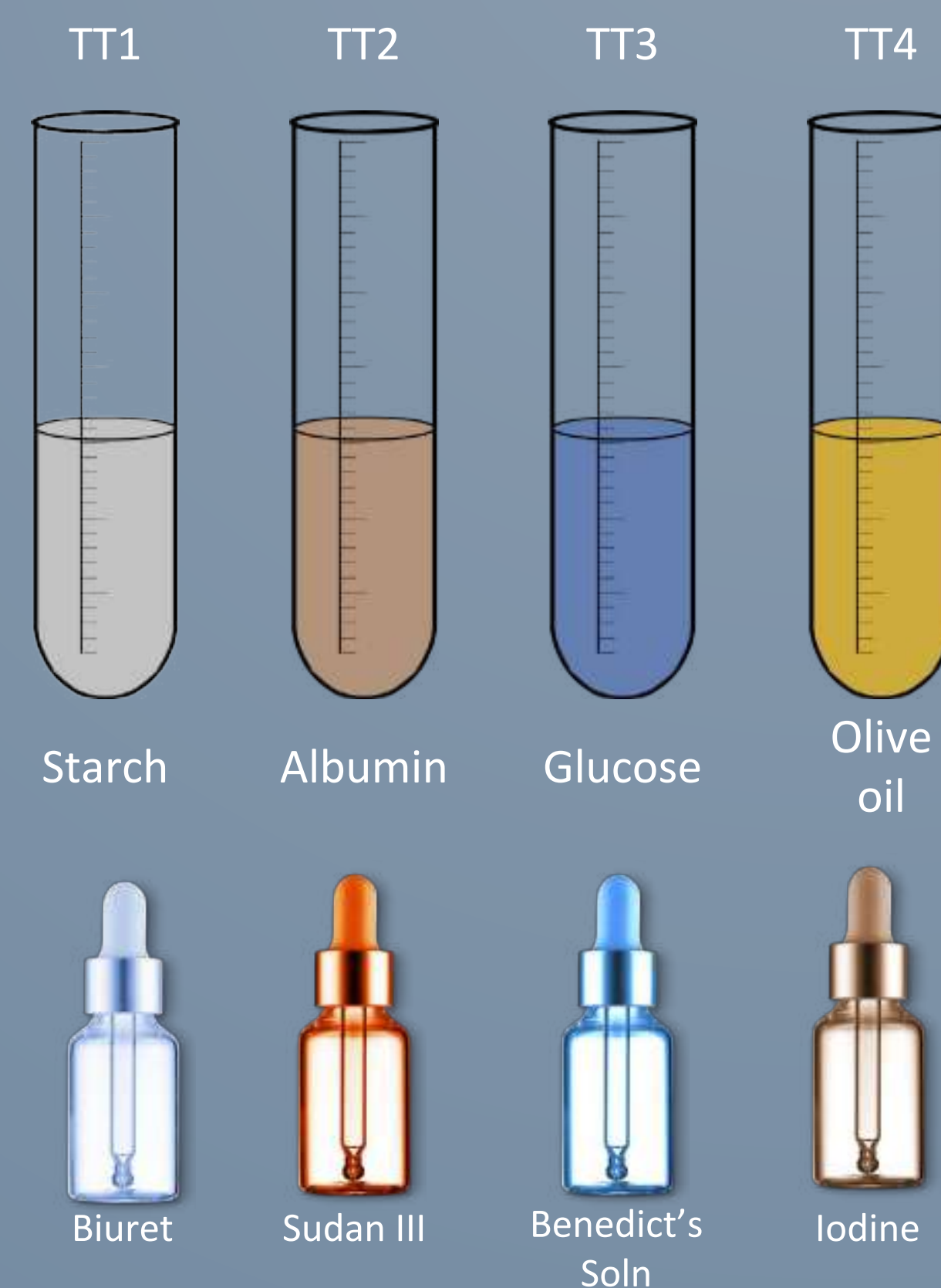
- Differentiate between **all Macromolecules** in terms of:
 1. Function
 2. Examples
 3. **Monomer/Polymer** System
 4. Reagent testing

August

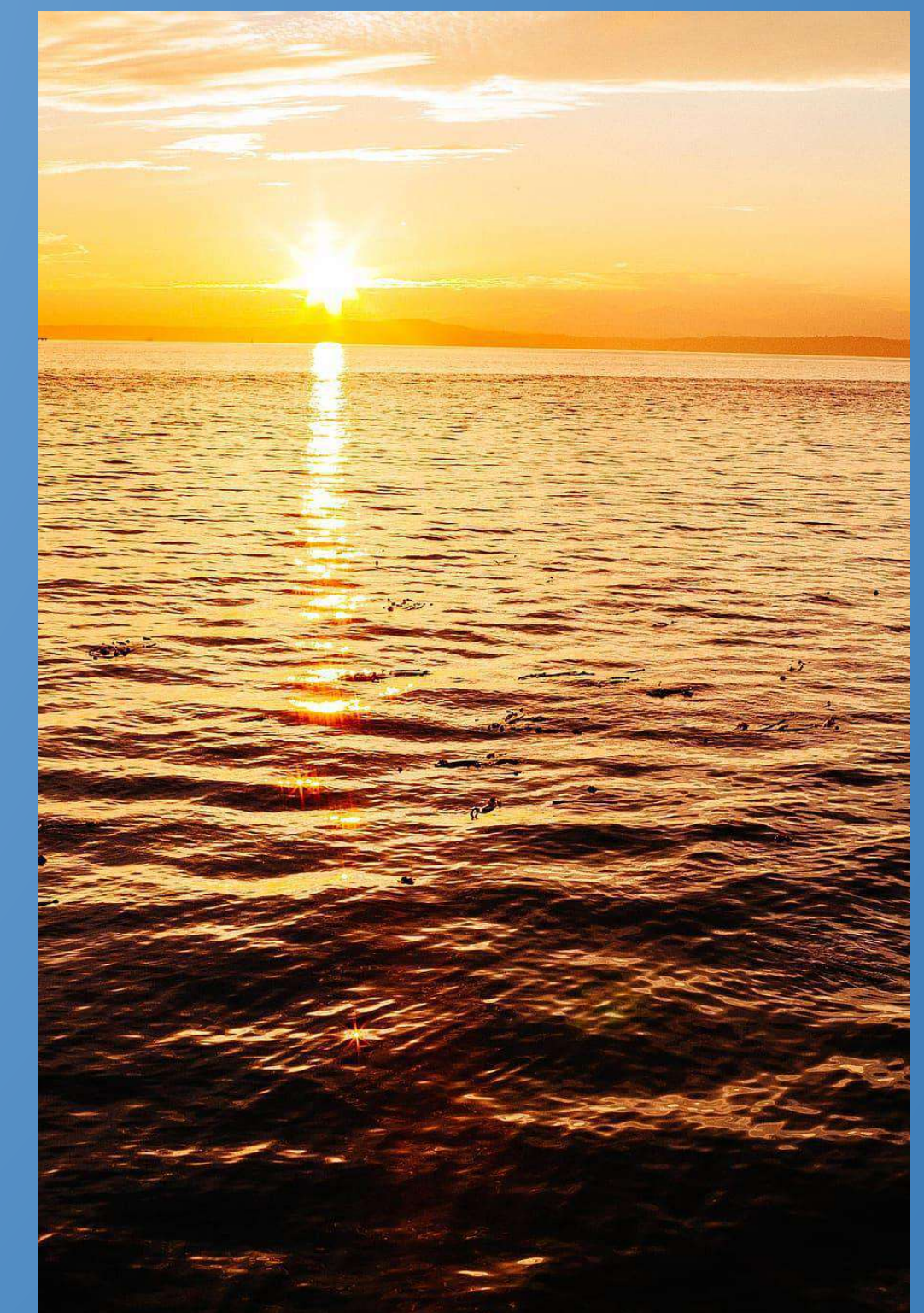
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Warm Up

Applying your current knowledge of **Macromolecules** and the discussion of how each of these react with certain testing solutions, describe for me how each Macromolecules tested will react with a different **reagent**. Illustrate a positive and negative indicator for each type of macromolecule tested.



5:00





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Today's Objectives

The student will:

- Differentiate between **all Macromolecules** in terms of:
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August

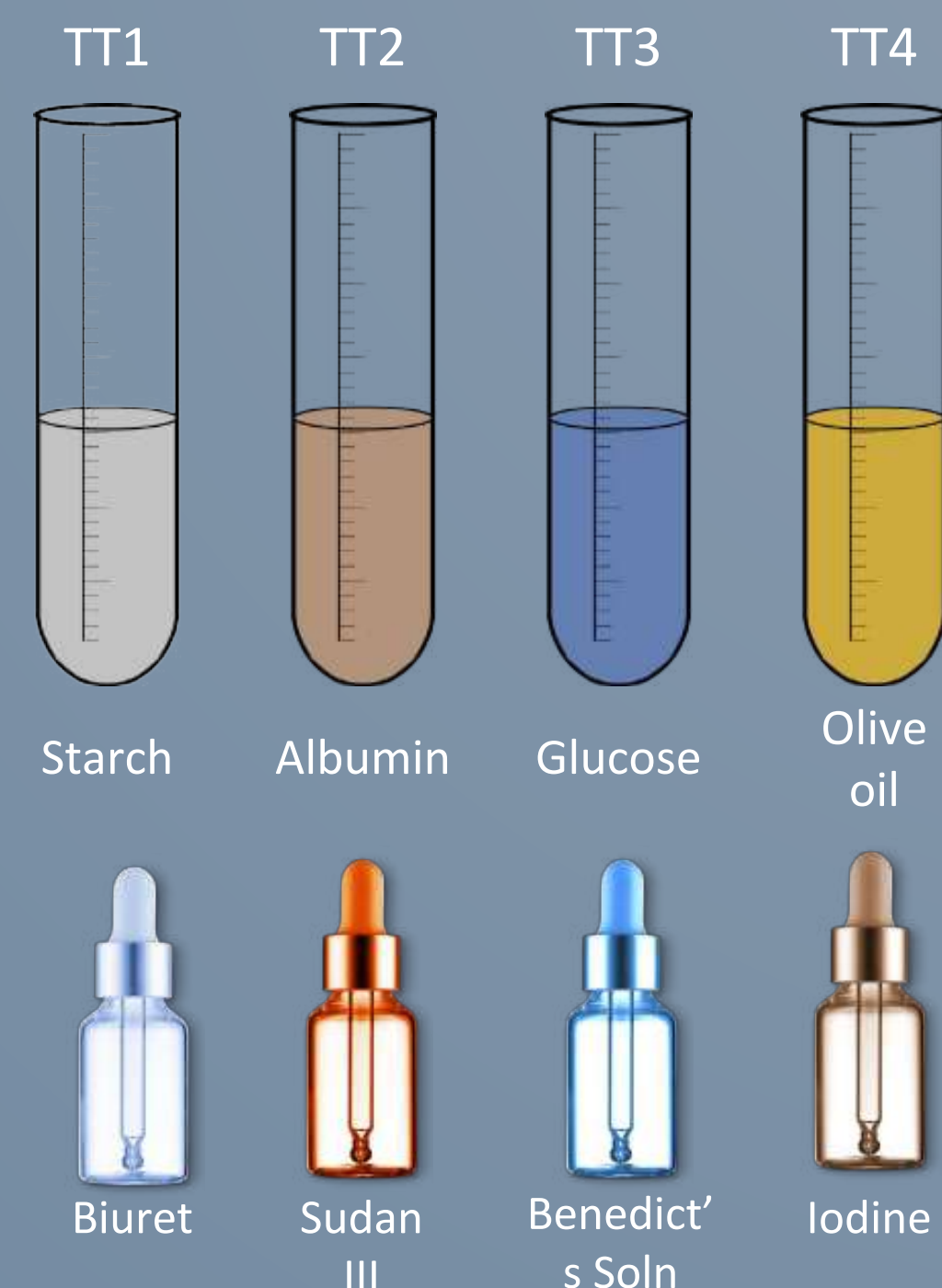
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Closure

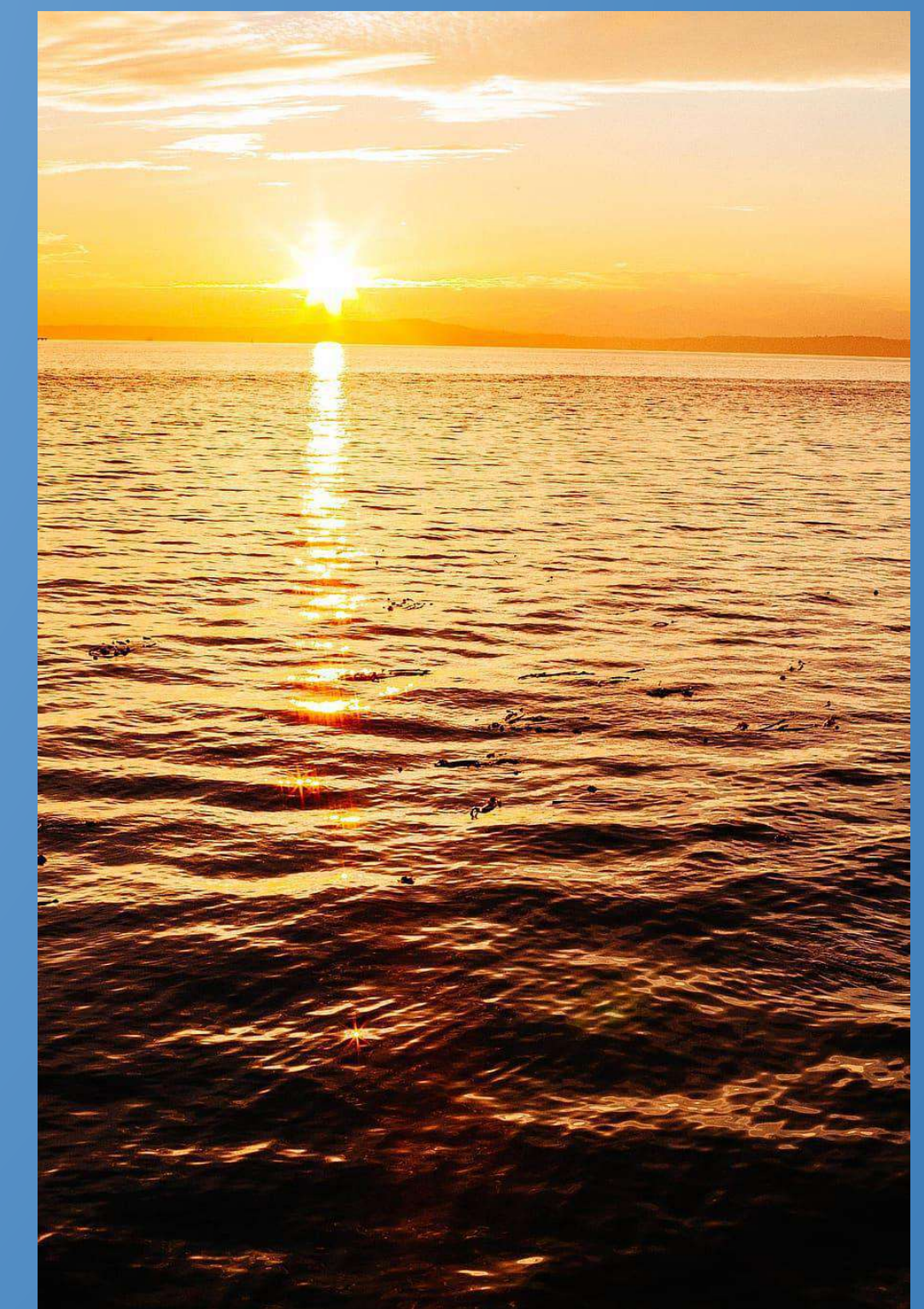
Make a flipgrid (<https://flipgrid.com/898fbbf2>) highlighting your tests in lab. Include a description of all reagents, tested solutions, and reactions - in another words, your conclusion to the lab.

Stems:

- "The items tested today were..."
- "A positive indicator for each was..."



5:00





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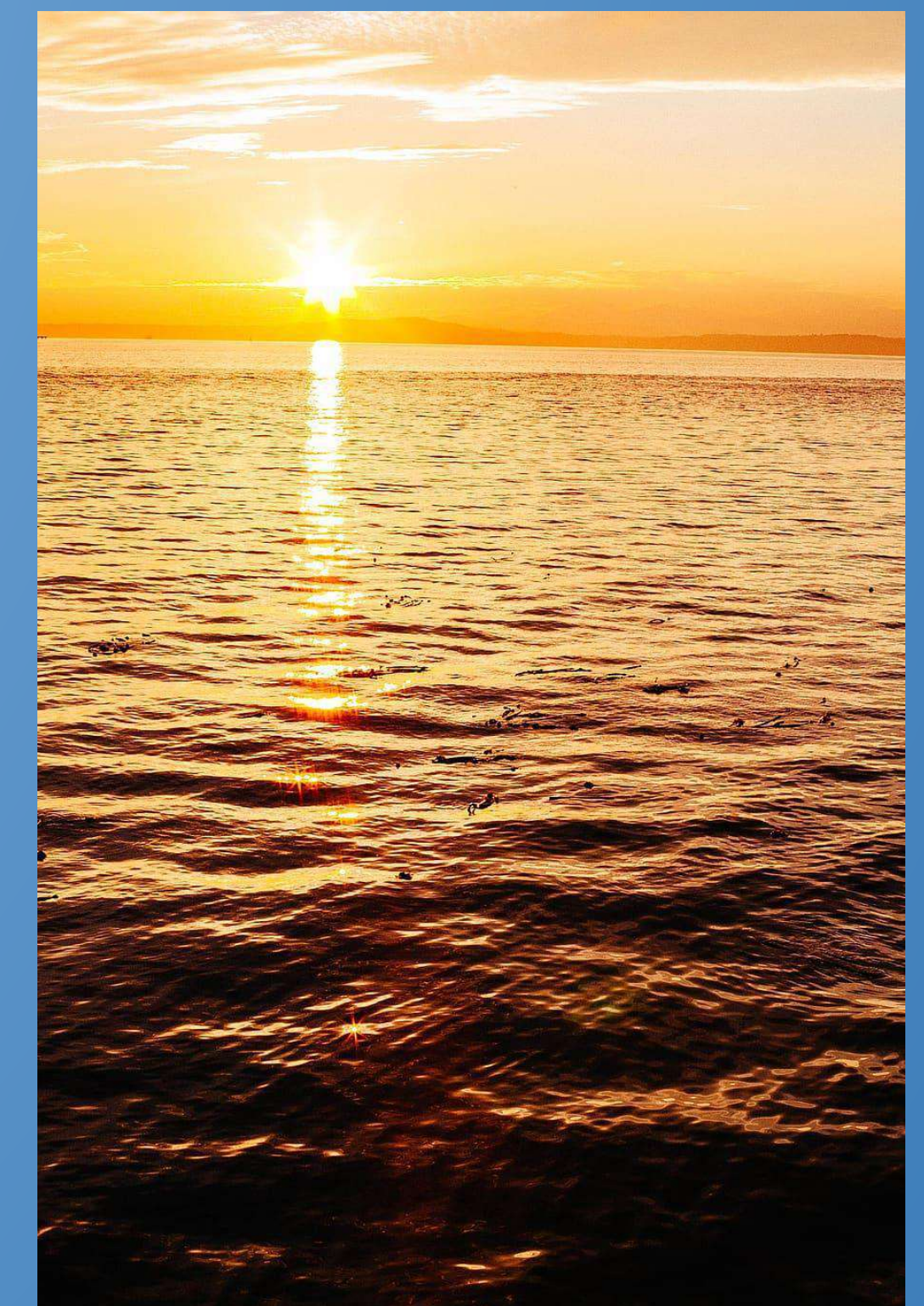
Warm Up

Using your testing strategies - which one of the following answer choices is the best answer? Why?

Proteins and polysaccharides are polymers. These polymers are formed by dehydration synthesis. Which statement correctly identifies a difference in the structure of proteins and polysaccharides?

- F** Only polysaccharides are comprised of repeating units of cytosine, adenine, guanine, and thymine.
- G** Only proteins are formed from amino acids joined by peptide bonds.
- H** Only polysaccharides can be folded and twisted to very specific shapes.
- J** Only proteins can be large molecules with thousands of subunits.

5:00





Prior Knowledge

All **Macromolecules**:

- Structure
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Today's Objectives

The student will:

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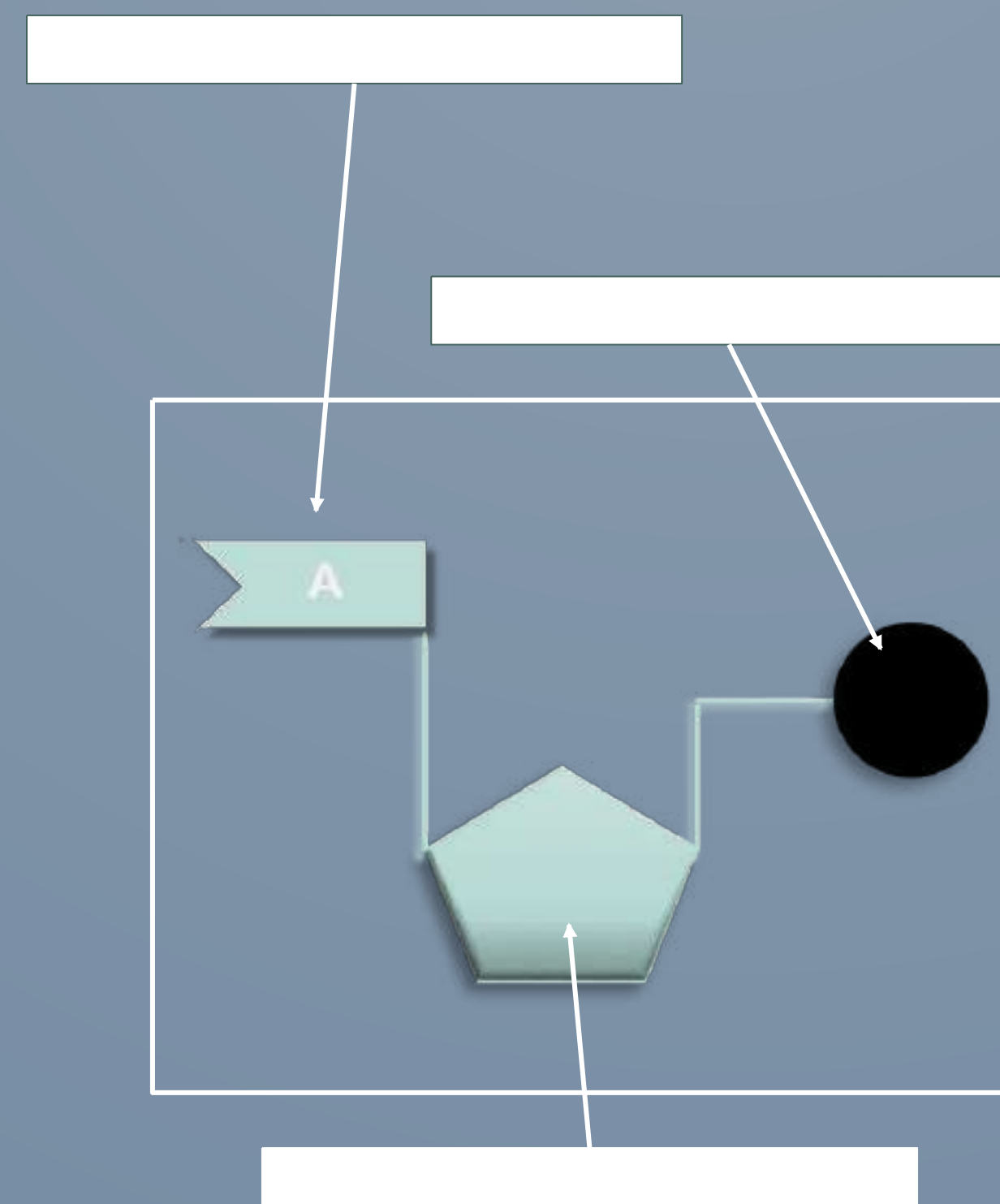
Closure

In a quickwrite (3-5 sentences on your Warm up page or journal), briefly describe the Nucleic Acid.
In your description:

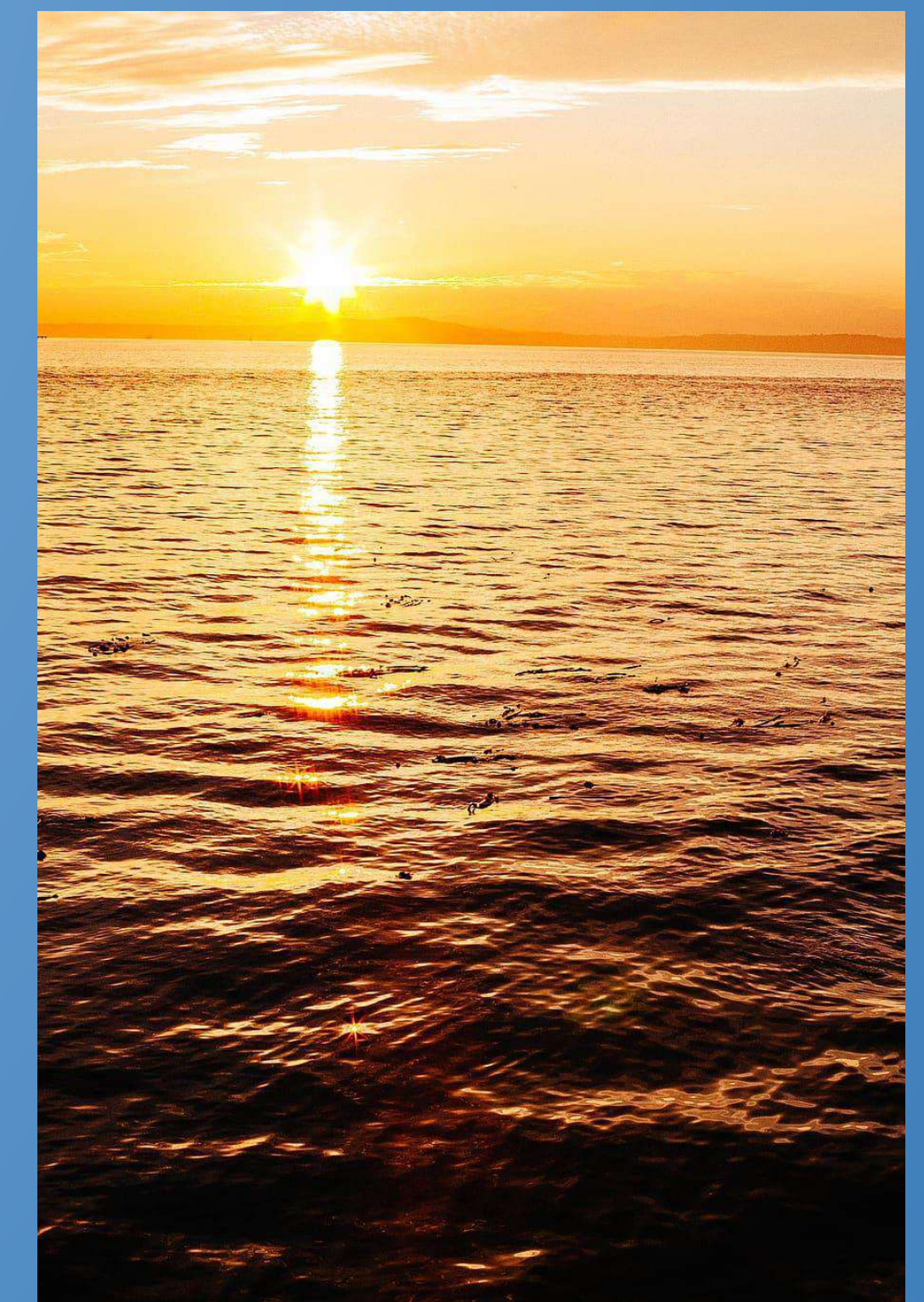
1. Name the monomers/polymers
2. Structure of the monomer (3 different parts) and the function of each - Draw it
3. Differentiate between types of polymers - names, functions...

Some Sentence stems:

- *The Nucleic Acids found in the body are...*
- *We can get each type of nucleic acids from....*
- *The parts of the monomer of the nucleic acids are....*
- *The bonding patterns of nitrogenous bases/molecular bases in each polymer are...*



5:00





Prior Knowledge

All **Macromolecules**:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body
- Biological Tests / Reagents

Today's Objectives

The student will:

- Differentiate between **all Macromolecules** in terms of:
 1. Function
 2. Examples
 3. **Monomer/Polymer** System
 4. Reagent testing
 5. Jamboard Word Wall

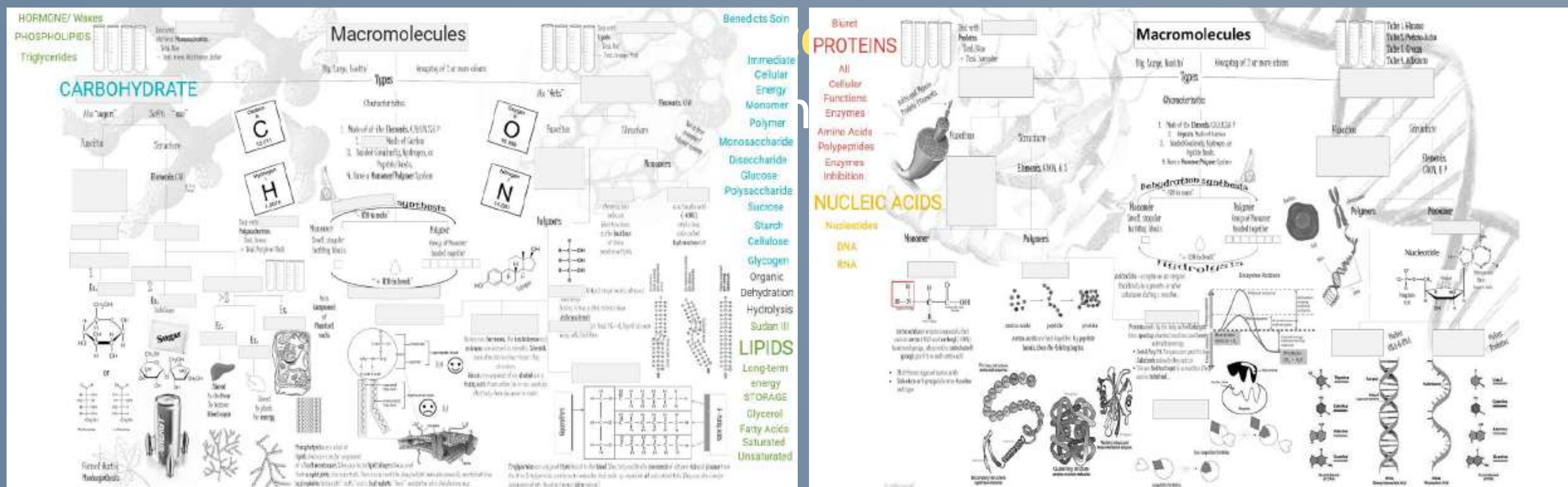
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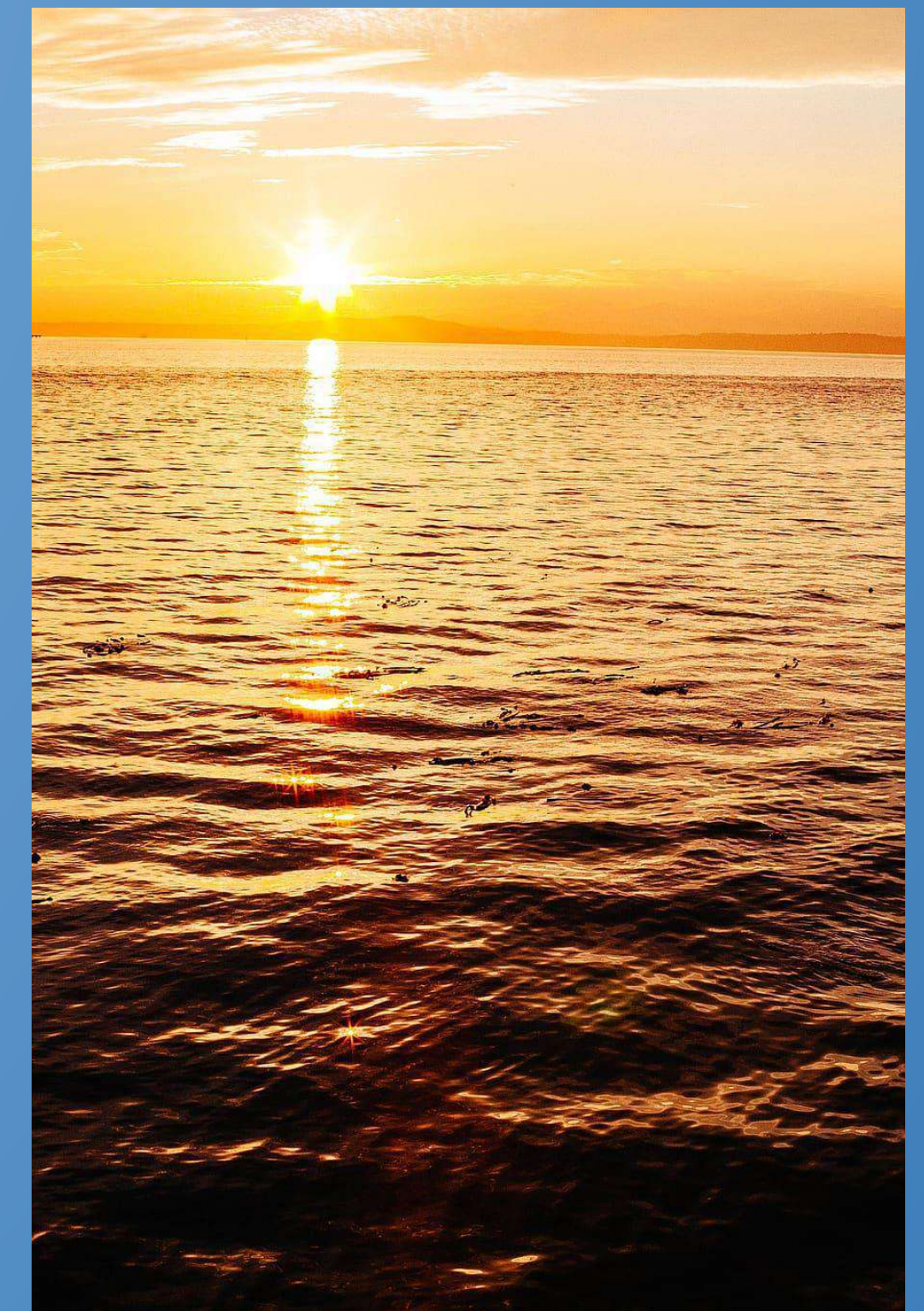
Warm Up & Closure

Open the following Jamboard - [LINK](#).

1. **WARMUP**: Fill out the **Carbohydrates** and **Lipids** portion



5:00



Prior Knowledge

All **Macromolecules**:

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The student will:

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August



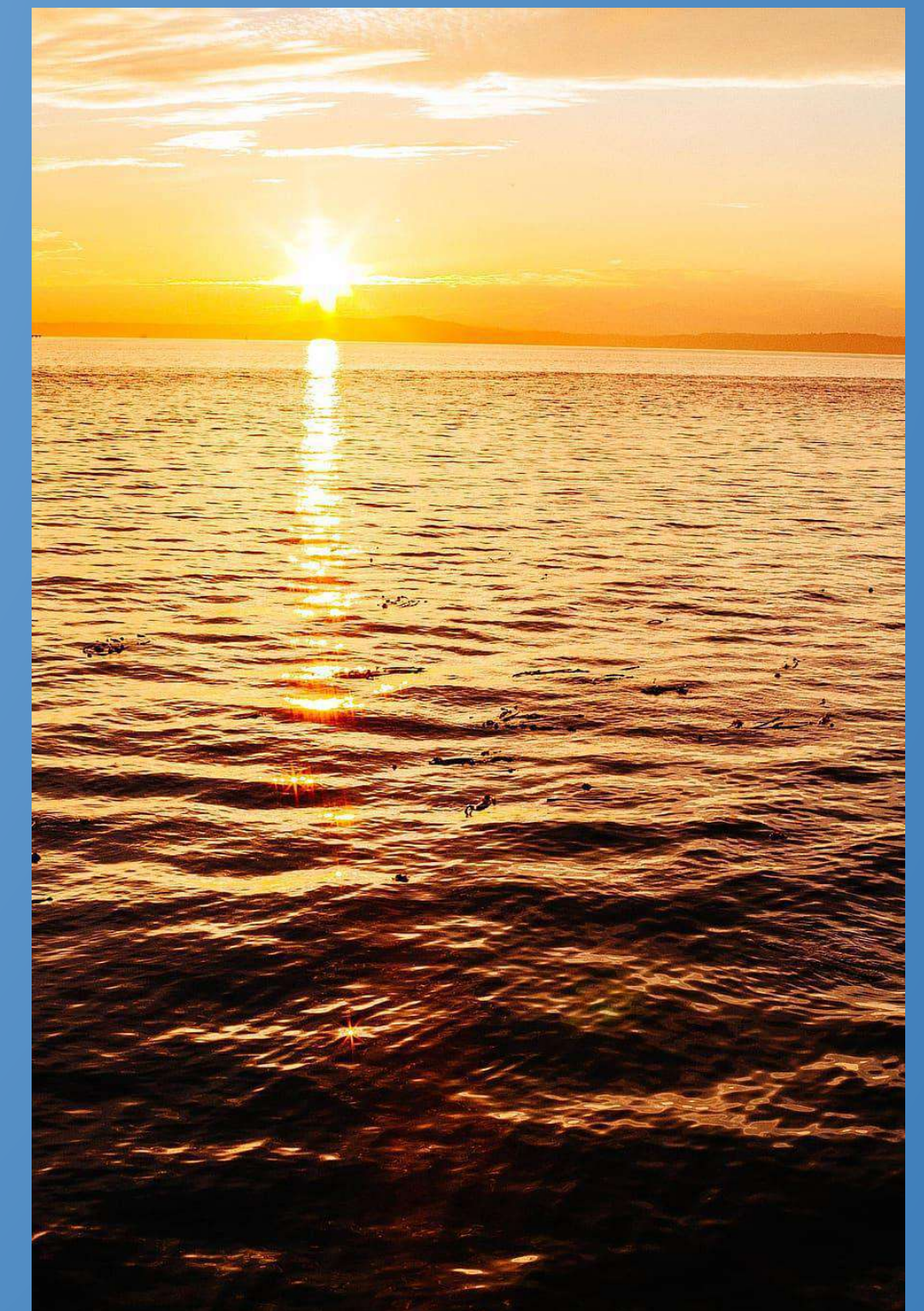
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Warm Up

Write an exam question about the macromolecules unit thus far. Your questions should include the following:

1. A knowledge questions pertaining to one of the macromolecules - Compare and Contrast, Description, Evaluate a statement as correct or incorrect...
2. An image may be included
3. If multiple choice, provide answer choices
4. If short answer, provide the correct answer with a justification

5:00





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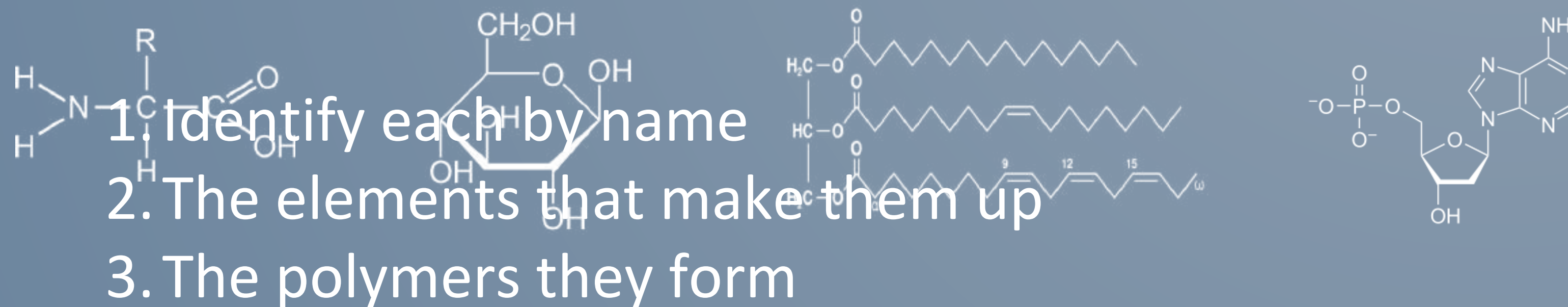
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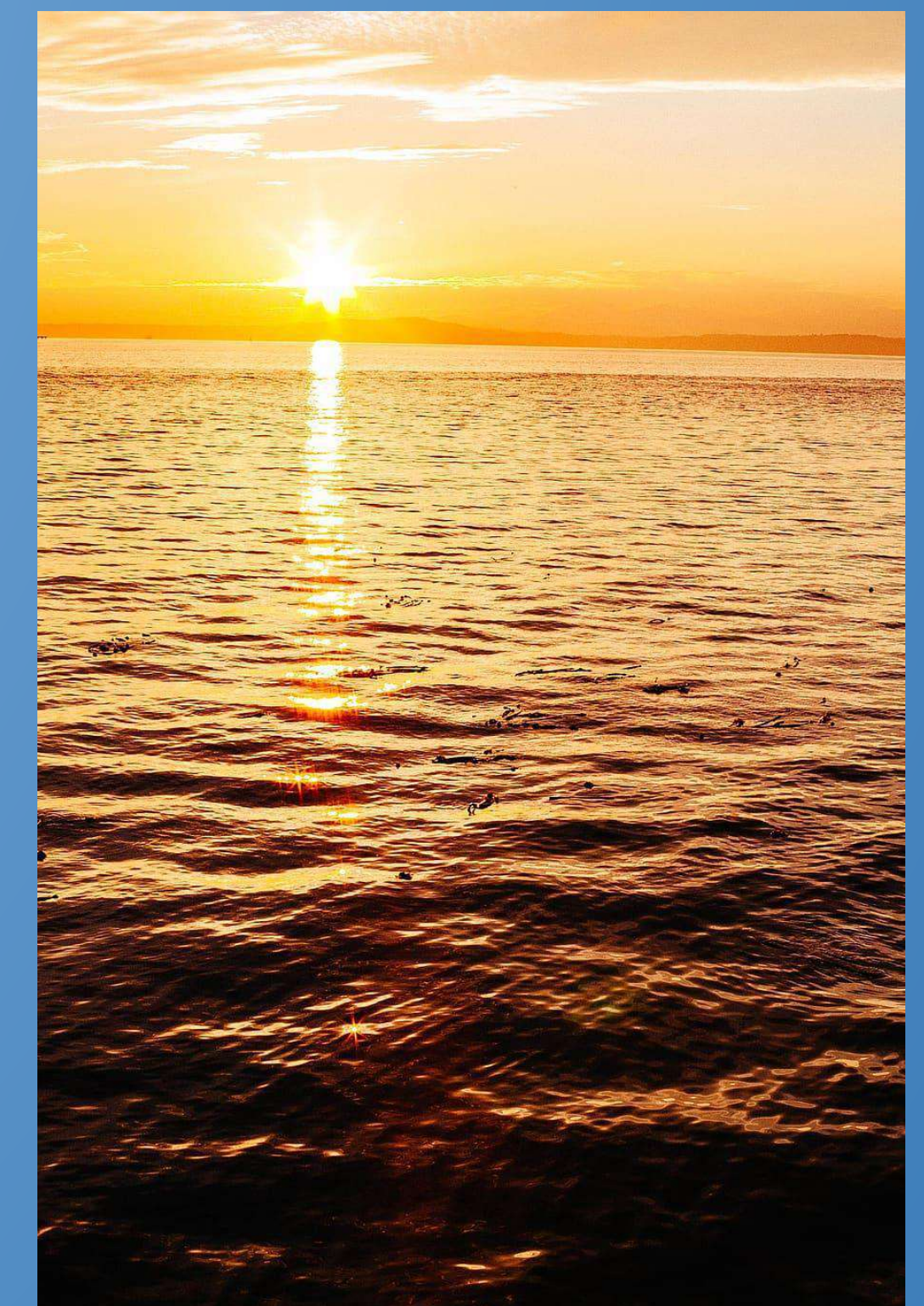
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Closure

Using the following images:



5:00



First Six Weeks

Week 3: August 22nd - 25th





Prior Knowledge

All **Macromolecules**:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body
- Biological Tests / Reagents

Today's Objectives

The student will:

- Differentiate between **all Macromolecules** in terms of:
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Warm Up

Students will view a real-time video, <https://www.youtube.com/watch?v=3AUIUH4-13Q>, about what happens in the stomach when a person eats. They will then discuss with a shoulder partner to begin thinking about why the video was shown...



5:00





Prior Knowledge

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Closure

Describe a dinner a marathon runner would eat the night before running the Boston Marathon, and give reasons for your food choices.



5:00





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Warm Up



You are competing in a 50-day survival challenge and can choose only one type of food to bring. What food do you choose and why: lard, meat, or bread?

5:00





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Closure

Fill out the Following table

Type of Molecule	Monomer	Polymer	Function	Shape
Carbohydrate				
Lipid				
Protein				
Nucleic Acid				

5:00





Prior Knowledge

All **Macromolecules**:

- Structure
- Function
- Elements contained in each
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Today's Objectives

The student will:

1. Be able to determine the effectiveness of Enzymes
2. Compare and contrast enzymes vs products
3. Identify and describe an enzyme reaction both in image and energy graph

August

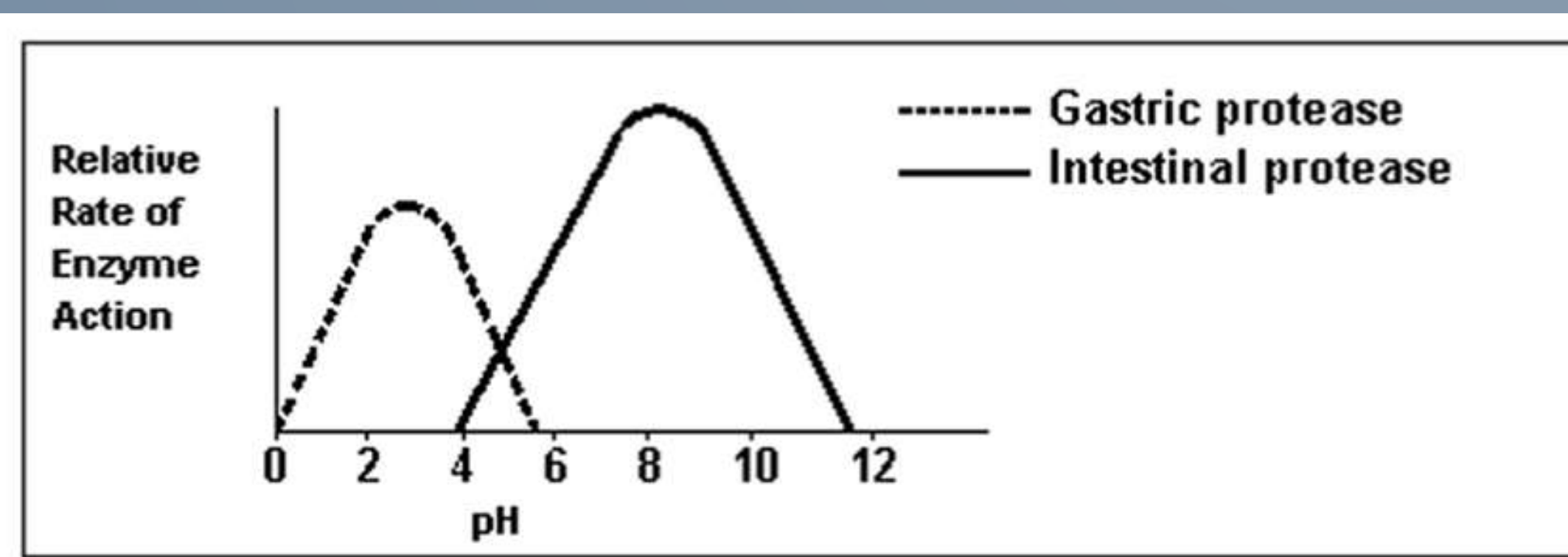
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Warm Up

Answer the following question regarding **enzymes** - provide a short response to why you believe it is correct.

Base your answer on the result of mixing both enzymes

- A. only gastric protease
- B. intestinal protease will
- C. both enzymes would
- D. gastric protease would be more active than intestinal protease at pH 6



5:00





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Closure

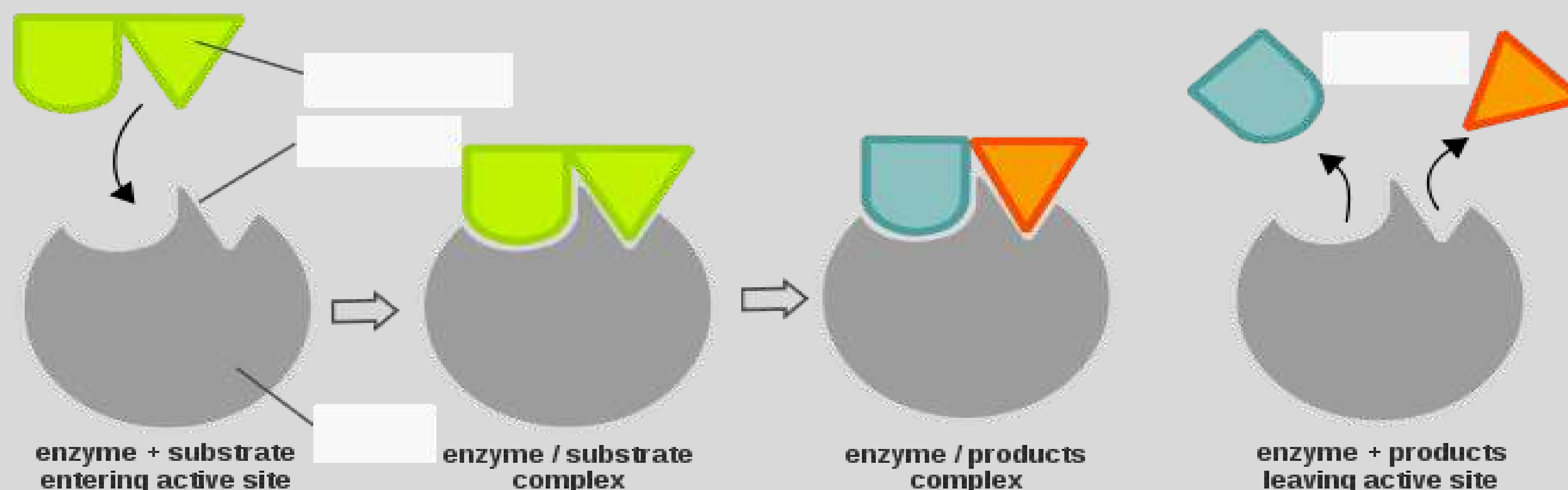
Label the following diagram -

Substrate

Enzyme

Active Site

Products



5:00





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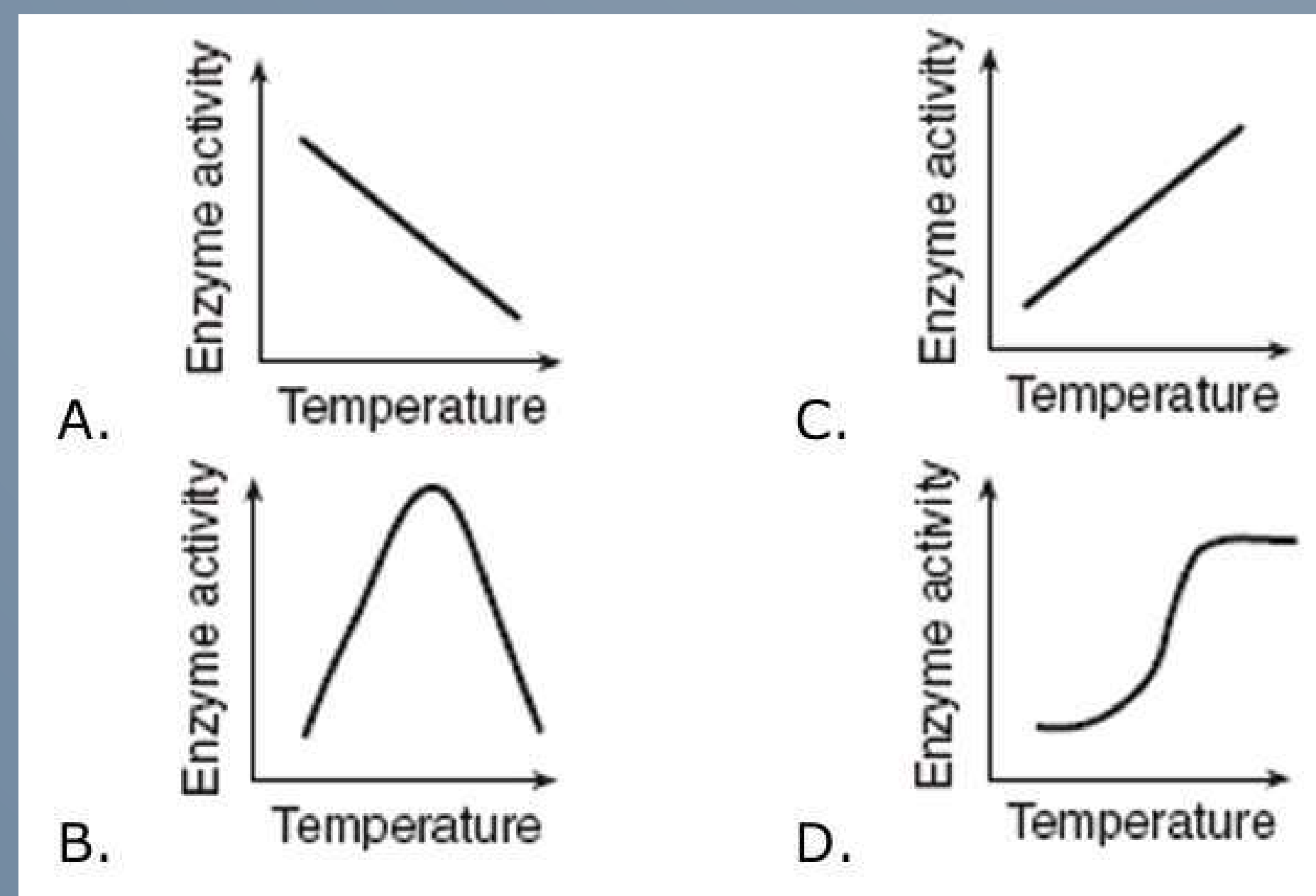
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Warm Up

Enzymes have an optimum temperature at which they work best. Temperatures above and below this optimum will decrease enzyme activity. Which graph best illustrates the effect of temperature on enzyme activity? Why?



5:00





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Today's Objectives

The student will:

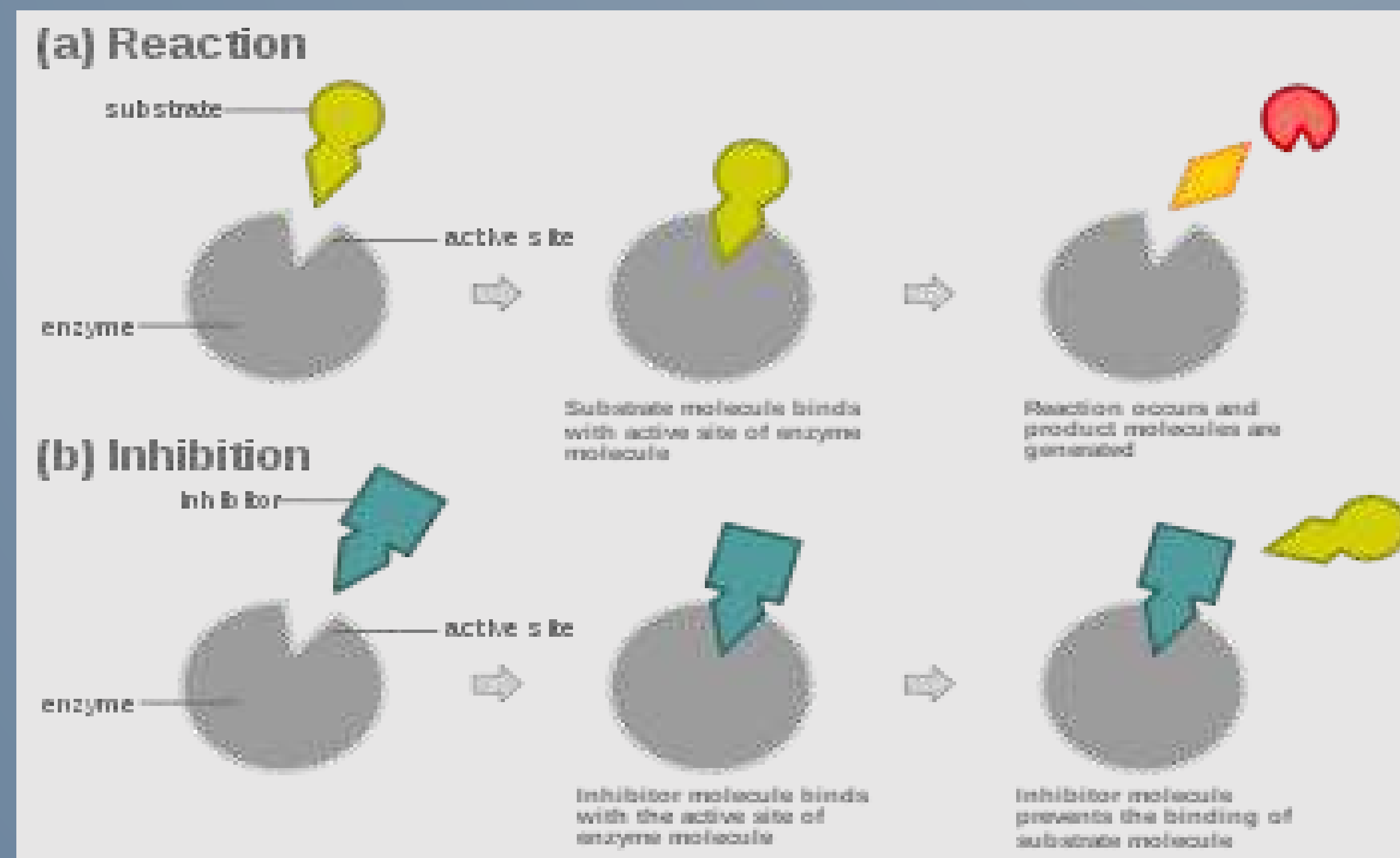
1. Be able to determine the effectiveness of Enzymes
2. Compare and contrast enzymes vs products
3. Identify and describe an enzyme reaction both in image and energy graph

August

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Closure

Describe the image below. Draw a conclusion as to what is happening in both processes.



5:00





Prior Knowledge

All **Macromolecules**:

- Structure
- Function
- Elements contained in each
- Examples found in Biology, organisms, or the body
- Biological Tests / Reagents

Today's Objectives

The student will:

1. Be able to determine the effectiveness of Enzymes
2. Compare and contrast enzymes vs products
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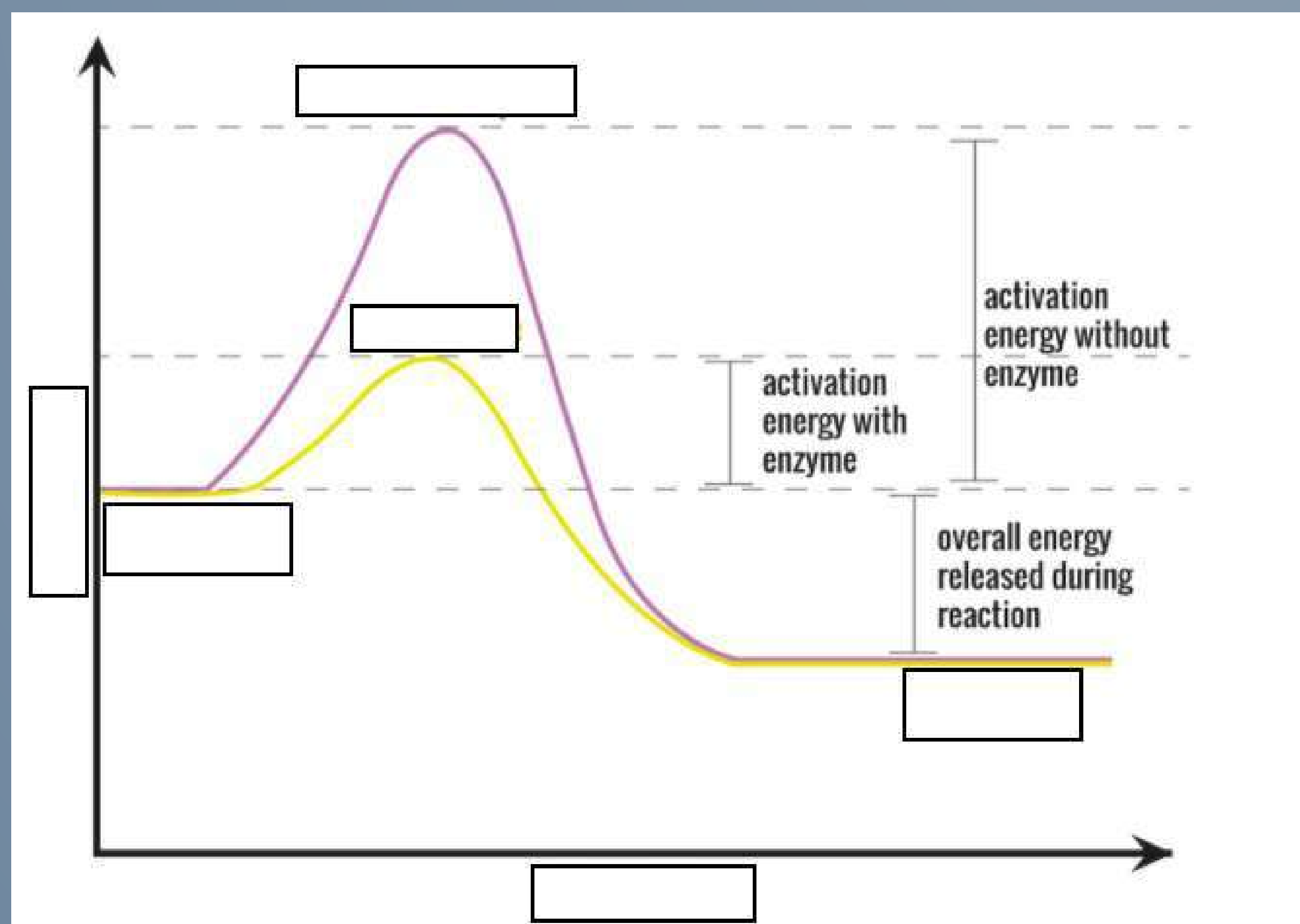
August

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28	29	30	31			

Warm Up

Label the following energy graph:

- Energy
- Reaction
- Reactants
- Products
- With Enzyme
- Without Enzyme



5:00



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- Function
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August



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Closure

Defined, a catalyst is:

- a. A substance that speeds up a chemical reaction, but is consumed in the process
- b. A substance that slows down a chemical reaction, without being consumed in the process
- c. A substance that speeds up a chemical reaction, without being consumed in the process
- d. A substance that slows down a chemical reaction, but is consumed in the process

5:00





First Six Weeks

Week 4: August 29th -
September 2nd





Prior Knowledge

Cells, Cell Types, & Cell Theory:

- Types of Cells
- Organelles
- Levels of Organization

Today's Objectives

The student will:

1. Understand the 3 parts of **Cell Theory**
2. Differentiate between **Prokaryotes** and Eukaryotes
3. Know specific **organelles** in each type of cell
4. Be able to describe an organelles function & location.

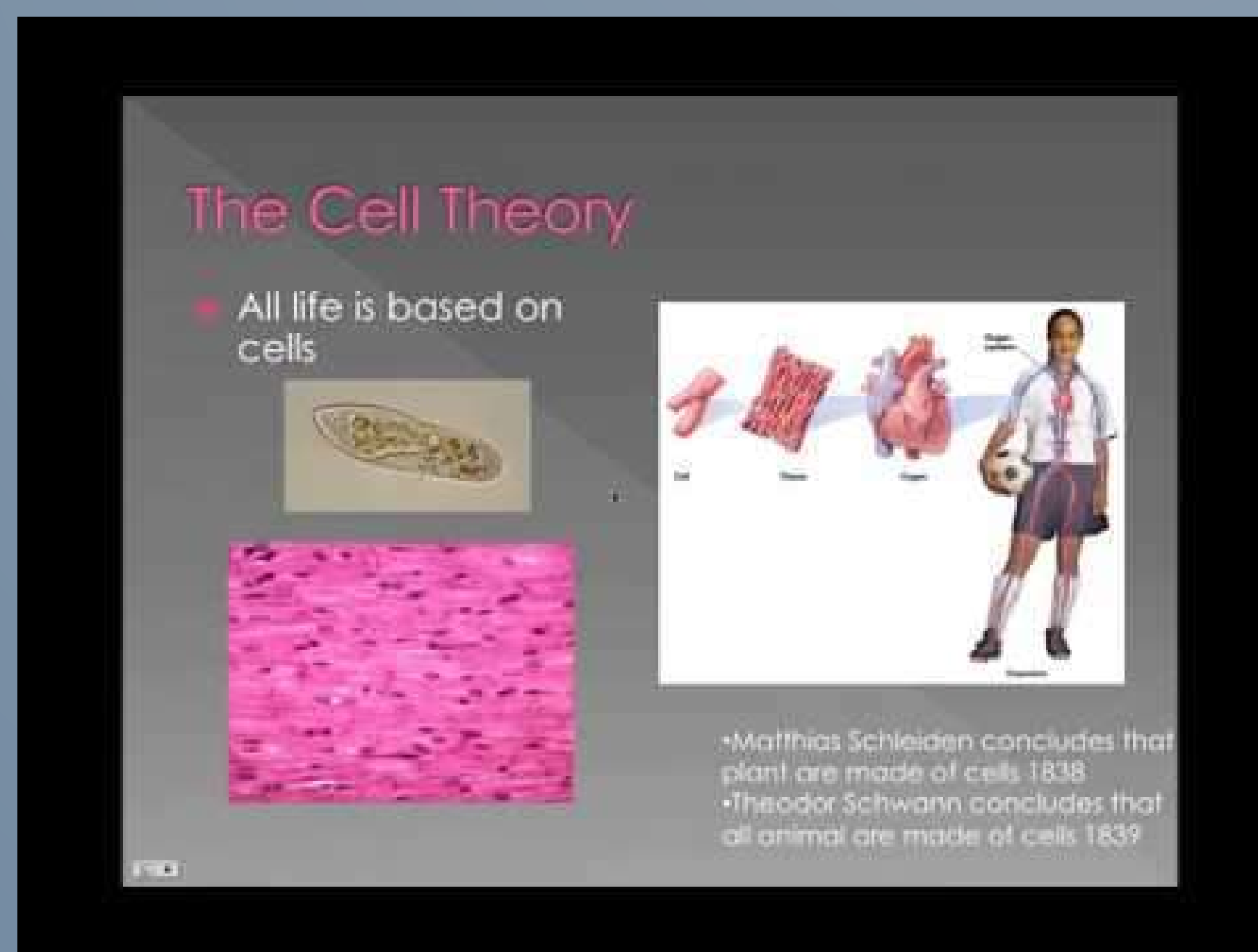
August

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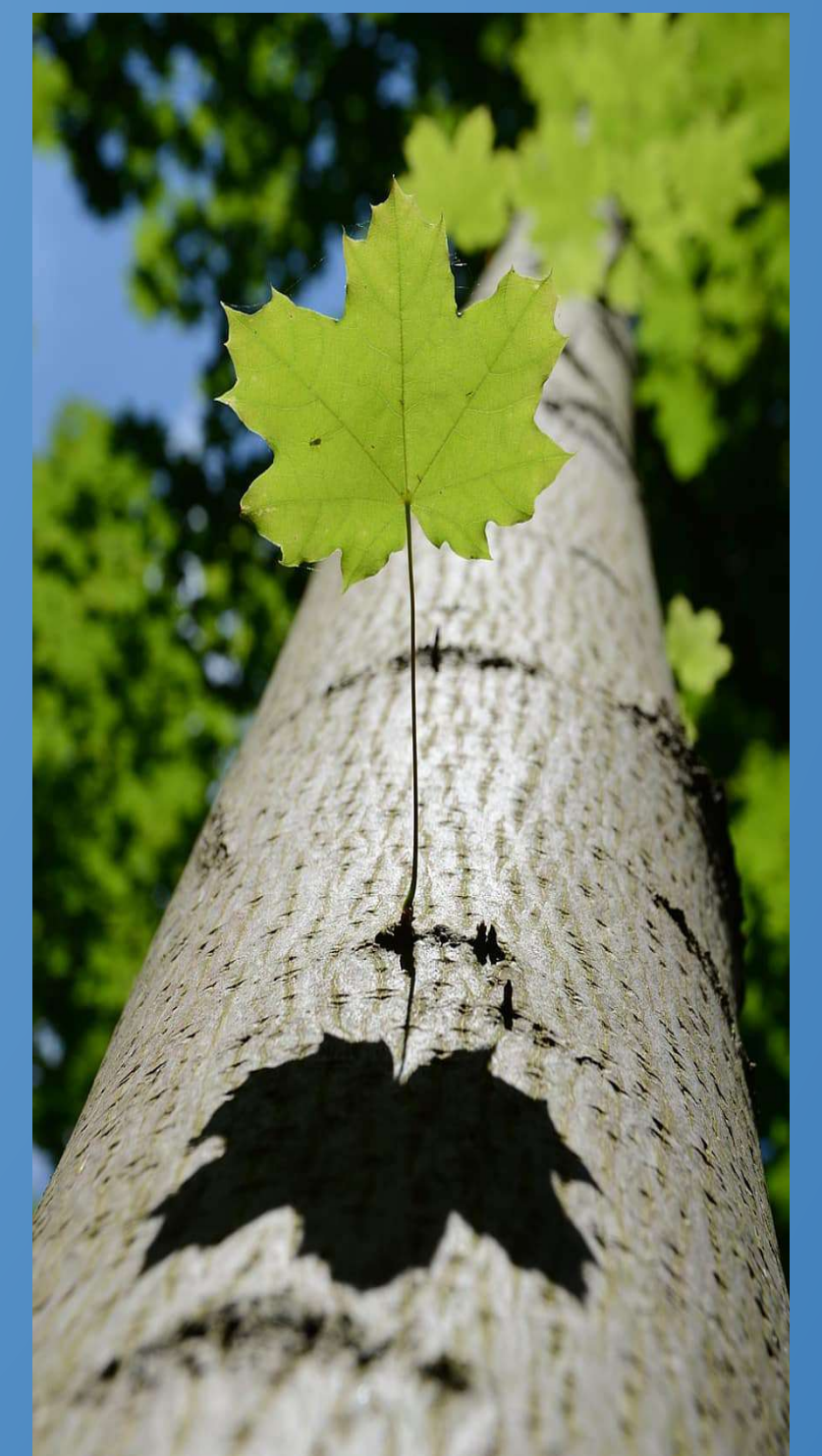
Warm Up

Watch the following video -
With a shoulder partner,
discuss the following:

1. What does each part of cell theory mean
2. What is the main differences between Pro and Eukaryotic Cells



5:00





Prior Knowledge

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Closure

Using Flipgrid

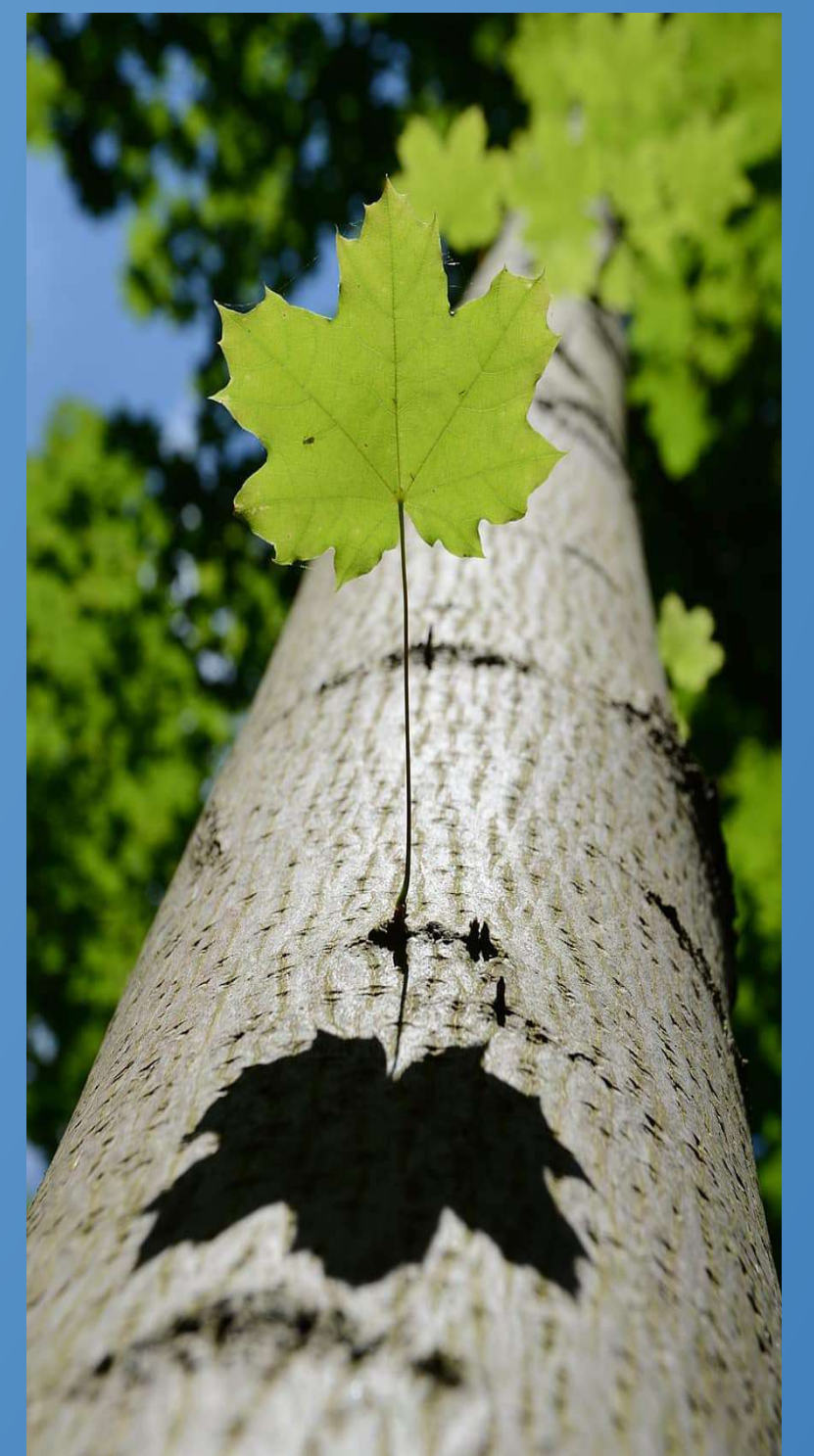
(<https://flipgrid.com/2d1e305c>)

In about a minute -

- Describe modern cell theory
- Compare and contrast **Prokaryotes** and **Eukaryotes** (why they are alike and why they are different)
- Stems:
 - ☐ "Modern **cell theory** has 3 parts. They are...."
 - ☐ "**Prokaryotes** and **Eukaryotes** are similar in that they..."
 - ☐ "**Prokaryotes** and **Eukaryotes** are different in that they..."



5:00





Prior Knowledge

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- Types of Cells
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Today's Objectives

The student will:

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August

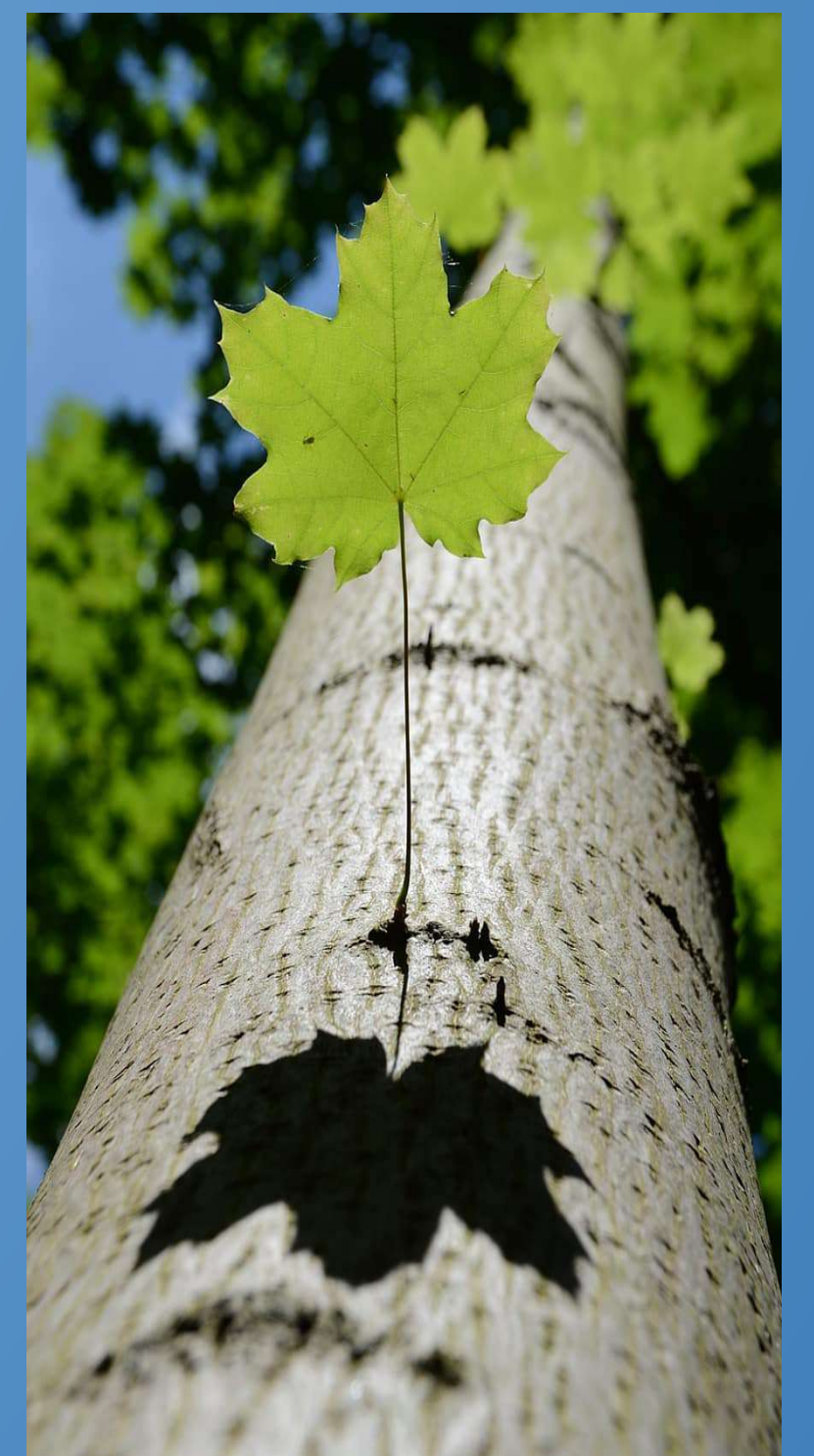
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Warm Up

Answer the following Questions from this Article - [LINK](#)

- Describe three main features inside a prokaryotic cell.
- Describe the structures that form the outside of a prokaryotic cell. Tell whether each structure is common to all prokaryotes.
- What is a prokaryote, and when did prokaryotes arise?

5:00





Prior Knowledge

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The student will:

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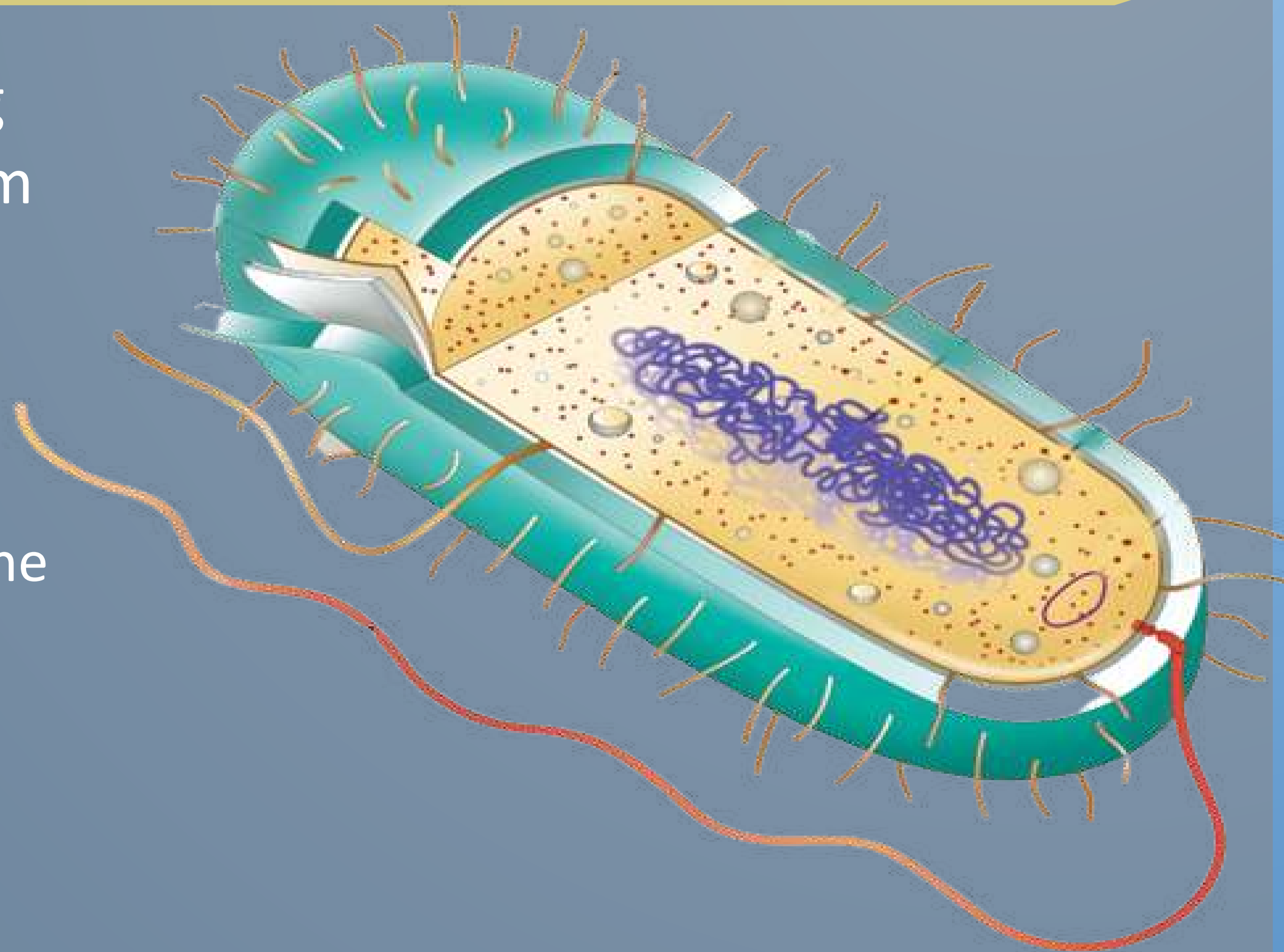
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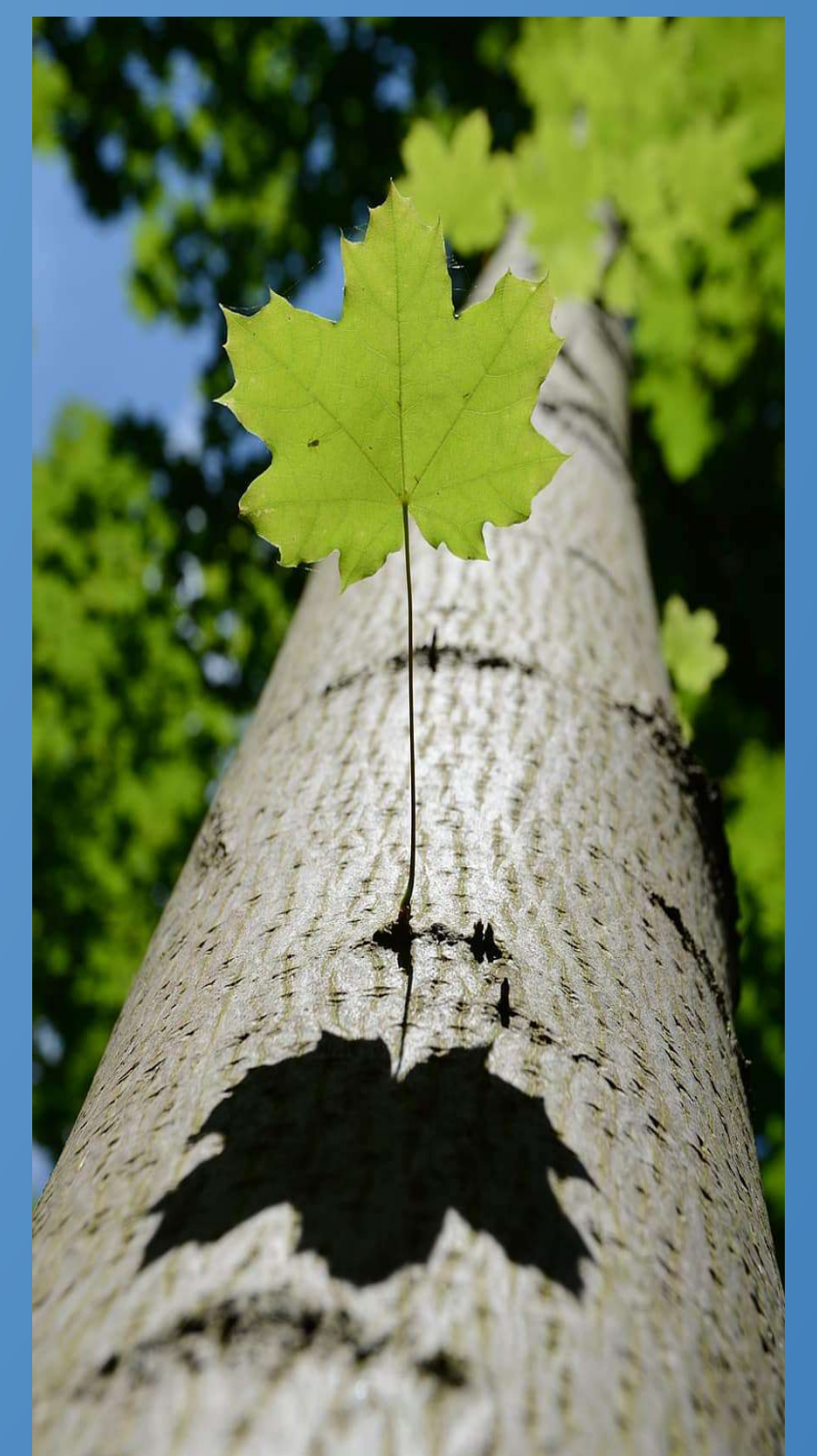
Closure

Label the following Prokaryote Diagram With:

- Plasmid
- Flagellum
- Ribosome
- Plasma Membrane
- Capsule
- Cytoplasm
- Nucleoid
- Cell Wall



5:00





Prior Knowledge

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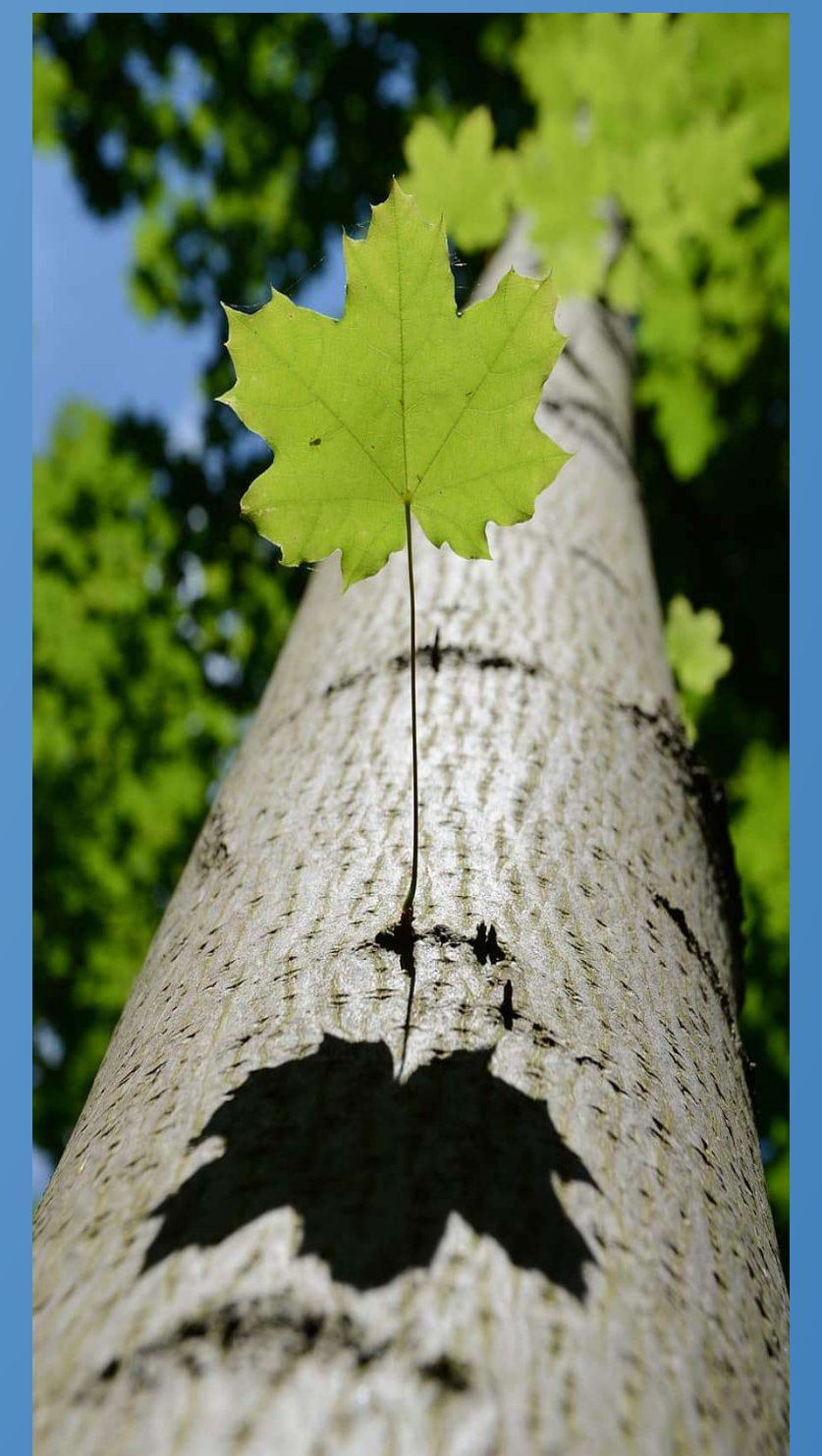
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Warm Up

- Using the following **Jamboard** - Choose the correct period, and choose 1 of the items posted to answer on a “sticky note”
- Compare and Contrast **Prokaryotic** and **Eukaryotic** Cells
- Compare and contrast the types of **Eukaryotic** Cells
- List 5 **organelles**, their structure, locations, & functions



5:00





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August

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Closure

- Answer the following:

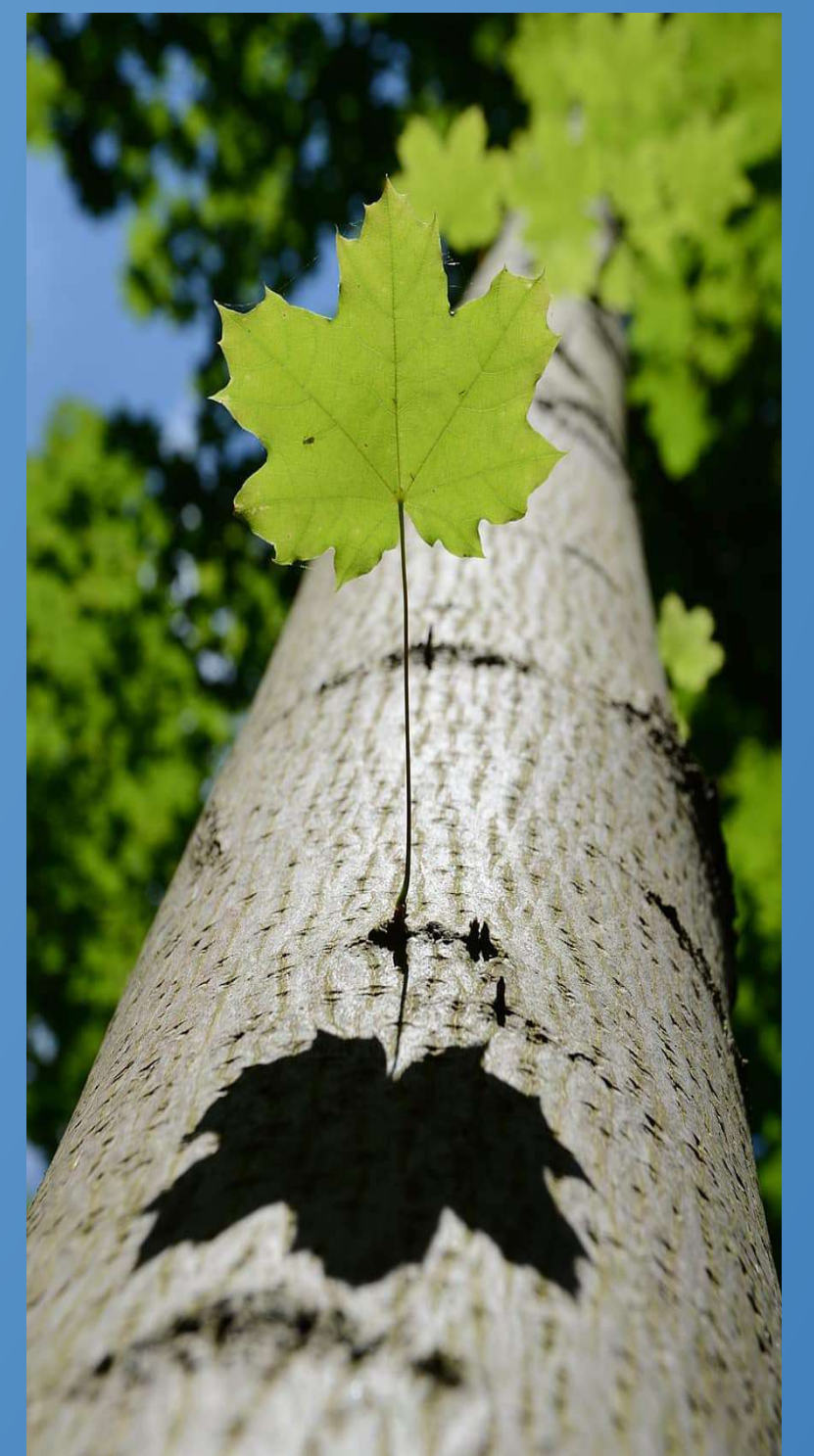
Some students used information they gathered from lab investigations to prepare a table. They entered the table in their lab notebooks.

Cell 1	Cell 2
Is smaller than 5 micrometers	Is larger than 10 micrometers
Does not have a nucleus	Has a membrane-bound nucleus
Does not have membrane-bound organelles	Has membrane-bound organelles
Has circular DNA	Has linear DNA

Which of these correctly identifies the two cells described in the table?

- F** Cell 1 is eukaryotic, and Cell 2 is prokaryotic.
- G** Cell 1 is prokaryotic, and Cell 2 is eukaryotic.
- H** Both Cell 1 and Cell 2 are eukaryotic.
- J** Both Cell 1 and Cell 2 are prokaryotic.

5:00



Prior Knowledge

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September



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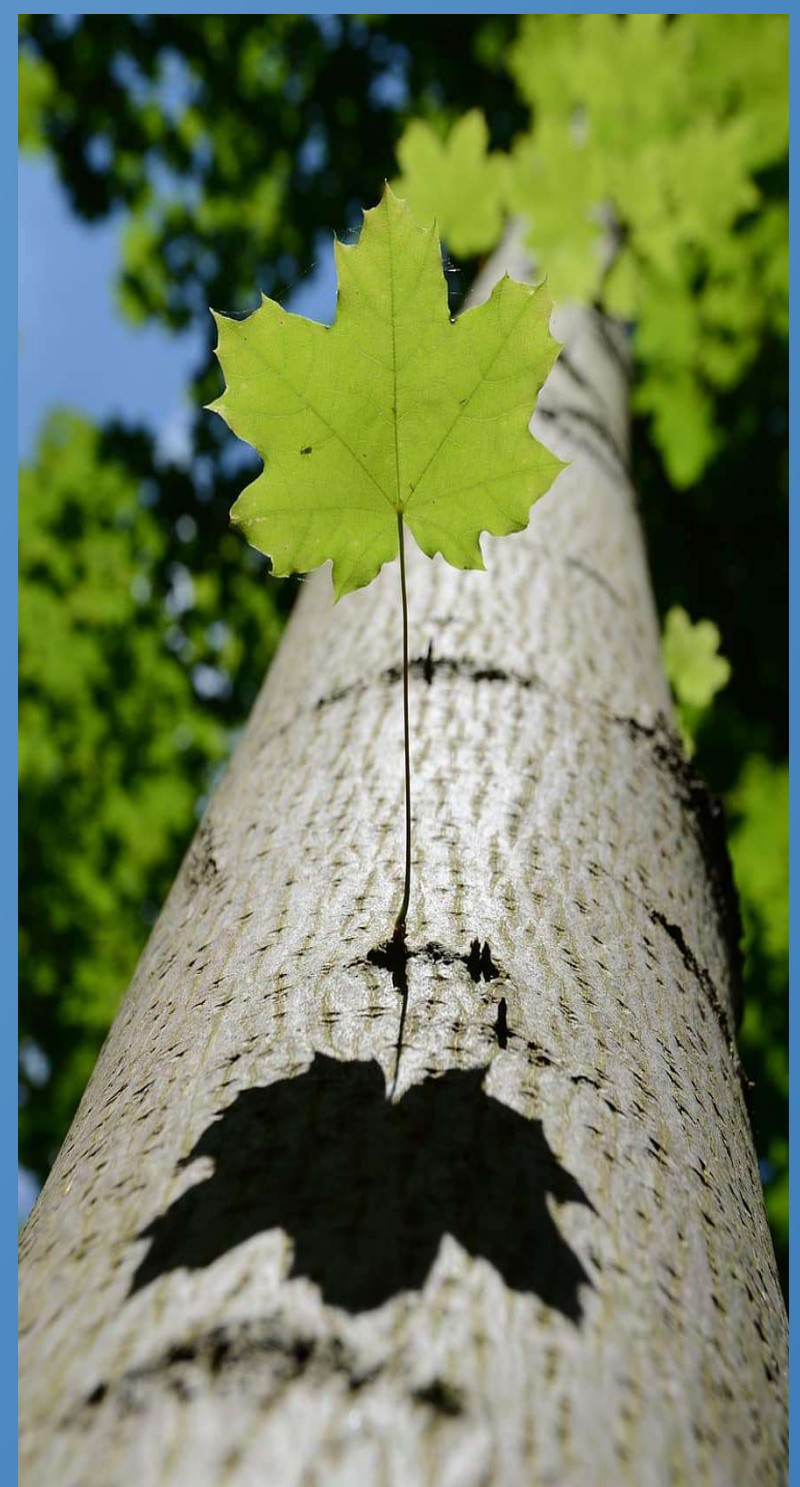
Warmup

Read the following Article: [LINK](#)

Answer the following with one of the characteristics of life -

- _____ "That boy shot up five inches in only one year."
_____ "Our cat had a litter of kittens yesterday."
_____ "My dog has become much less clumsy now that he is a year old."
_____ "Eat a good breakfast and you will be able to run longer."
_____ "When that car pulled in the driveway, my cat ran to hide under the porch."
_____ "That owl's night vision allows it to see the movement of mice on even the darkest night."
_____ "Single-celled organisms live in the pond behind school."
_____ your body normally maintains a temperature of 98.6OF.
_____ a giraffe uses its long neck to eat from the high branches of a tree.
_____ is another name for "living thing."

5:00



Prior Knowledge

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- Types of Cells
- Organelles
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Today's Objective

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September



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Closure

Using Flipgrid - (<https://flipgrid.com/c970b9b1>)

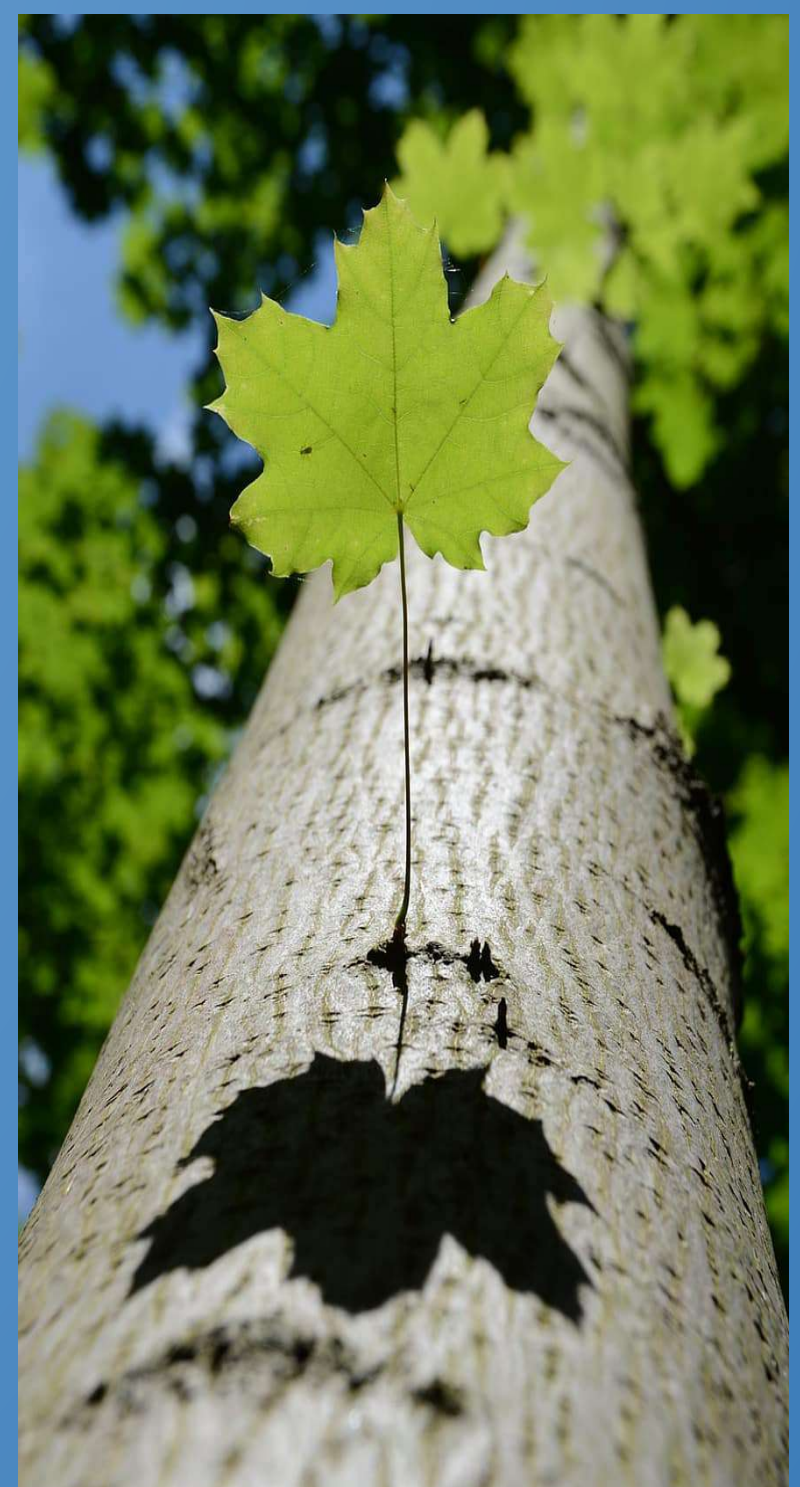
Make a short video, using all of the characteristics of life:

Stems:

- "My body exhibits all of the characteristics of life by..."
- "My body is made of a collection of..."
- "Inside those cells is a nucleus that contains..."
- "Each cell is able to obtain energy by..."
- "An example of how my body maintains homeostasis is..."
- "I interact with my environment by..."



5:00



Prior Knowledge

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September



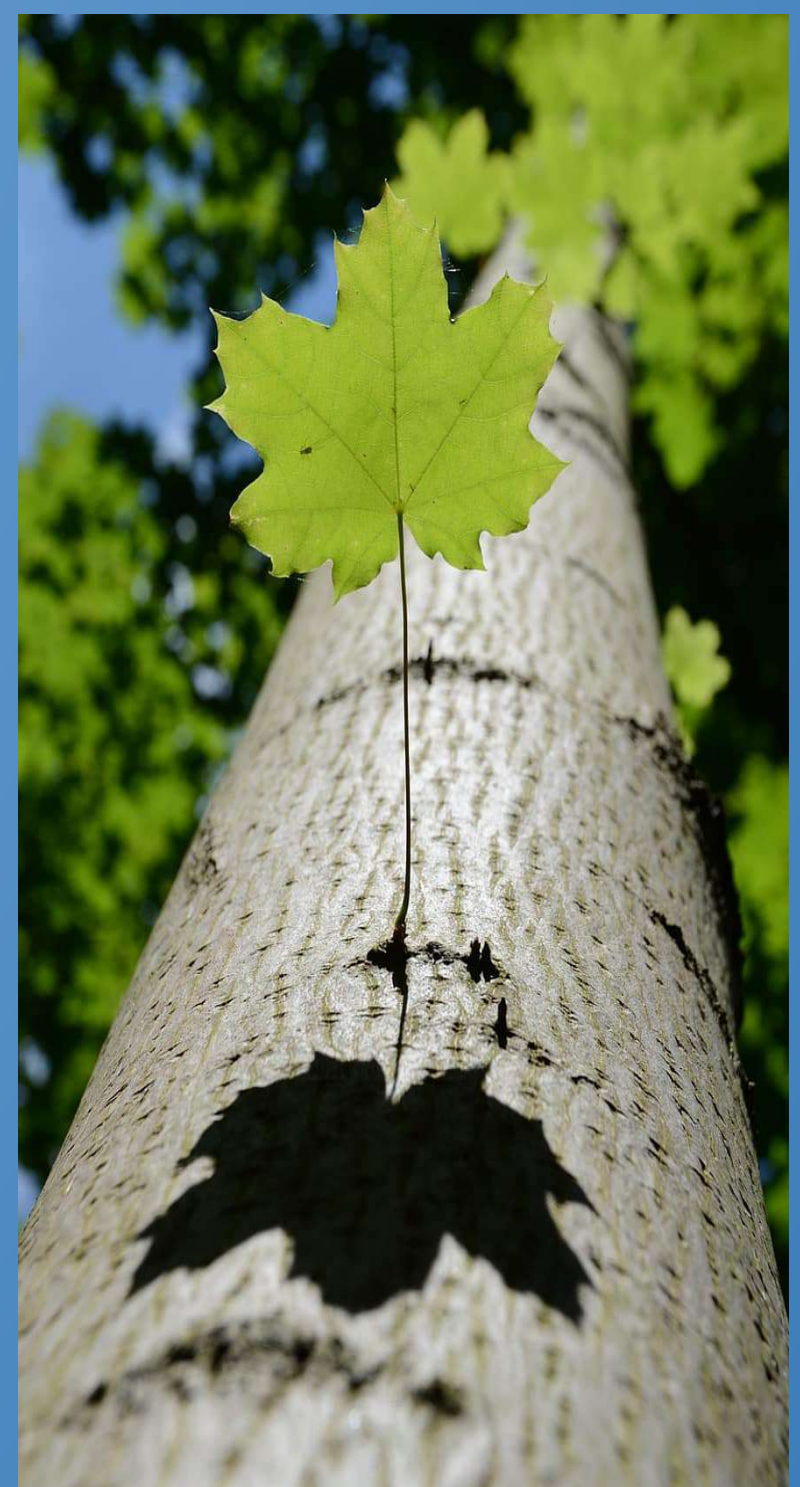
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Warmup

Write an exam question about the macromolecules unit thus far. Your questions should include the following: A knowledge questions pertaining to one of the The Cell, Cell Theory, Cell Types, or Organelles -

1. Compare and Contrast, Description, Evaluate a statement as correct or incorrect...
2. An image may be included
3. If multiple choice, provide answer choices
4. If short answer, provide the correct answer with a justification

5:00



Prior Knowledge

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- Types of Cells
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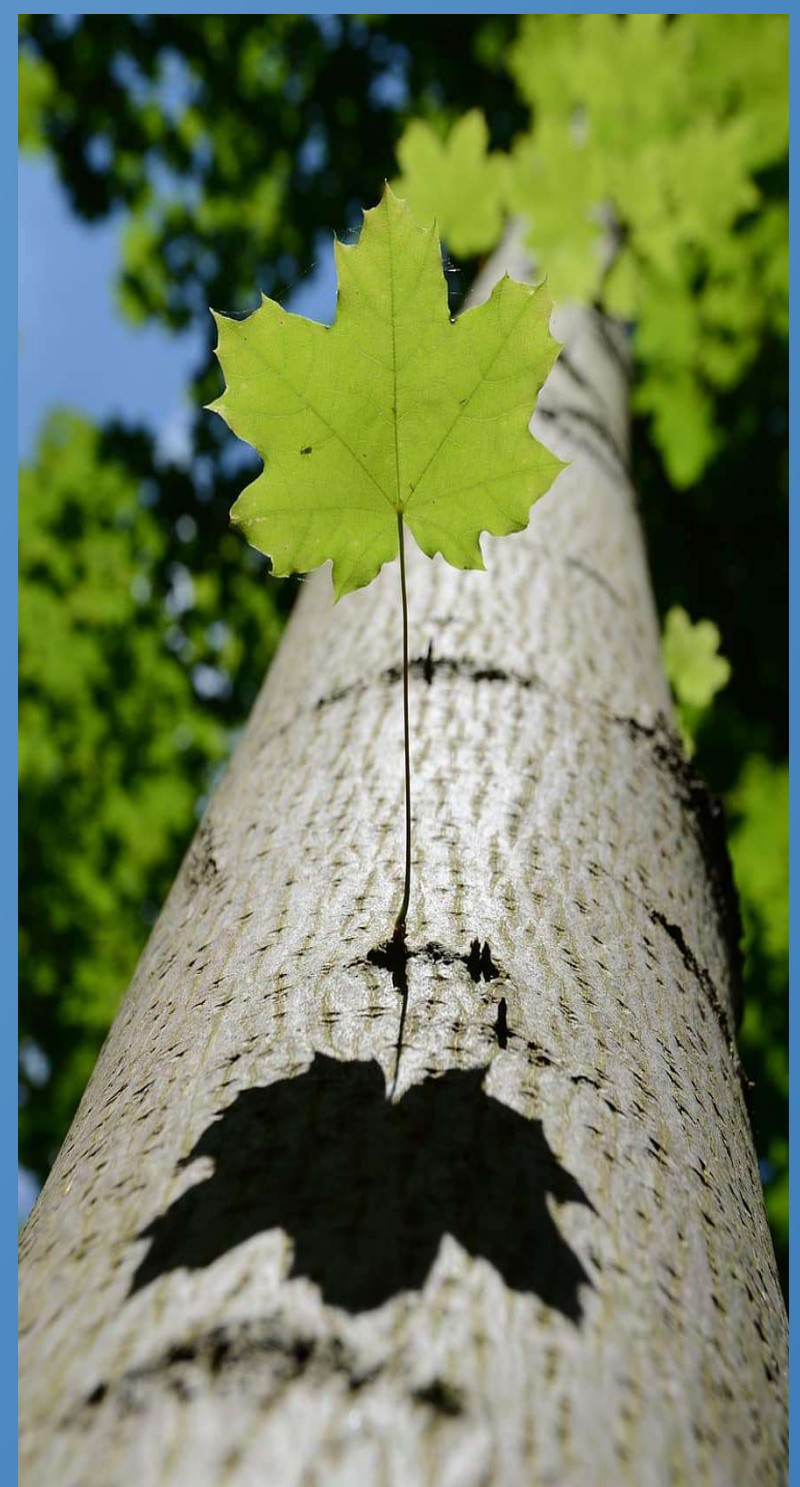
Closure

Answer the following question. Justify your answer

Both euglena and cyanobacteria are photosynthetic unicellular organisms found in pond water. The feature that distinguishes euglena from cyanobacteria is the —

- A** ability to maintain homeostasis
- B** presence of ribosomes
- C** ability to reproduce
- D** presence of a nuclear membrane

5:00





First Six Weeks

Week 5: September 5th - 9th



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
- **Solutions = Solute** (dissolve) + **Solvent** (dissolving)

Today's Objective

The student will:

- Analyze the structure of the cell membrane to determine:
 1. How phospholipids and Proteins regulate transport
 2. Purpose of Transport
 3. Types of Passive Transport
 4. Compare and contrast - Active vs Passive Transport

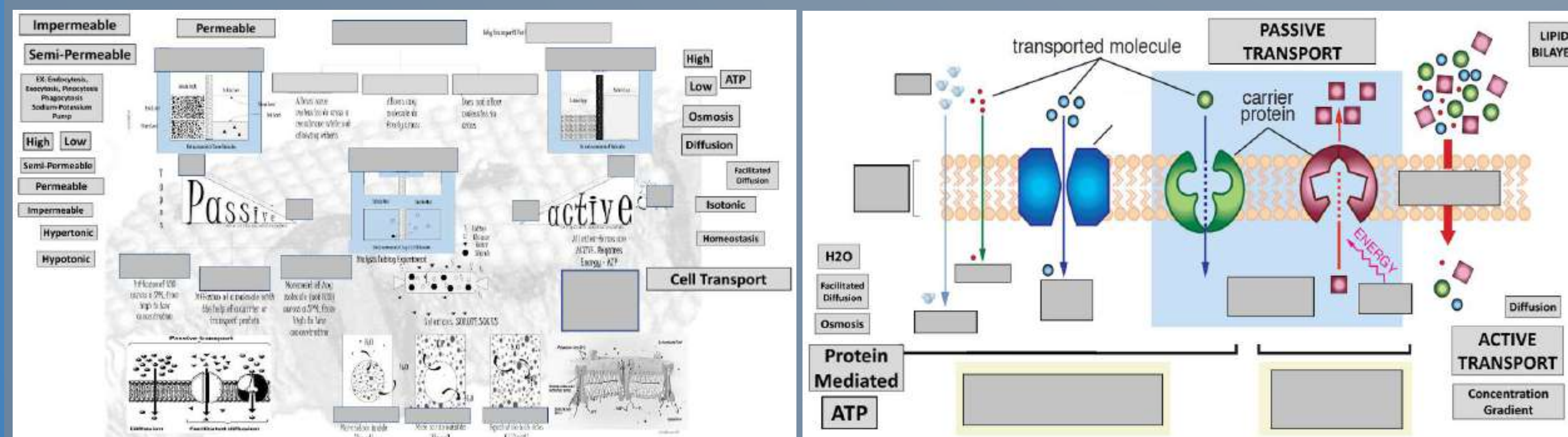
September



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Warmup / Closure

Use the following [Jamboard](#) to compare and contrast types of transport. Take a snapshot of each page and place in your journal.



5:00



Prior Knowledge

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September



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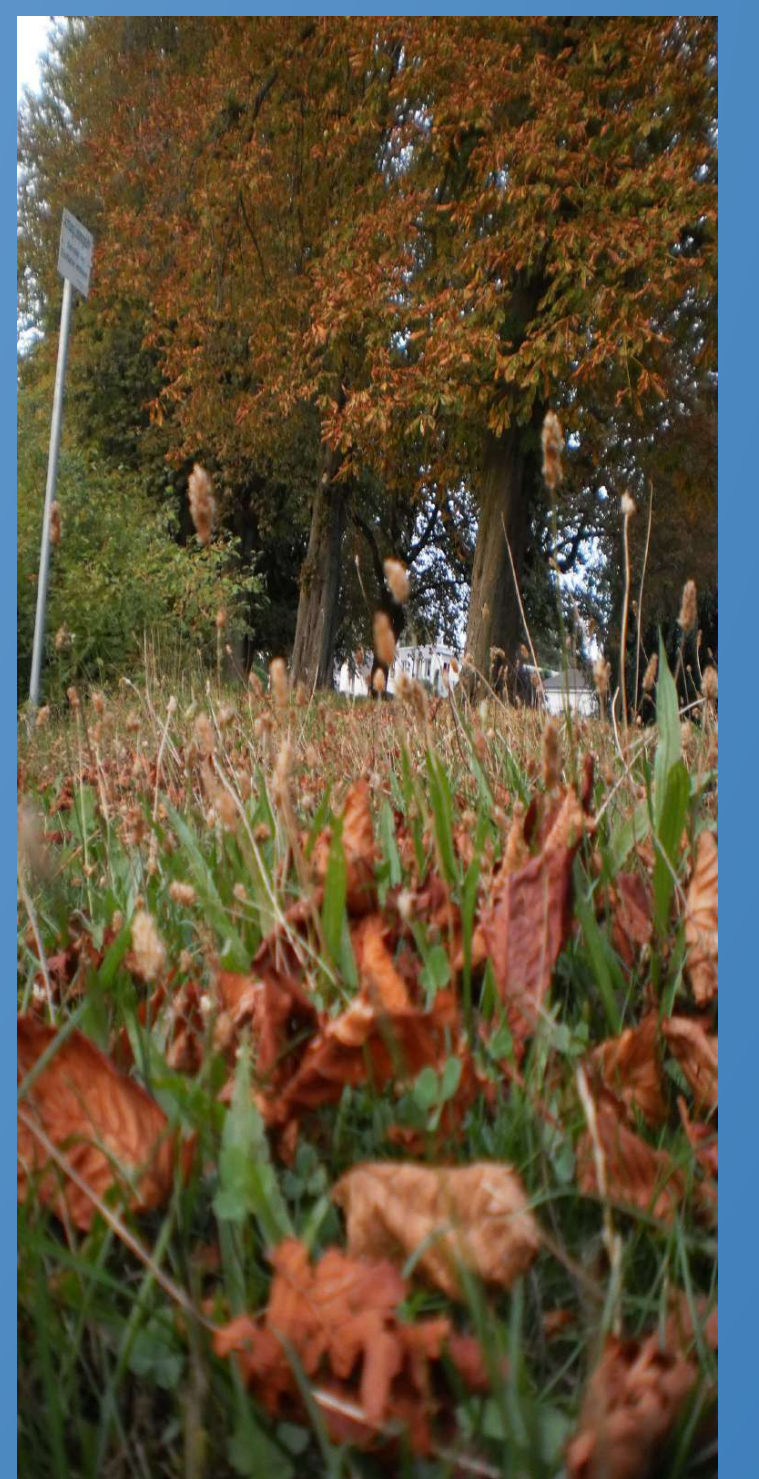
Warmup

Go to this Link for Quizlet - [LINK](#)

Run through the set of cards. There are 31 terms for you to learn and memorize. Take a snapshot of your effort

Quizlet

5:00



Prior Knowledge

Cell Membrane

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September



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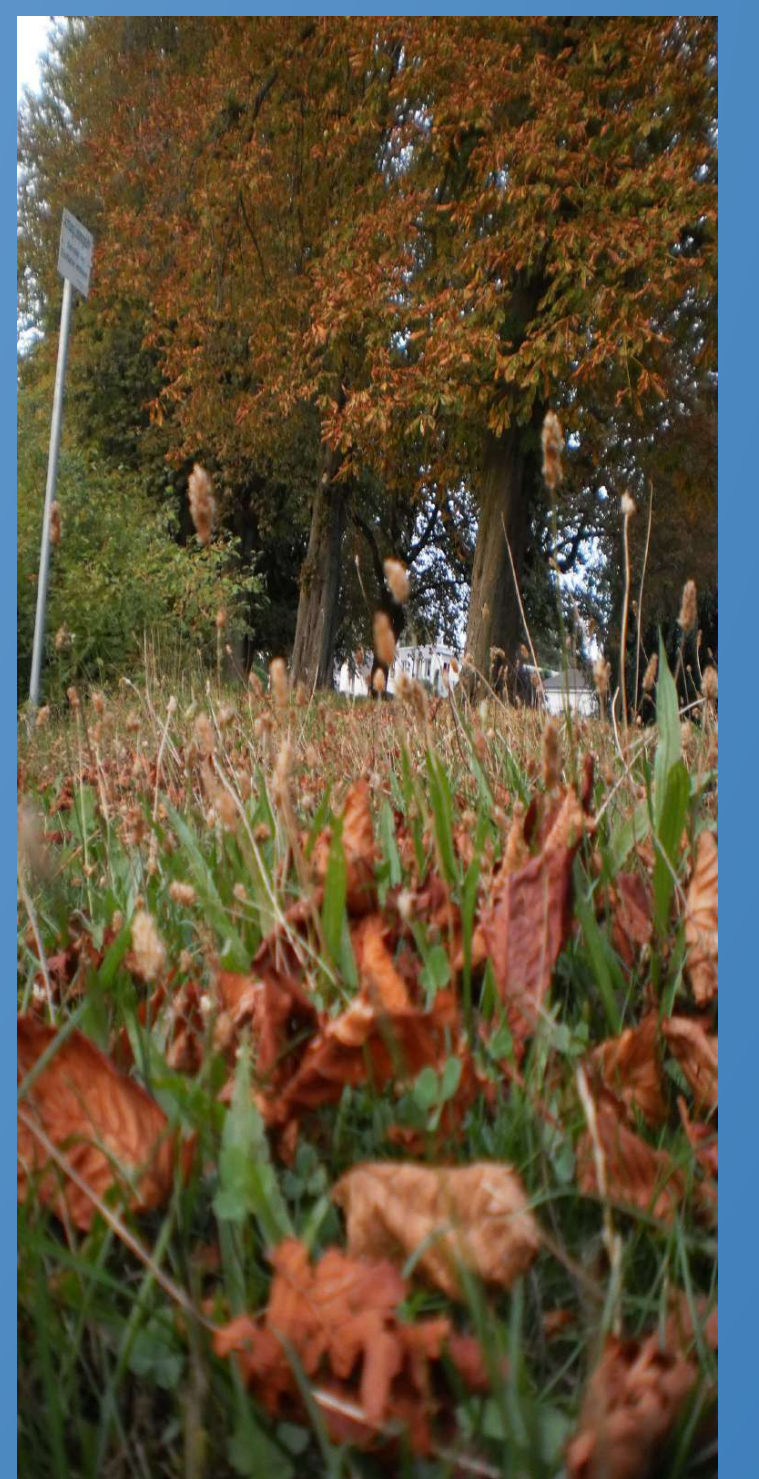
Closure

Go back to this Link for Quizlet - [LINK](#)

Run back through the set of cards. Compare your first effort with this one. Take a snapshot of your effort and summarize your performance

Quizlet

5:00



Prior Knowledge

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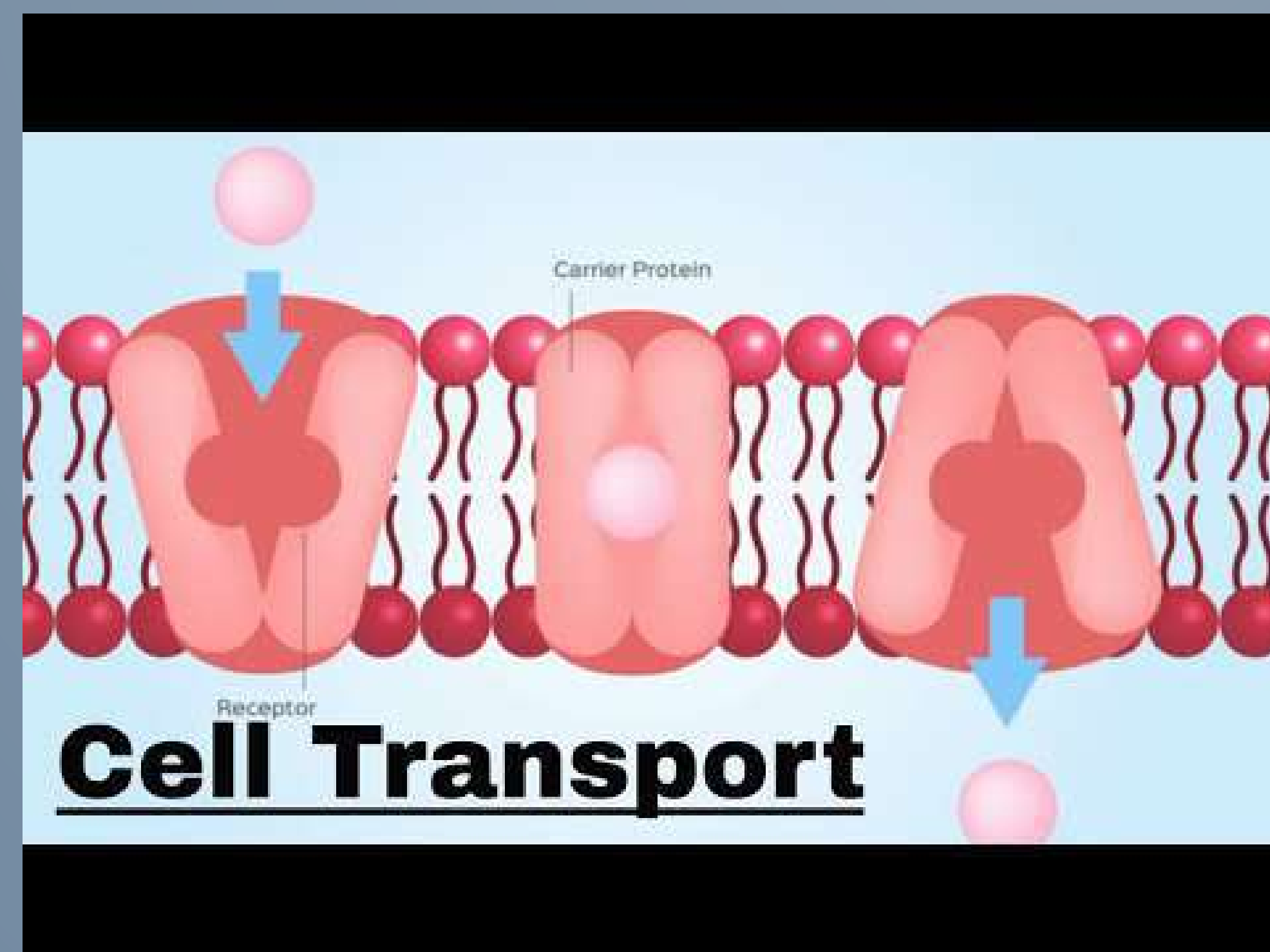


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Warmup

Watch the following video - [YOUTUBE](#)

- While watching, take some notes on Membrane structure and forms of transport.



5:00



Prior Knowledge

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September



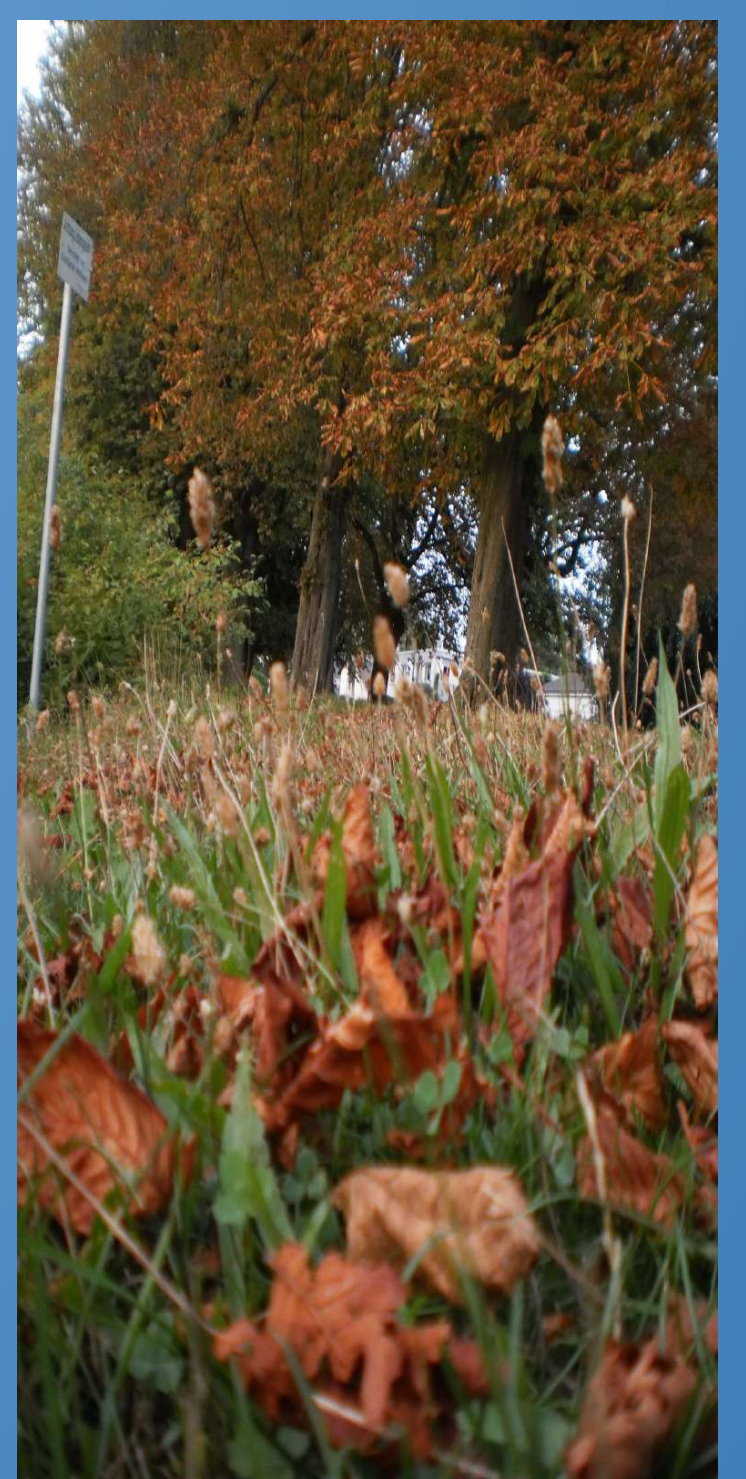
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Closure

Fill out the following Table

Types of Transport	Active / Passive	Substance Moved	Maintains Homeostasis By
Facilitated diffusion			Regulating Blood Sugar
	Active	Neurotransmitters	
Endocytosis		Captures Bacteria	
	Passive		Controlling Blood pressure and volume
	Passive	O ₂ & CO ₂	
		K ⁺ , Na ⁺ , Ca ⁺² , Cl ⁻	Muscle Contractions / Nerve impulses

5:00



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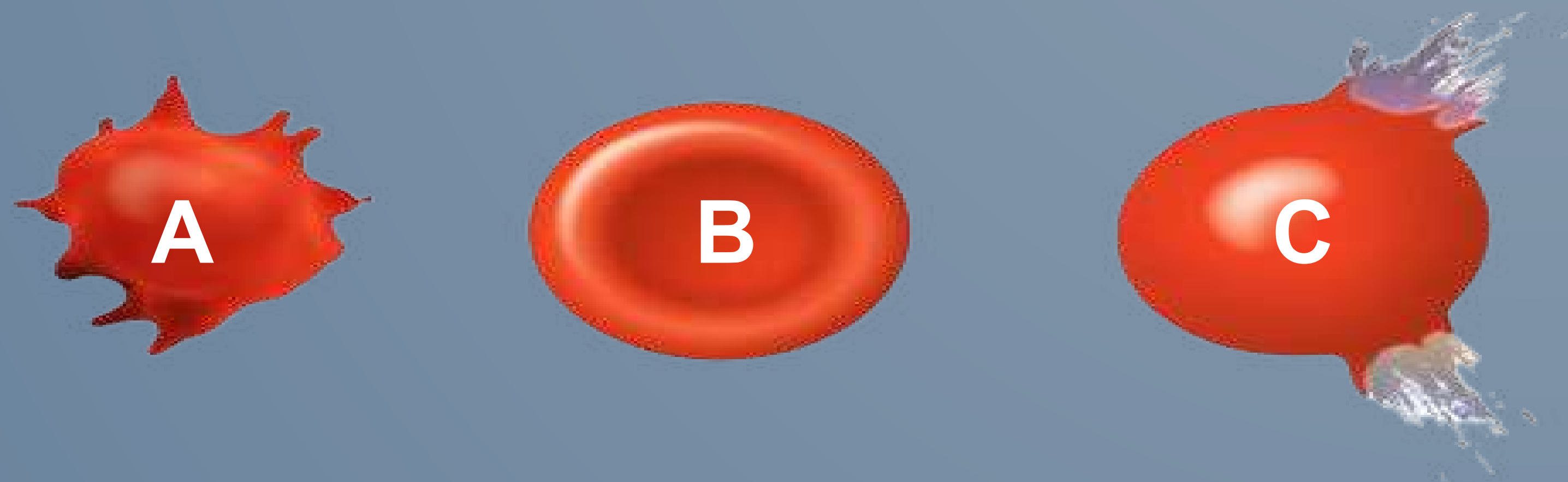
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Warmup

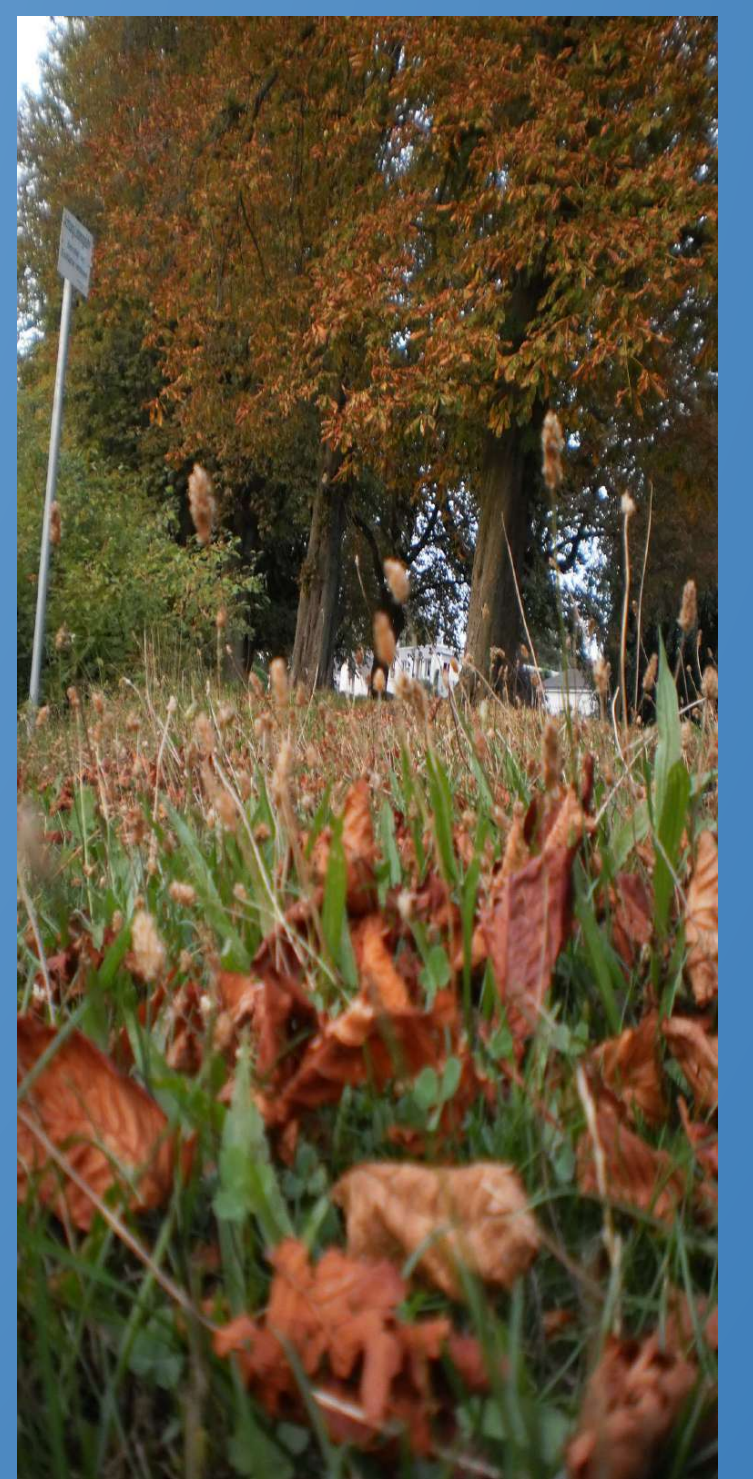
Look at the following images on Passive Transport.

Identify the types of solutions

Determine which way water (solvent) will move = OSMOSIS - Move the arrows



5:00



Prior Knowledge

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Warmup

- Answer the following Question concerning transport. Provide as explanations as to why you choose this answer.

This diagram shows cellular activity across a cell membrane.

Glucose in high concentrations outside the cell

Cell membrane

Glucose in low concentrations inside the cell

Which two processes does this diagram most directly model?

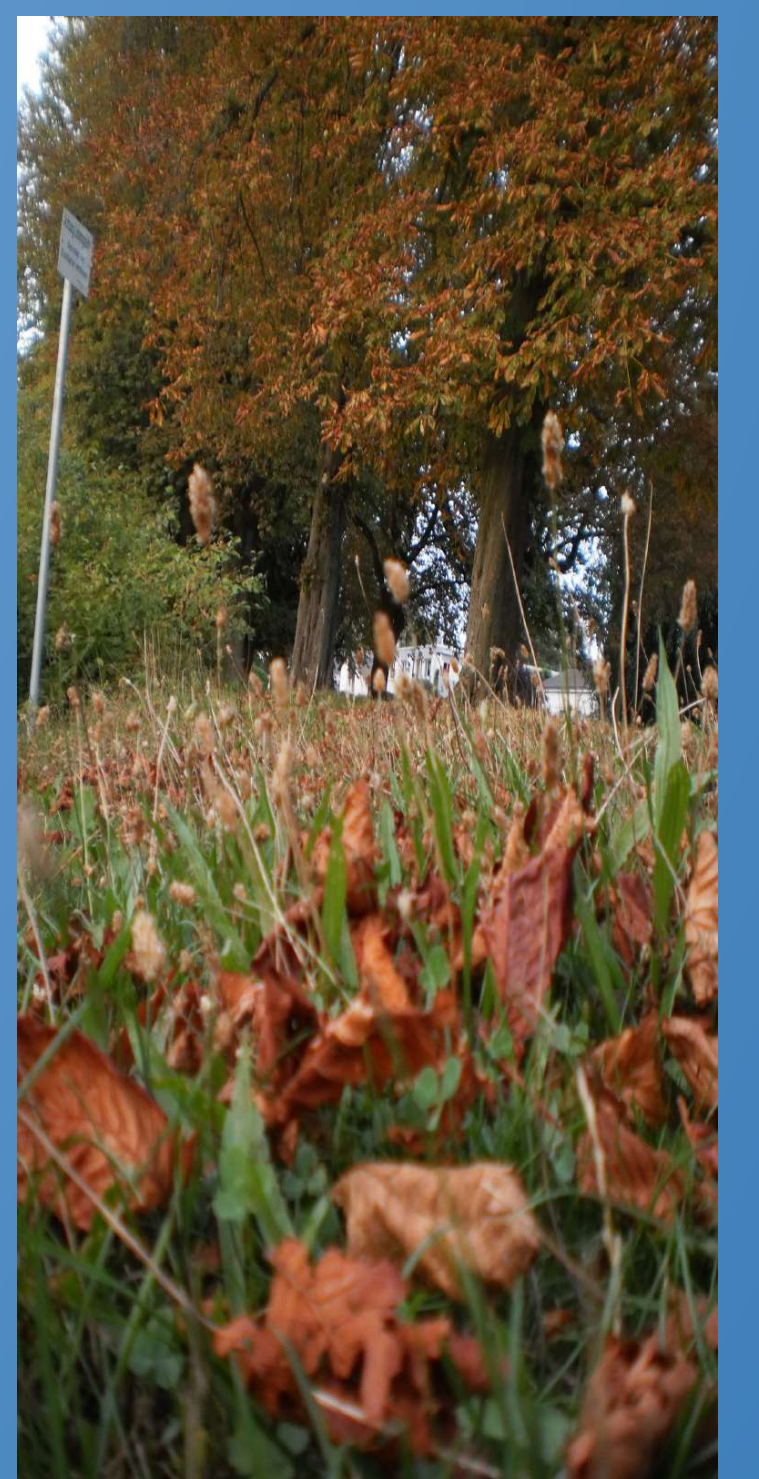
F Energy conversions and synthesis of new molecules

G Synthesis of new molecules and homeostasis

H Transport of molecules and energy conversions

J Homeostasis and transport of molecules

5:00





First Six Weeks

Week 6: September 12th - 16th

Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
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Today's Objective

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September



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Warmup

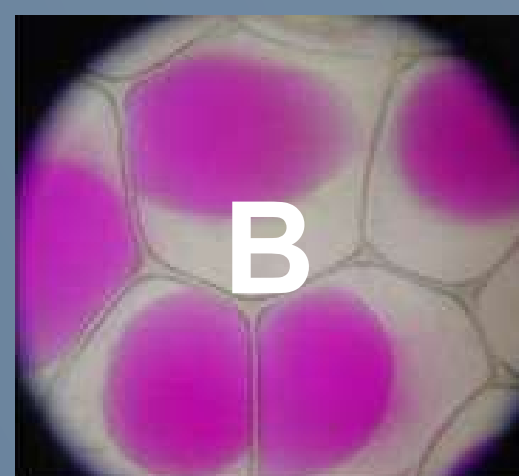
Looking at the following: Choose the correct answer and provide an explanation as to why you believe it to be.



A

A. Water rushes **into** or **out** of the plant cell's vacuole. Is this **diffusion** or **osmosis**? _____

B. Is this passive or active transport? _____

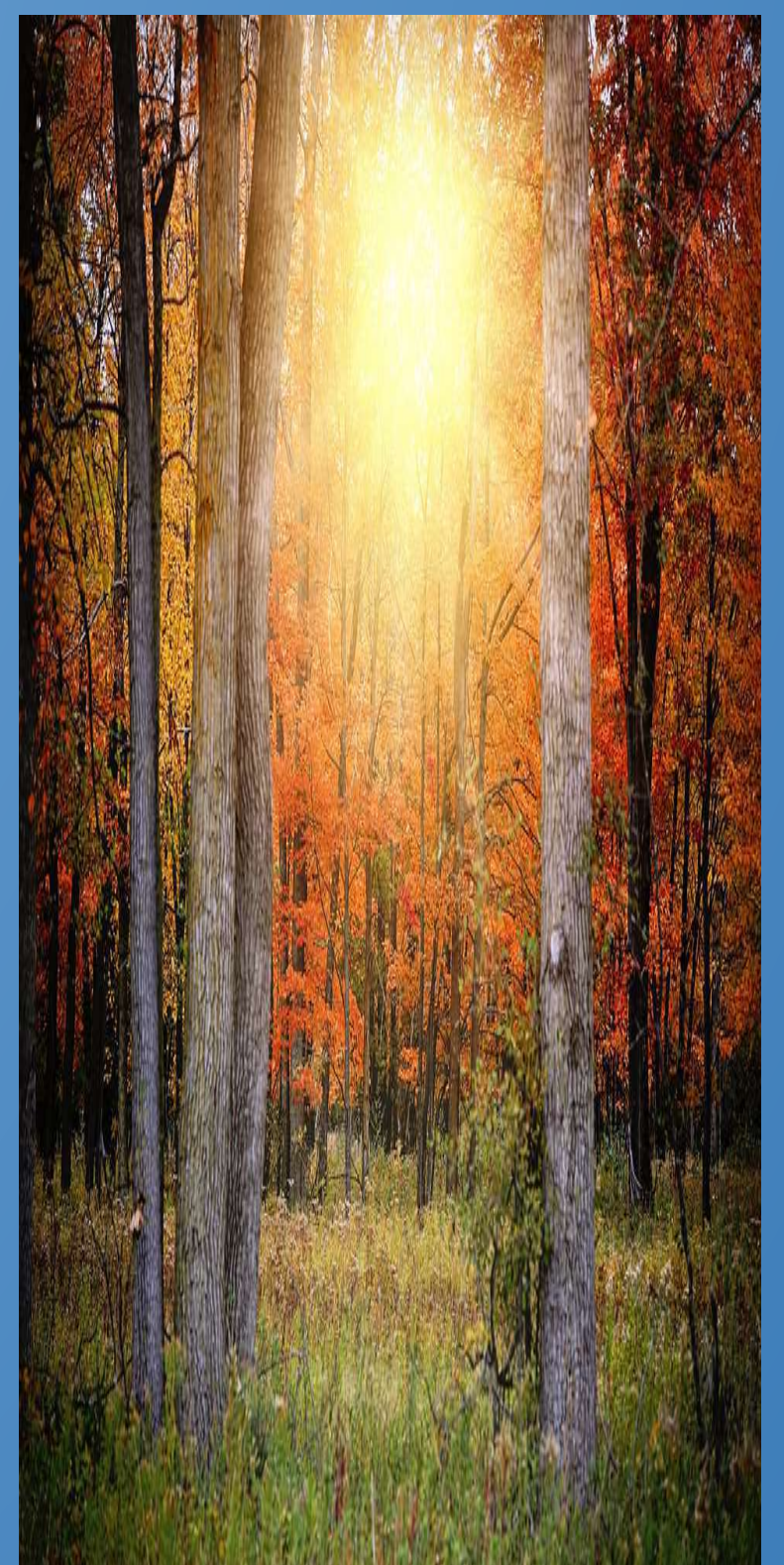


B

C. Is the plant cell in a hypertonic, hypotonic, or isotonic environment? _____

D. What will more likely occur to the cell if this continues, plasmolysis or cytolysis? _____

5:00



Prior Knowledge

Cell Membrane

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The student will:

- Analyze the structure of the cell membrane to determine:
 1. How phospholipids and Proteins regulate transport
 2. Purpose of Transport
 3. Types of Passive Transport
 4. Compare and contrast - Active vs Passive Transport

September



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Closure

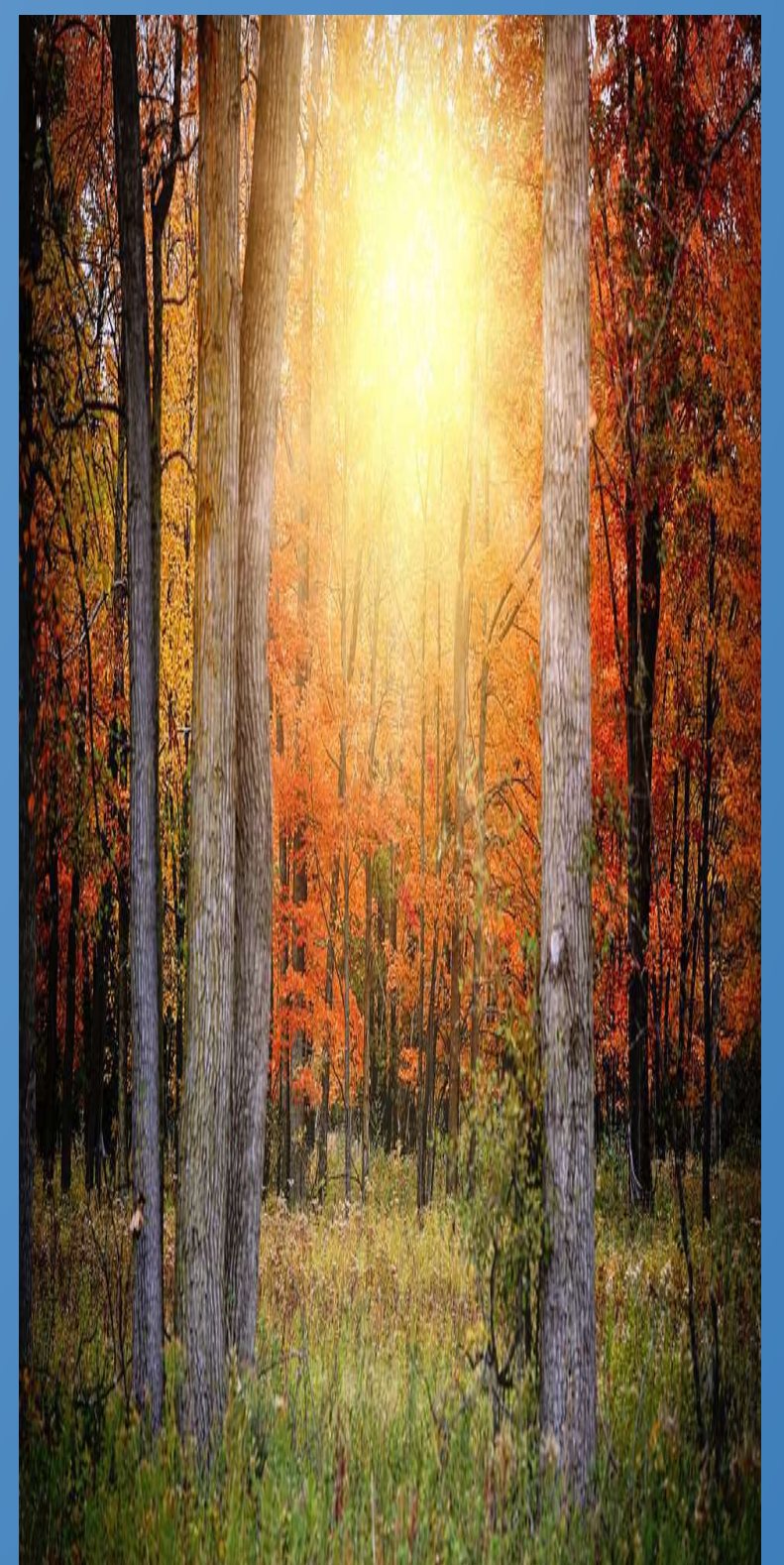
Go to the following [Jamboard](#).

Using a "Sticky note" : post what you know about: Choose 1

- Passive or Active Transport
- Compare and Contrast 3 Forms of Passive Transport
- Compare and Contrast Facilitated diffusion & Active Transport
- Differentiate between Hypertonic, Hypotonic, and Isotonic Solutions

Take a snapshot when finished - place in your journal

5:00



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
- **Solutions** = **Solute** (dissolve) + **Solvent** (dissolving)

Today's Objective

The student will:

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September



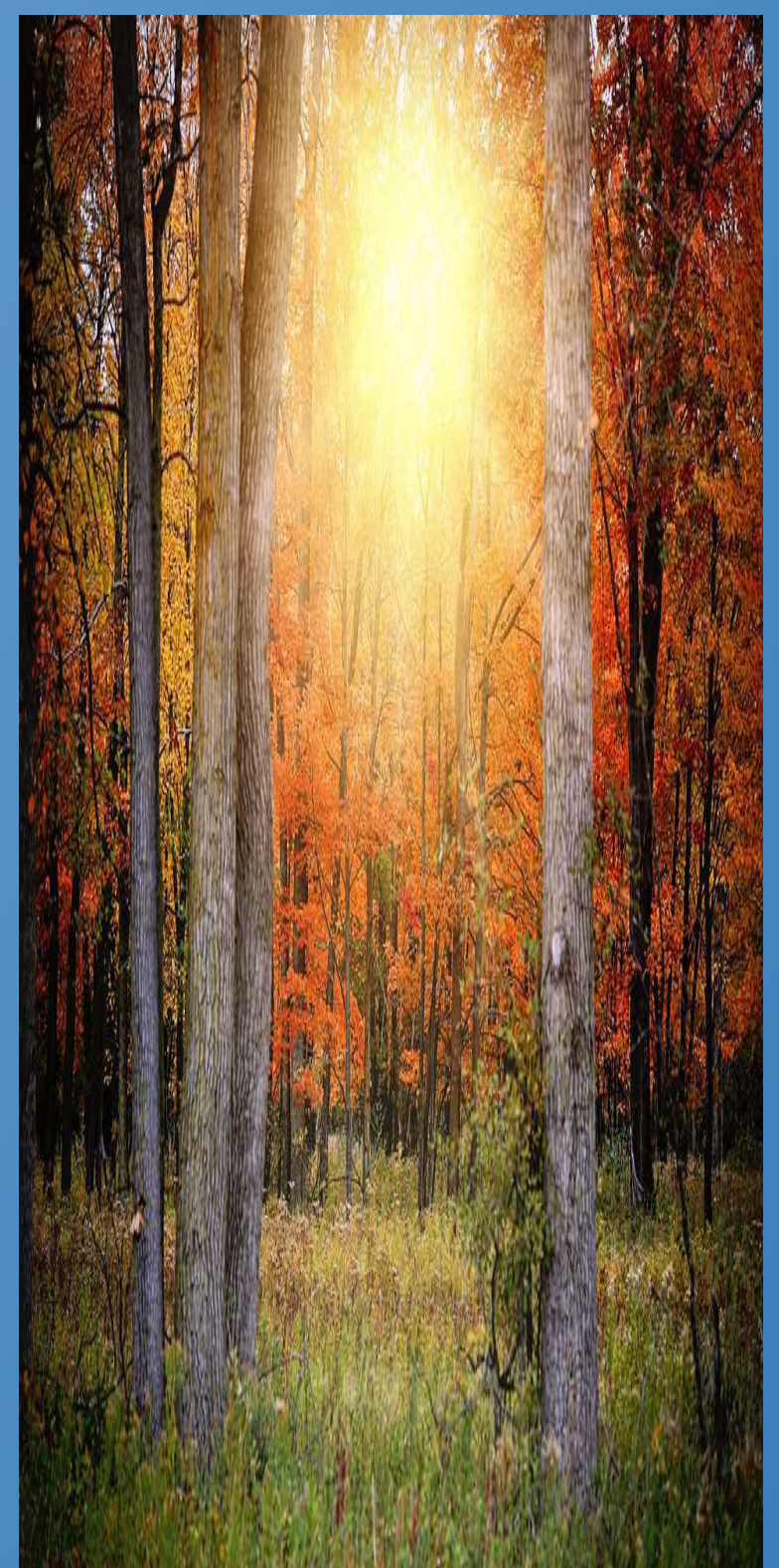
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Warm Up

Fill in the table below with plus signs

	Diffusion	Facilitated Diffusion	Osmosis	Molecular Pumps	Endocytosis	Exocytosis
Moves Water						
Involves a Protein channel						
Moves small particles - O ₂						
Involves a vesicle						
Moves Ions						

5:00



Prior Knowledge

Cell Membrane

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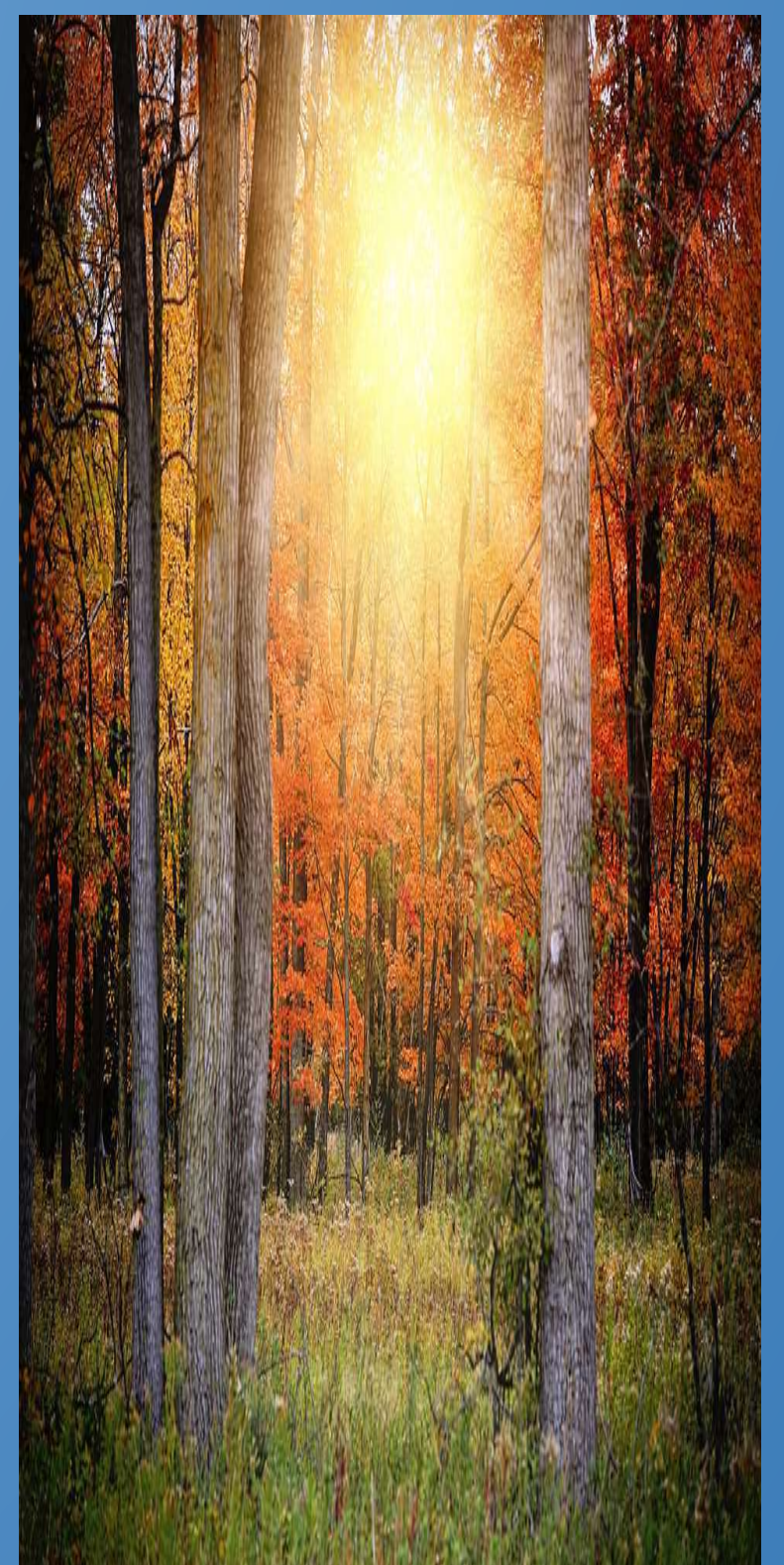
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Closure

In a quickwrite (3-5 sentences long), describe the forms of Cellular transport.

1. Compare and Contrast **Active** vs **Passive** Transport
2. Differentiate between the 3 **Solution** types in **Osmosis**
3. Provide Examples of conditions that would cause the body to undergo these **cellular transport** solutions in the blood.

5:00



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
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- **Solutions** = **Solute** (dissolve) + **Solvent** (dissolving)

Today's Objective

The student will:

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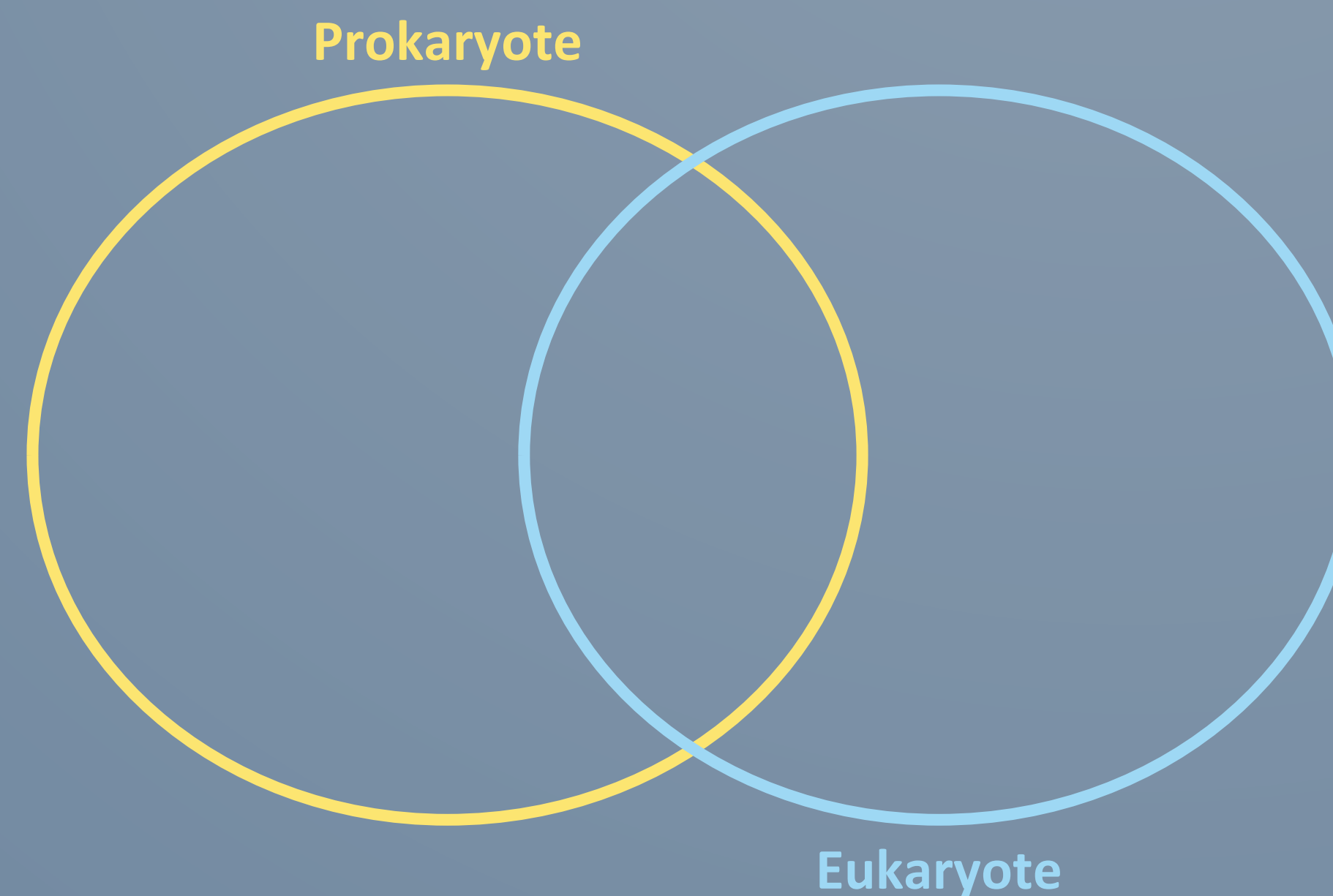


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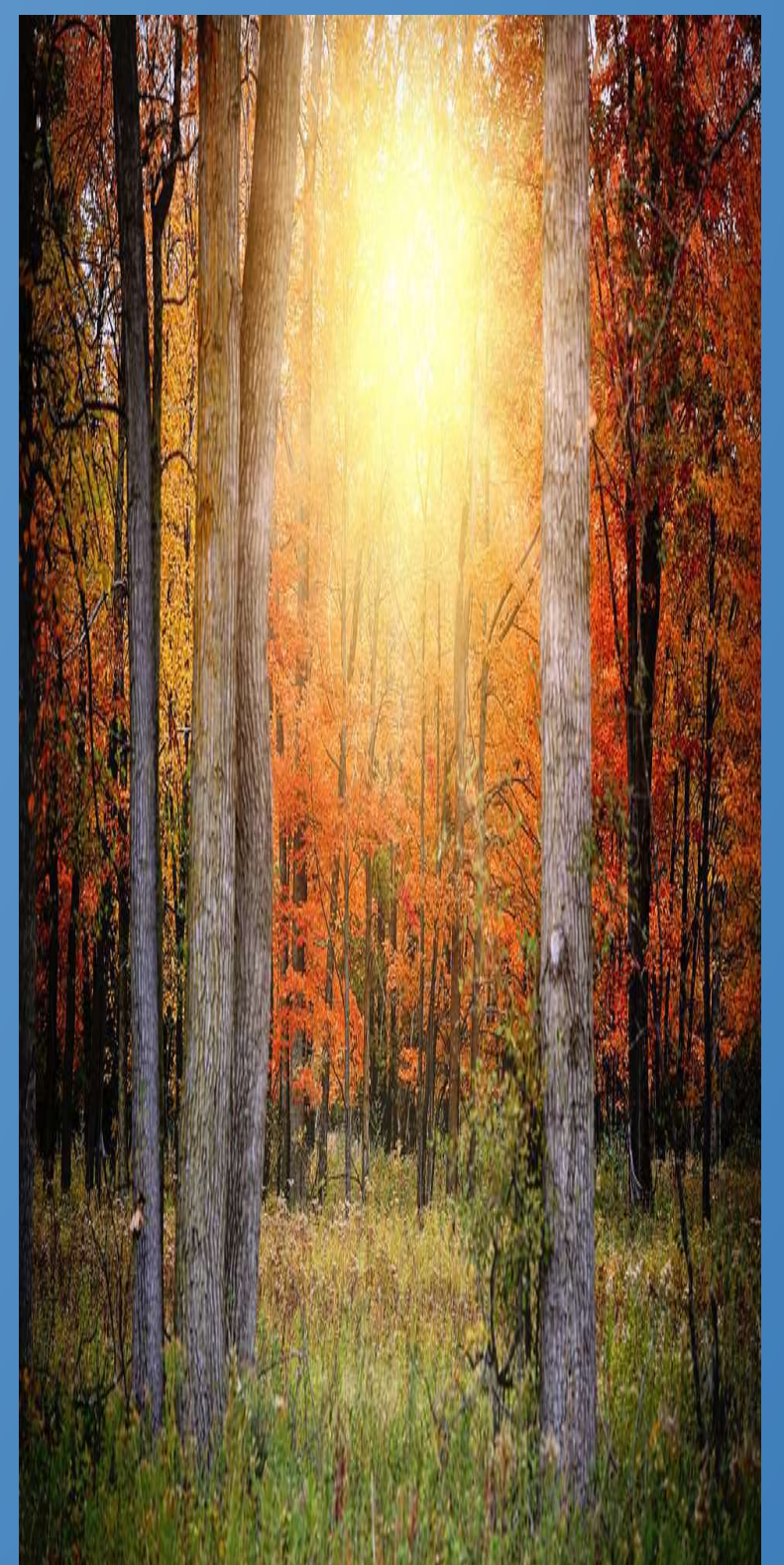
Warm Up

On the Venn Diagram in your journal / Warm up sheet:
Compare and Contrast - **Prokaryotic** vs **Eukaryotic** Cells

- Function
- Structure
- Examples
- Modes of Reproduction



5:00



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
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Today's Objective

The student will:

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Closure

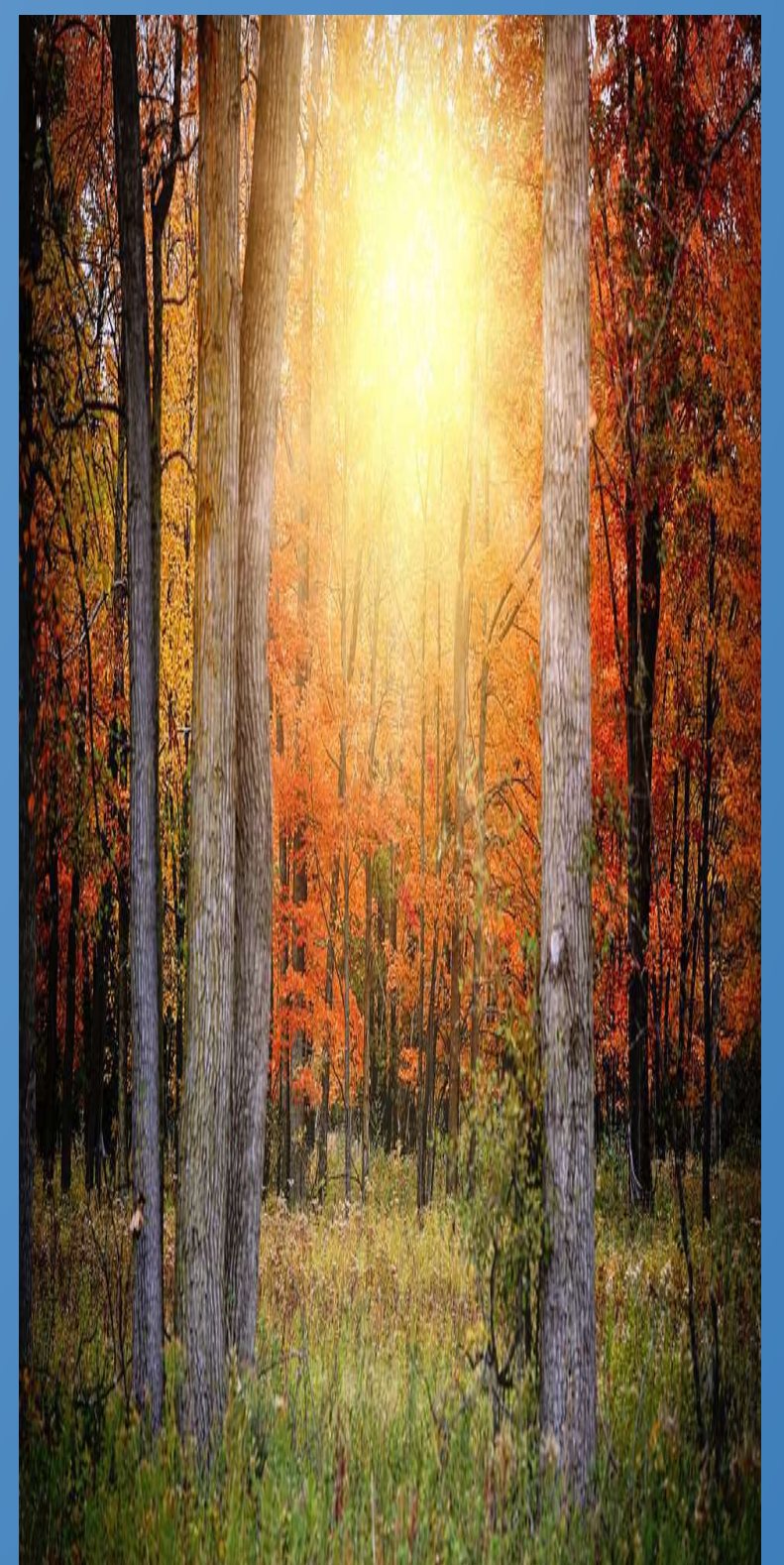
On the following Flipgrid -
(<https://flipgrid.com/bcae583e>)

In the following video, you will:

- a. Describe the levels of organization - cells --> organism
- b. Discuss types of cells and their 2 similarities and 2 differences
- c. Explain the purpose of cell transport
- d. Provide 3 examples of Passive Cell transport and define them.



5:00



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
- **Solutions** = **Solute** (dissolve) + **Solvent** (dissolving)

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The student will:

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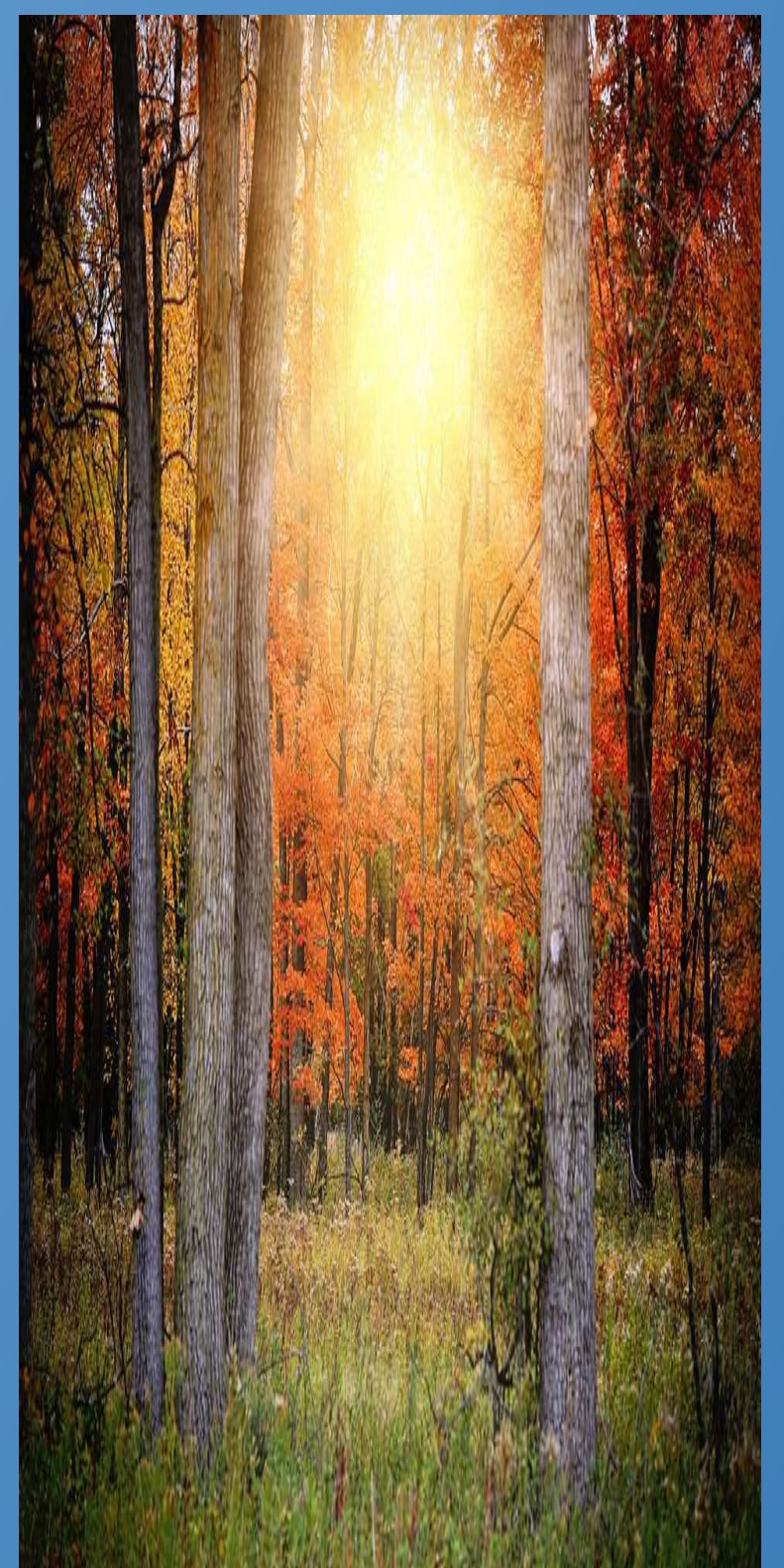
Warm Up

Watch the following video on Active Transport from Youtube. Answer the following -

- What 3 things are necessary for active transport to occur?
- How is Active Transport similar to Facilitated Diffusion?



5:00



Prior Knowledge

Cell Membrane

- Structure: **Phospholipid**
- Function: Regulates what enters and leaves the cell
- **Solutions** = **Solute** (dissolve) + **Solvent** (dissolving)

Today's Objective

The student will:

- Analyze the structure of the cell membrane to determine:
 1. How phospholipids and Proteins regulate transport
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September



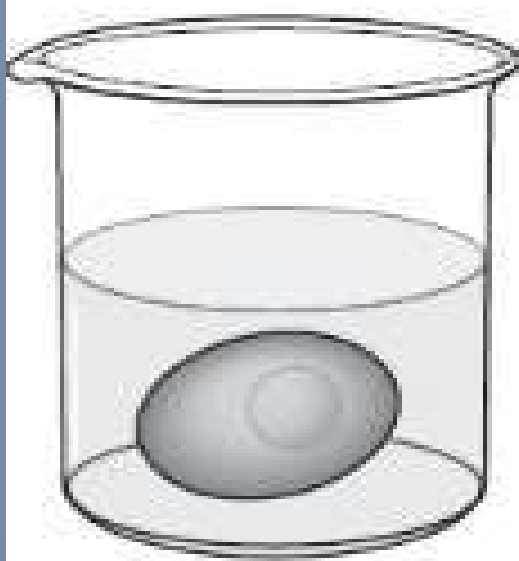
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Closure

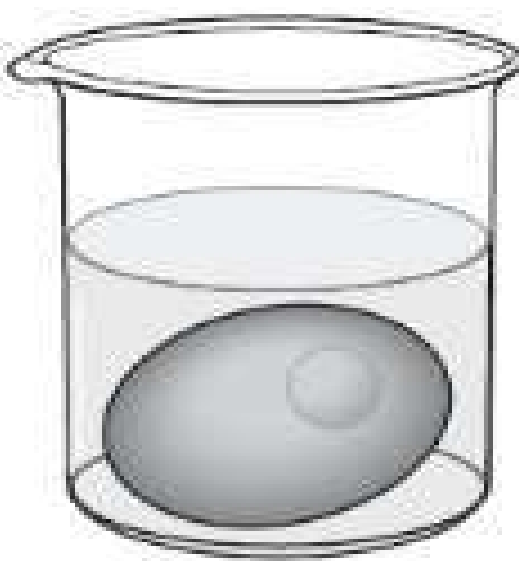
Answer the following - Explain your thought process to derive the correct answer.

Some students used vinegar to dissolve away the shells of three eggs and used these eggs as models of human red blood cells. The students observed the changes in the eggs when they were placed in different solutions.

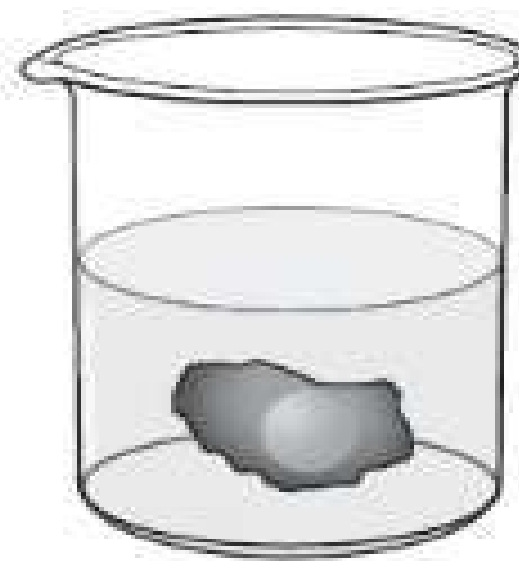
Red Blood Cell Model in Different Solutions



300 mL of
5% vinegar solution



300 mL of
pure water

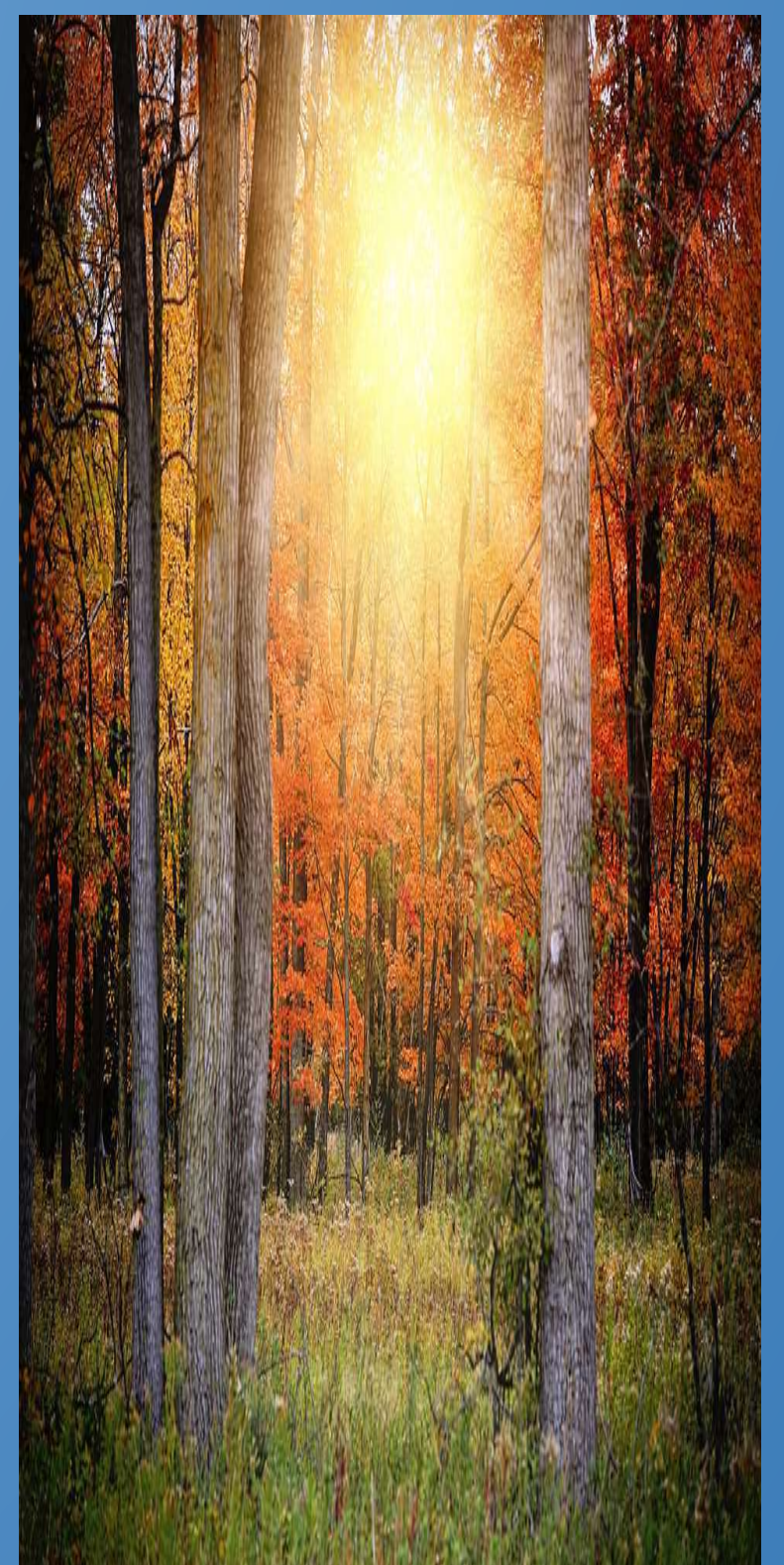


300 mL of
corn syrup solution

Which statement best describes the role of the cell membrane in this model?

- The cell membrane is an impermeable barrier that prevents water from entering the cell.
- The cell membrane allows solutes to enter the cell, which causes the cell to shrink.
- The cell membrane allows water to enter and leave the cell.
- The cell membrane removes solutes from the environment.

5:00



Prior Knowledge

Cell Membrane

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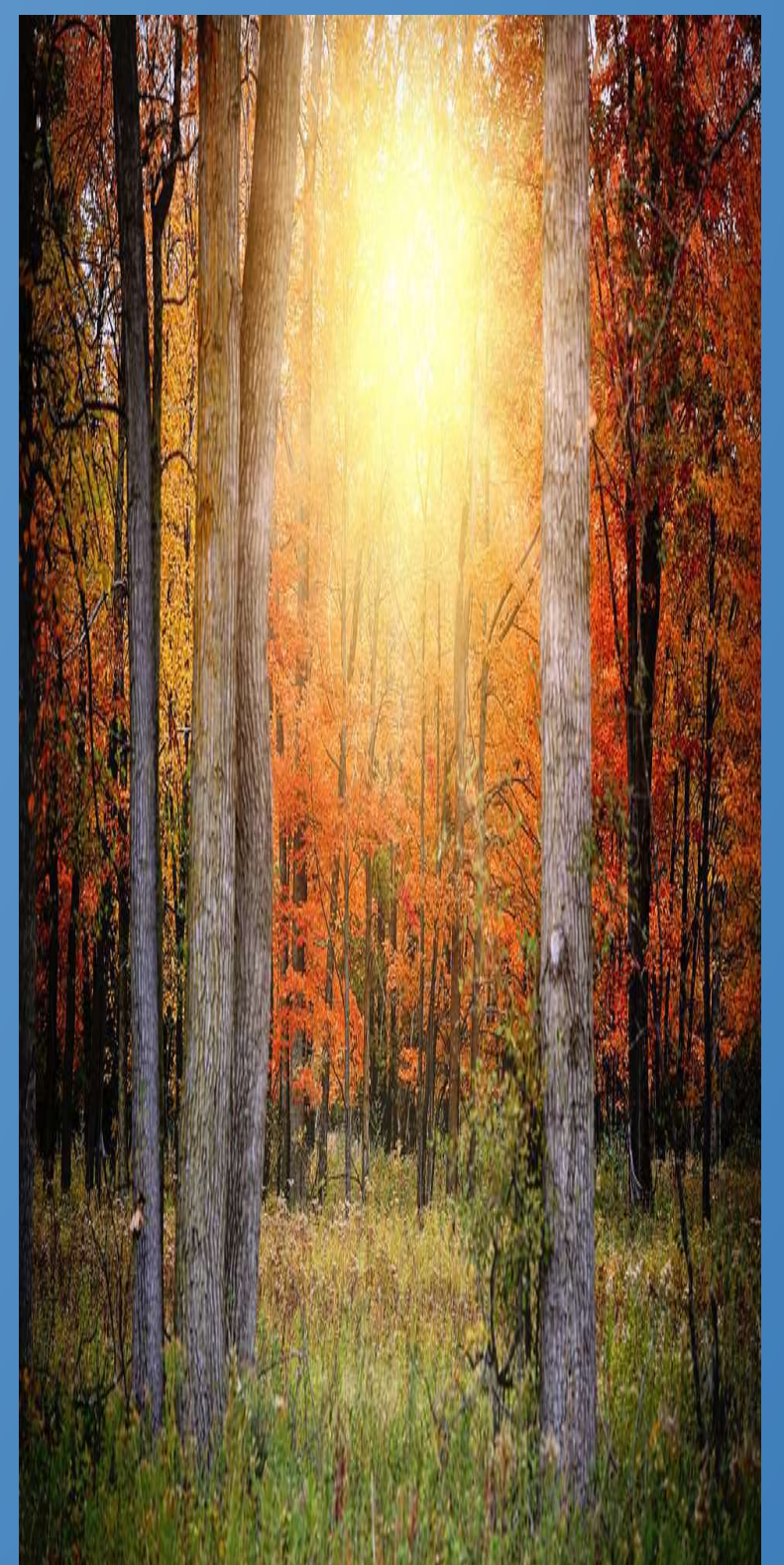
Warm Up

Answer the following - Explain your thought process to derive the correct answer.

Which cellular process takes place in the ribosomes that are bound to the endoplasmic reticulum?

- A** The breakdown of waste material
- B** The conversion of radiant energy to glucose
- C** The synthesis of new proteins
- D** The replication of nucleic acids

5:00



Prior Knowledge

Cell Membrane

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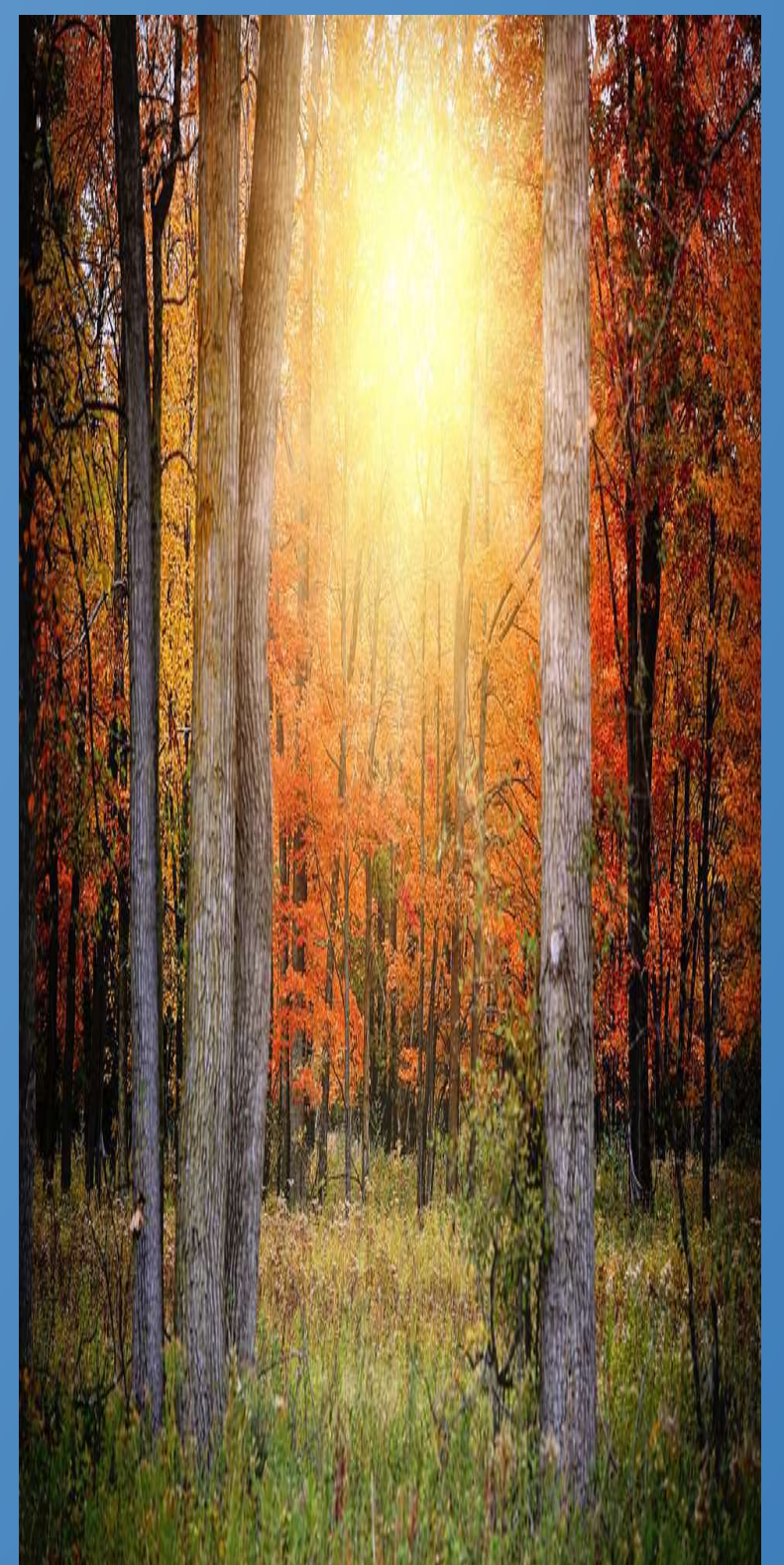
Closure

Data Folder Update:

- It is the end of the Six Weeks and time to see how you did.
 1. Update all Exam Grades - make sure you consult HAC
 2. Look at your mission Statement. Check how you did
 3. Revise it?
 4. Check your Plan and Do
 5. If you know your average, put that in and then evaluate the Study and Act portions.



5:00





Second Six Weeks

- Week 1: September 19th - 23rd
- Week 2: September 26th - 30th
- Week 3: October 3rd - 7th
- Week 4: October 10th(off) - 14th
- Week 5: October 17th - 21st
- Week 6: October 24th - 28th

Second Six Weeks

Week 1: September 19th - 23rd



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

- Understand the nature of **Viruses**
- Structure of Certain Viruses
- Differentiate between the **Lytic** and **Lysogenic** Cycles

September



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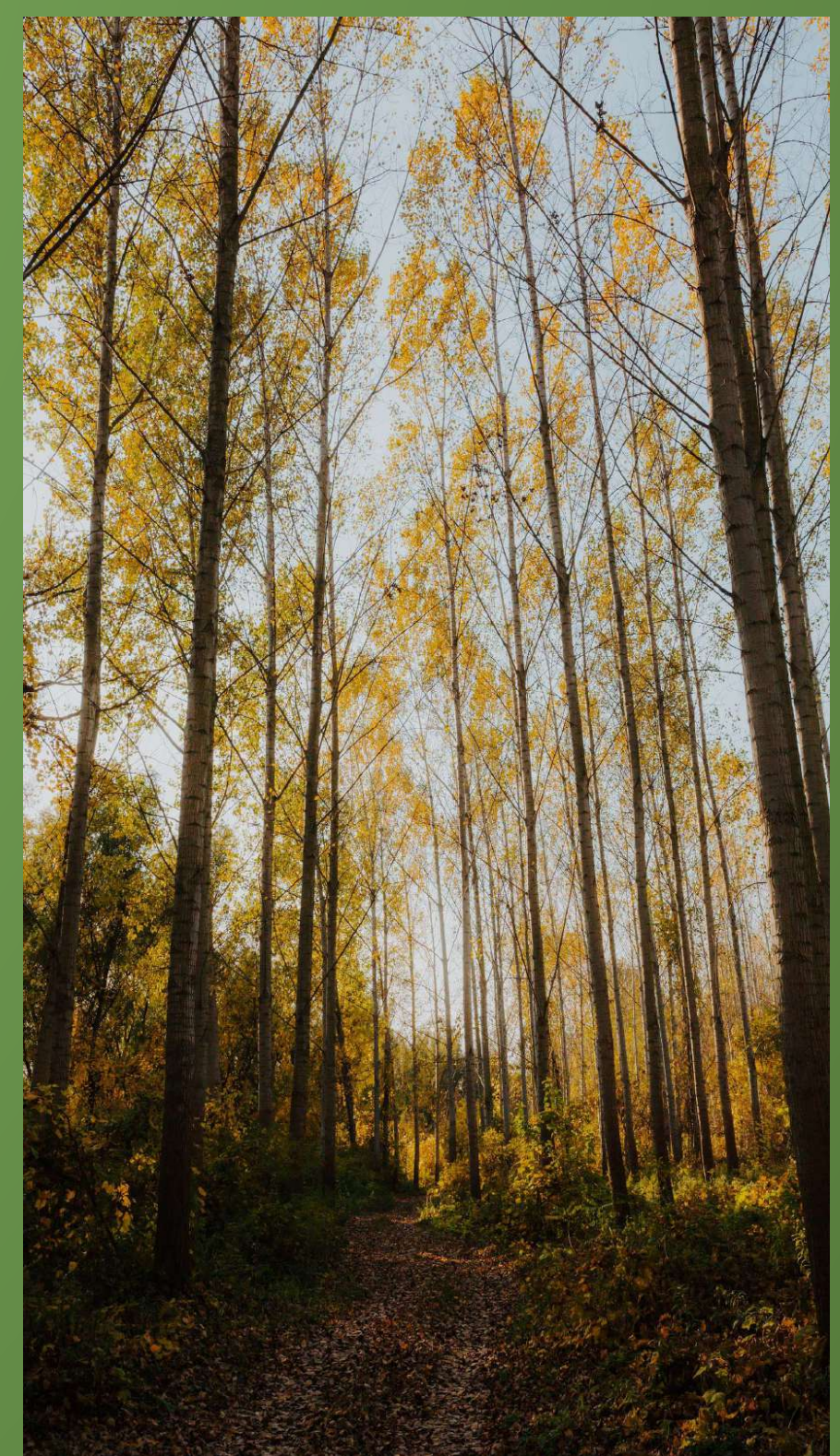
Warm Up

Watch the following Video on Youtube.

1. Summarize the parts of the Virus
2. Discuss why a Virus is not a living organism
3. What is a host?
4. Characterize Lytic vs Lysogenic Cycles



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

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September

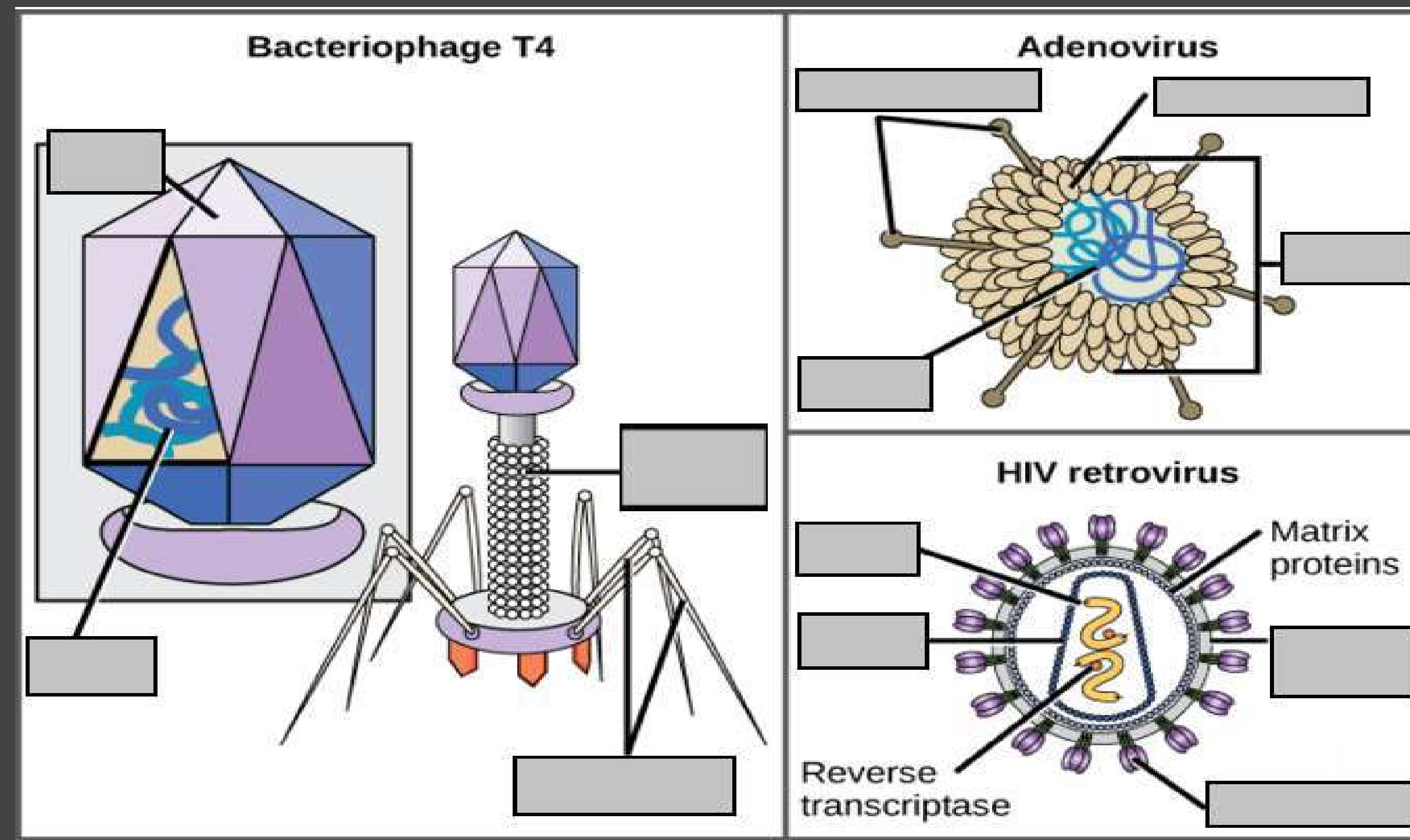


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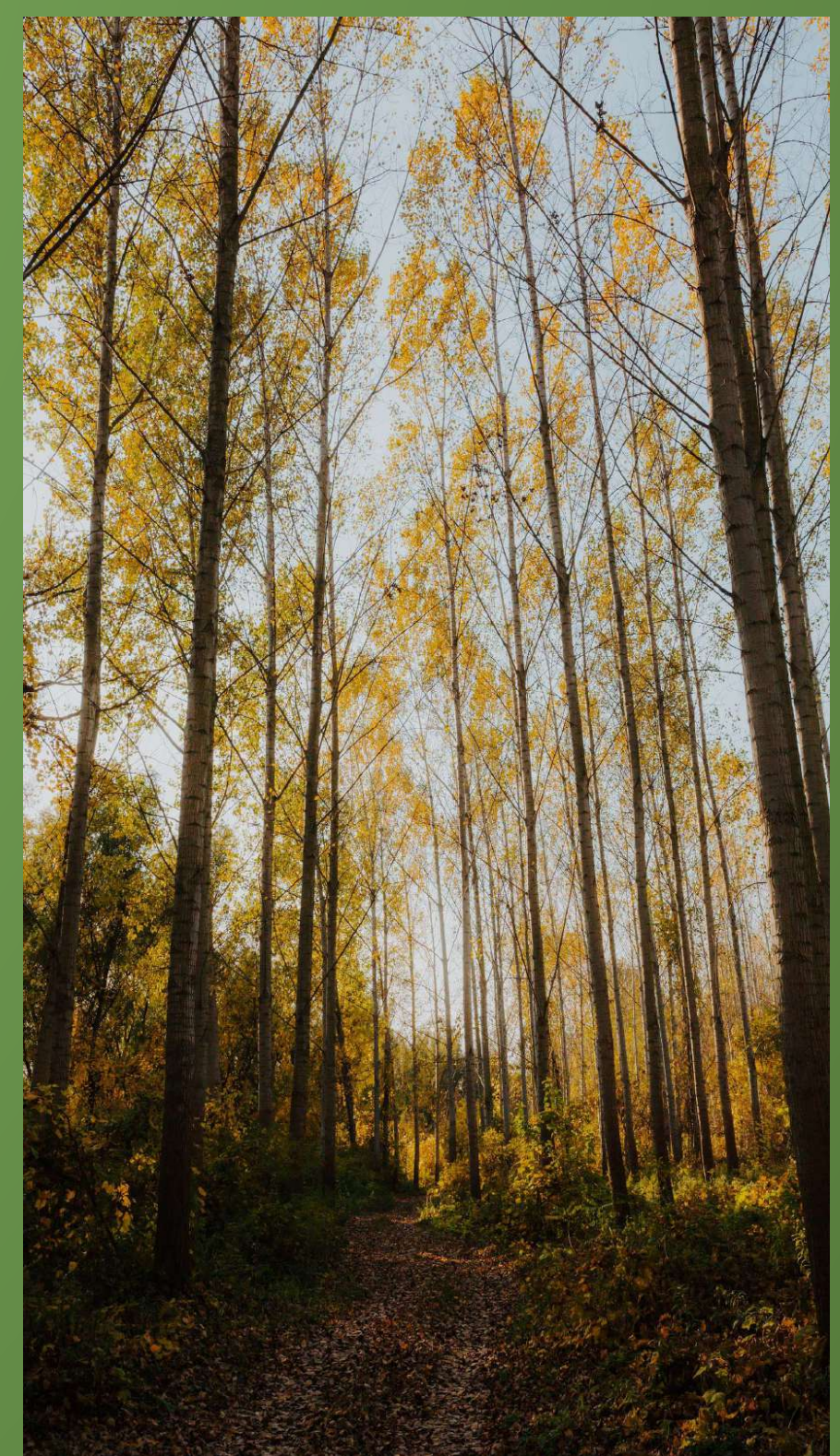
Closure

In your journal

- Label the image of the bacteriophage and Adenovirus



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
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Today's Objectives

Student will:

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September



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Warm Up

In the following Flipgrid:

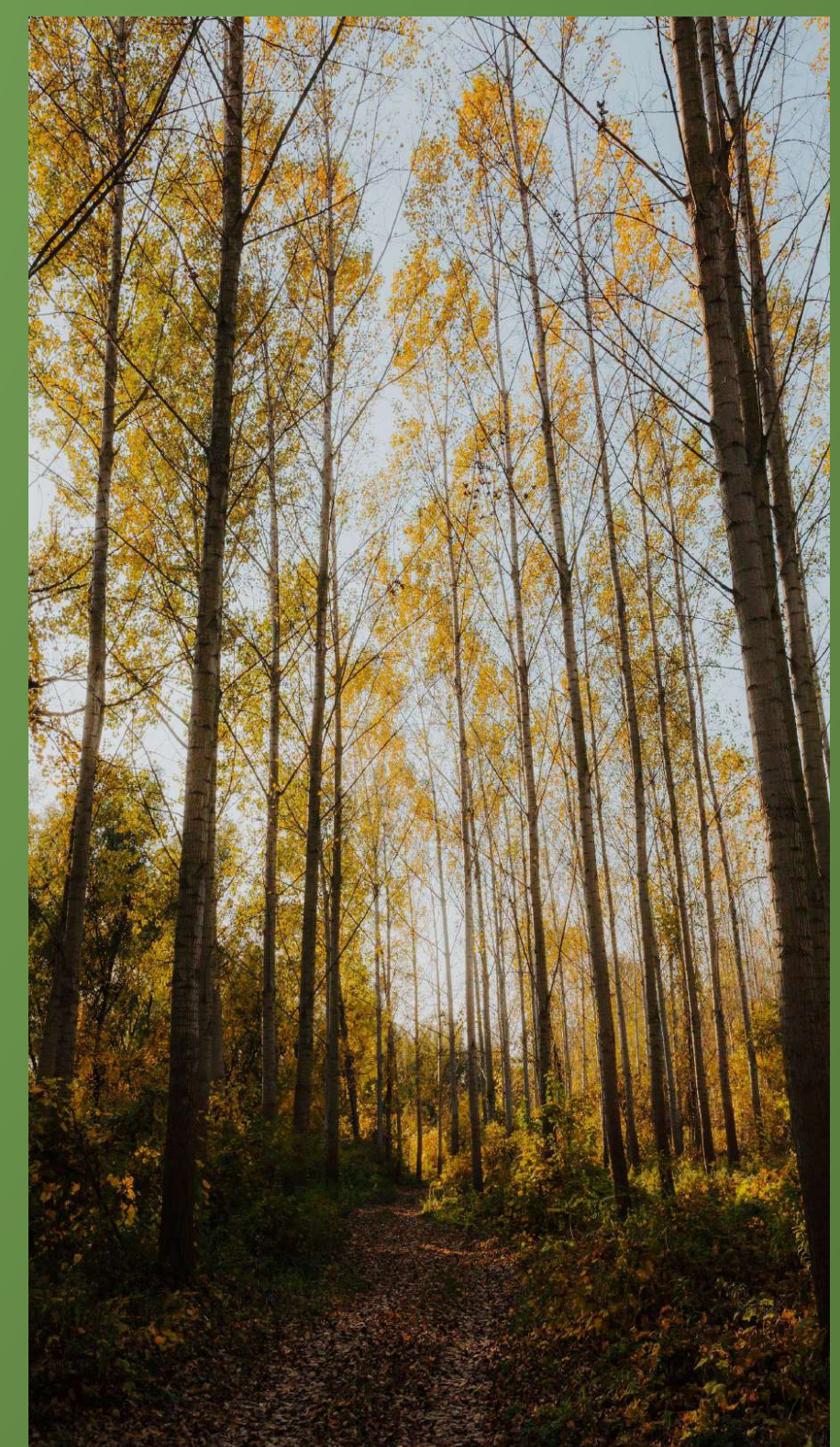
(<https://flipgrid.com/cc41c130>)

Make a flipgrid. In your video, you must have the following:

- Comparing and Contrasting Types of Viruses
- Be able to define viral structures: Capsid, Glycoproteins, Genetic Material



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

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September



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Closure

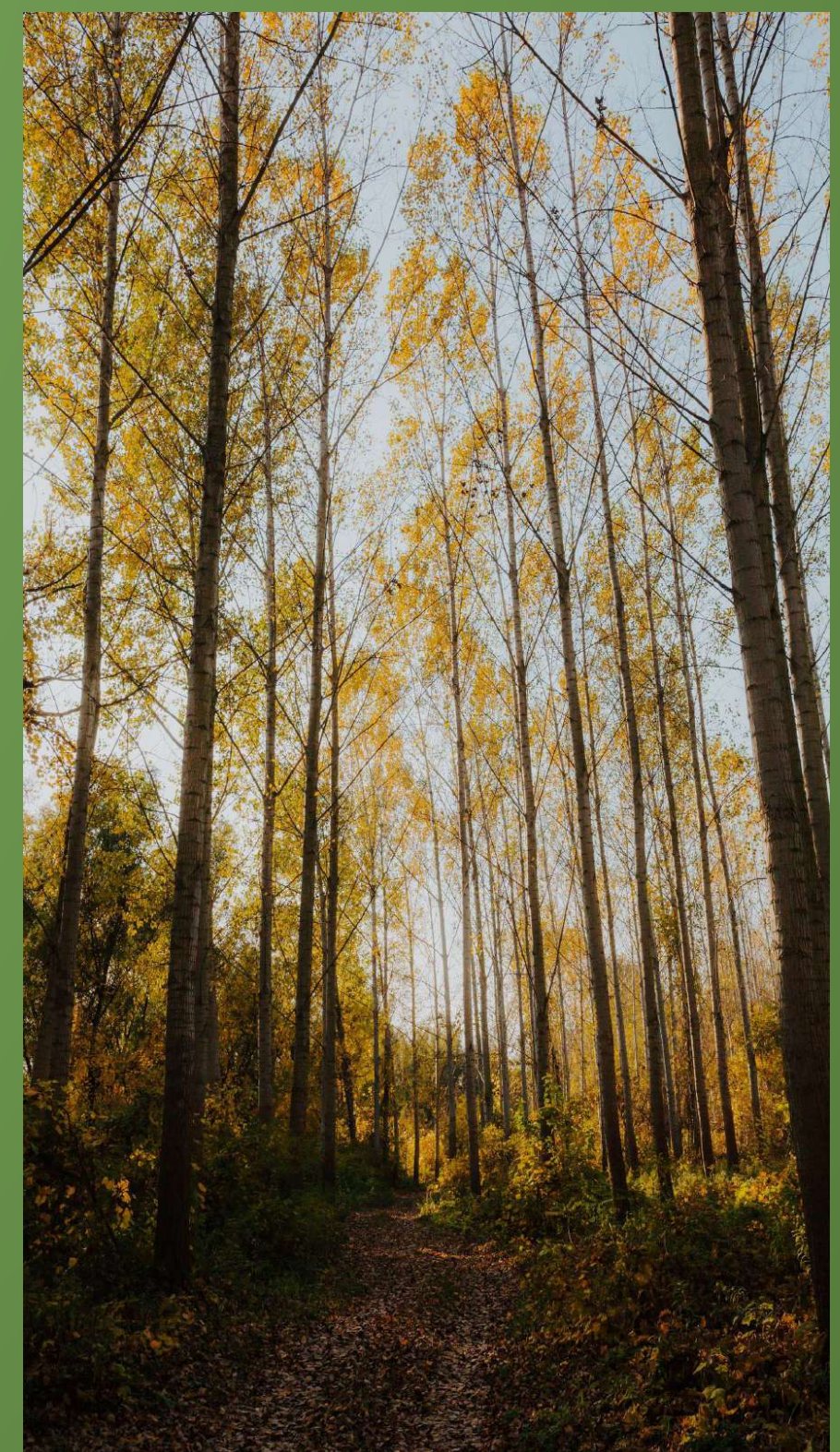
In a Quickwrite:

1. Draw the **Lytic Cycle** of a **bacteriophage** - [LINK](#)
2. In your drawing, include:
 - The attachment
 - Infection of viral DNA into host
 - Degradation of **Host** DNA
 - Manufacture of Viral Particles
 - Assembly
 - And **Lysis**

Copy Drawing and place in Journal



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

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September



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Warm Up

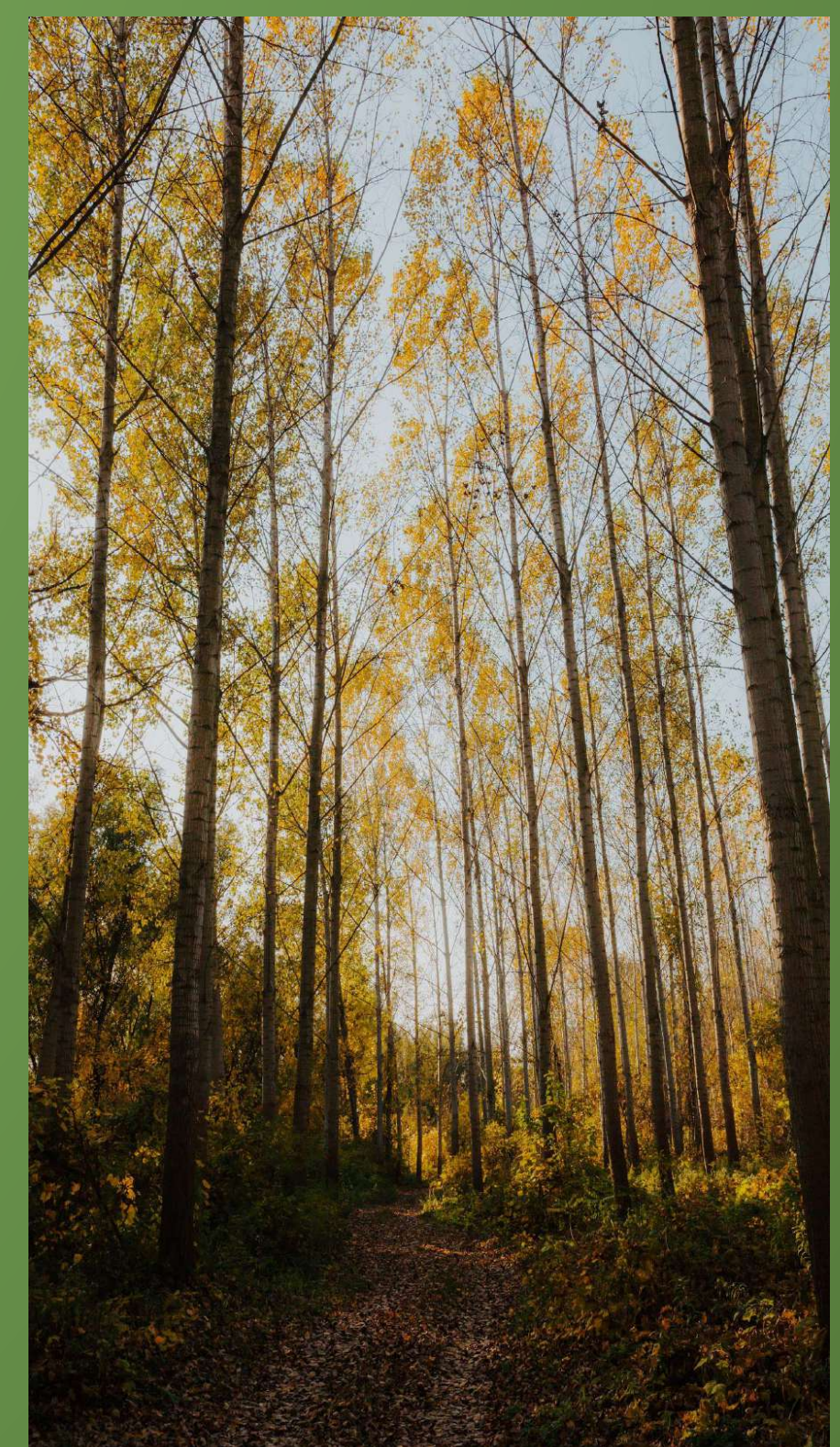
Draw the Lysogenic Cycle of a bacteriophage - [LINK](#)

In your drawing, include:

- The attachment
- Infection & incorporation of viral DNA into host
- Degradation of Host DNA
- Replication of cells
- Manufacture of Viral Particles
- Assembly
- And Lysis



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

- Understand the nature of **Viruses**
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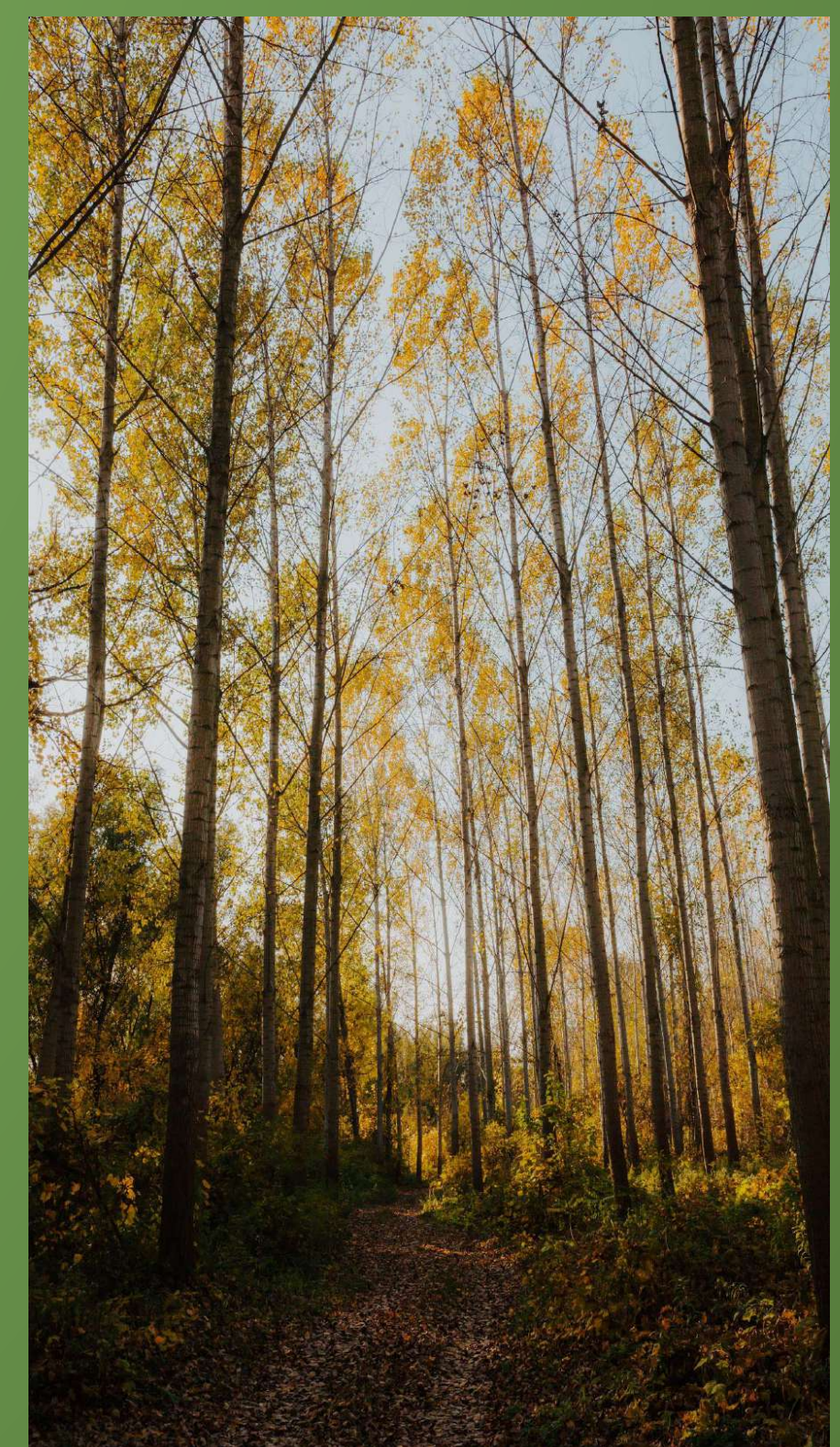
Closure

Using a "Sticky note" : post what you know about:

- As an exit ticket -
- Spend about 2 minutes, thinking about a virus that replicates by the Lysogenic Cycle. In an exit ticket posted in the Jamboard link - [LINK](#)
- Compare and Contrast modes of infection between Lytic and Lysogenic in terms of length of time before symptoms and why lysogenic viruses are difficult to detect.



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

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September



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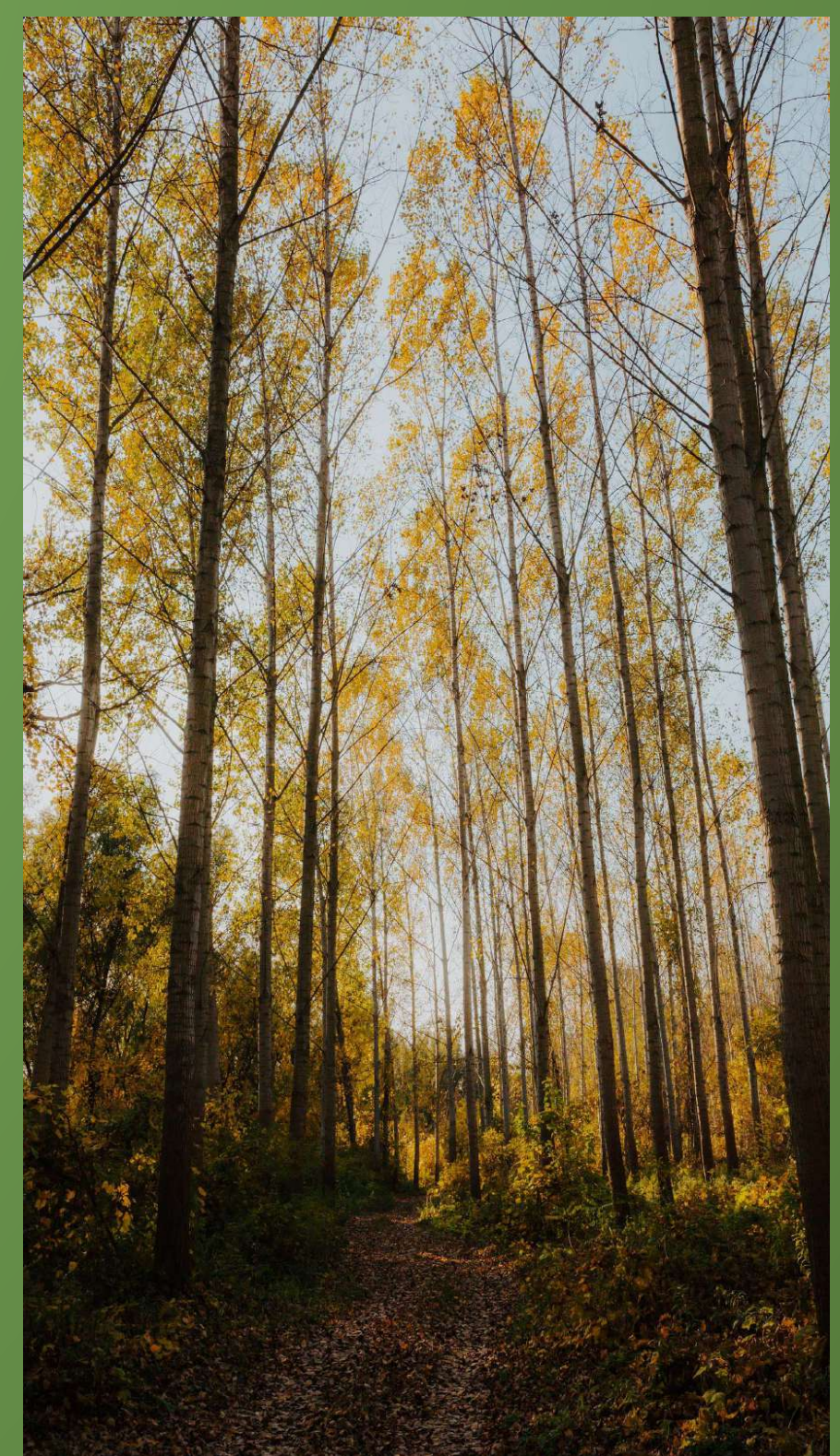
Warmup

Watch the following video on Youtube.

1. From the video content - Draw a conclusion on whether the virus mentioned replicates via the lytic and lysogenic cycle.
2. Why do you think this?



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

- Understand the nature of **Viruses**
- Structure of Certain Viruses
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September



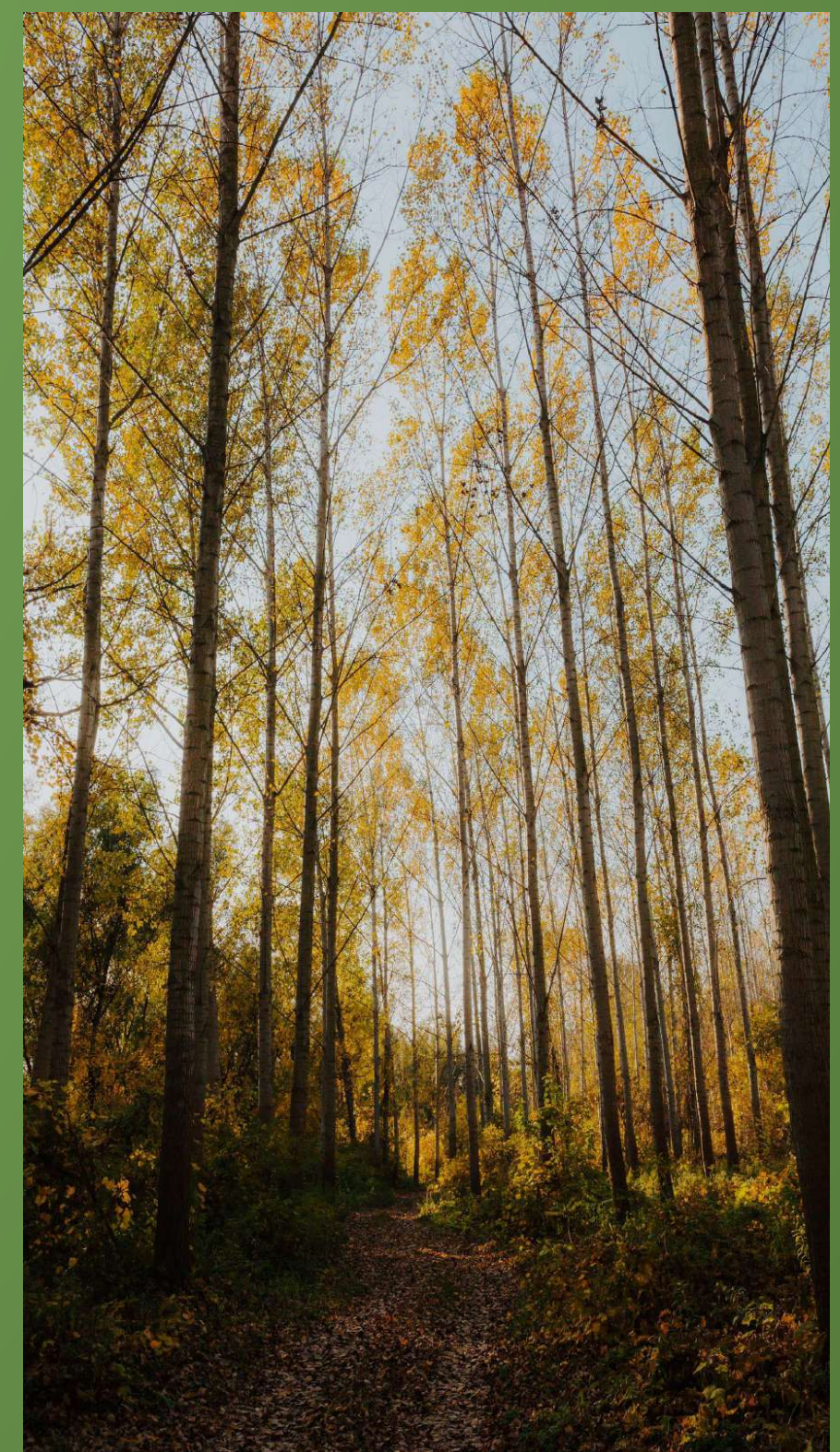
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25	26	27	28	29	30	

Closure

In a quickwrite -

1. Talk about a time when you have been sick - flu, cold, covid, etc.
2. Write about how long before you got symptoms
3. Why you think that this type of virus has a lytic or lysogenic replication pattern

5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

- Understand the nature of **Viruses**
- Structure of Certain Viruses
- Differentiate between the **Lytic** and **Lysogenic** Cycles

September



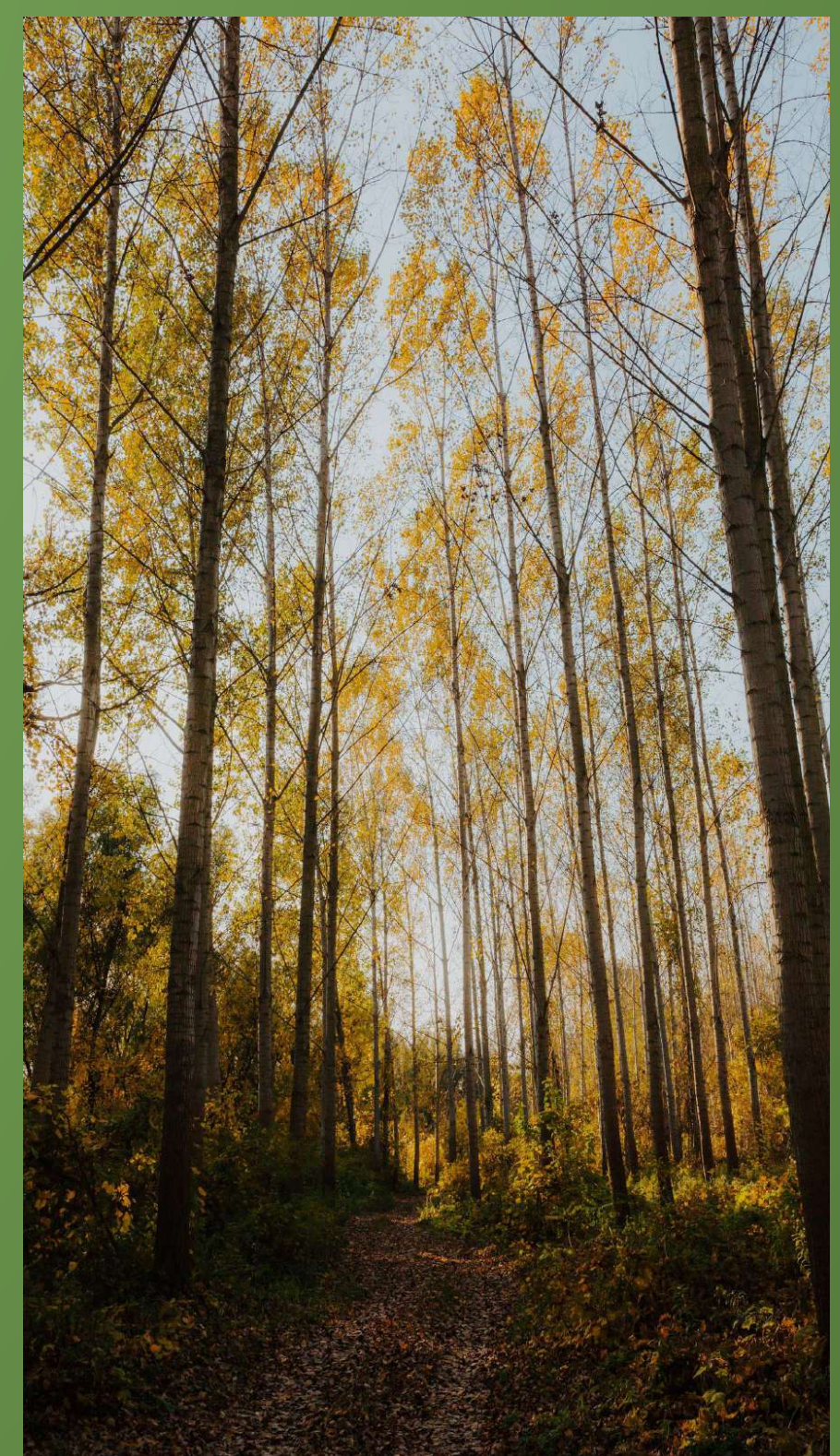
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Warmup

1. Watch the following [Edpuzzle](#) on Viruses. Answer the questions inside your journal.



5:00



Prior Knowledge

- Basic Knowledge of Viral parts
- Basic Knowledge of viral replication
- Basic Knowledge of Vaccines

Today's Objectives

Student will:

- Understand the nature of **Viruses**
- Structure of Certain Viruses
- Differentiate between the **Lytic** and **Lysogenic** Cycles

September



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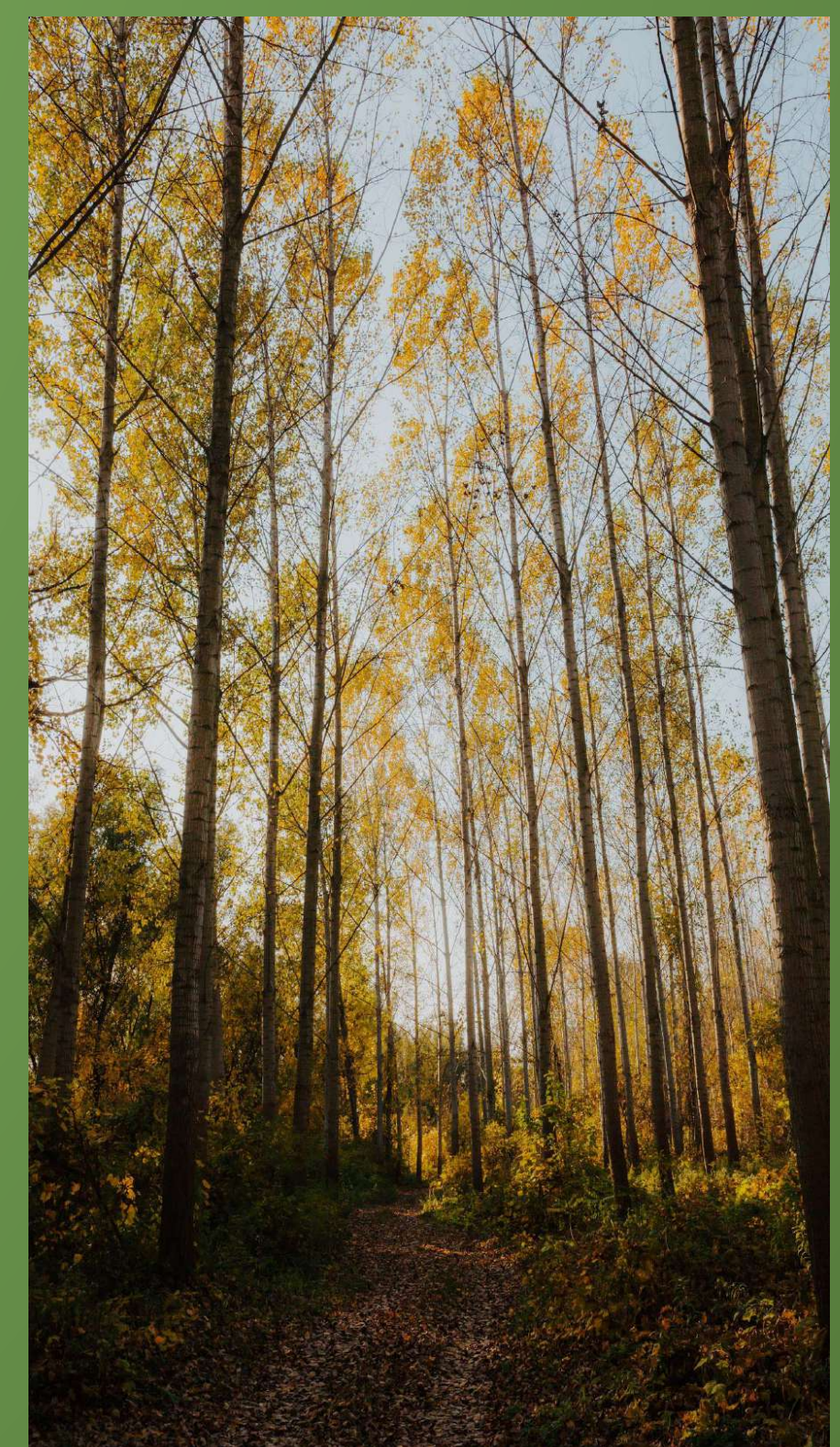
Closure

On the following Jamboard - [LINK:](#)

- Place a **your dot** where you feel like your level of knowledge is after this week. There are no wrong answers, but take an honest assessment.



5:00





Second Six Weeks

Week 2: September 26th - 30th



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

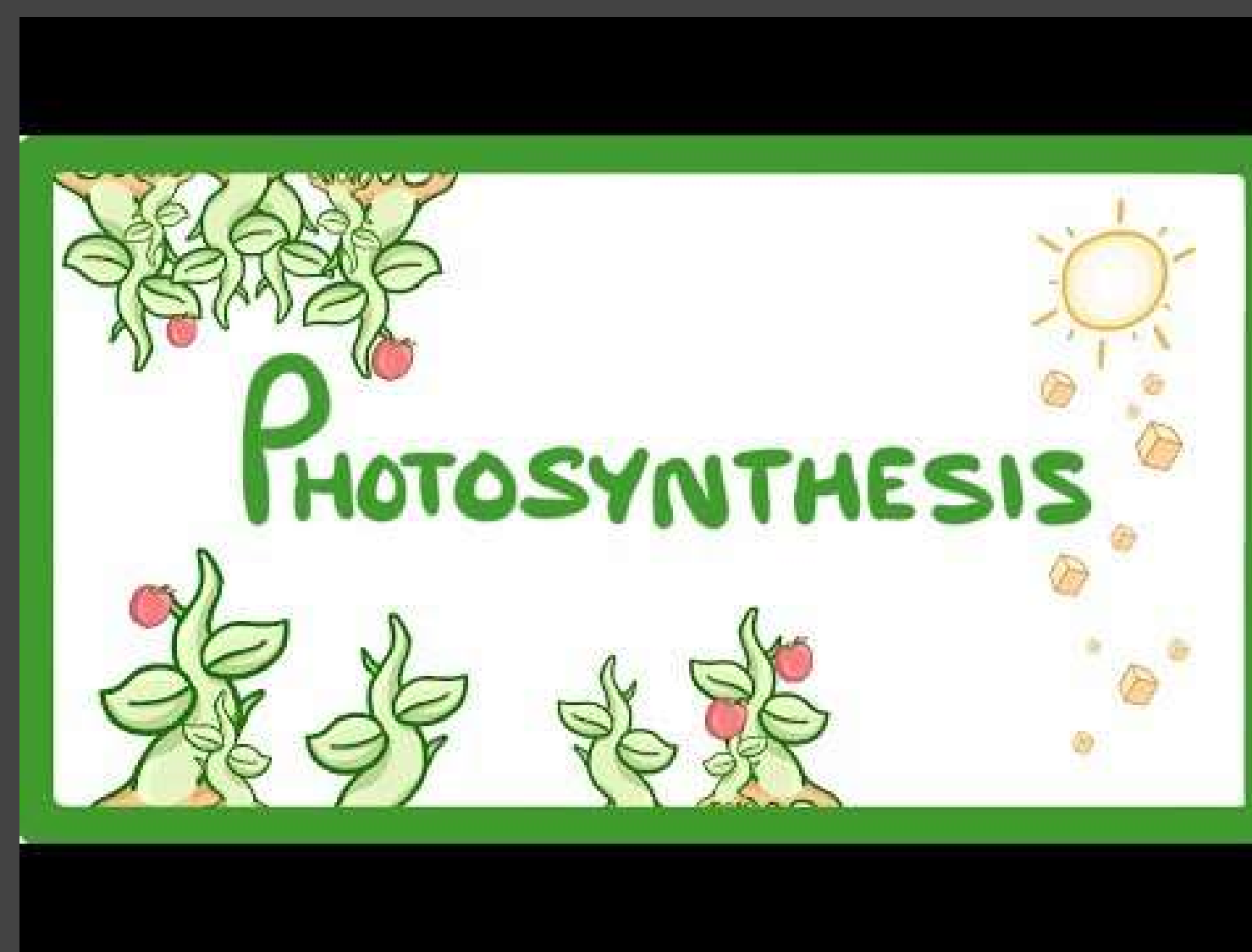
September



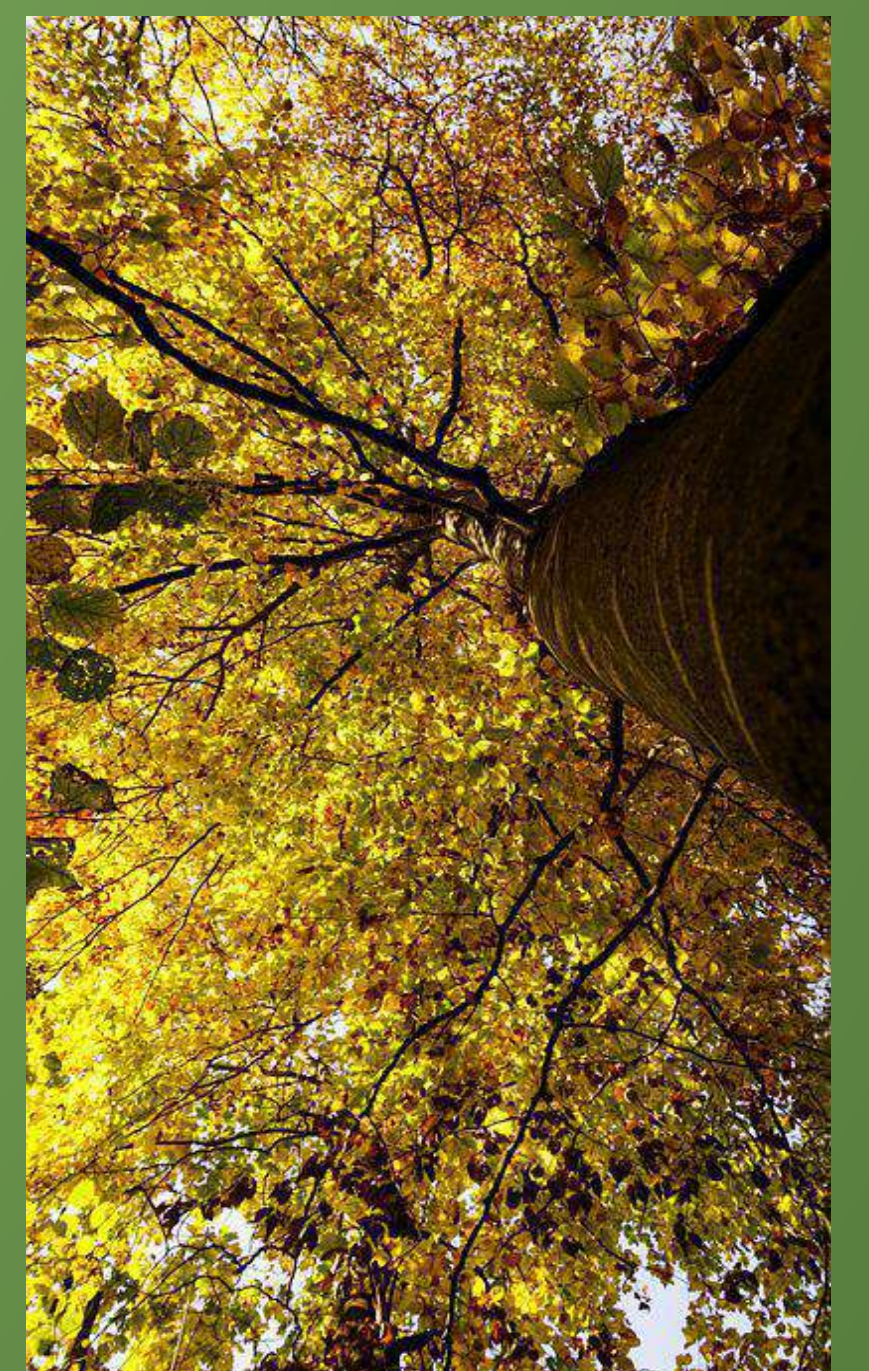
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Warmup

- Watch the following Youtube Video - LINK.
- Answer the questions inside your journal.
- Define Photosynthesis
- Where does it take place?
- Equation?
- Reactants? Products?



5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



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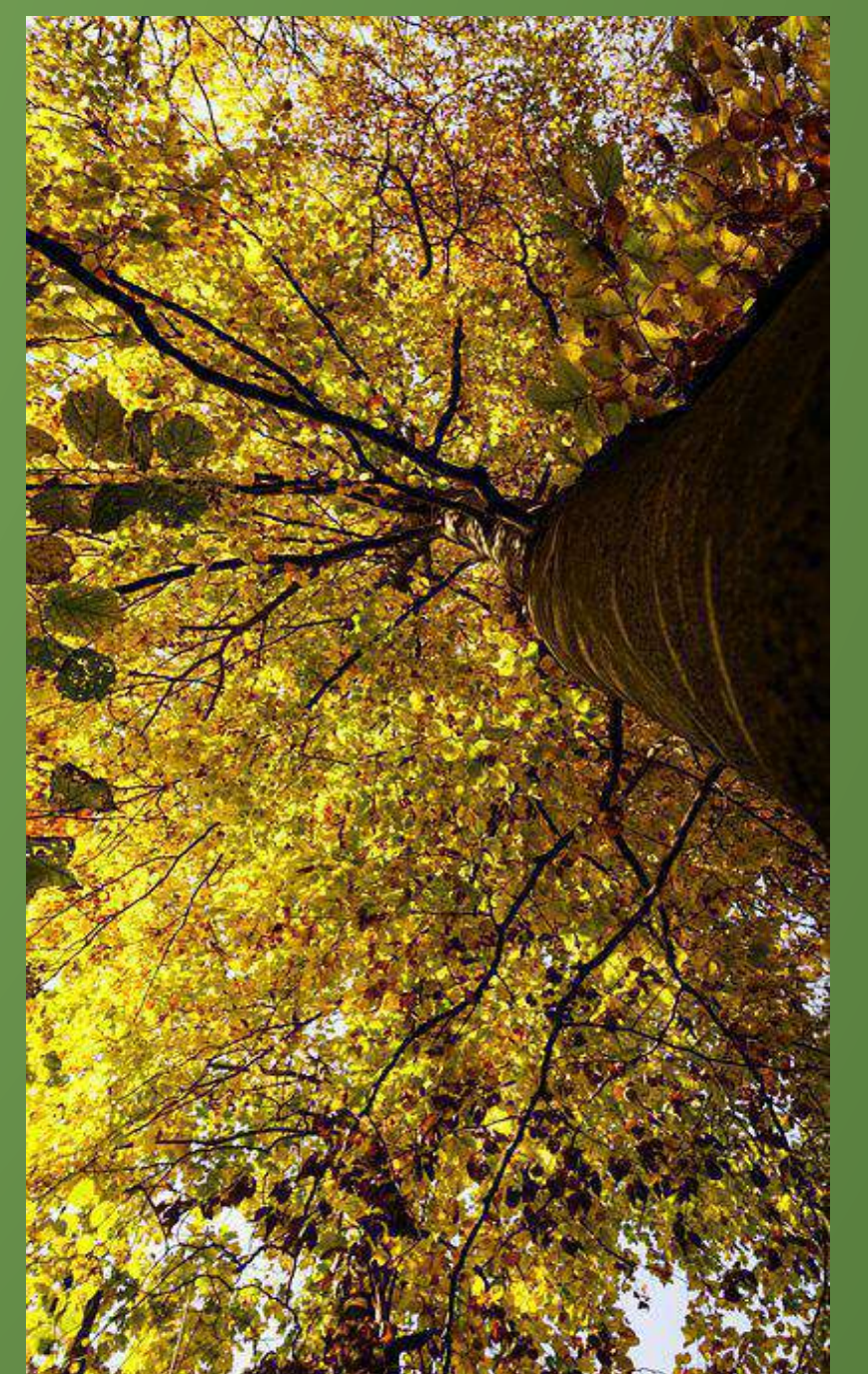
Closure

On the following Jamboard - [LINK](#)

- Fill out the left side only of this Jamboard.
- Take a screenshot and place it in your journal



5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



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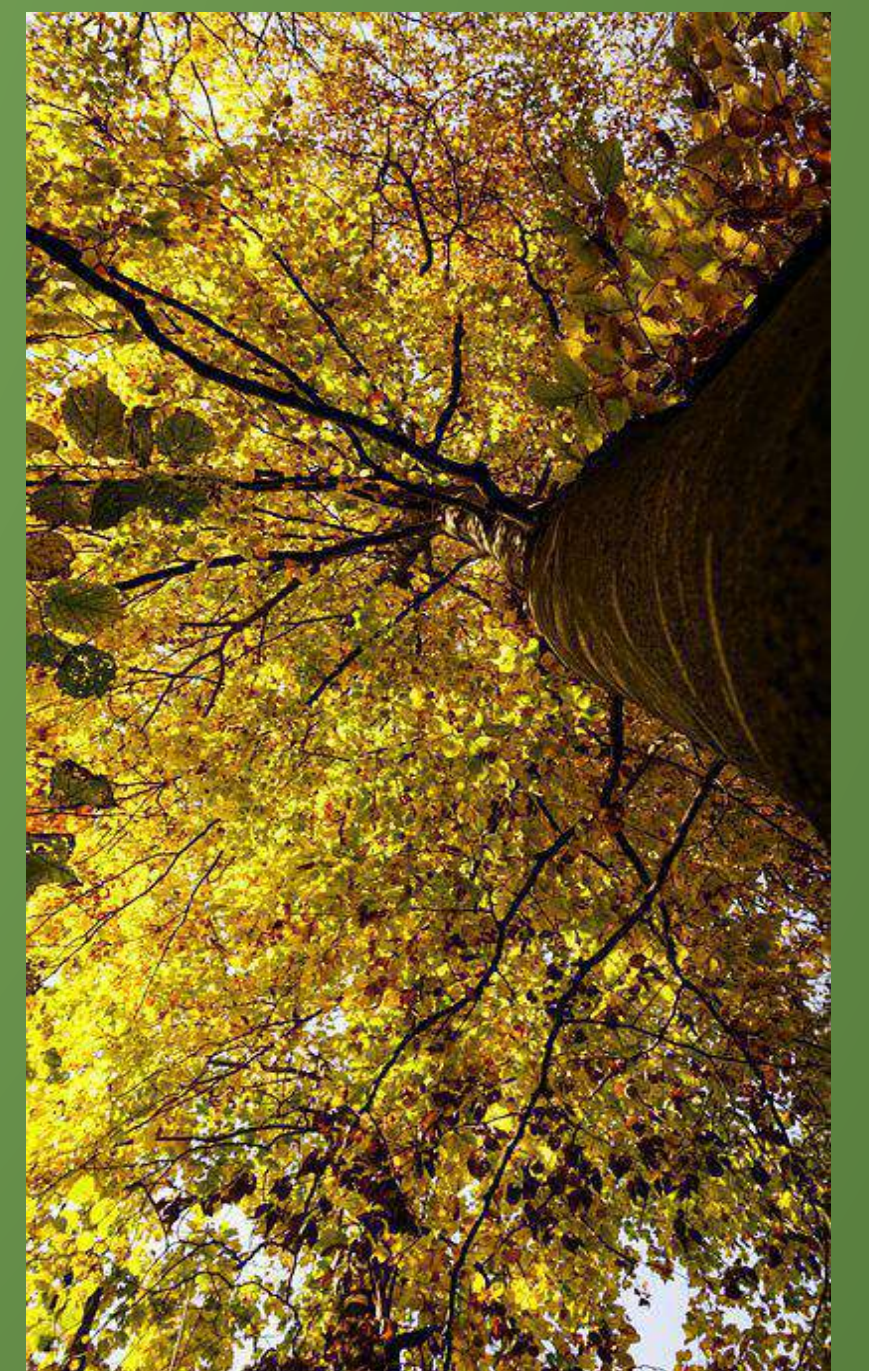
Warmup

- Answer the following Question Below. Explain why you chose this as the right answer...

Diatoms are one of the most common types of phytoplankton in marine habitats. Like plants, diatoms contain chlorophyll and produce glucose from which of the following?

- A O₂ and ATP
- B CO₂ and O₂
- C ATP and H₂O
- D CO₂ and H₂O

5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



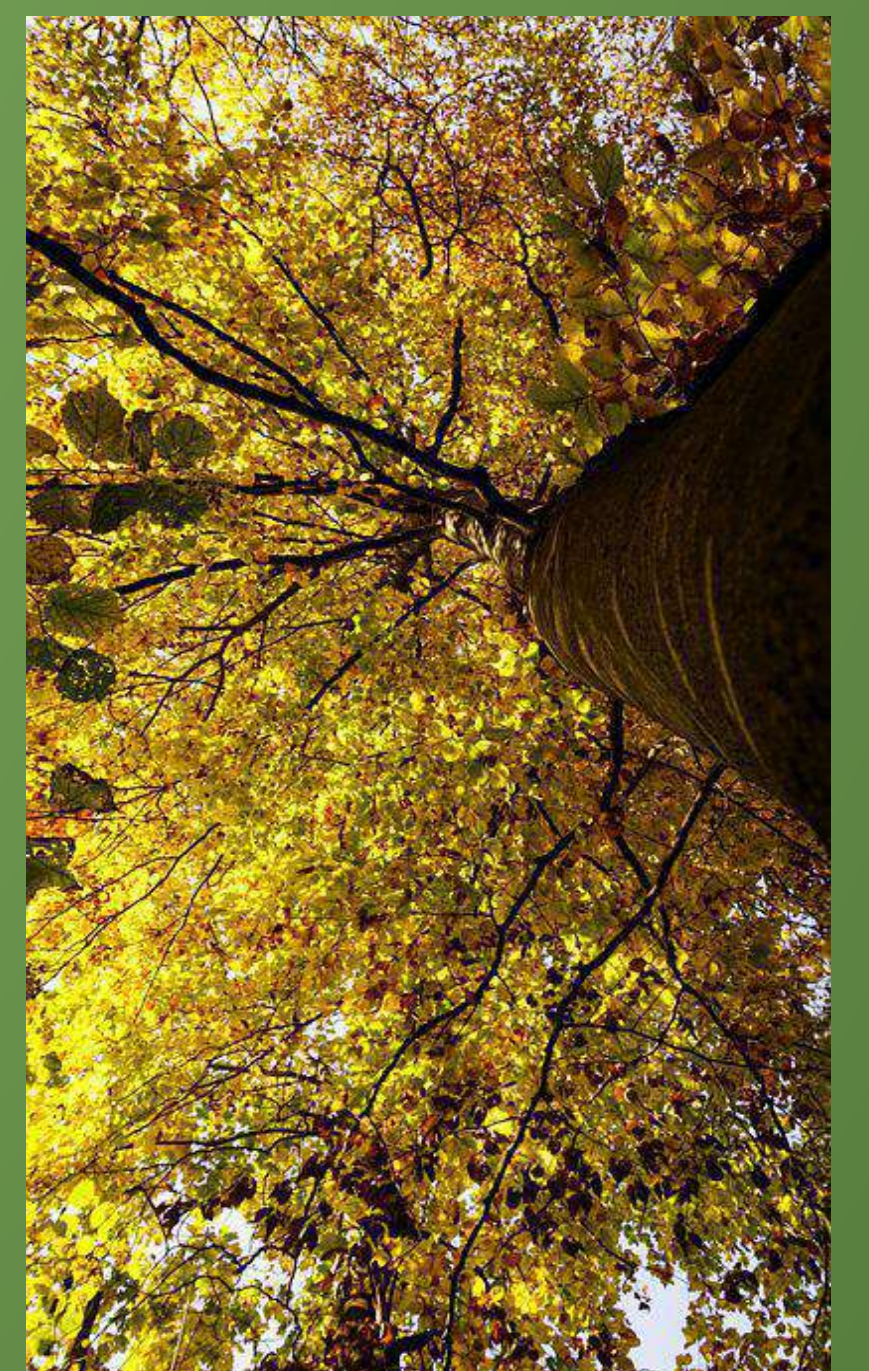
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Closure

- Label the cell shown in this drawing - [LINK](#)
- Describe its function, materials moved, and location
- Take a screenshot and place it in your journal.



5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
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September

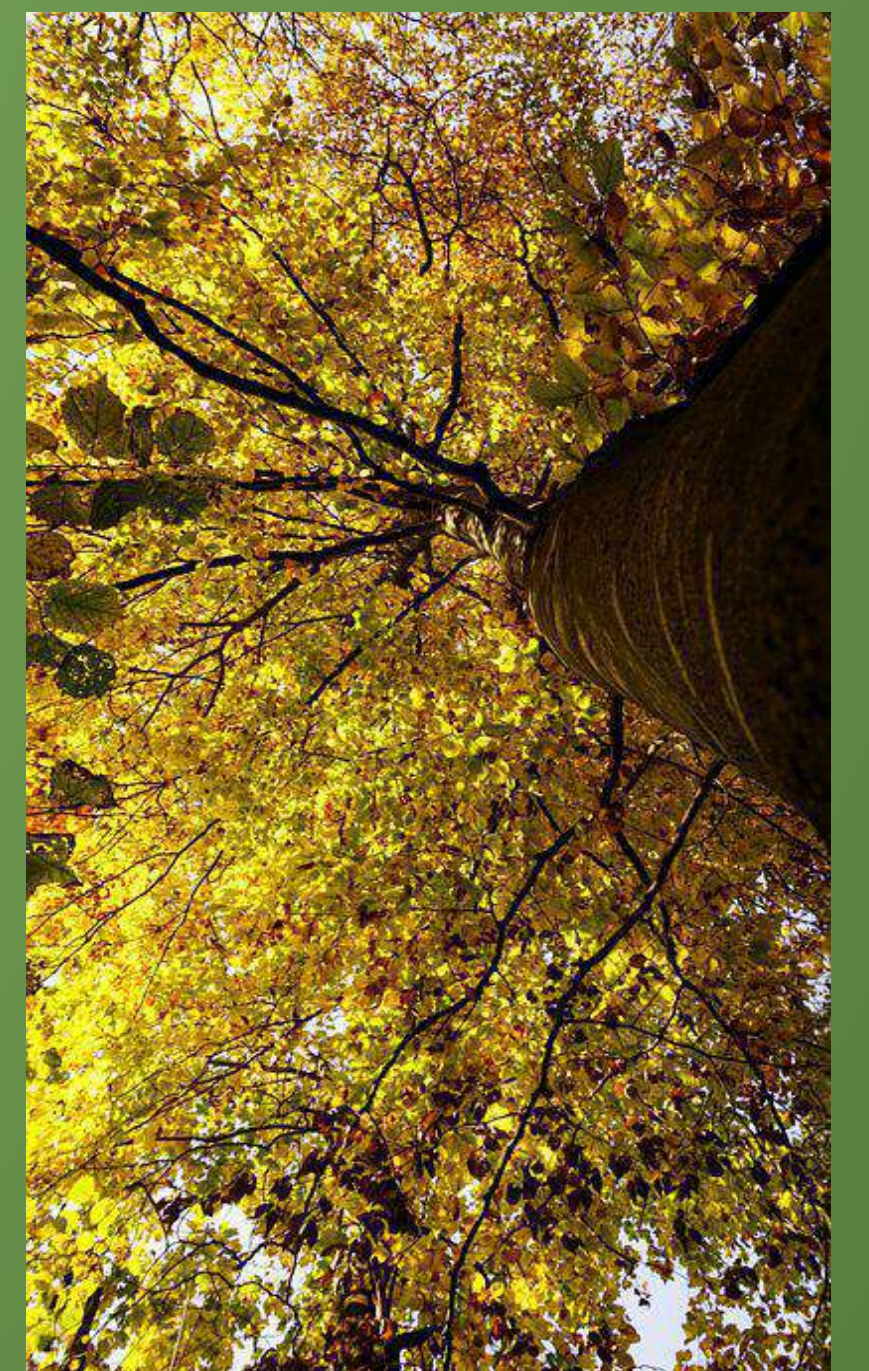


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Warmup

- Answer the following -
 1. What is **photosynthesis**?
 2. Where does photosynthesis occur?
 3. What are **chloroplasts** and where are they found?
 4. What are the two main functions of chloroplasts?
 5. Why do most **leaves** appear green?
 6. What is the primary **pigment** found in the chloroplast?

5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September

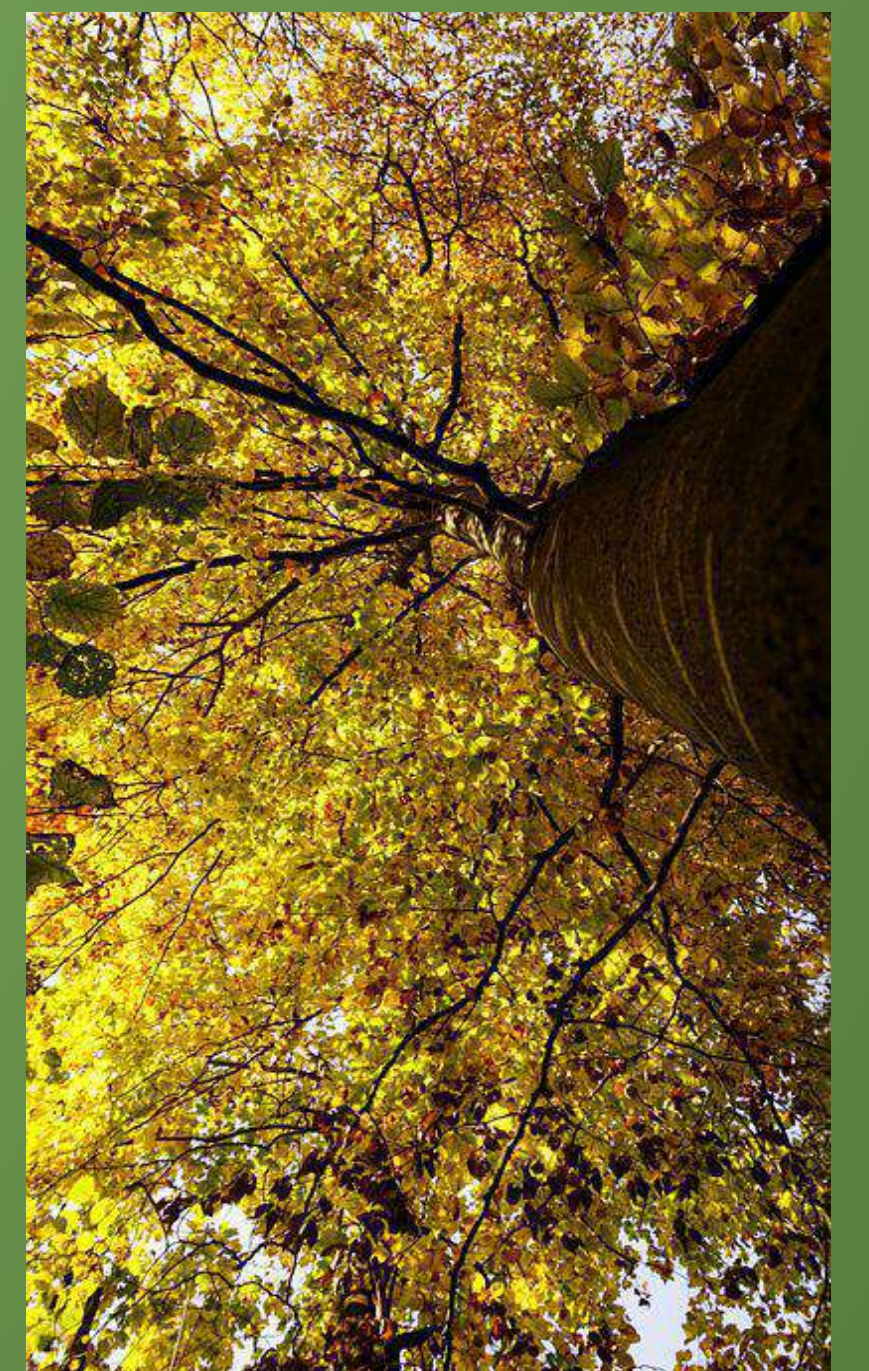


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Closure

- Answer the following -
 1. What is the formula for **photosynthesis**?
 2. What three things are used to make **glucose** in photosynthesis?
 3. Where does the water come from?
 4. Where does the water enter the plant?
 5. What type of energy does the plant use to convert CO₂ and H₂O into sugar?

5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



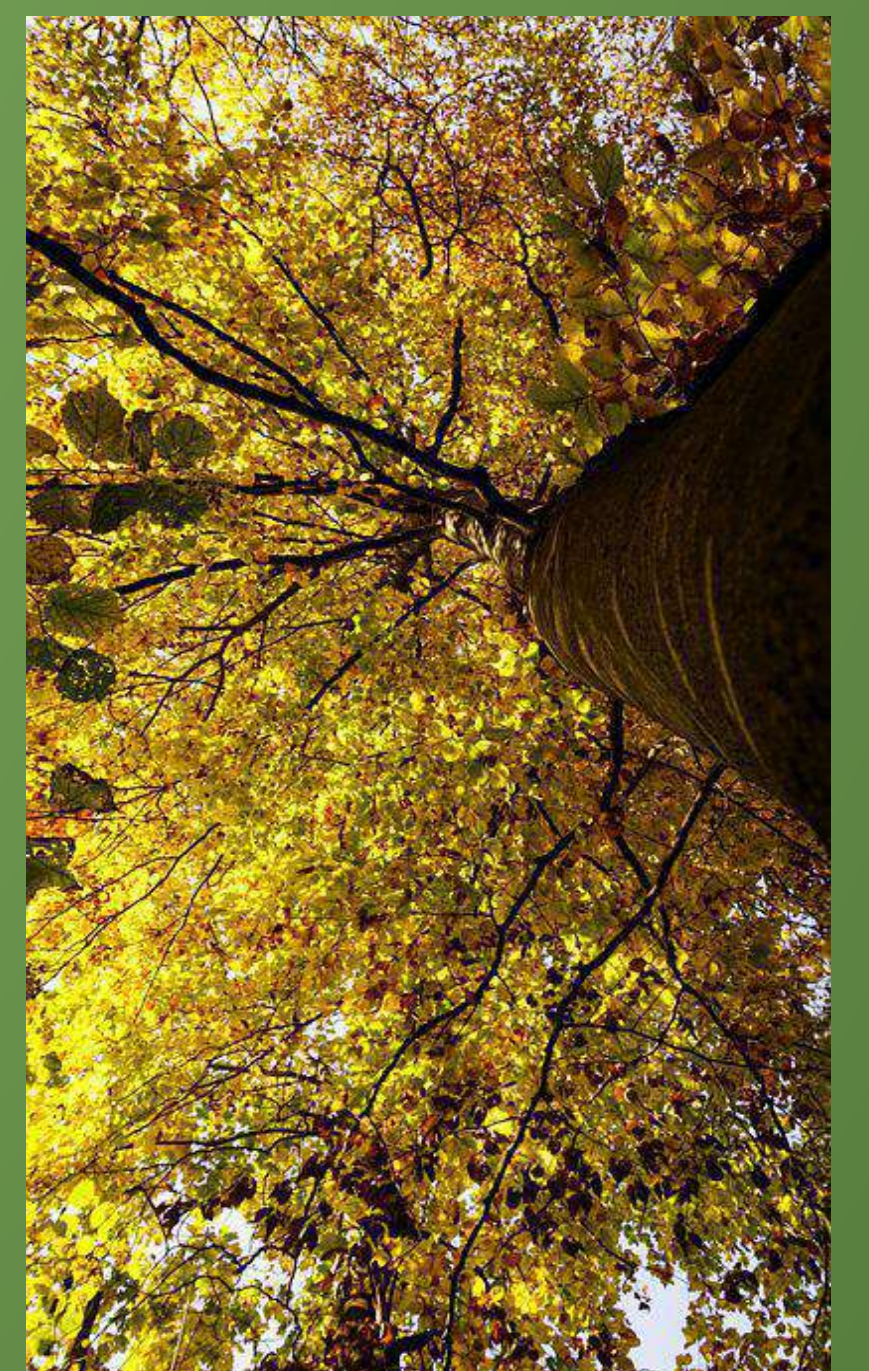
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Warmup

1. Begin filling out the **Jamboard** for Photosynthesis on the left side. Make a screenshot and insert in your journal.



5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



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Closure

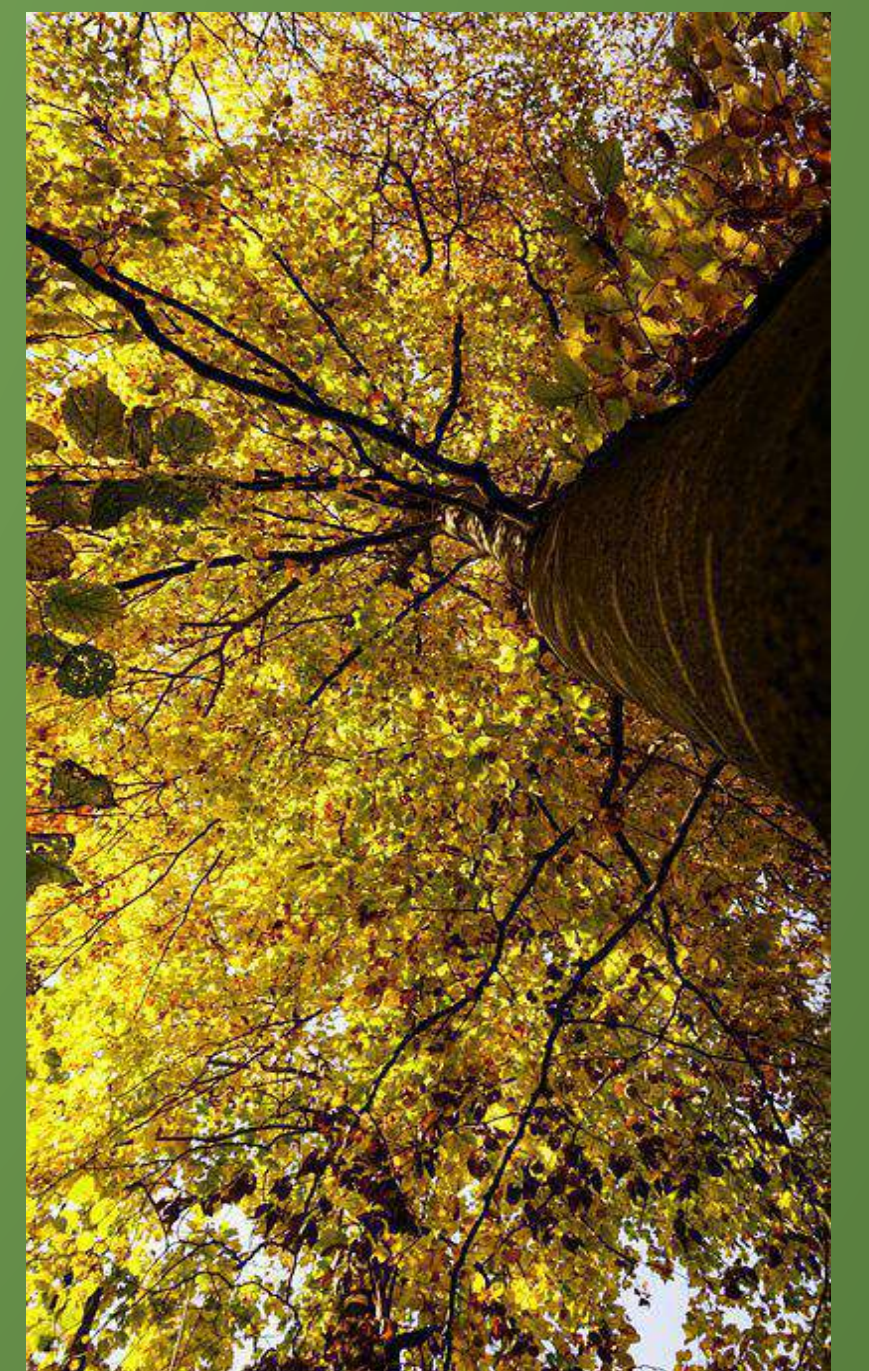
In the following

Flipgrid: (<https://flipgrid.com/670d2cf6>)

1. Summarize Photosynthesis:
2. Location
3. Equation: Reactants and Products
4. Purpose
5. Cellular Structures involved



5:00



Prior Knowledge

- Plant Energy
- **Photosynthesis**
- Equation
- Process
- Location inside plant cell
- **Chloroplast** & **Chlorophyll**

Today's Objectives

Student will:

- Define **Photosynthesis**
- Identify the plant structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **guard cell** - function

September



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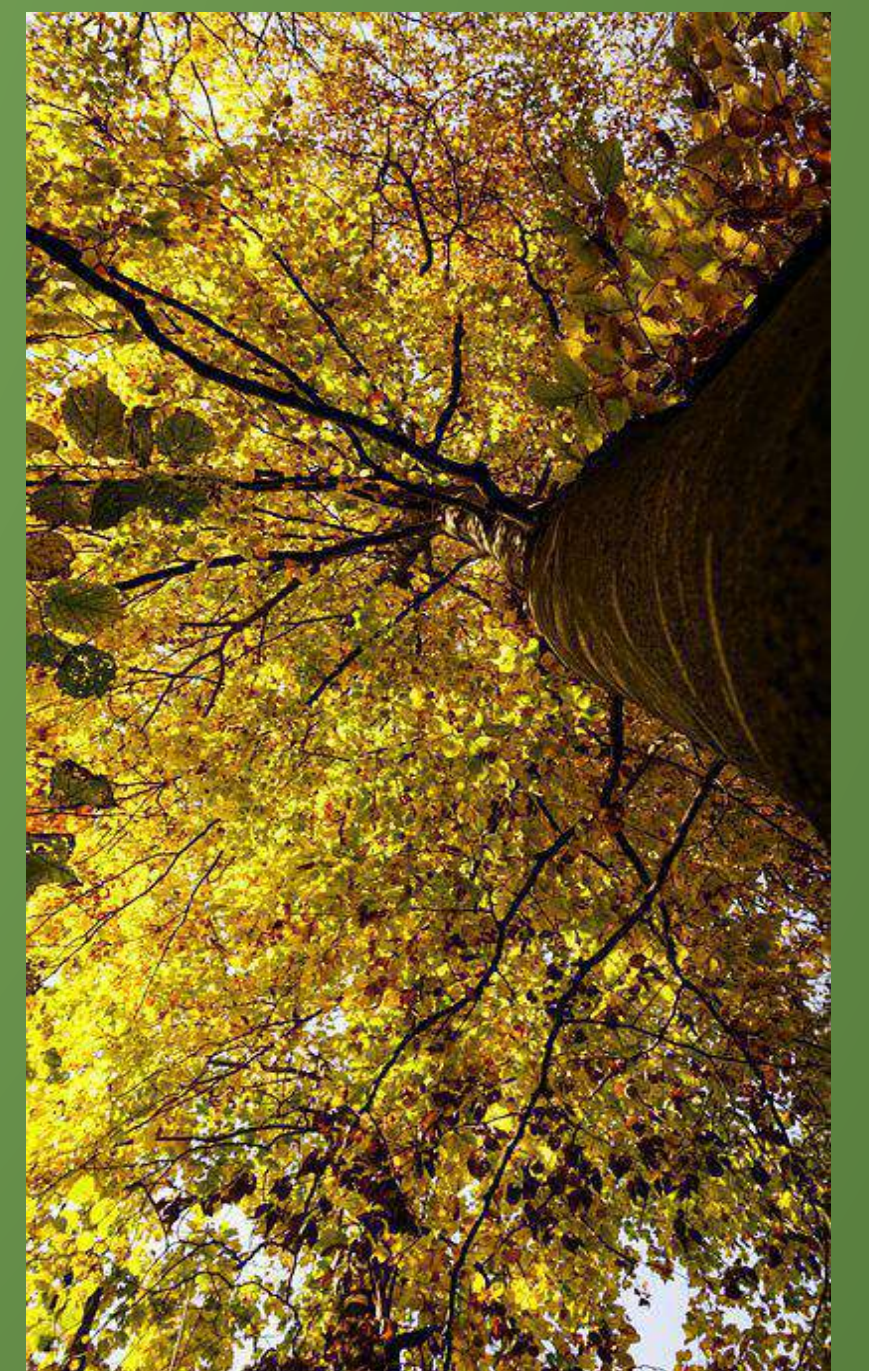
Warmup and Closure

Go to the following google drawing - [LINK](#)

1. Label the drawing the best that you can. If you need help, consult the past days warmups/closures
2. Identify Cell organelles involved and functions of each.
3. Include a description of the process happening at each point and the general equation
4. Insert a screenshot below.



5:00





Second Six Weeks

Week 3: October 3rd - 7th

Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Warm Up

Watch the following Youtube Video
- [LINK](#).

Answer the questions inside your journal.

1. Define **Cellular Respiration**
2. Where does it take place?
3. Equation?
4. Reactants? Products?
5. Relationship to Photosynthesis



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

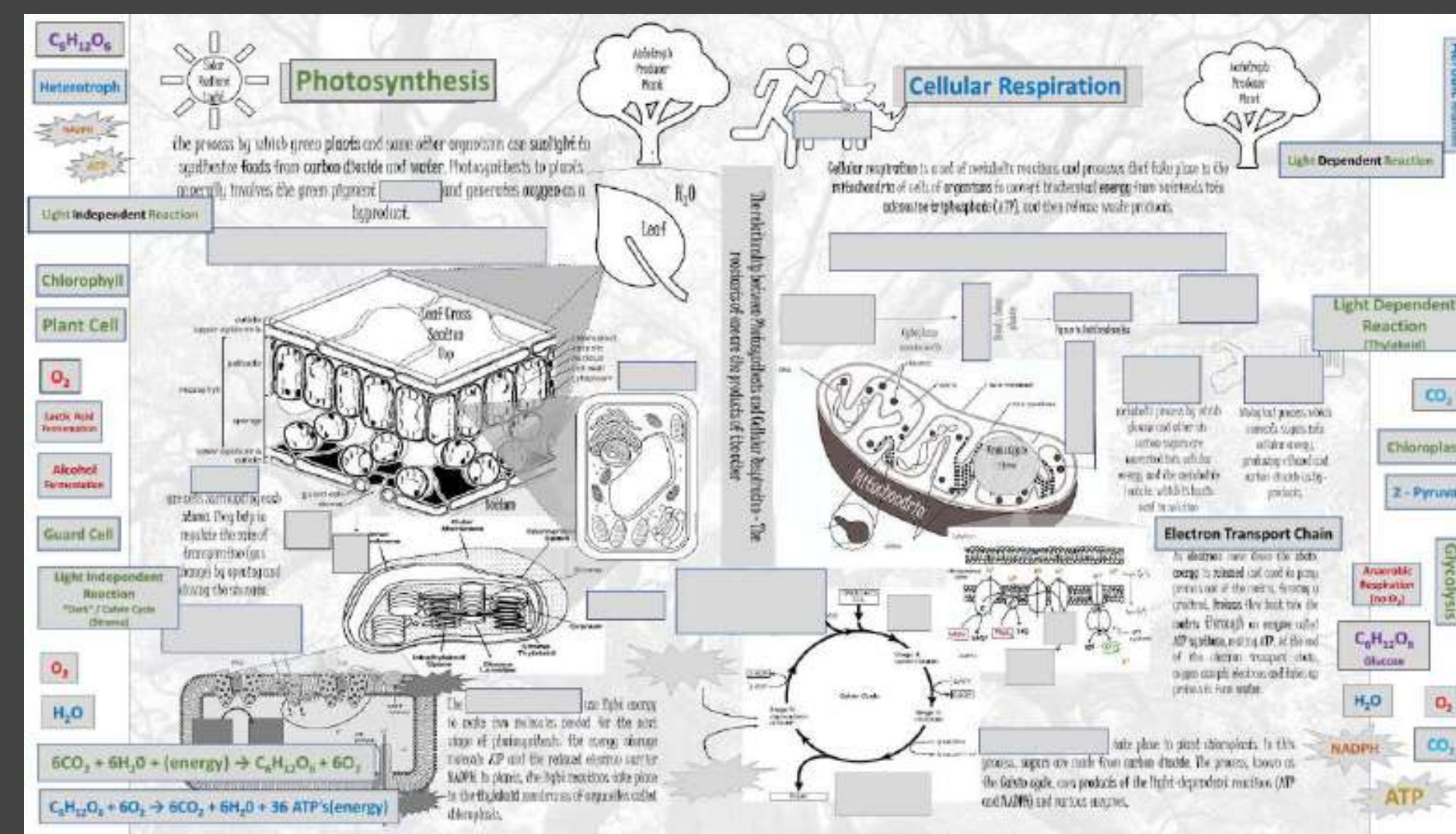
October



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Closure

1. On the following Jamboard
2. Fill out the right side only of this Jamboard in your google drive - Photosynthesis and Cellular Respiration.
3. Take a screenshot and place it in your journal



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Warm Up

Label the following drawing: [LINK](#) (words are below)

1. Glucose
2. Pyruvate
3. Mitochondria
4. NADH
5. ATP
6. ATP
7. ATP
8. Electron Transport
9. Citric Acid Cycle

Take a screenshot and place in your journal



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Closure

Read the following Article: [October 4th Closure](#) - Answer the following questions in your journal

1. What is energy?
2. Give an example of how energy is used in a living organism.
3. Distinguish between autotrophs and heterotrophs.
4. Determine if the following are autotrophs or heterotrophs: (a) a giant redwood tree, (b) a spider, (c) a rose bush, (d) a mushroom, (e) a blue whale.
5. How is energy used in a cell?
6. Why are autotrophs considered the basis of food chains?



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Warm Up

Fill in the blank with the appropriate term - Answer the following questions in your journal

1. . Heterotrophs are living things that cannot make their own _____.
2. _____ and _____ are the two types of molecules organisms use for chemical energy.
3. Glucose and _____ are the products of photosynthesis.
4. _____, water, and energy are the products of cellular respiration.
5. Photosynthesis is the process in which energy from _____ is transferred to glucose.
6. _____ is the process in which energy from glucose is transferred to ATP.

5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Closure

Fill in the blank with the appropriate term - Answer the following questions in your journal

1. Without photosynthesis, there would be no _____ in the atmosphere.
2. All organisms burn glucose to form _____ during cellular respiration.
3. The chemical formula of glucose is _____.
4. Photosynthesis occurs in the _____, and cellular respiration occurs in the _____ - _____.
5. _____ make their own food, whereas _____ get food by eating other living things.
6. Living organisms get their _____ from food.

5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Warm Up

In the following Flipgrid - [LINK](#)

1. In the following Flipgrid:
2. Discuss the process of **Cellular Respiration**
3. Compare and contrast **Photosynthesis** & Cellular Respiration
4. Compare and contrast **Aerobic** & **Anaerobic** Respiration
5. Locations (organelles involved) , Reactants, and Products



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October



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Closure

Complete the following Consensagram - [LINK](#)

- Evaluate your knowledge level of Photosynthesis & Cellular Respiration
- In your journal - Take a screenshot and discuss your reasoning



5:00



Prior Knowledge

- Plant **ATP** Energy
- **Cellular Respiration**
- Equation
- Process
- Location inside plant cell
- **Mitochondria / ATP**

Today's Objectives

Student will:

- Define **Cellular Respiration**
- Identify the **eukaryotic** cell structures responsible
- Identify **reactants** and **products** of equation
- Draw and label the **mitochondria** - function

October

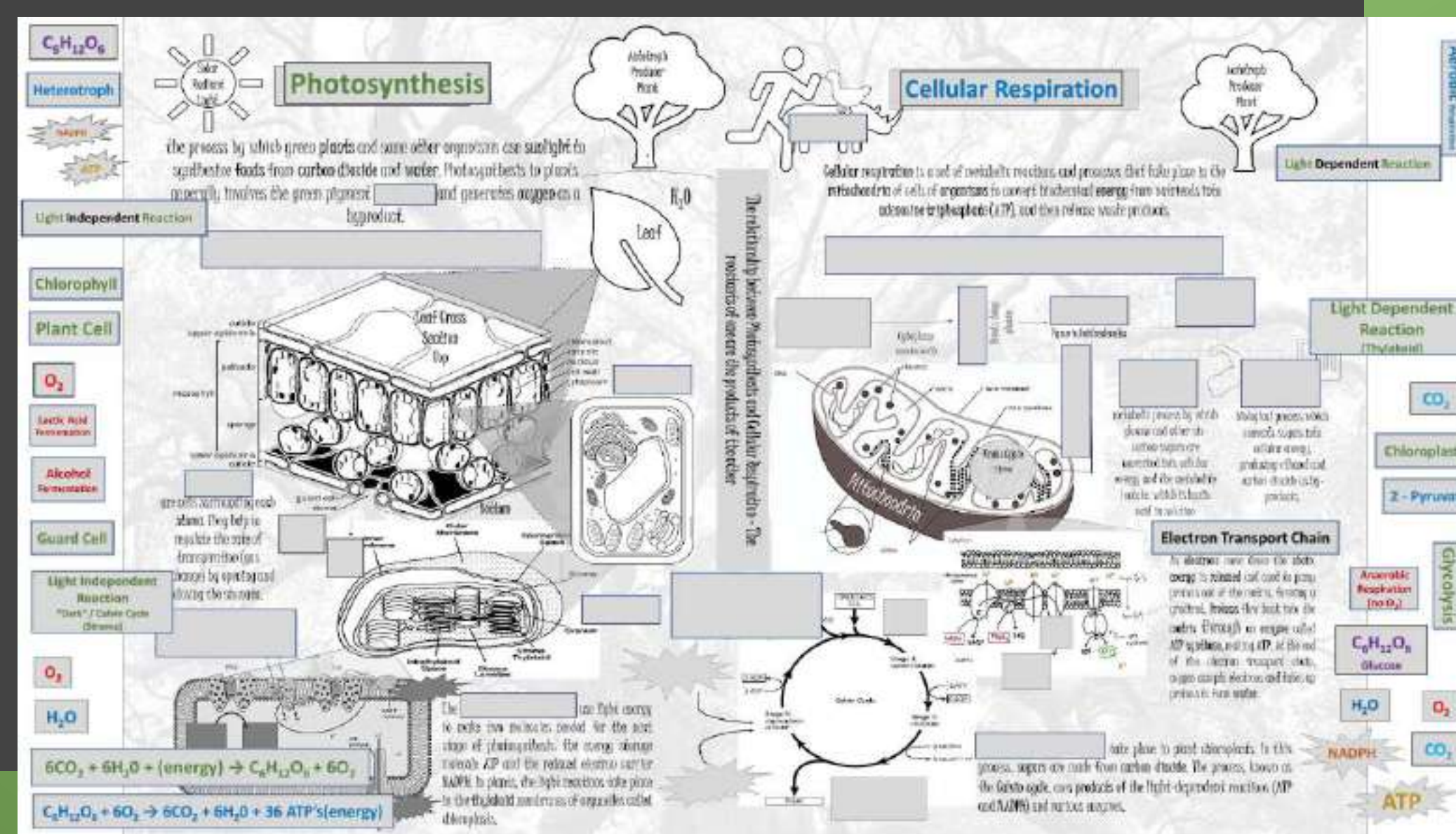


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Warmup & Closure

- On the following Jamboard : [LINK](#)

1. Make yourself a copy
2. Move the words around to complete the board
3. Using your notes and warmups/closures - make sure you have checked all of your answers. Good Luck



5:00



Second Six Weeks

Week 4: October 10th(off) - 14th



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during cell division?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October

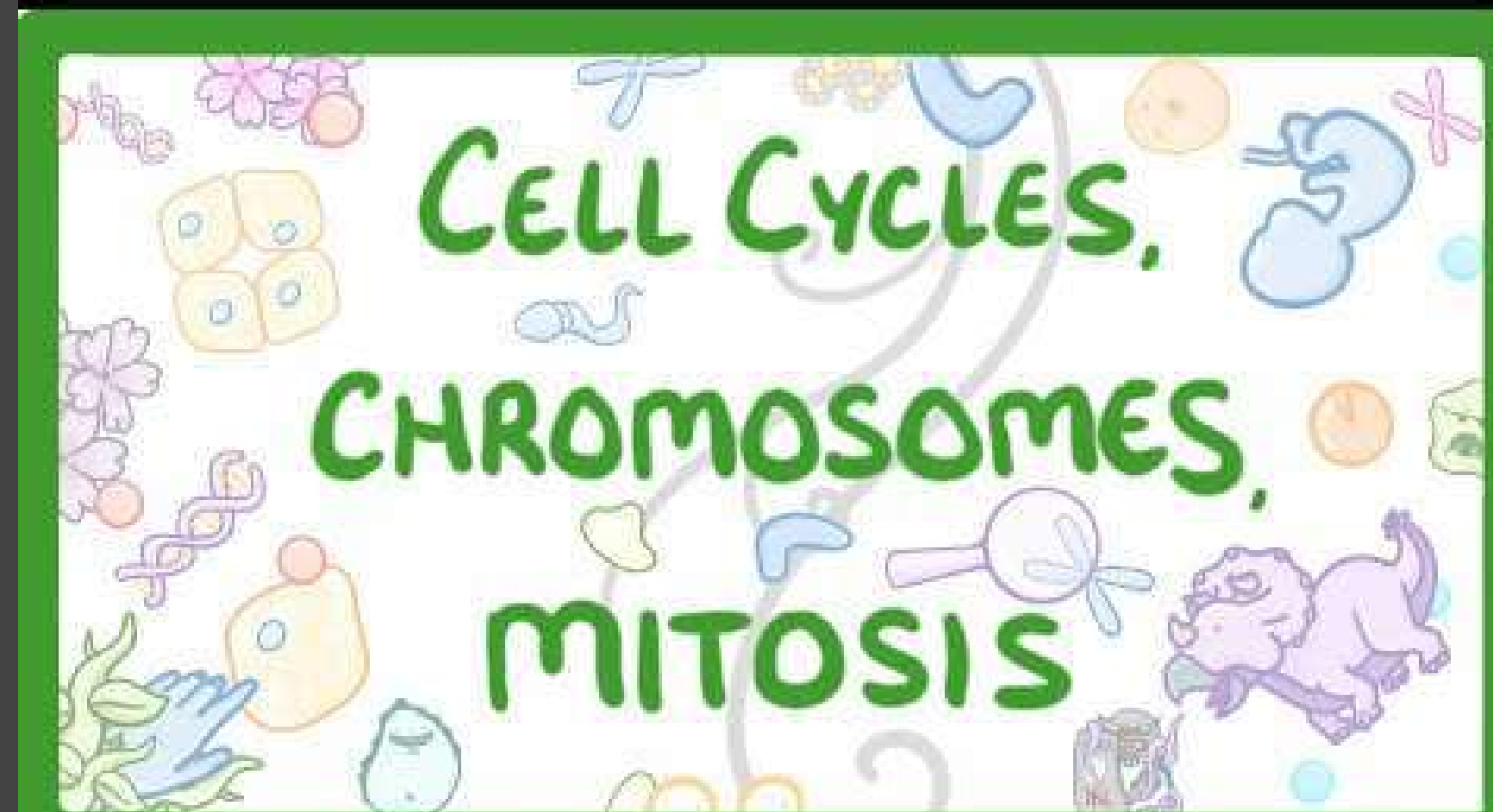


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Warmup

On the following Youtube Video -
Answer the following questions:

1. What is the purpose of the Cell Cycle?
2. How many different stages are there? Name them...
3. What distinguishes Interphase from Mitosis/Cytokinesis?
- 4.



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
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- Characteristics of Life

Today's Objectives

Student will know/answer:

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October



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Closure

On the following **Jamboard** - Begin filling out the digital Word wall

1. Take a screenshot and place in your journal



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

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October



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Warmup

1. Read the Following Article: October 12th
2. Observe: Examine the images in the article. What are three important details you observe in the images in the article? Elaborate by explaining why these details are important using evidence from the article to support your thinking.

Answer in your journal...



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during cell division?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

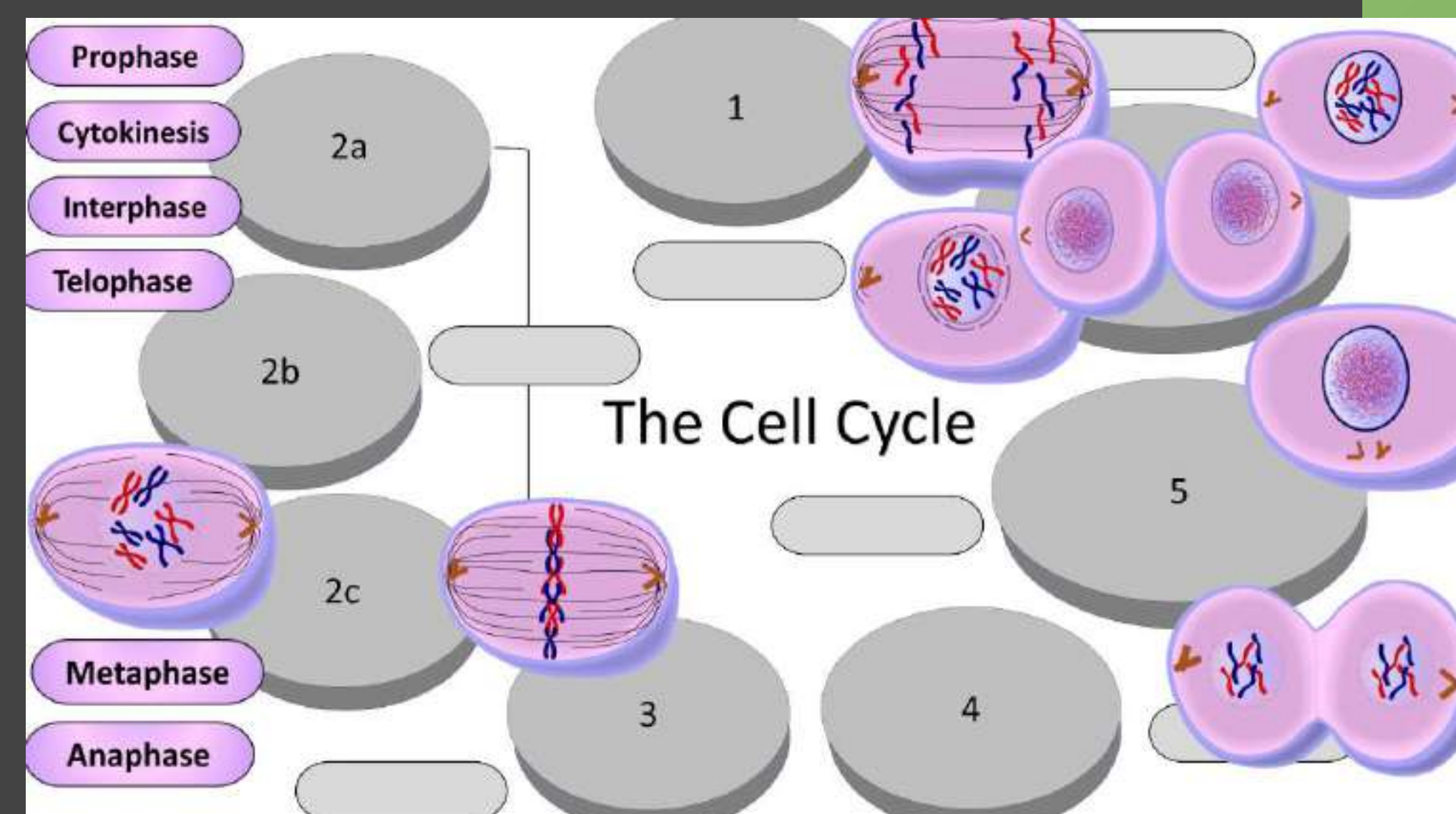
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Closure

- On the jamboard (Cell Cycle in your Drive) you created 2 days ago...go back and look at your 2ND page. Now that you have an understanding of the cell Cycle, begin placing the cycle in sequential order by name and picture.
- When you are finished, take a screenshot and place in your journal



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October



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Warmup

- In the following flipgrid -
(<https://flipgrid.com/c413e0d1>)

Cell Cycle:

- In the following video, you are going to be:
 1. Explaining what Happens during **Interphase**
 2. Describe what occurs during G1/Gap 1, G2/Gap 2, and S Phase.
 3. Which of these three do you need to remember the most and why?



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October



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Closure

1. Watch the following Edpuzzle - [LINK](#)
2. Answer the questions in your journal as you complete the edpuzzle on Cancer & The Cell Cycle



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
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- What cells undergo cell division
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October



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Warmup

1. Look at the following Jamboard-
[LINK](#) - Consensogram
2. move a dot to where you believe you are on the table in terms of your knowledge level of the Cell cycle thus far. Explain your reasoning in your journal.



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October



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Warmup

1. Open your Data folder (in your google drive)
2. Make sure to update all exams and CBA1.
3. Take a screenshot of your 3 week progress report and place in your data folder.

5:00





Second Six Weeks

Week 5: October 17th - 21st

Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October



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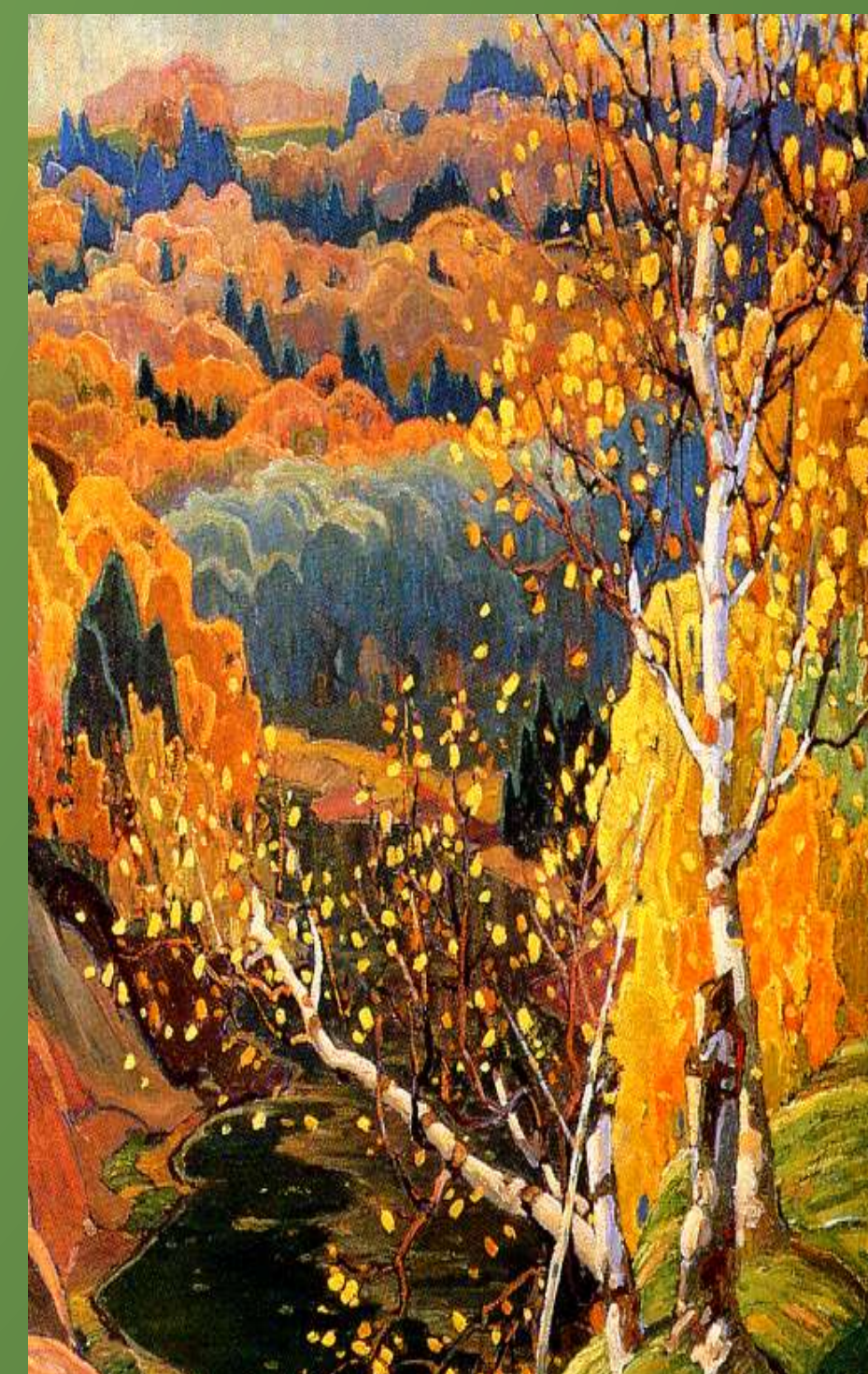
Warmup

Look at the following Article: [October 17](#) - answer the following questions

1. The initiation signal for triggering cell division is _____.
2. A change in composition of which of these molecules causes a cell to become cancerous?
3. In order for cancer to develop, a _____ would need to be inactivated.



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October

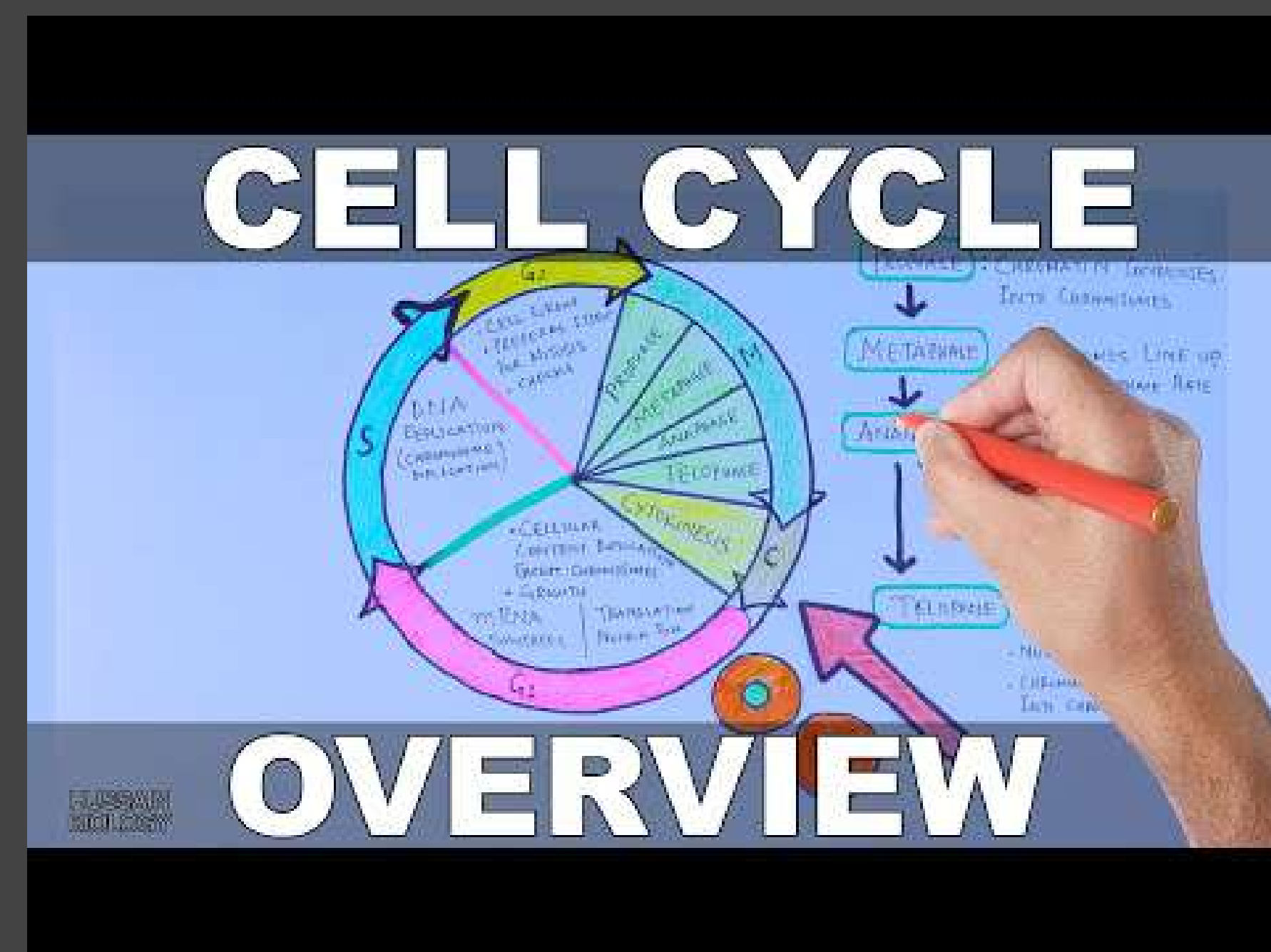


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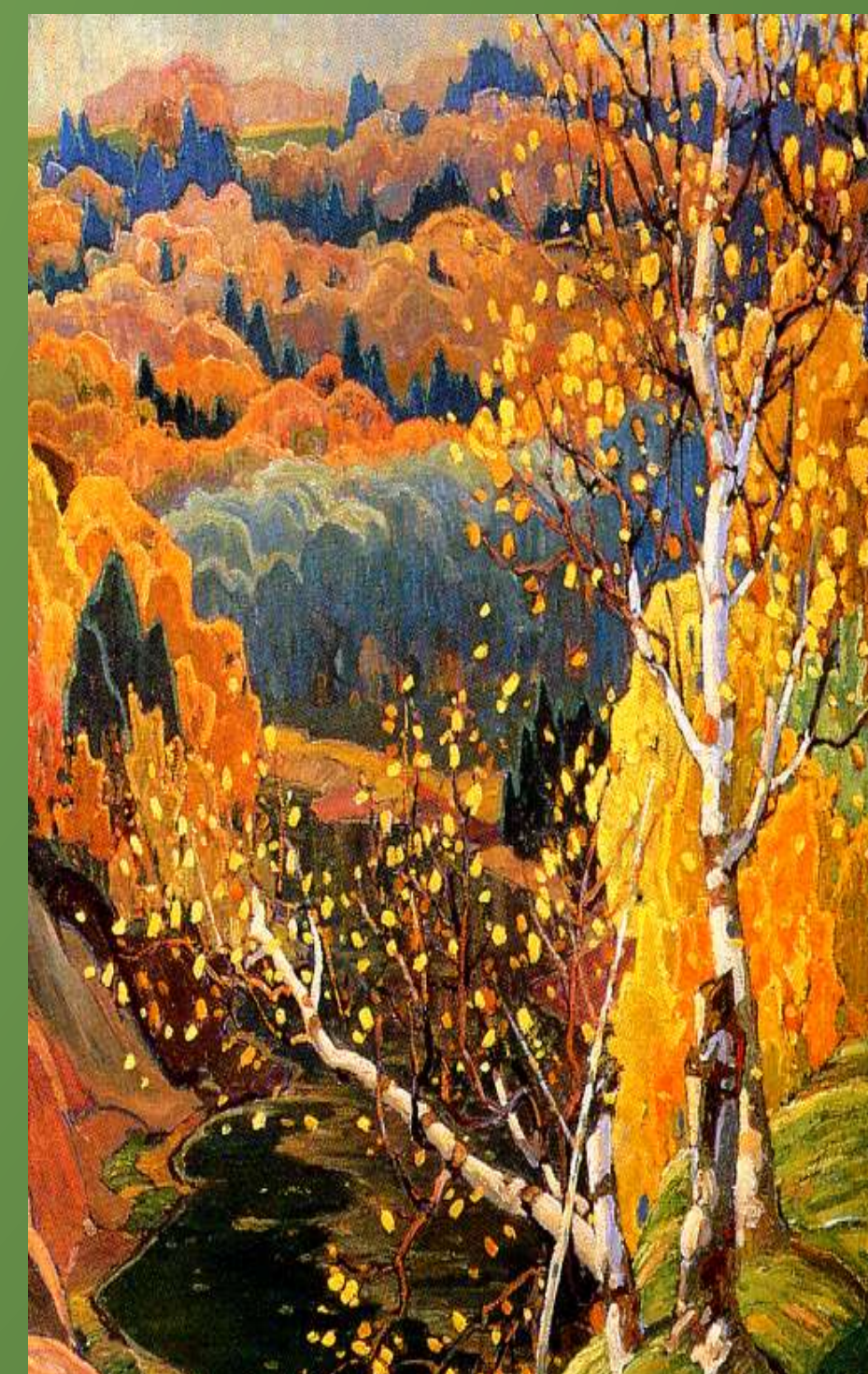
Closure

Watch the following Youtube video: [LINK](#)

1. Summarize what you have learned in the time watching the video in a quickwrite below.



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October

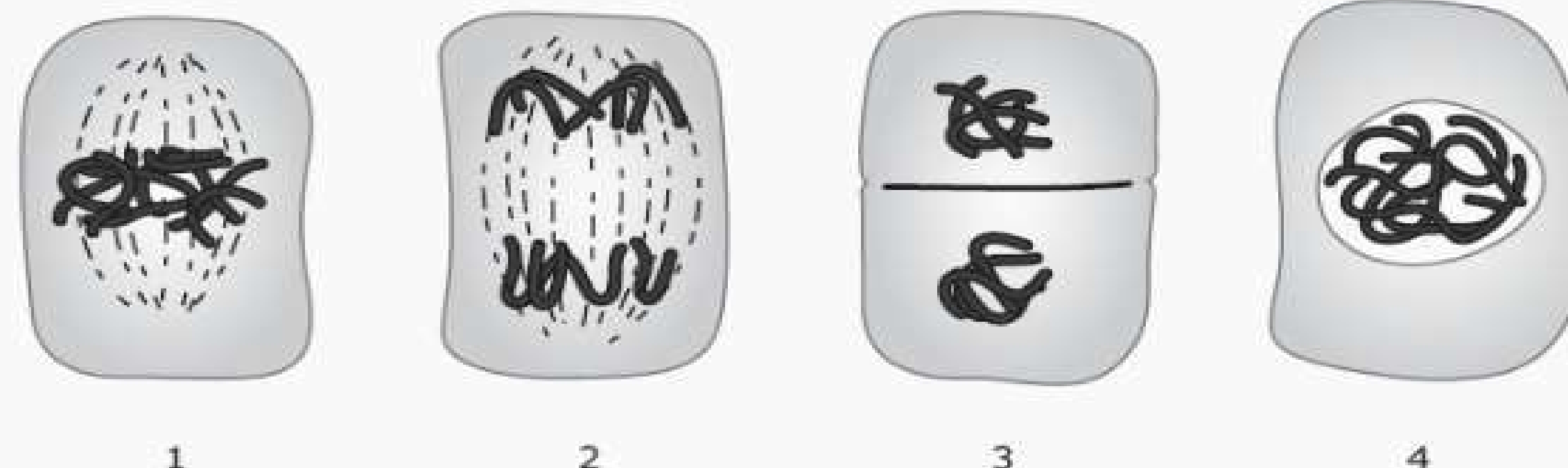


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16	17	18	19	20	21	22
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30	31					

Warmup

Evaluate the question below.
Choose the correct answer and explain your reasoning -

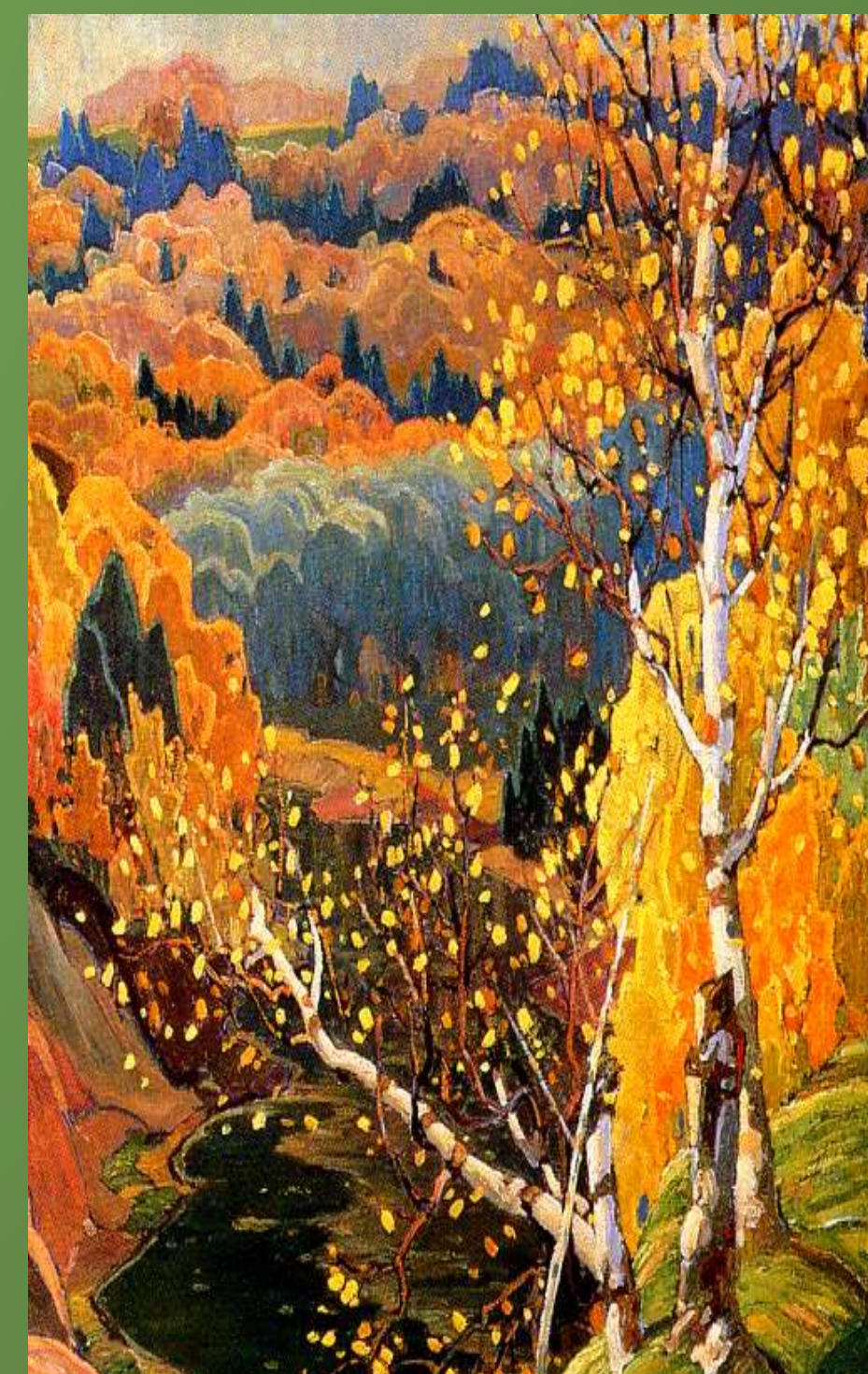
The diagram shows cells in different phases of mitosis. A student is trying to find a cell in a particular phase of mitosis. The student is looking for evidence that spindle fibers are separating the chromosomes to ensure that each new nucleus has one copy of each chromosome.



Which cell is in the phase of mitosis that the student is searching for?

- F Cell 1
- G Cell 2
- H Cell 3
- J Cell 4

5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
- Purpose of division
- What cells undergo cell division
- Location
- Phases

October



S	M	T	W	T	F	S
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30	31					

Closure

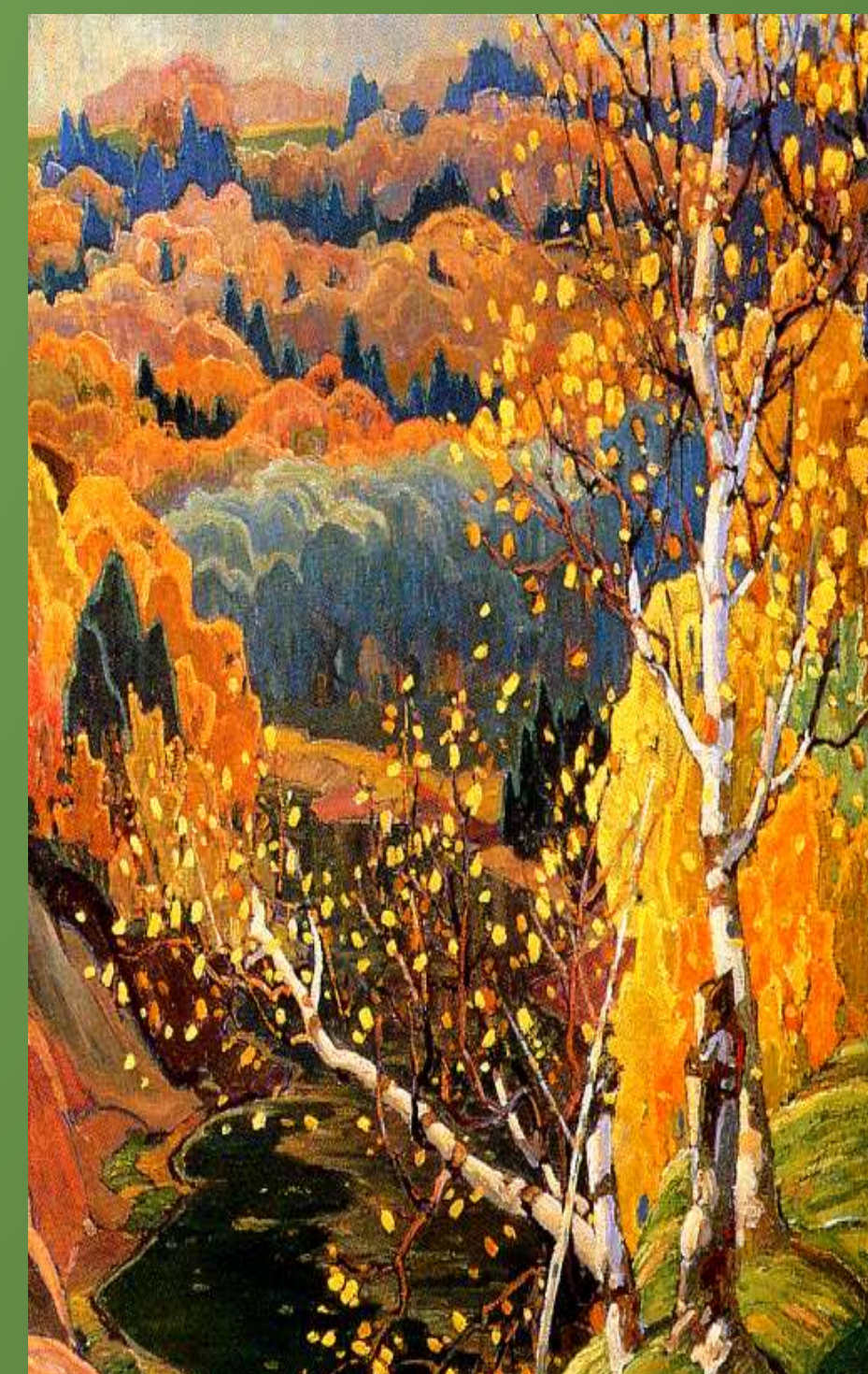
In the drawing - [LINK](#)

Label the correct phases of the cell cycle.

Explain the process/happenings at each phase.



5:00



Prior Knowledge

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Warmup

Go to the following site: [LINK](#)

1. Compare and Contrast - Autosomes and Gonosomes
2. How are chromosomes transmitted?
3. Chromosomes are made of ?
4. How many chromosomes do humans have?
5. What is the chromosomal makeup of Males? Females?



5:00



Prior Knowledge

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October



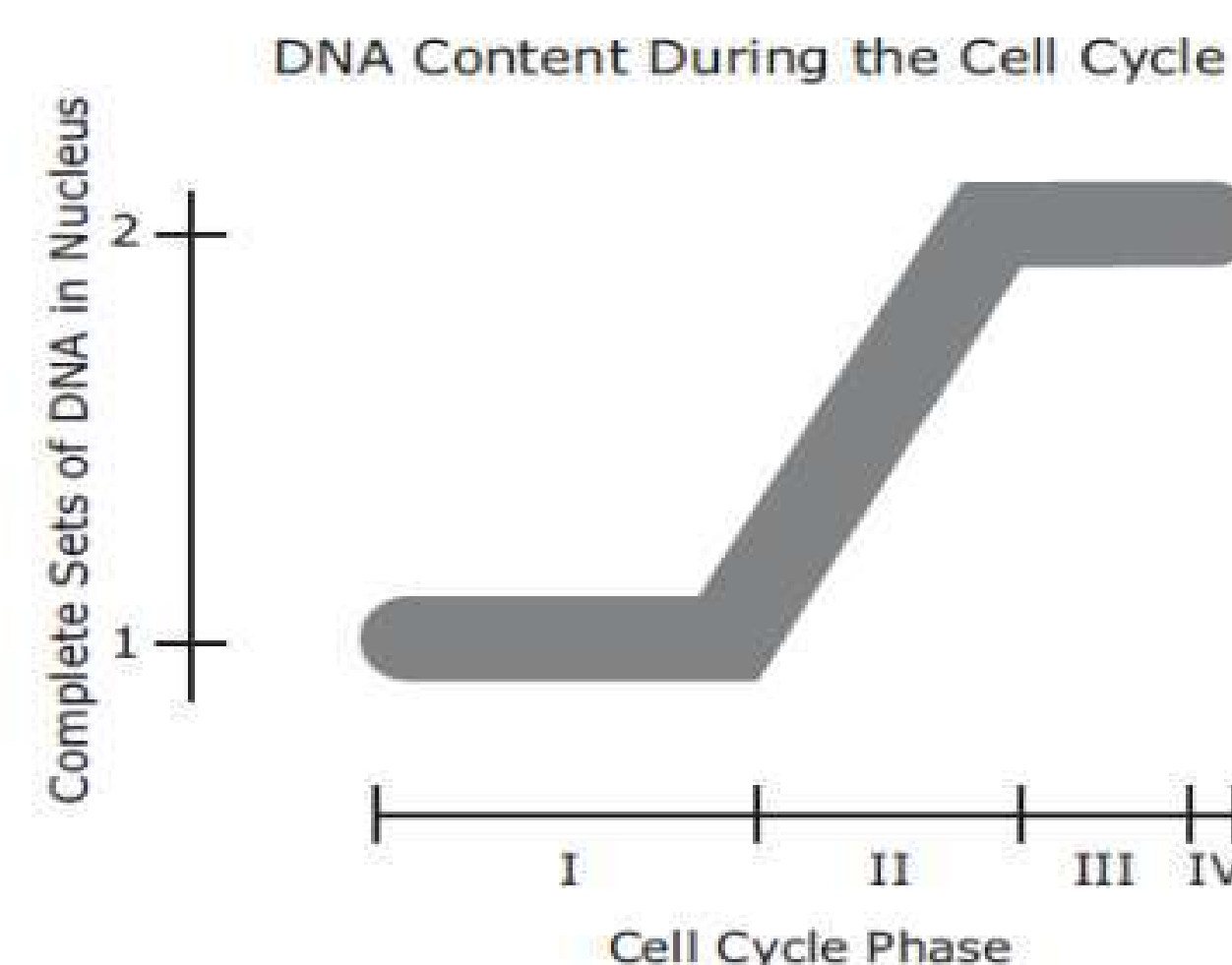
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Closure

Evaluate the question below.
Choose the correct answer and explain your reasoning -

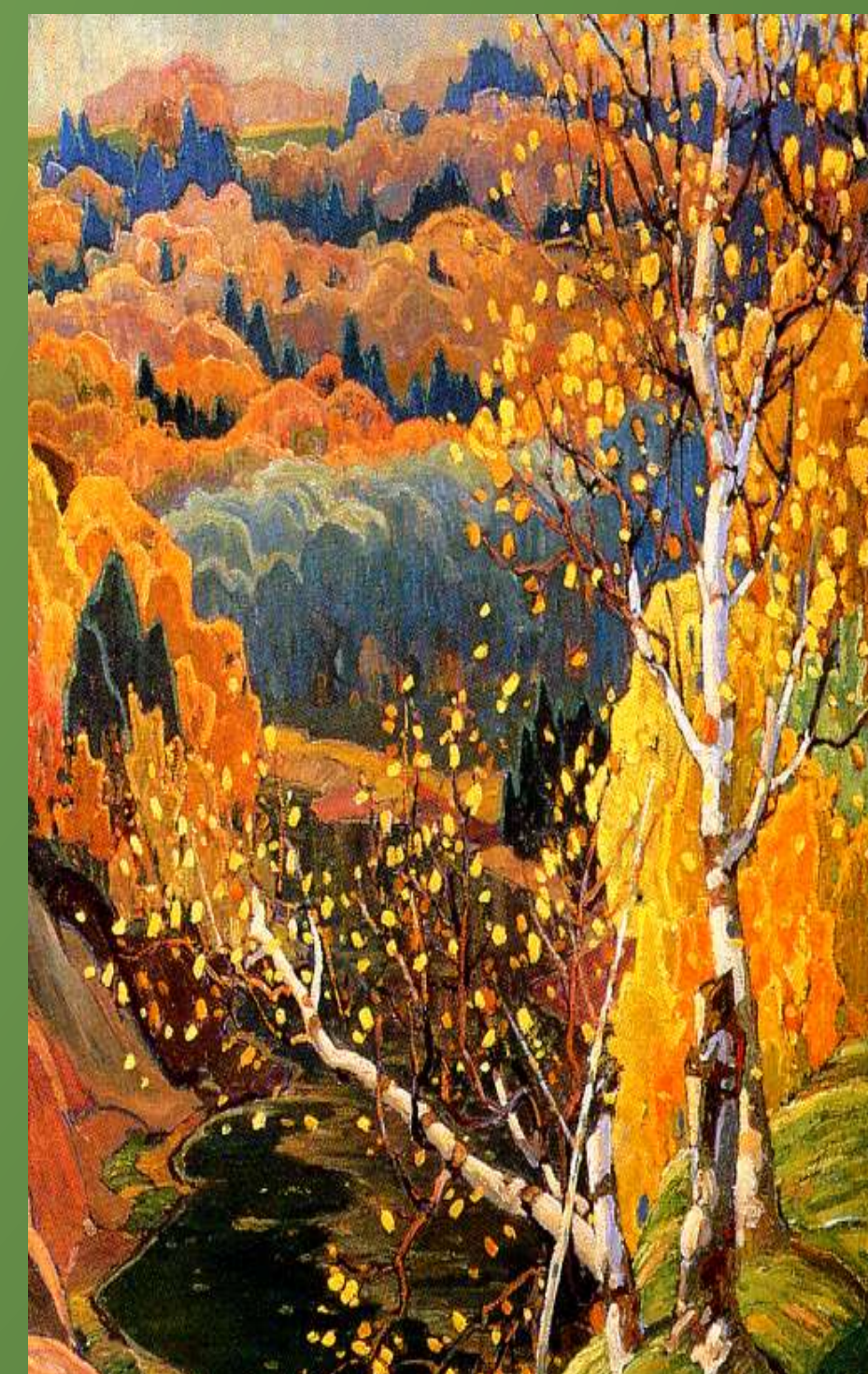
The model represents the change in the DNA content of a cell during the cell cycle.



Which part of the model represents the S phase?

- F I
- G II
- H III
- J IV

5:00



Prior Knowledge

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Student will know/answer:

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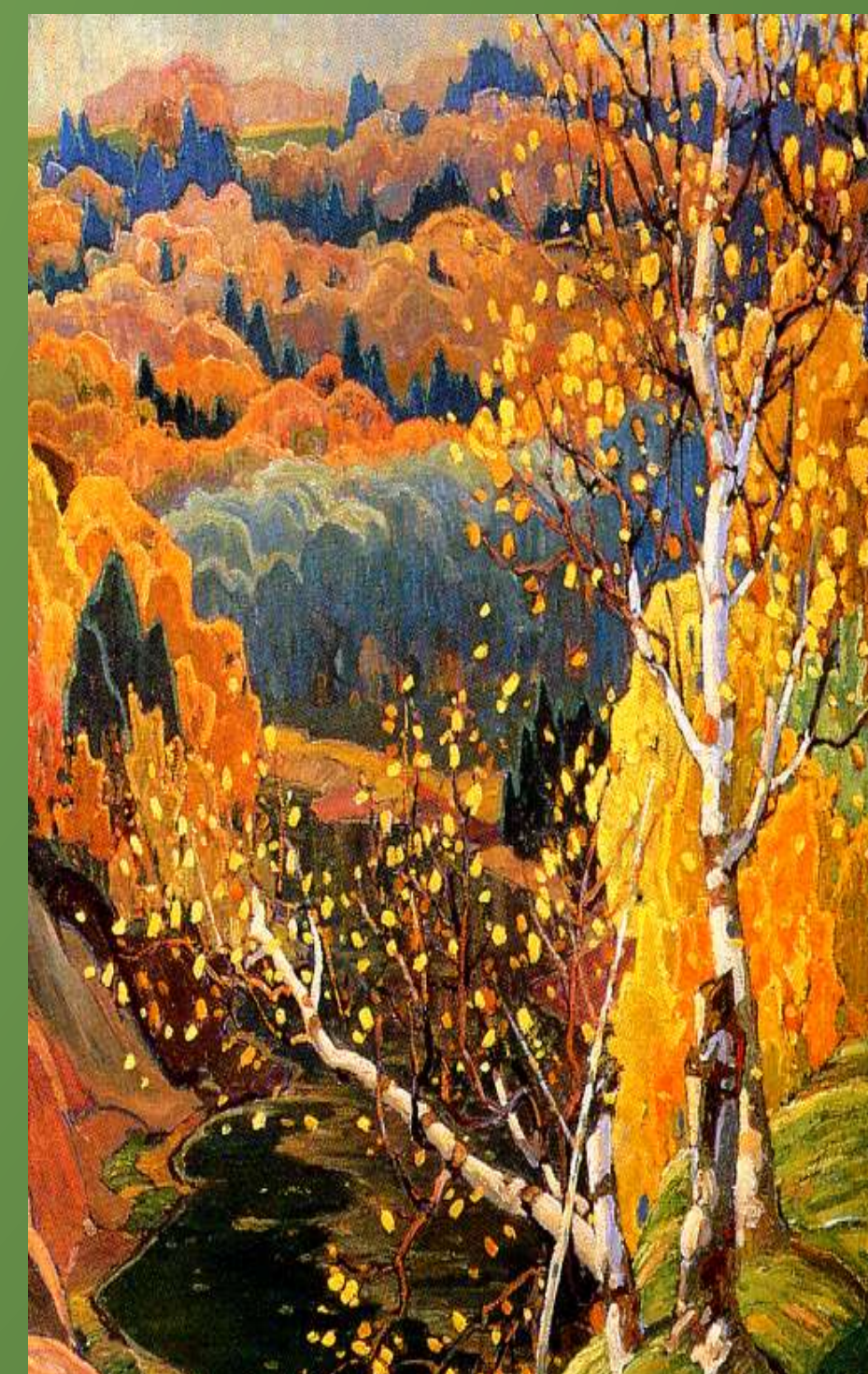
Warmup

In the following flipgrid - (<https://flipgrid.com/176ce721>)

- Tell me everything you know about chromosomes and DNA
- How many chromosomes are found in the human body?
- In order to biologically male or female, what would be the genetic makeup of the gonosomes or sex chromosome
- What is the monomer of DNA?



5:00



Prior Knowledge

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October



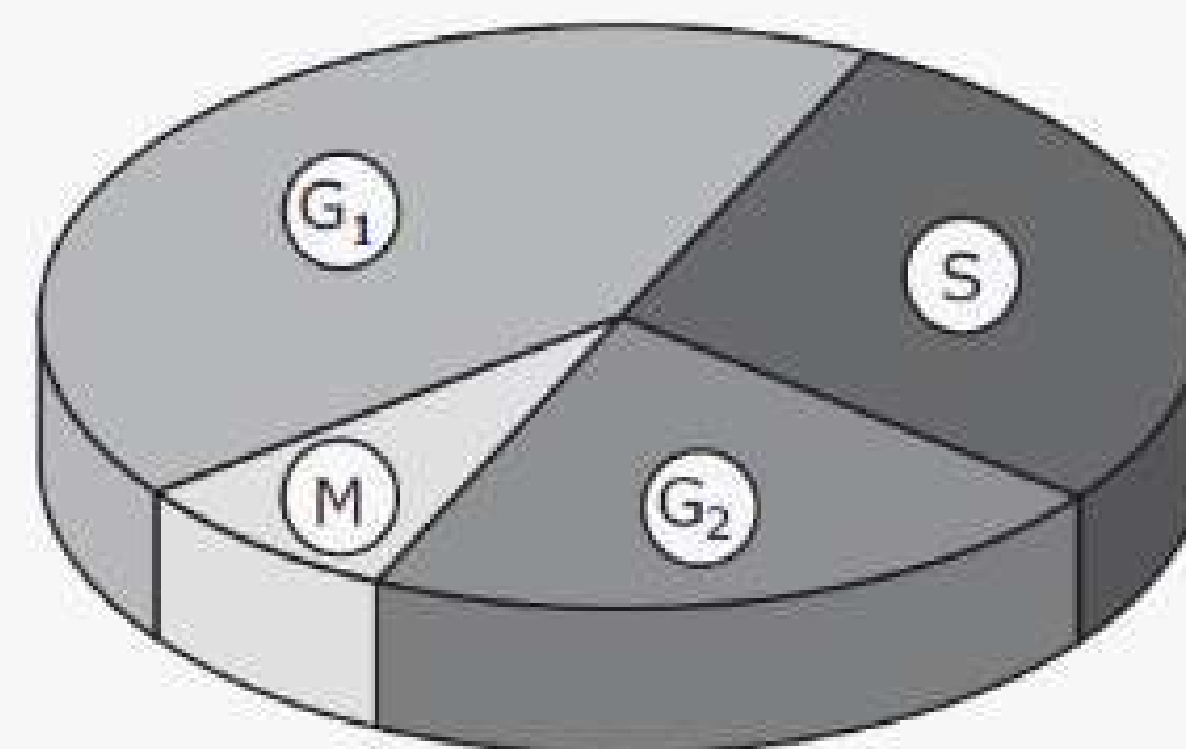
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Closure

- Evaluate the question below. Choose the correct answer and explain your reasoning -

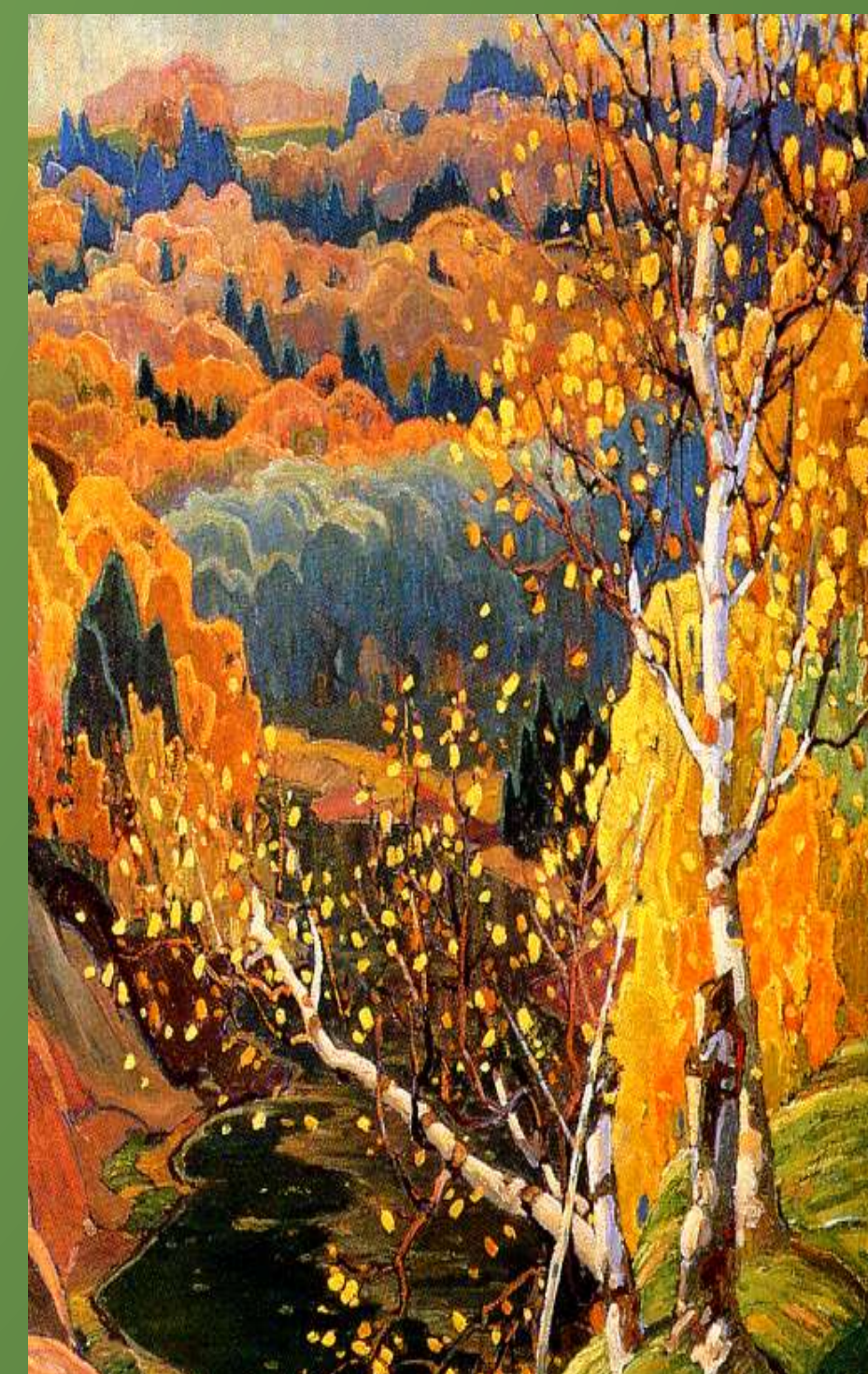
Checkpoints occur between the stages of the cell cycle. If a cell does not meet certain criteria at the end of a stage, it will not move to the next stage.



Which of these occurs just before the cell enters the G_2 stage of the cell cycle?

- F** The nuclear membrane disintegrates.
- G** DNA replicates.
- H** Centrioles form.
- J** The nucleolus divides.

5:00



Prior Knowledge

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Warmup

- Watch the following Youtube Video: [LINK](#)
- In your journal - perform a quickwrite on the major themes of the video

Biology
DNA



5:00



Prior Knowledge

- What is a **Cell**
- What **Organelles** are inside a **Eukaryote**
- Why does **Cell division** Occur?
- Characteristics of Life

Today's Objectives

Student will know/answer:

- What happens during **cell division**?
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- What cells undergo cell division
- Location
- Phases

October



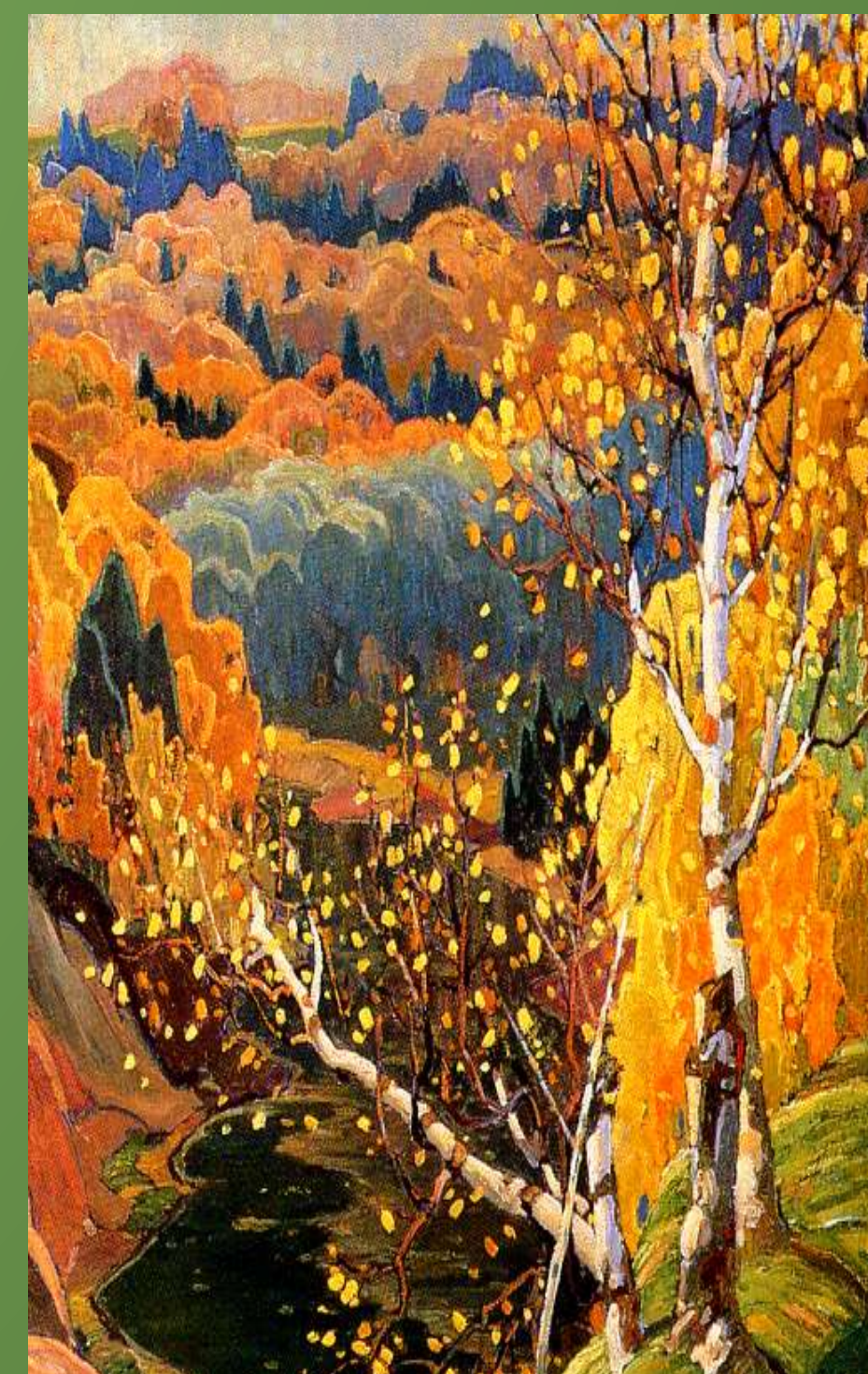
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Closure

- In the following Jamboard - [LINK](#)
- Using the consensogram table below, move a dot to where you believe you are on the table in terms of your knowledge level of DNA, its components, purpose, and structure is. Explain your reasoning in your journal.



5:00



Second Six Weeks

Week 6: October 24th - 28th



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
- **Monomer** of DNA
- Function of DNA
- **Chromosomes**

Today's Objectives

Student will know/answer:

- Describe **Semiconservative Replication**
- **Enzymes** involved
- **Nucleotide** pairings

October

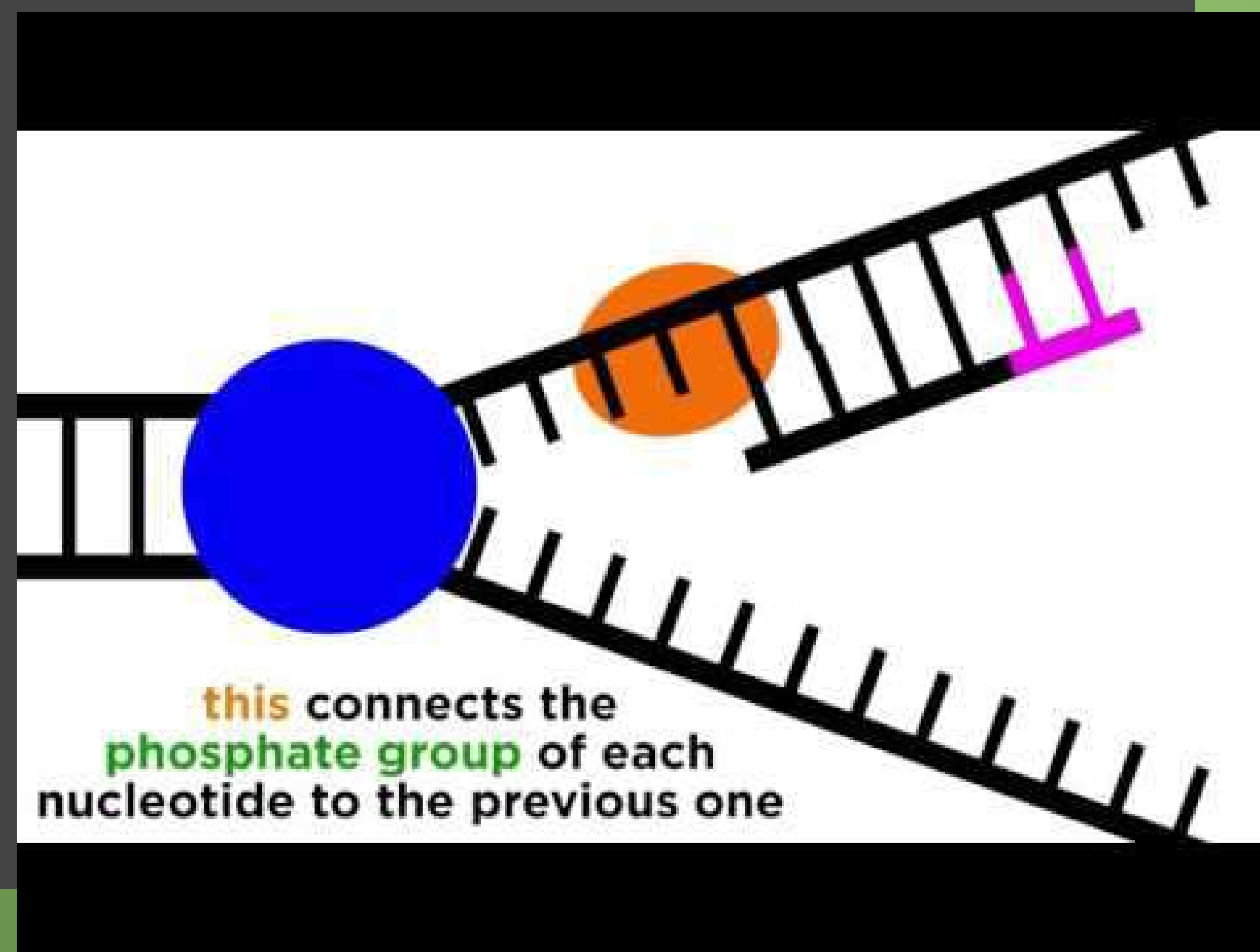


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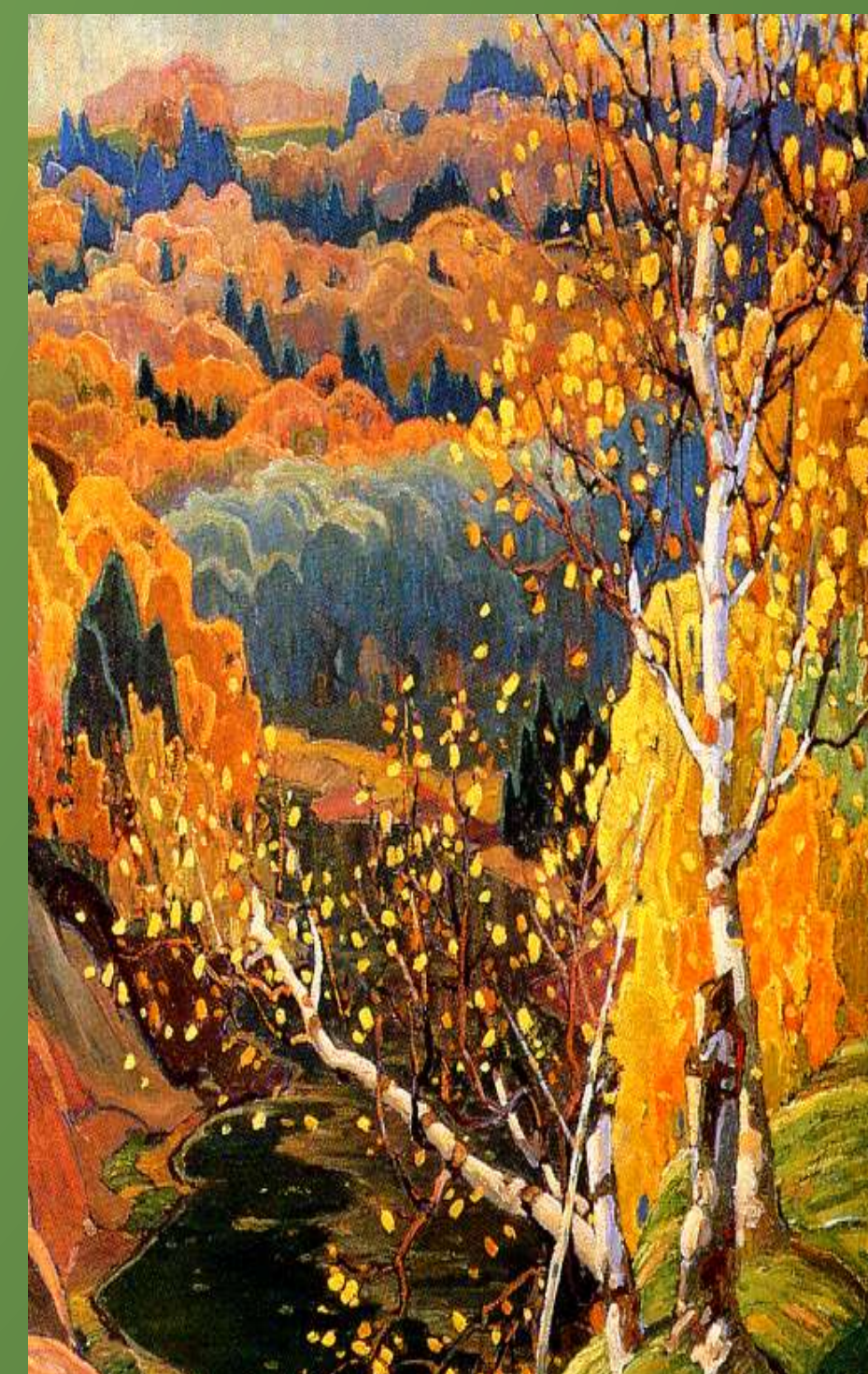
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
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Warmup

- Watch the following Youtube Video: [LINK](#)
- In your journal - perform a quickwrite on the major themes of the video



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
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Today's Objectives

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Closure

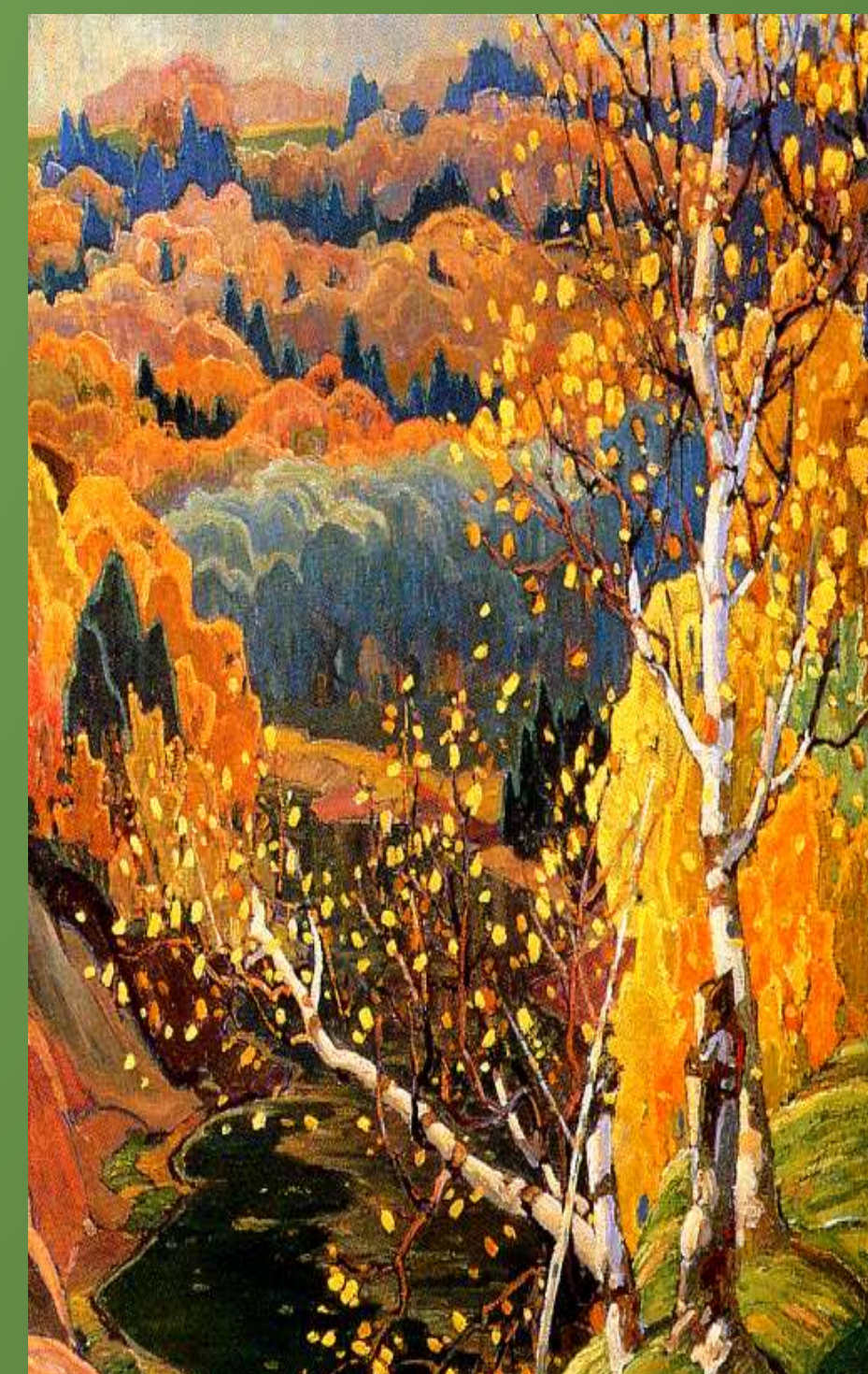
In the following

Jamboard - [LINK](#)

- Complete the Word Wall and place a screenshot below



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
- **Monomer** of DNA
- Function of DNA
- **Chromosomes**

Today's Objectives

Student will know/answer:

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October



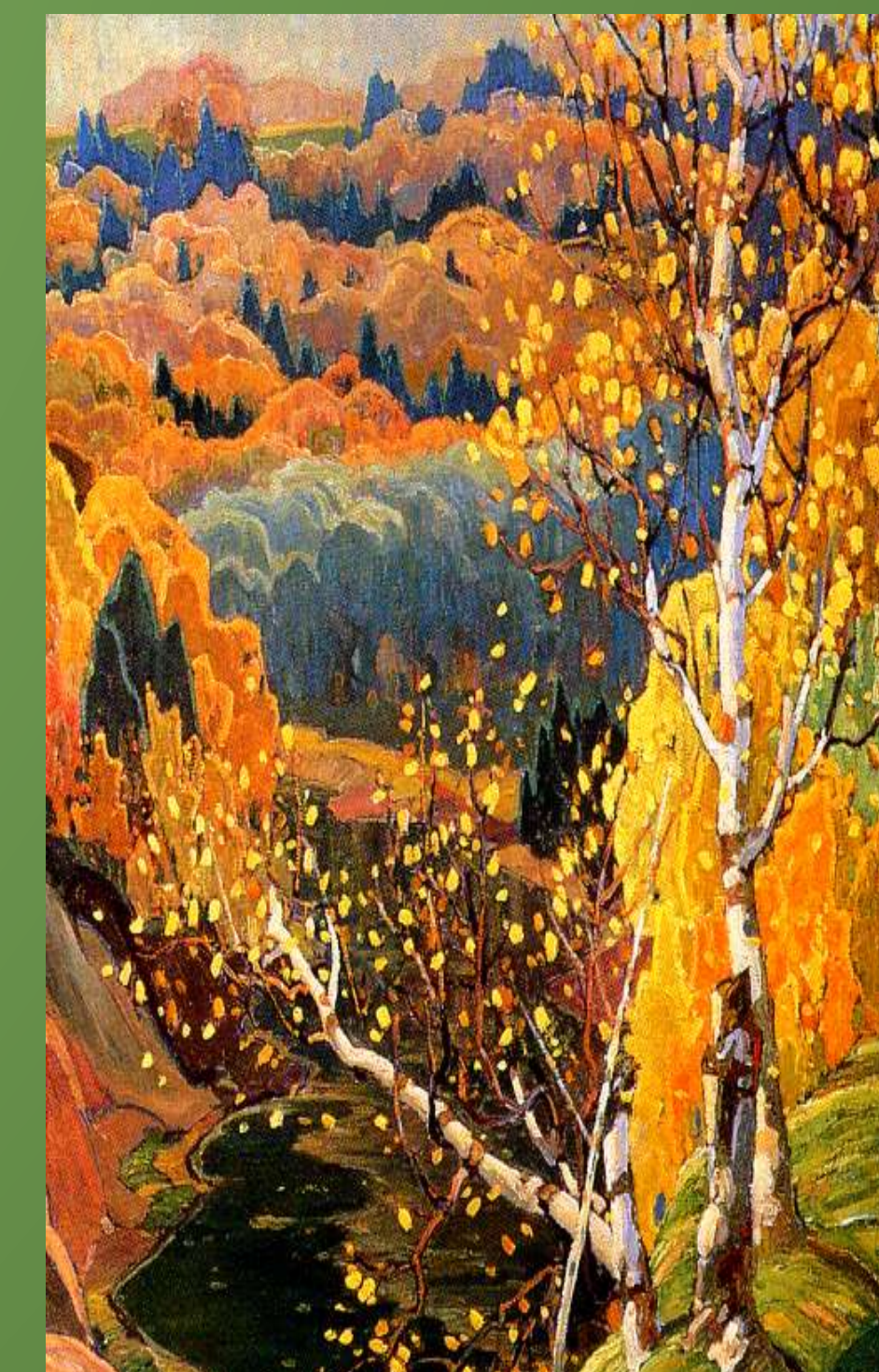
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Warmup

- Use the following Google Draw [LINK](#) and complete the diagram for DNA Replication. Place a screenshot of your work in your journal.



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
- **Monomer** of DNA
- Function of DNA
- **Chromosomes**

Today's Objectives

Student will know/answer:

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October



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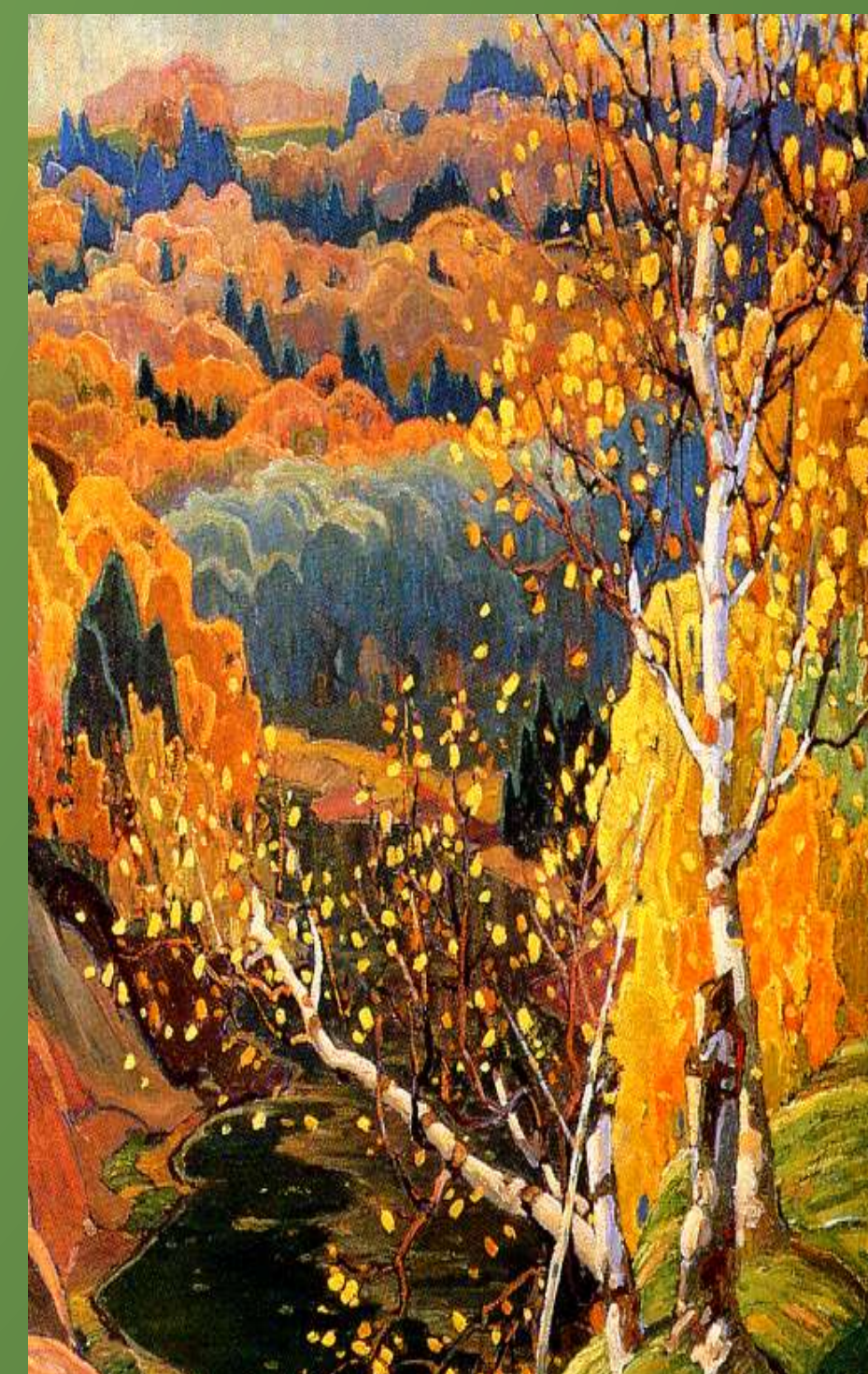
Closure

In the following Jamboard - [LINK](#)

- Using a "Sticky note" : post what you know about:
- As an exit ticket - Spend about 2 minutes, and summarize DNA Replication, goals, purpose, when during the cell cycle, how passed to offspring, define chromosome, gene, etc - Post your ticket in journal



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
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- Function of DNA
- **Chromosomes**

Today's Objectives

Student will know/answer:

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October



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Warmup

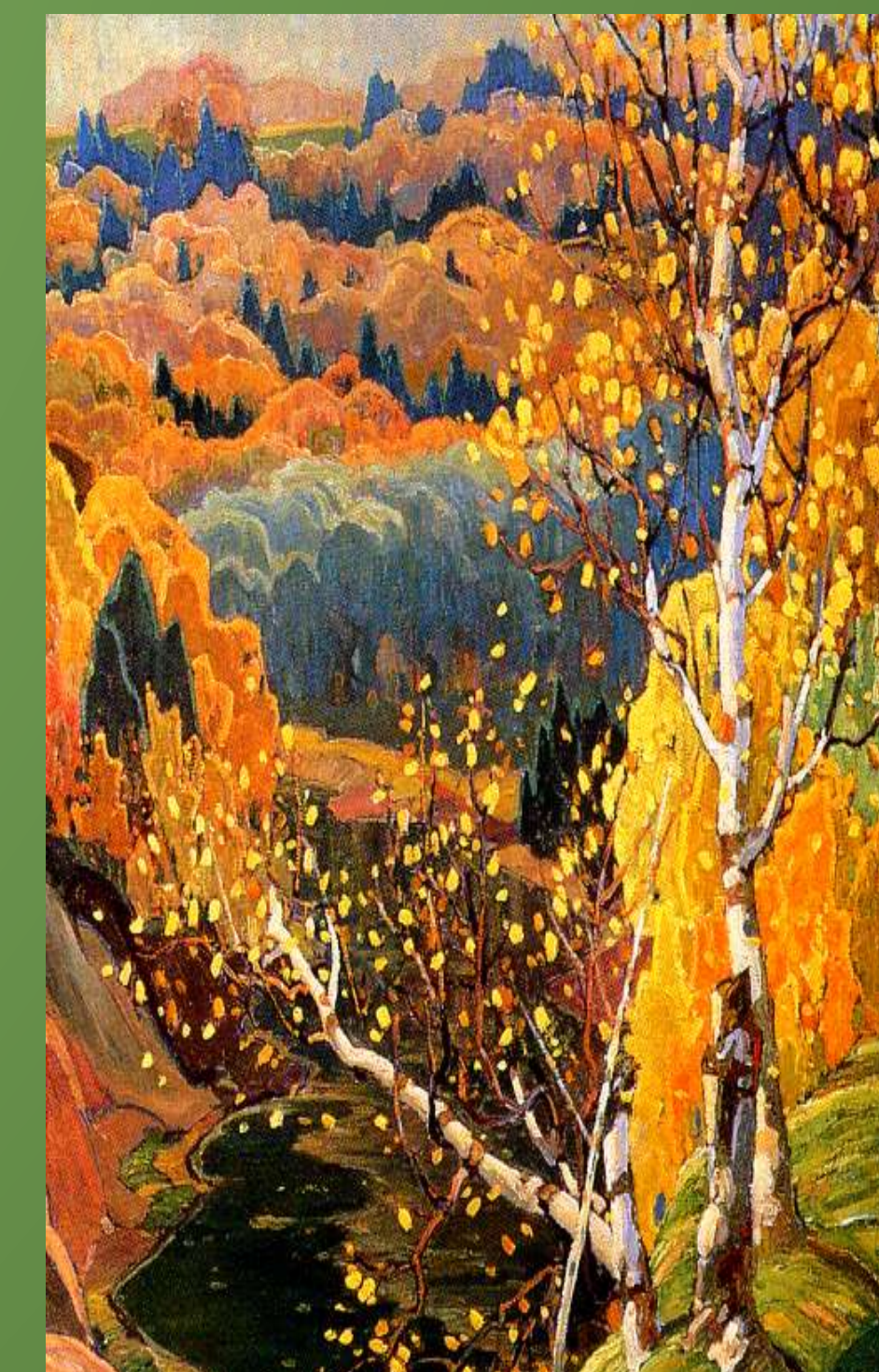
Make a flipgrid -

(<https://flipgrid.com/7e6cf6b3>)

- Talk about DNA Replication in terms of when it happens during the cell cycle.
- Mention the Enzymes involved and their function. Try to put it in the right sequence. Use your previous warmups/closures as a guide.



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
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Today's Objectives

Student will know/answer:

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October



S M T W T F S

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23	24	25	26	27	28	29
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Closure

- Evaluate the question below. Choose the correct answer and explain your reasoning -

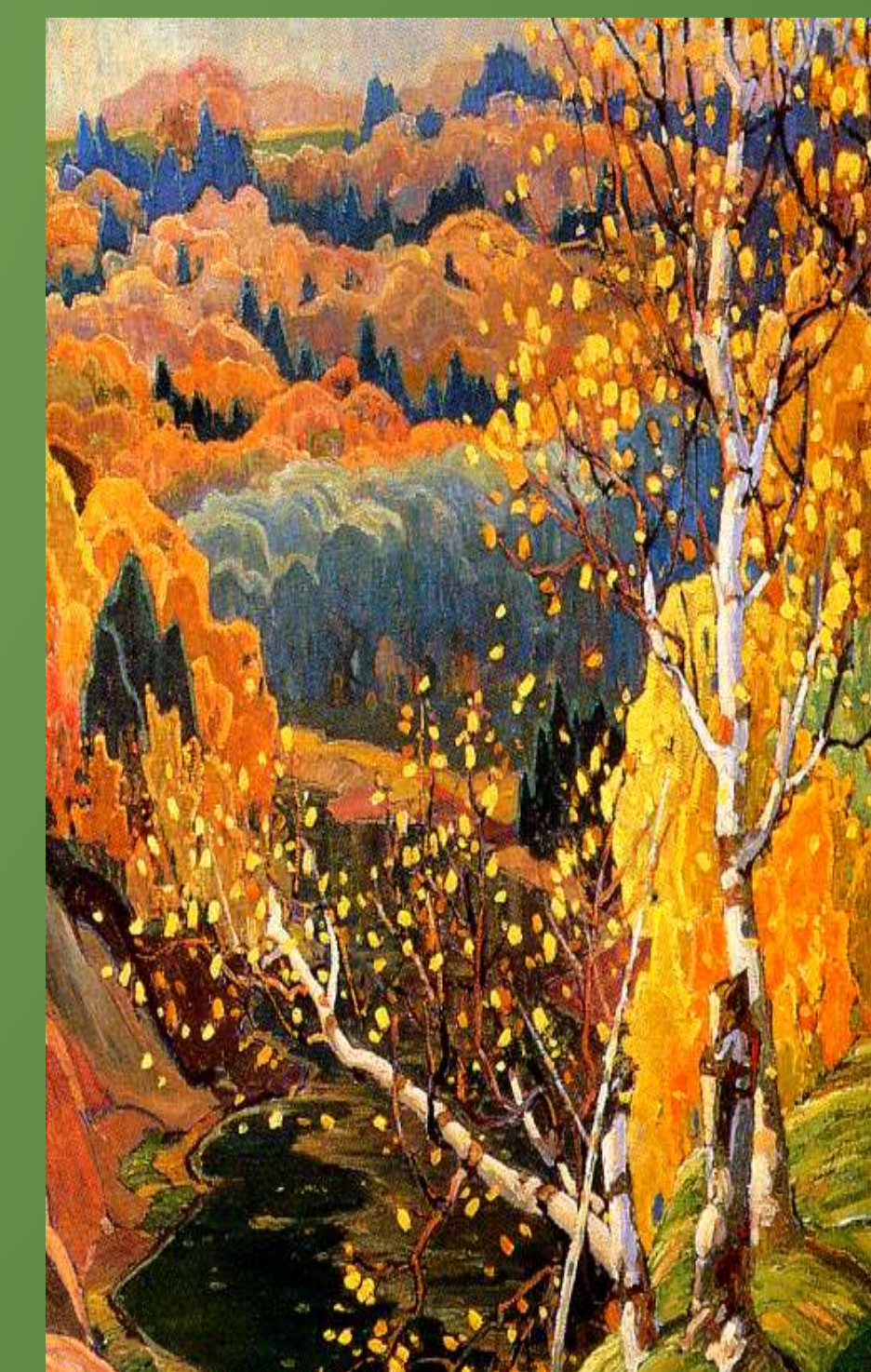
Each strand of a DNA molecule contains nitrogenous bases that pair with other nitrogenous bases in very specific ways. A diagram of a section of DNA is shown.



Which DNA strand is complementary to the one shown above?



5:00



Prior Knowledge

- What **DNA**
- What **are the parts of a DNA Strand**
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- **Chromosomes**

Today's Objectives

Student will know/answer:

- Describe **Semiconservative Replication**
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October



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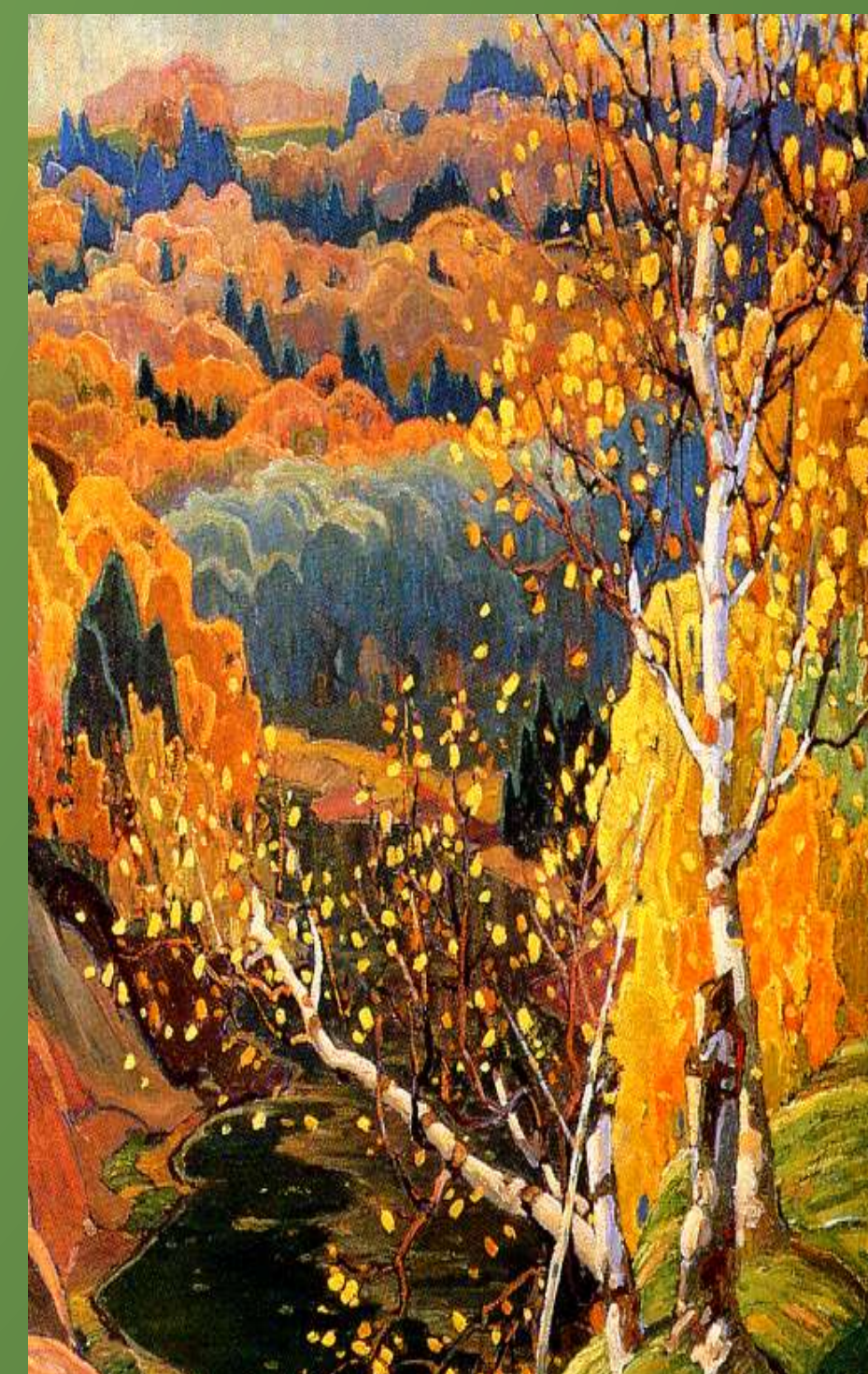
Warmup

- Evaluate the question below. Choose the correct answer and explain your reasoning -

Nitrogenous bases are located on both strands of the DNA double helix. What is the significance of the nitrogenous bases?

- A The number of adenines and cytosines determines the type of RNA that will be produced.
- B The order of nitrogenous bases determines the order of amino acids in the proteins synthesized.
- C The amount of thymine and guanine in the DNA molecules determines the length of the genes.
- D The type of hydrogen bonding between the nitrogenous bases determines which amino acid will be added to the peptide chain.

5:00



Prior Knowledge

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- **Monomer** of DNA
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Closure

- Evaluate the question below. Choose the correct answer and explain your reasoning -

The sequence of nitrogenous bases in DNA varies widely. The sequence of the bases in DNA is most important for which of the following?

- A Providing the instructions for the traits of an organism
- B Preventing mutations from occurring during DNA replication
- C Allowing the DNA to have the shape necessary for replication
- D Helping form the sugar-phosphate backbone of DNA molecules

5:00



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30	31					

Warmup & Closure

- Data Folder Update:
- It is the end of the Six Weeks and time to see how you did.
- Update all Exam Grades - make sure you consult HAC
- Look at your mission Statement. Check how you did
- Revise it?
- Check your Plan and Do
- If you know your average, put that in and then evaluate the Study and Act portions.



5:00



Third Six Weeks

- [Week 1 - 10/31 - 11/4th](#)
- [Week 2 - 11/7th - 11/11th](#)
- Week 3 - 11/14th - 11/18th
- Week 4 - 11/28th - 12/2nd
- Week 5 - 12/5th - 12/9th
- Week 6 - 12/12th - 12/16th





Third Six Weeks

- Week 1 - 10/31 - 11/4th

Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November

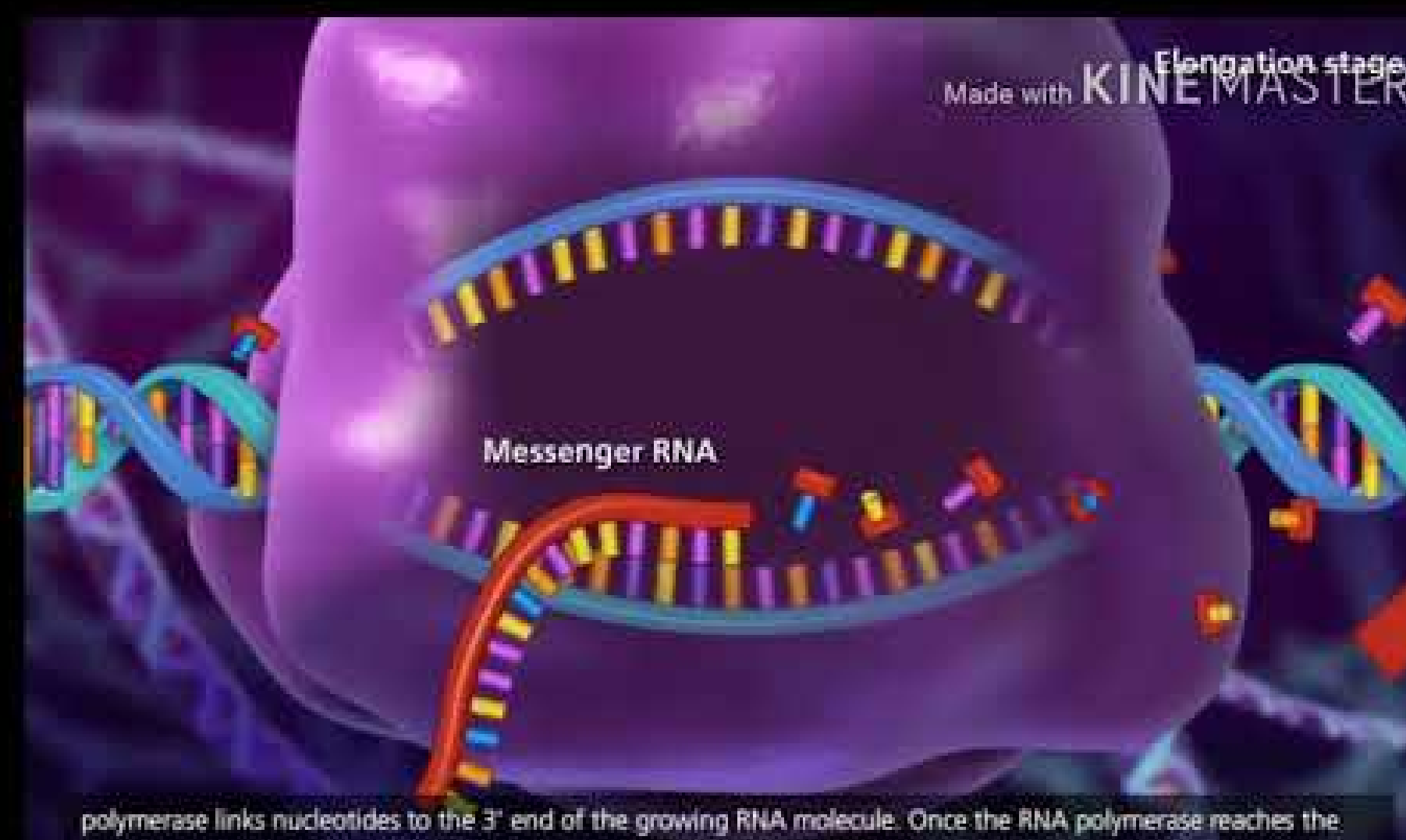


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Warmups

In the following video - [LINK](#)

- Evaluate the content and write a quickwrite summary of DNA → RNA or Transcription in terms of:
 - Location
 - Differences between DNA & RNA



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

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November



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Closure

- Given the following DNA Strand -
ATTGCGATGTTGCATTAGGCCGAGCTCGATC
- Briefly describe the differences between DNA & RNA in your journal

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
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- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
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- Location of DNA

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Warmup

Watch the following [Edpuzzle](#) on Transcription.
Answer the following questions that embedded in your journal



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
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- Location of DNA

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Closure

On the following Jamboard - [LINK](#)
Using a "Sticky note" : post what you know about:

- As an exit ticket - Spend about 2 minutes, and summarize DNA/RNA in the process of Transcription. What are the main differences in DNA vs RNA, and summarize the sequence of RNA processing
- Place a screenshot of your post it in your journal



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
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Warmup

In your journal, answer the following Questions below:

- What are the bases in DNA? How do the bases pair up?
- What are the bases in RNA? What RNA nitrogen bases match with the following DNA nitrogen bases?
- A T G C - If this is a sequence of one DNA strand, what is the RNA sequences that would bond with this DNA sequence?
- How are DNA and mRNA alike? How are DNA and mRNA different?

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
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Closure

On the following Drawing - [LINK](#)

- Complete the drawing and label Replication and Transcription using the words provided. Take a screenshot of your drawing and past in your journal



5:00



Prior Knowledge

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- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

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Warmup & Closure

On the following Flipgrid - (<https://flipgrid.com/931089b5>)
During the warmup, plan your video sequence. It must include:

- Structure of DNA vs RNA
- Nucleotide Pairings in Both
- The Function of DNA & RNA
- Enzyme necessary for mRNA synthesis
- Location of the process
- Processing of mRNA before it leaves the nucleus
- What is it called?
- Consult your warmups/closures and notes for hints - Record your video during the closure



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
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- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Warmup

Evaluate the following question. Explain the reasoning for your answer

The initial steps in gene expression are modeled below. Double-stranded DNA first unwinds into two strands.

Diagram 1: Double-stranded DNA

Diagram 2: Transcription of DNA into mRNA

Which process and product are represented in Diagram 2?

- A Process: transcription; product: mRNA
- B Process: translation; product: protein
- C Process: replication; product: tRNA
- D Process: recombination; product: polymerase

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November

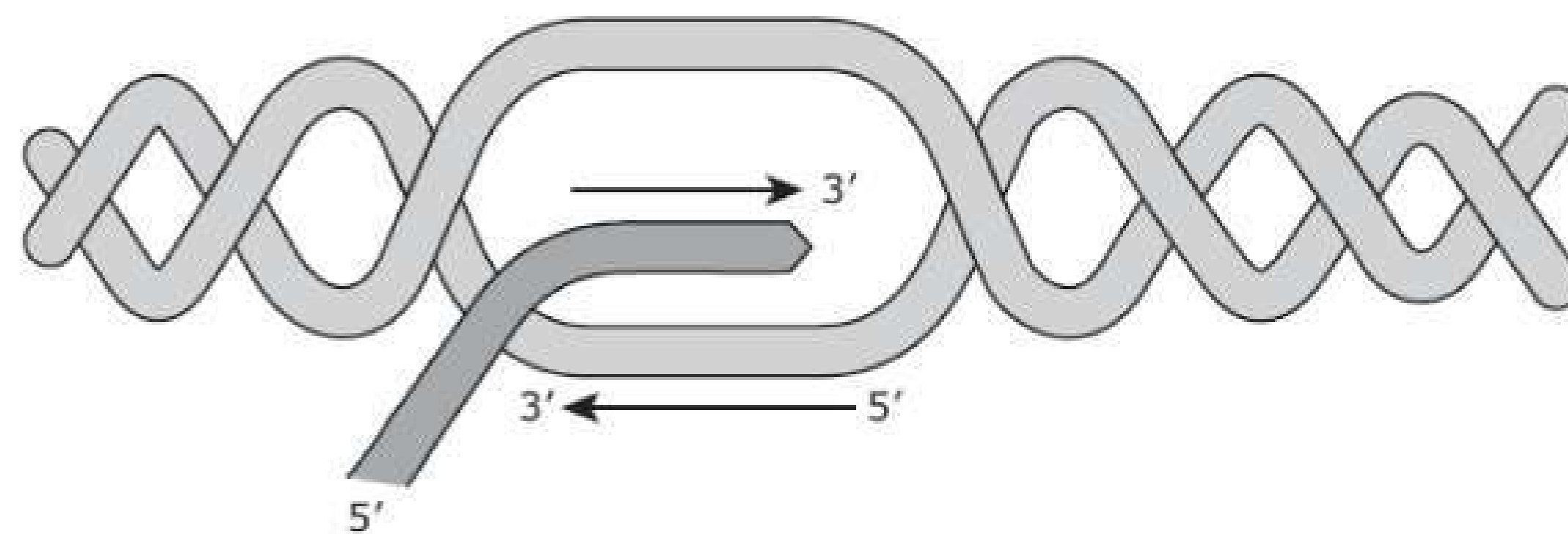


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Closure

Evaluate the following question. Explain the reasoning for your answer

Part of an important cellular process involving a DNA strand is modeled below.



What is the purpose of this cellular process?

- F** Preserving genetic information for future generations
- G** Deleting the information in the sequence produced from the DNA template
- H** Transcribing information in the DNA sequence for use by the cell
- J** Producing more nucleotides for the DNA sequence

5:00



Third Six Weeks

- Week 2 - 11/7th - 11/11th



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



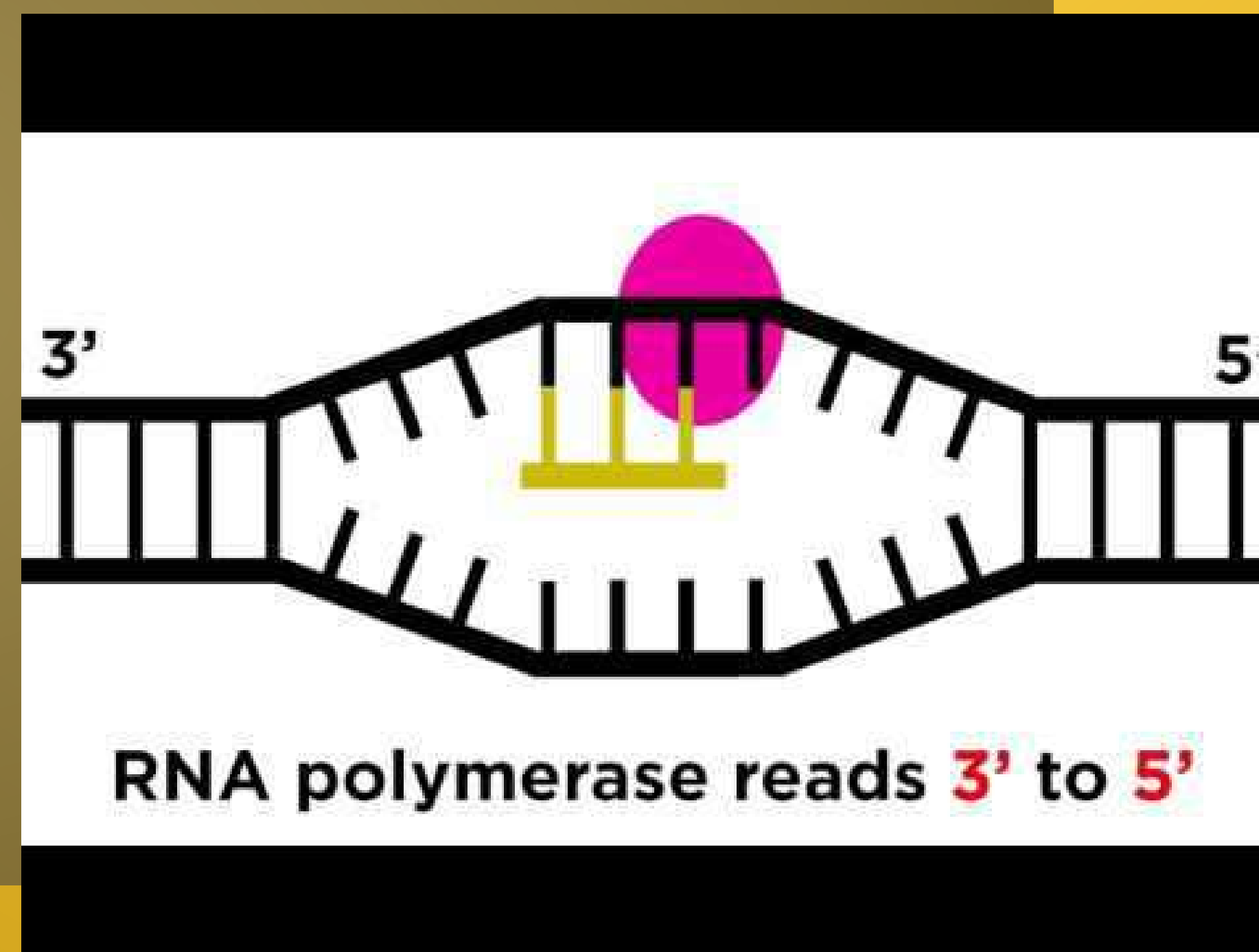
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Warmup

Evaluate the following video: [LINK](#)

In a quickwrite (3-5 sentences in journal) -

- Explain the process of replication & transcription
- Define Translation, know locations
- What codons and anticodons are
- Role tRNA
- Define polypeptide chain



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Closure

- In the following Jamboard - [LINK](#)
- Complete and take a screenshot of the first page and place in your journal.



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Warmup

- In the following Jamboard - **LINK**
- Complete and take a screenshot of the first page and place in your journal.



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
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November



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Closure

- Complete the following using the codon chart in your journal-
- DNA CCT CTT TAC ACA CGG AGG GTA CGC TAT TCT ATG
ATT ACA CGG TTG CGA TCC ATA ATC
- mRNA
- protein

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Warmup

Highlight the correct choice within the parenthesis for 1 -9

- (DNA/RNA) can leave the nucleus.
- mRNA is made during (transcription/translation).
- mRNA is made in the (cytoplasm/nucleus).
- DNA is located in the (nucleus/cytoplasm)
- (Translation/Transcription) converts DNA into mRNA.
- (mRNA/rRNA) is used to carry the genetic code from DNA to the ribosomes.
- (tRNA/rRNA) makes up the ribosome. Look in the book for this.
- (DNA/RNA) uses uracil instead of thymine.
- (RNA/amino) acids make up a protein.

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Closure

In the drawing - [LINK](#)

- Complete the diagram and place a screenshot in your journal.



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Warmup

Highlight the correct choice within the parenthesis for 1 - 10 in your journal

1. What is the point of DNA replication? _____
2. When & where does replication occur? _____
3. What is the point of transcription? _____ Where does it occur? _____
4. What are three nucleotides together called on mRNA? (ie: ACA) _____
5. The mRNA codons can be used in a chart to find: _____
6. What molecule contains an anti-codon? _____ During what process is it used? _____
7. Translation takes place in a _____.
8. _____ and _____ make up ribosomes.
9. What is the point of translation?
10. Transcription and translation together is the process of _____

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Closure

In the drawing - [LINK](#)

Label the drawing right with the correct words/letters. Take a snapshot and place in your journal



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
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November



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Warmup

Complete the following:

DNA TAC CTT GGG GAA

TAT ACA CGC TGG CTT CGA

TGA ATC CGT ACG GTA CTC

GCC ATC

mRNA

protein

Codons Found in Messenger RNA

		Second Base				
		U	C	A	G	
First Base	U	Phe Phe Leu Leu	Ser Ser Ser Ser	Tyr Tyr Stop Stop	Cys Cys Stop Trp	U C A G
	C	Leu Leu Leu Leu	Pro Pro Pro Pro	His His Gln Gln	Arg Arg Arg Arg	U C A G
	A	Ile Ile Ile Met	Thr Thr Thr Thr	Asn Asn Lys Lys	Ser Ser Arg Arg	U C A G
	G	Val Val Val Val	Ala Ala Ala Ala	Asp Asp Glu Glu	Gly Gly Gly Gly	U C A G
		Third Base				

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
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November



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Closure

In 3 minute or less, summarize protein synthesis in the following flipgrid -

(<https://flipgrid.com/82c4466e>)

- Include locations
- Descriptions of Replication (s-phase of interphase), Transcription, & Translation
- Compare and Contrast DNA & RNA Structure



5:00





Third Six Weeks

- Week 3 - 11/14th - 11/18th

Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Warmup

Using the following Article : [LINK](#)

- Summarize the importance of producing proteins -
- Stems:
- “Proteins are important to the human body because...”
- “Producing proteins more quickly results in...”
- “Proteins are usually approximately 400 base pairs long. They have successfully synthesized one...”



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
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November



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Closure

- Watch the following edpuzzle - [LINK](#)
- Answer the embedded questions in your journal



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
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November



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Warmup & Closure

Data Folder Update:

- It is the end of the Six Weeks and time to see how you did.
- Update all Exam Grades - make sure you consult HAC
- Look at your mission Statement. Check how you did
- Revise it?
- Check your Plan and Do
- If you know your average, put that in and then evaluate the Study and Act portions.



5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

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November

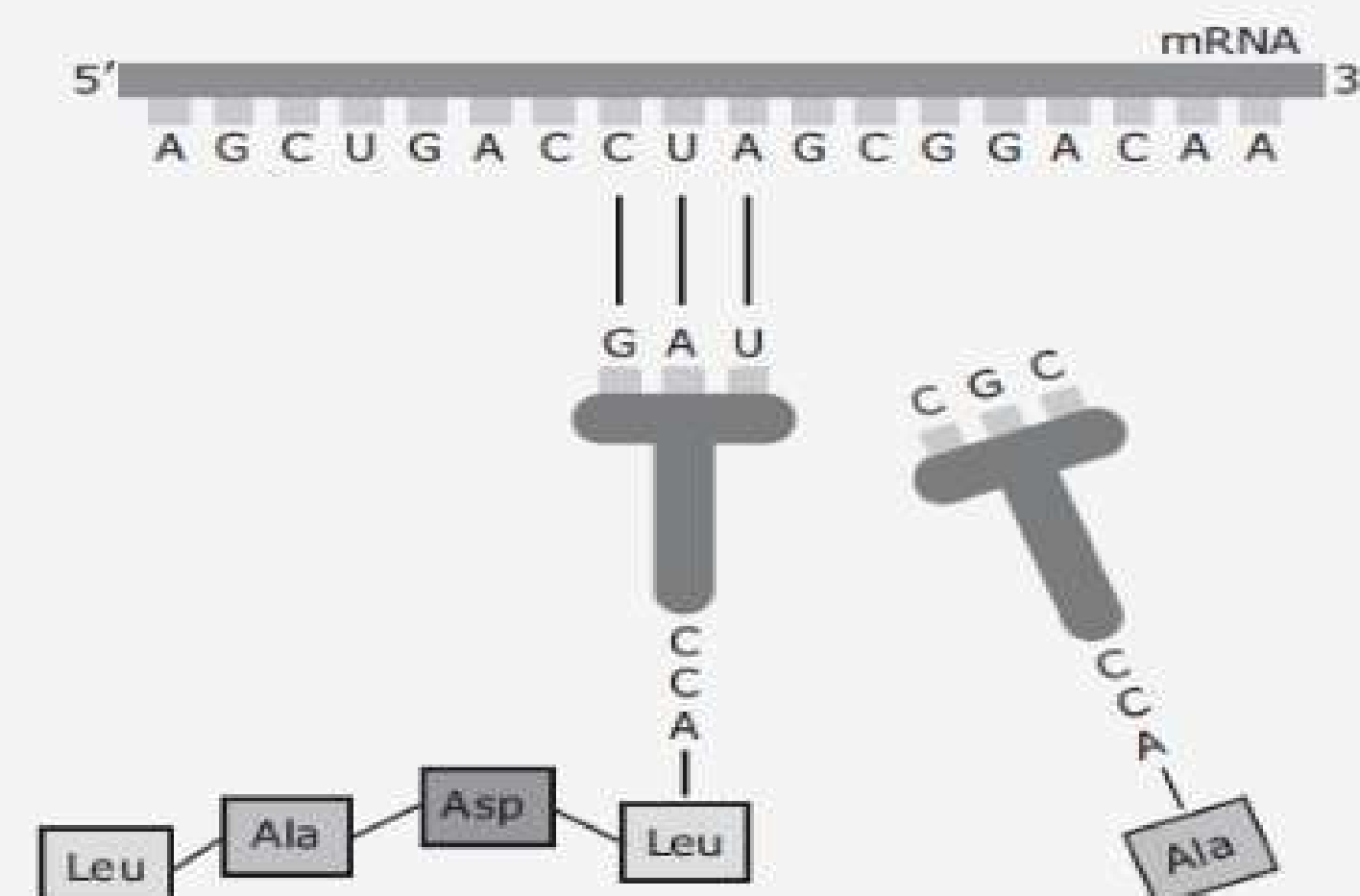


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Warmup

Evaluate the following question. Explain the reasoning for your answer

A model of a biological process is shown.



What is the purpose of this process?

- F To replicate the DNA of an organism before cell division
- G To assemble nucleotides in an mRNA chain along a DNA template
- H To synthesize amino acids used to unzip strands of DNA and copy the genetic code
- J To translate the genetic code into a specific sequence of amino acids

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
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November



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Closure

Evaluate the following question. Explain the reasoning for your answer

A section of a nucleic acid is shown below.

The process represented in the diagram produces a molecule that is complementary to the template strand of DNA. What type of molecule is produced?

A New DNA
B Polypeptide
C Messenger RNA
D Carbohydrate

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
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November



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Warmup

Evaluate the following question. Explain the reasoning for your answer

Which of the following polypeptides is coded for by the mRNA sequence 5'AUGGUUAAACGACAAUCC3'?

		Second Base				
		U	C	A	G	
First Base	U	Phenylalanine	Serine	Tyrosine	Cysteine	U
		Phenylalanine	Serine	Tyrosine	Cysteine	C
		Leucine	Serine	Stop	Stop	A
		Leucine	Serine	Stop	Tryptophan	G
	C	Leucine	Proline	Histidine	Arginine	U
		Leucine	Proline	Histidine	Arginine	C
		Leucine	Proline	Glutamine	Arginine	A
		Leucine	Proline	Glutamine	Arginine	G
	A	Isoleucine	Threonine	Asparagine	Serine	U
		Isoleucine	Threonine	Asparagine	Serine	C
		Isoleucine	Threonine	Lysine	Arginine	A
		Methionine	Threonine	Lysine	Arginine	G
	G	Valine	Alanine	Aspartic acid	Glycine	U
		Valine	Alanine	Aspartic acid	Glycine	C
		Valine	Alanine	Glutamic acid	Glycine	A
		Valine	Alanine	Glutamic acid	Glycine	G

F Val, Lys, Phe, Gly, Ser

G Met, Asp, Phe, Ala, Arg

H Met, Val, Lys, Arg, Gln, Ser

J Ile, Gln, Lys, Asp, Gly, Leu, Ser

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
- Locations for **Protein Synthesis** Processes

November



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Closure

Evaluate the following question. Explain the reasoning for your answer

A codon chart is shown below.

		Second Letter				
		U	C	A	G	
First Letter	U	Phenylalanine	Serine	Tyrosine	Cysteine	U
		Phenylalanine	Serine	Tyrosine	Cysteine	C
		Leucine	Serine	(STOP)	(STOP)	A
		Leucine	Serine	(STOP)	Tryptophan	G
	C	Leucine	Proline	Histidine	Arginine	U
		Leucine	Proline	Histidine	Arginine	C
		Leucine	Proline	Glutamine	Arginine	A
		Leucine	Proline	Glutamine	Arginine	G
	A	Isoleucine	Threonine	Asparagine	Serine	U
		Isoleucine	Threonine	Asparagine	Serine	C
		Isoleucine	Threonine	Lysine	Arginine	A
		Methionine (START)	Threonine	Lysine	Arginine	G
	G	Valine	Alanine	Aspartate	Glycine	U
		Valine	Alanine	Aspartate	Glycine	C
		Valine	Alanine	Glutamate	Glycine	A
		Valine	Alanine	Glutamate	Glycine	G

Which of these changes to the DNA triplet 3' GCT 5' will affect the protein produced?

- A GTT
B TCT

- C TCC
D GCA

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
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November



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Warmup

Evaluate the following DNA strand. Replicate it, Use the complementary strand to transcribe and translate

DNA AGA ACT ATA TAC CTC TTA ACA CTC TAA AGA CCA GCA
CTC CGA TGA ACT GGA GCA

mRNA ?

protein ?

5:00



Prior Knowledge

- Structure of **DNA**
- Monomer of DNA - **Nucleotides**
- Chargaff's rule
- Base pairings: (**A**pples in **T**rees, **C**ars in **G**arages)
- **Semiconservative Replication**
- Location of DNA

Today's Objectives

The student will:

- Compare **DNA** to **RNA**
- Understand the process of **Transcription**
- Know the sequence of **mRNA processing**
- Know base pairing rules for RNA
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November



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Closure

Evaluate the following questions.

1. What is the first step of protein synthesis?
2. What is the second step of protein synthesis?
3. Where does the first step of protein synthesis occur?
4. Where does the second step of protein synthesis occur?
5. Nitrogen bases are read _____ bases at a time.
6. The bases on the mRNA strand are called _____.
7. The bases on tRNA are called _____.
8. What is the start codon?
9. What are the stop codons?
10. A bunch of amino acids attached together is called a ?

5:00



Third Six Weeks

- Week 4 - 11/28th - 12/2nd



Prior Knowledge

- **IPMAT**
- **Cell Cycle** Phases
- Locations and Events in each phase
- **DNA** structure
- **RNA** Structure
- **Codon/Anticodon**
- **Protein synthesis** processes - **transcription/translation**

Today's Objectives

The student will:

- Understand the process of **mutation**
- Compare and contrast 4 different types of mutations
- **Germ** vs **Somatic** Cell
- Processes and Outcomes of **Meiosis**
- Define **Gametes**

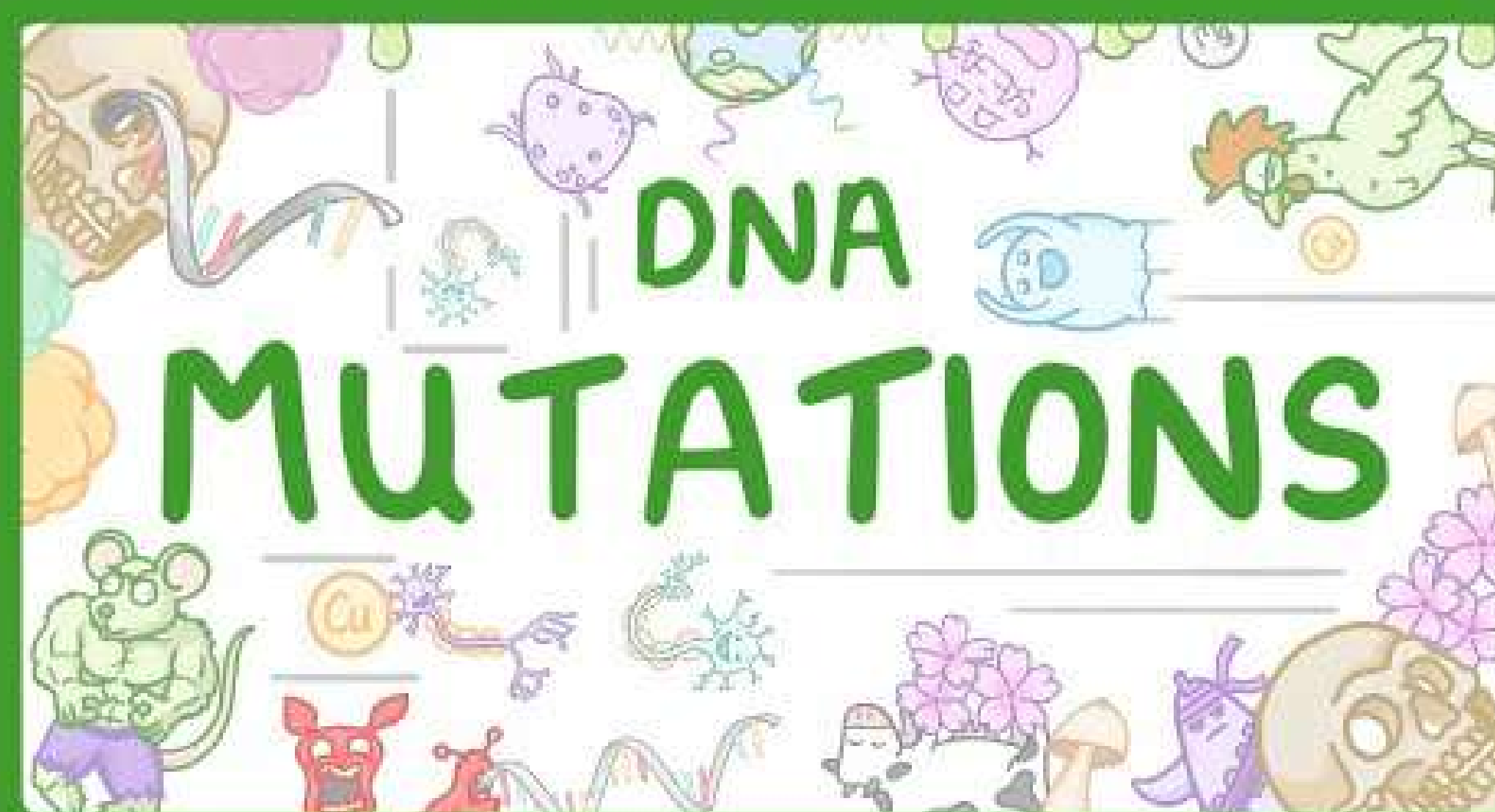
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Warmup

Watch the following Video on Youtube - [LINK](#)
Summarize the video in a few short sentences in the space provided
Be sure to differentiate between types of mutations, define mutation, and talk about potential outcomes



5:00



Prior Knowledge

- **TPMIAI**
- **Cell Cycle** Phases
- Locations and Events in each phase
- **DNA** structure
- **RNA** Structure
- **Codon/Anticodon**
- **Protein synthesis** processes - **transcription/translation**

Today's Objectives

The student will:

- Understand the process of **mutation**
- Compare and contrast 4 different types of mutations
- **Germ** vs **Somatic** Cell
- Processes and Outcomes of **Meiosis**
- Define **Gametes**

November



S M T W T F S

	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Closure

Using what you know about mutations - See if you can work the following mutated sequence - answer in your journal

Original DNA Sequence: T A C A C C T T G G C G A C G A C T ...

mRNA Sequence:

Amino Acid Sequence:

Mutated DNA Sequence #1 T A C A T C T T G G C G A C G A C T ...

What's the mRNA sequence?

amino acid sequence?

Will there likely be effects? ____ What type of mutation is this?

5:00



Prior Knowledge

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November

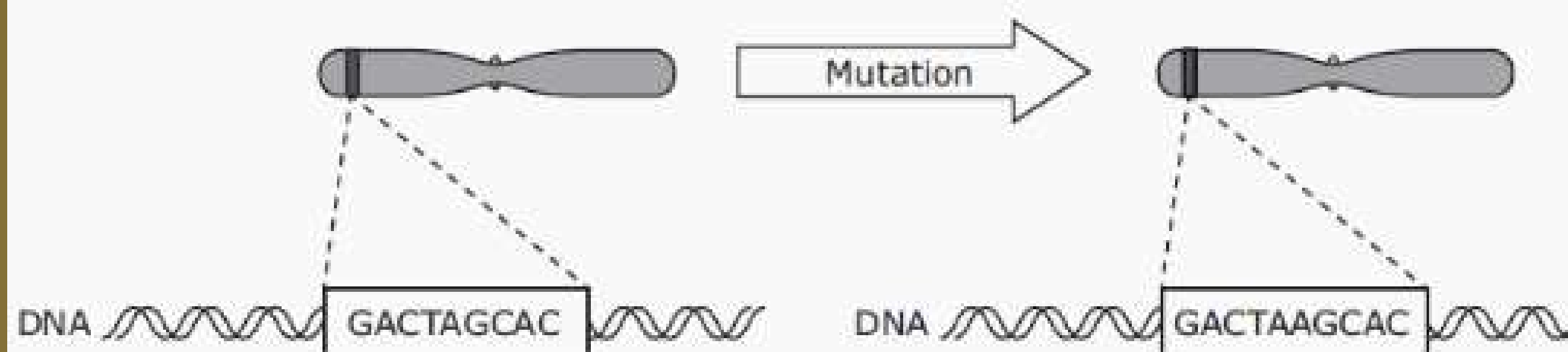


S	M	T	W	T	F	S
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Warmup

Evaluate the following question. Explain the reasoning for your answer

Different types of mutations can occur in DNA. The diagram represents a type of mutation.



Which statement describes the mutation in the diagram?

- F A silent mutation results in the insertion of a different amino acid.
- G A substitution occurs with the adenine base.
- H A deletion of a cytosine base occurs.
- J A base is inserted into one strand of the DNA.

5:00



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November



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Closure

Evaluate the following question. Explain the reasoning for your answer

The survival of a species depends on its ability to adapt to changes in the environment. A species must be capable of surviving and reproducing despite changes to food sources, climate, or threats from predators. Which statement correctly describes a way that mutations increase the likelihood that a species will survive in a changing environment?

- F Mutations are a source of variation in the species.
- G Mutations are the cause of disease in the species.
- H Mutations are not harmful when they occur in somatic cells of the species.
- J Mutations are always passed on to subsequent generations of the species.

5:00



Prior Knowledge

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November



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20	21	22	23	24	25	26
27	28	29	30			

Warmup

Watch the following Edpuzzle on Meiosis - [LINK](#)
Answer the embedded questions in your journal



5:00



Prior Knowledge

- **IPVIAI**
- **Cell Cycle** Phases
- Locations and Events in each phase
- **DNA** structure
- **RNA** Structure
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November



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Closure

Complete the following Jamboard - [LINK](#).
Screenshot of completed word wall in your journal



5:00



Prior Knowledge

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November



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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	

Warmup

Evaluate the following question. Explain the reasoning for your answer

The table shows a DNA sequence and three types of mutations that can change the DNA sequence.

	Original	Mutation 1	Mutation 2	Mutation 3
DNA codon	TTC	ATC	TTT	TCC
mRNA codon	AAG	UAG	AAA	AGG

		Second Position								
		U		C		A		G		
		code	Amino Acid	code	Amino Acid	code	Amino Acid	code	Amino Acid	
First Position	U	UUU	Phe	UCU	Ser	UAU	Tyr	UGU	Cys	U
		UUC		UCC		UAC		UGC		C
		UUA	Leu	UCA		UAA	STOP	UGA	STOP	A
		UUG		UCG		UAG	STOP	UGG	Trp	G
	C	CUU	Leu	CCU	Pro	CAU	His	CGU	Arg	U
		CUC		CCC		CAC		CGC		C
		CUA		CCA		CAA	Gln	CGA		A
		CUG		CCG		CAG		CGG		G
	A	AUU	Ile	ACU	Thr	AAU	Asn	AGU	Ser	U
		AUC		ACC		AAC		AGC		C
		AUA	Met	ACA		AAA	Lys	AGA	Arg	A
		AUG		ACG		AAG		AGG		G
	G	GUU	Val	GCU	Ala	GAU	Asp	GGU	Gly	U
		GUC		GCC		GAC		GGC		C
		GUA		GCA		GAA	Glu	GGA		A
		GUG		GCG		GAG		GGG		G

Which mutation will cause translation to stop?

- A Mutations 1 and 3 only
- B Mutation 1 only
- C Mutation 2 only
- D Mutations 1, 2, and 3

5:00



Prior Knowledge

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November



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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	

Closure

In the following flipgrid -

(<https://flipgrid.com/6a5e0317>)

- Compare and Contrast Meiosis and Mitosis



5:00



Prior Knowledge

- **IPMAT**
- **Cell Cycle** Phases
- Locations and Events in each phase
- **DNA** structure
- **RNA** Structure
- **Codon/Anticodon**
- **Protein synthesis** processes - **transcription/translation**

Today's Objectives

The student will:

- Understand the process of **mutation**
- Compare and contrast 4 different types of mutations
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- Define **Gametes**

Nov - Dec



S M T W T F S

	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
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27	28	29	30	1	2	

Warmup & Closure

Data Folder Update:

- It is the end of the 4th Week and time to see how you did.
- Update all Exam Grades - make sure you consult HAC
- Look at your mission Statement. Check how you did
- Revise it?
- Check your Plan and Do
- If you know your average, put that in and then evaluate the Study and Act portions.



5:00





Third Six Weeks

- Week 5 - 12/5th - 12/9th

Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

- Identify and describe the contributions of **Gregor Mendel**
- Compare and contrast:
 - **Homozygous / Herterozygous**
 - **Dominant / Recessive**

December



S M T W T F S

4 5 6 7 8 9 10

11 12 13 14 15 16 17

18 19 20 21 22 23 24
25 26 27 28 29 30 31

Warmup

In the following Youtube video - [LINK](#)

Use the space in your journal to summarize the life and discoveries of Gregor Mendel

Gregor Mendel



TEACHER'S PET

BIOLOGY

5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

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The student will:

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December



S M T W T F S

4 5 6 7 8 9 10

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25 26 27 28 29 30 31

Closure

Read the following passage (Gregor Mendel's Courage and Persistence) from the article linked here - [LINK](#)

- Who was Gregor Mendel -
- What organism did he study in order to develop our understanding of modern genetics?
- What is a trait?
- How are traits passed from parent to offspring?
- Compare and Contrast homozygous and heterozygous

5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

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- Compare and contrast:
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December



S M T W T F S

4 5 6 7 8 9 10

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Warmup

- Use the following Jamboard - [LINK](#)
- Spend about 2 minutes, thinking about a Gregor Mendel and his contribution to Modern genetic Theory. Then in a sticky note, write a small summary of what he did, the organism he studied, and the definition of traits. You should also mention the difference between dominant and recessive traits. Take a screenshot and place in your journal



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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December



S M T W T F S

4 5 6 7 8 9 10

11 12 13 14 15 16 17

18 19 20 21 22 23 24
25 26 27 28 29 30 31

Closure

- In the following edpuzzle - [LINK](#), answer the embedded questions in the journal space provided

5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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December



S M T W T F S

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4	5	6	7	8	9	10
11	12	13	14	15	16	17

18	19	20	21	22	23	24
25	26	27	28	29	30	31

Warmup

- In the following Google Drawing, there are three types of punnett squares. Using your knowledge of genetics thus far, complete the punnett squares. Insert the snapshot of your work in your journal.



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- **Meiosis**
- **DNA**
- **Mutations**
- **Protein Synthesis**

Today's Objective

The student will:

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December



S M T W T F S

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17

18	19	20	21	22	23	24
25	26	27	28	29	30	31

Closure

A male and female bird have 4 unhatched eggs. The female is on the left heterozygous; the male on the right is homozygous recessive. Use B or b for your genotypes.

- Write the genotype of the female (left):
- Write the genotype of the male (right) :
- Which color is dominant, gray or black? How do you know?
- Write the phenotype of the female and the phenotype of the male below:
- Complete the Punnett Square below for this couple: *In your journal*
- If they follow the Punnett Square ratios, what will the babies in the eggs look like when they hatch?
- Will all four offspring adhere exactly to the ratios predicted by the Punnett Square? Explain:



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- **Meiosis**
- **DNA**
- **Mutations**
- **Protein Synthesis**

Today's Objective

The student will:

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December



S M T W T F S

				1	2	3
4	5	6	7	8	9	10

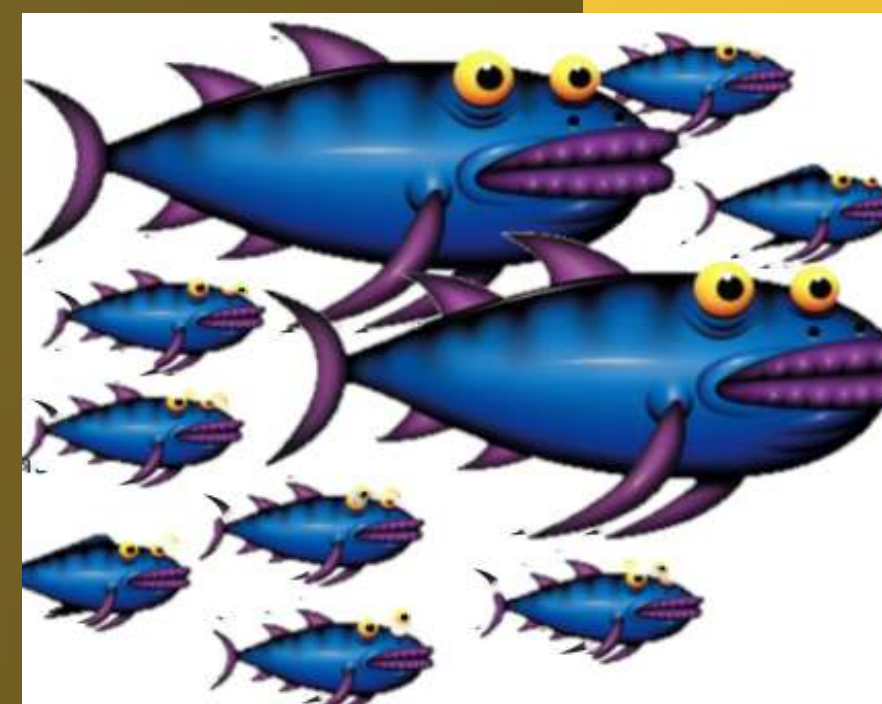
11	12	13	14	15	16	17
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18	19	20	21	22	23	24
25	26	27	28	29	30	31

Warmup

A family of fish resides in a tank. The instructor, while bored decides to determine the genotypes of the parents based on their back fins.

- What is the dominant phenotype?
- What is the recessive phenotype?
- What are the two possible genotypes of the each adult fish?
- How many baby fish have the dominant phenotype? How many have the recessive phenotype?
- Complete both Punnett Squares below, one each for all possible genotypes of the upper adult fish.



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
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- **DNA**
- **Mutations**
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December



S M T W T F S

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Closure

In snapdragons, flower color is controlled by incomplete dominance. The two alleles are red (answer in your journal)

- (R) and white (r). The heterozygous genotype is expressed as pink.
- a. What is the phenotype of a plant with the genotype RR? _____
- b. What is the phenotype of a plant with the genotype Rr? _____
- c. What is the phenotype of a plant with the genotype rr? _____
- A pink-flowered plant is crossed with a white-flowered plant. What is the probability of
- producing a pink-flowered plant? _____%
- What cross will produce the most pink-flowered plants? Show a Punnett square to support your answer and explain.

5:00



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- Punnett Squares
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- **Meiosis**
- **DNA**
- **Mutations**
- **Protein Synthesis**

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Warmup

- In a certain fish, blue scales (BB) and red scales (bb) are codominant. When a fish has the hybrid genotype, it has a patchwork of blue and red scales. (Use the letter B)
- What is the genotype for blue fish? _____
- What is the genotype for red fish? _____
- What is the genotype for patchwork fish? _____

What happens if you breed a patchwork fish with a fish that only has Blue Scales?

- What is the probability of having fish with red scales?
- What is the probability of having fish with patchwork scales?

Two patchwork fish are crossed. What is the probability that they will have patchwork fish? _____%

5:00



Prior Knowledge

- Punnett Squares
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- **Meiosis**
- **DNA**
- **Mutations**
- **Protein Synthesis**

Today's Objective

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December



S M T W T F S

4 5 6 7 8 9 10
11 12 13 14 15 16 17

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Closure

Write the genotype for each person based on the description:

- Homozygous for the "B" allele
- Heterozygous for the "A" allele
- Type O
- Type "A" and had a type "O" parent
- Type "AB"
- Blood can be donated to anybody
- Can only get blood from a type "O" donor

Blood Type	Genotype	Donor	Acceptor
A	$I^A I^A$ or $I^A i$	A or AB	A / O
B	$I^B I^B$ or $I^B i$	B or AB	B / O
AB	$I^A I^B$	AB	All
O	ii	All	O

5:00



Third Six Weeks

- Week 6 - 12/12th - 12/16th



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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- Compare and contrast:
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December



S M T W T F S

4 5 6 7 8 9 10

11 12 13 14 15 16 17

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Warmup

- In the following Youtube video - [LINK](#)
- Use the space below to summarize X-Linked, Dihybrid, & Pedigrees



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- **Meiosis**
- **DNA**
- **Mutations**
- **Protein Synthesis**

Today's Objective

The student will:

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December



S M T W T F S

4 5 6 7 8 9 10

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Closure

Solve the following X-Linked trait cross

- Show the cross of a white eyed female $X^r X^r$ with a red-eyed male $X^R Y$

Show the cross of a red eyed female (heterozygous) and a red eyed male.

What are the genotypes of the parents? _____ & _____

- How many are: white eyed, male _____ white eyed, female _____
- red eyed, male _____ red eyed, female _____

5:00



Prior Knowledge

- Punnett Squares
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- **Meiosis**
- **DNA**
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Warmup

Evaluate the following Question in your journal

- Set up a punnett square using the following information: ·
- Dominant allele for tall plants = D · Recessive allele for dwarf plants = d ·
- Dominant allele for purple flowers = W · Recessive allele for white flowers = w ·
- Cross a homozygous dominant parent (DDWW) with a homozygous recessive parent (ddww)

5:00



Prior Knowledge

- Punnett Squares
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- DNA
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Closure

- Evaluate the following Question in your journal

In Holstein cattle the allele for black hair color (B) is dominant over the allele for red hair color (b), and the allele for polled (P), or lacking horns, is dominant over the allele for having horns (p).

What is the expected phenotypic ratio of the offspring of a BbPp × BbPp cross if these alleles sort independently?

- A 16 black/polled : 0 black/horned : 0 red/polled : 0 red/horned
- B 12 black/polled : 0 black/horned : 0 red/polled : 4 red/horned
- C 4 black/polled : 4 black/horned : 4 red/polled : 4 red/horned
- D 9 black/polled : 3 black/horned : 3 red/polled : 1 red/horned

5:00



Prior Knowledge

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- Meiosis
- DNA
- Mutations
- Protein Synthesis

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The student will:

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December



S M T W T F S

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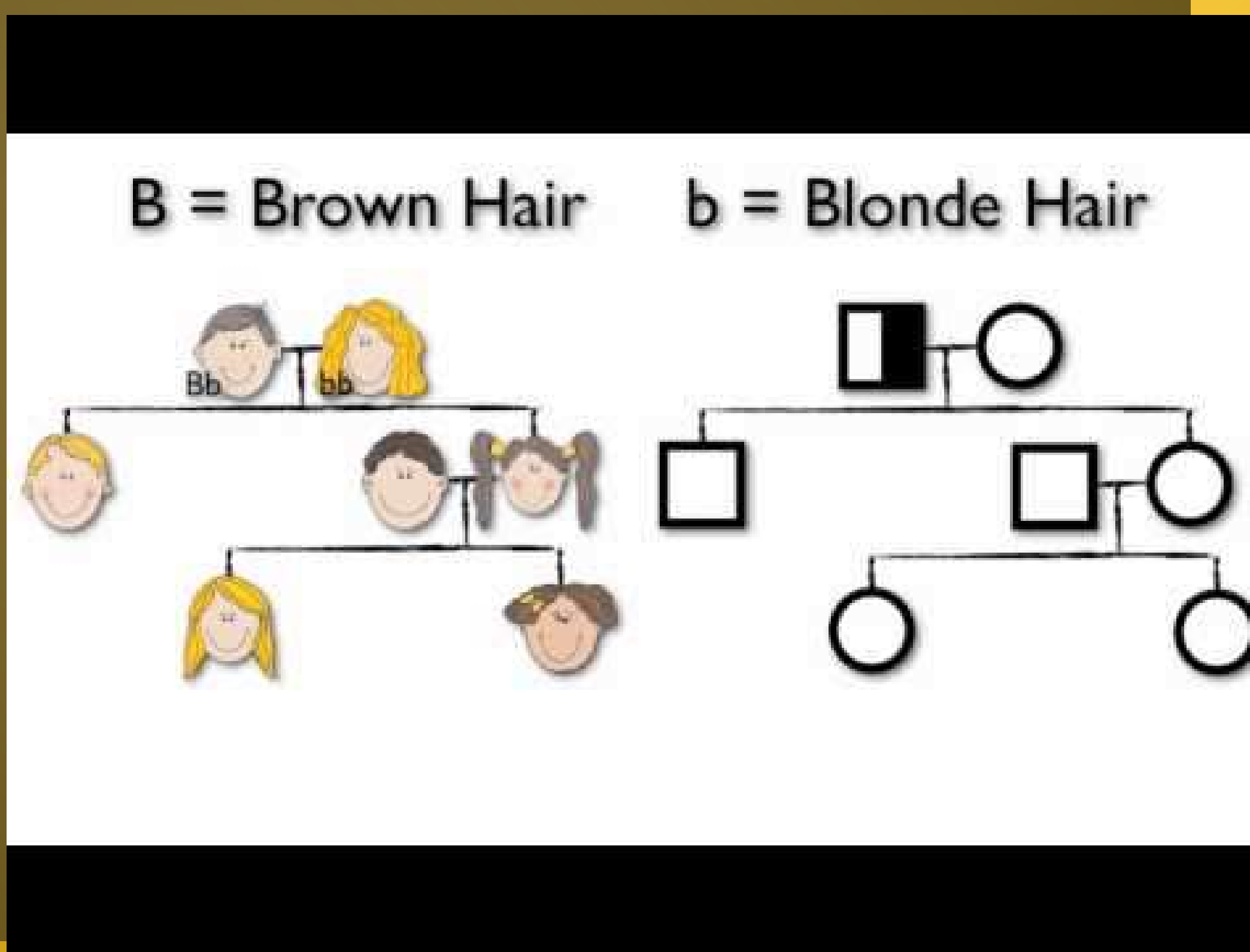
11 12 13 14 15 16 17

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Warmup

- In the following Youtube video - [LINK](#)
- Use the space below to summarize Pedigrees



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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 - **Dominant** / **Recessive**

December



S M T W T F S

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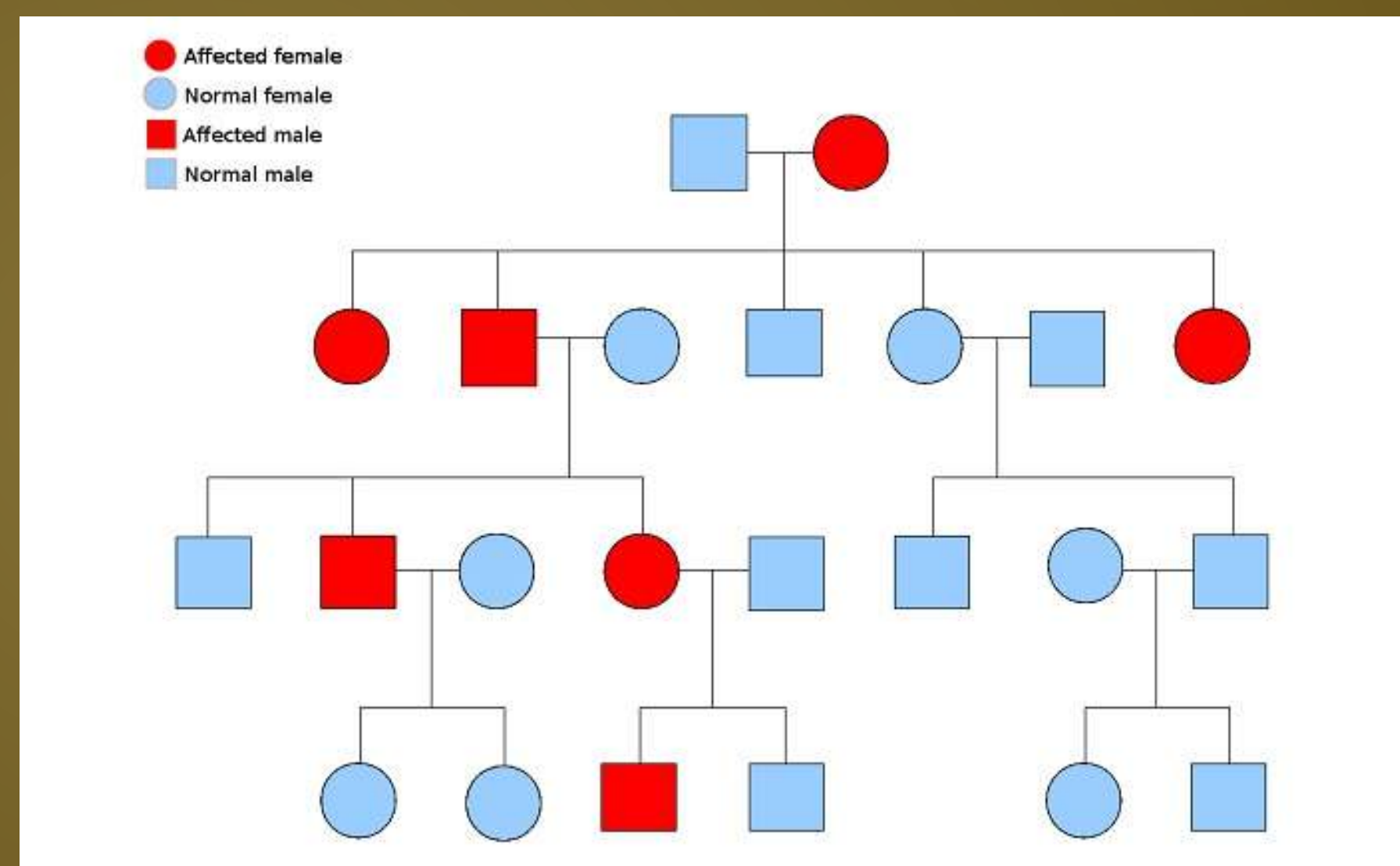
11 12 13 14 15 16 17

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Closure

- In the following Google Drawing - Complete the pedigree and place a screenshot here.



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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December

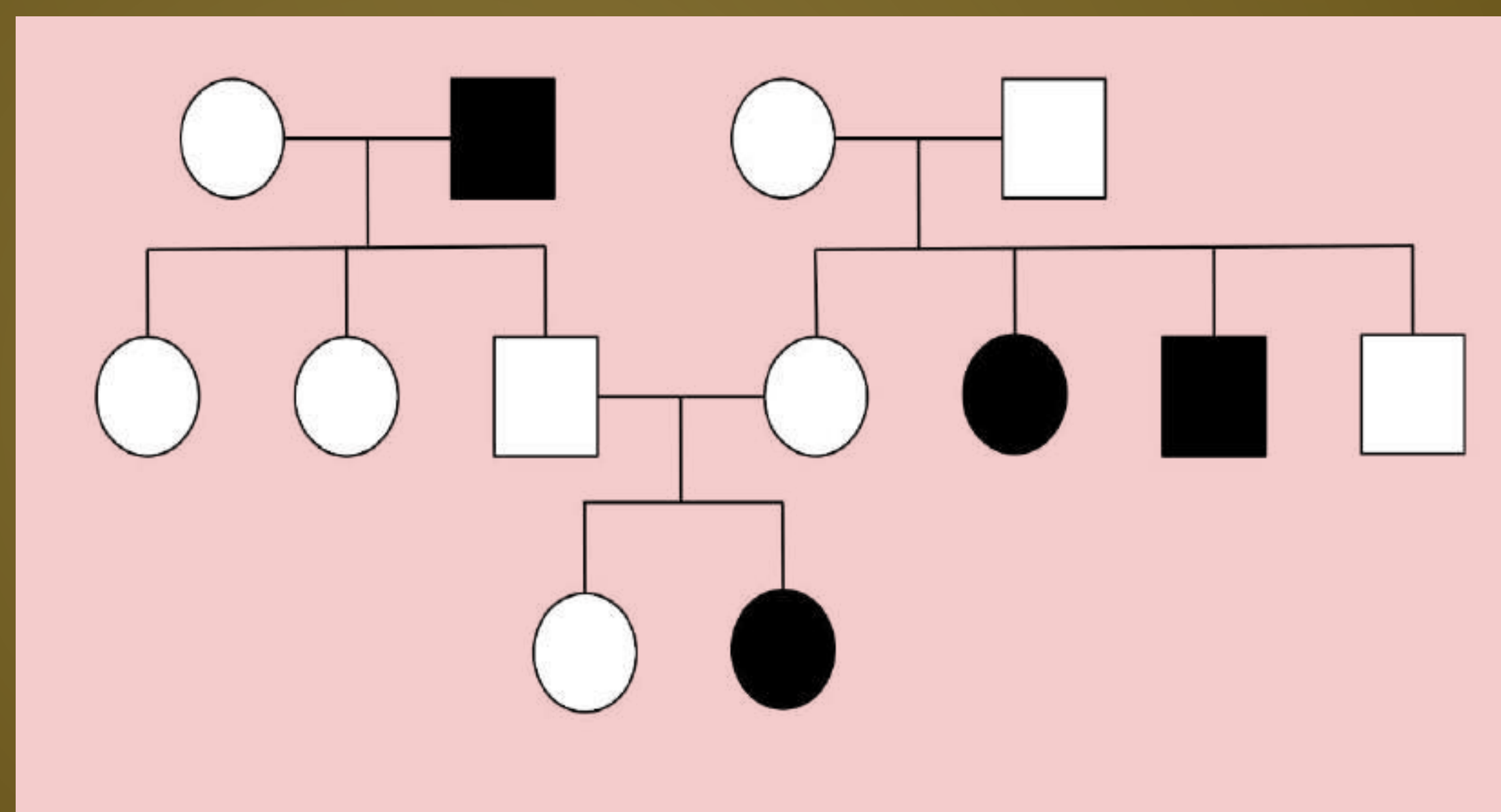


S M T W T F S

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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Warmup

- Complete the following Pedigree - What type is it?



5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

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December



S M T W T F S

4 5 6 7 8 9 10

11 12 13 14 15 16 17

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Closure

- Read the following [Article](#) on Pedigrees. Add a 3-5 sentence summary in your journal on the importance of knowing your family history.

5:00



Prior Knowledge

- Punnett Squares
- How **DNA** is passed to offspring
- Meiosis
- DNA
- Mutations
- Protein Synthesis

Today's Objective

The student will:

- Identify and describe the contributions of **Gregor Mendel**
- Compare and contrast:
 - **Homozygous / Herterozygous**
 - **Dominant / Recessive**

December



S M T W T F S

4 5 6 7 8 9 10

11 12 13 14 15 16 17

18 19 20 21 22 23 24

25 26 27 28 29 30 31

Warmup & Closure

Data Folder Update:

- It is the end of the Semester and time to see how you did.
- Update all Exam Grades (CBAs too) - make sure you consult HAC
- Look at your mission Statement. Check how you did
- Revise it?
- Check your Plan and Do
- If you know your average, put that in and then evaluate the Study and Act portions.



5:00



End of First Semester Warmups & Closures

- First Six Weeks
- Second Six Weeks
- Third Six Weeks

