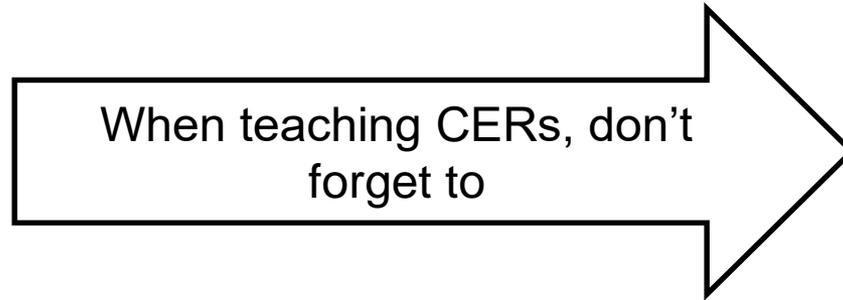


Biology Unit 5 Organizers

Teacher Copy

Cue Do Review Quick Reference Guide



Teacher Notes

Other Content Enhancement Routines that can be used during this Unit:

- Photosynthesis Frame
- Cellular Respiration Frame

Cue

1. Name the Routine
2. Explain how the routine will help students learn
3. Explain to students how they should participate

Do

4. Implement the linking steps
5. Ask students probing questions in order to co-construct the device
6. Provide positive and corrective feedback if necessary

Review

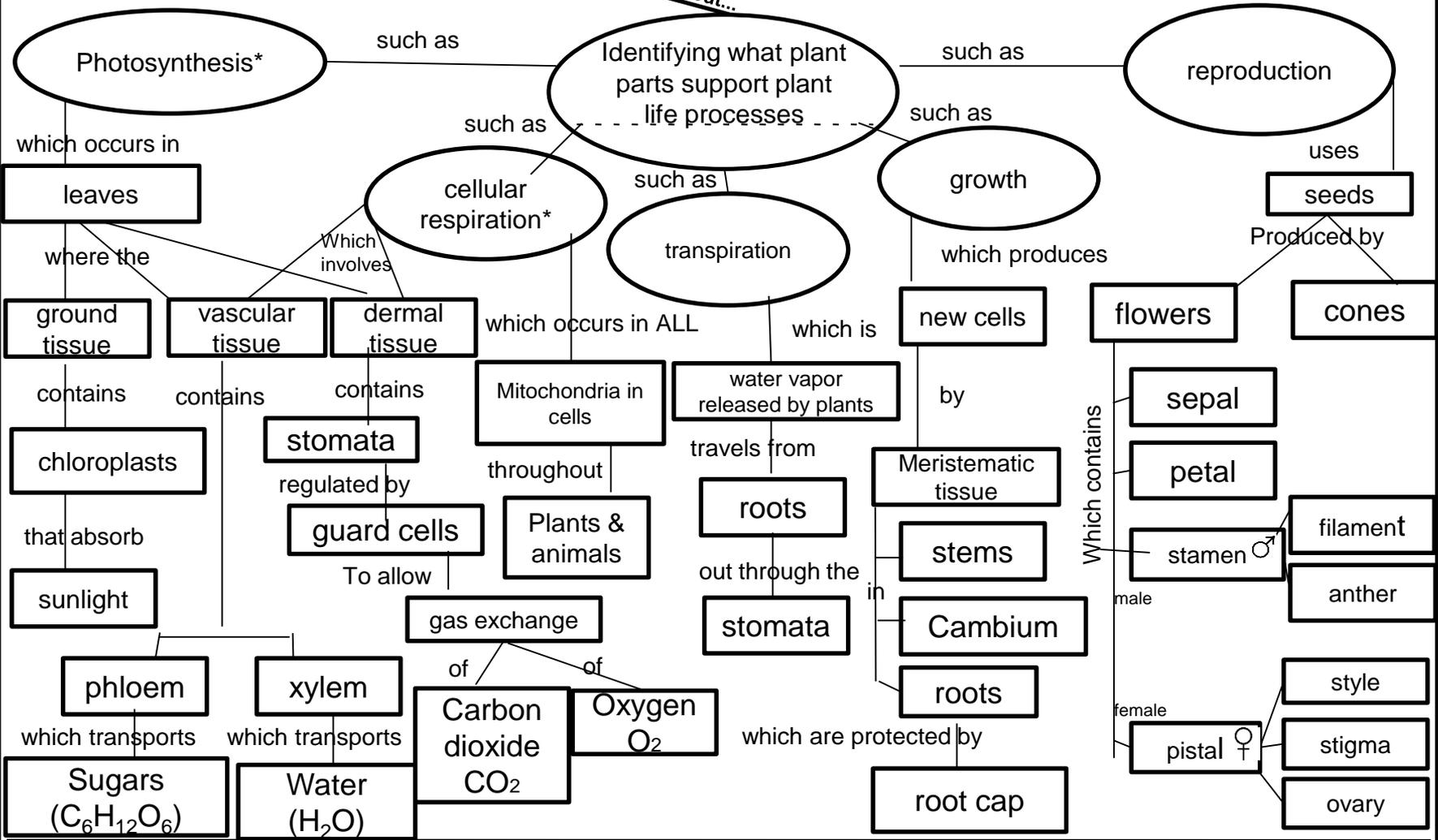
7. Ask questions about the critical content on device
8. Ask questions about the learning process and how the device works
9. Model how to use the device as a study tool, guide for doing other work

The Unit Organizer

Plants

NAME _____
DATE _____

9 Expanded Unit Map



16
NEW
UNIT
SELF-TEST
QUESTIONS

* See Frames

The FRAME Routine

Key Topic

Photosynthesis

is about...

Plants using the sun's energy to make food for animals

Main idea

Reactants (what goes in)

Main idea

Products (what comes out)

Main idea

How plants do this

Essential details

Sunlight (only gets reaction going)

Essential details

Sugar (glucose, $C_6H_{12}O_6$)

Essential details

trap sun's energy in chlorophyll

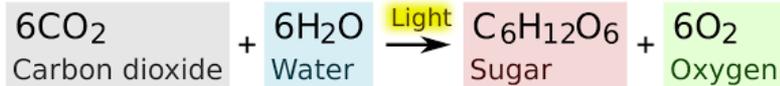
Water (H_2O)

Oxygen gas (O_2)

chlorophyll is found in chloroplasts in plant cells

Carbon Dioxide (CO_2)

Equation:



So What? (What's important to understand about this?)

Humans (and all animals) need oxygen to breathe and sugar to eat and burn for energy to stay alive. Plants produce these so humans (and animals) need plants.

The FRAME Routine

Key Topic

Cellular Respiration

is about...

A process in cells that convert sugar into adenosine triphosphate (ATP) for energy and then release waste products

Main idea

Reactants (what goes in)

Main idea

Products (what comes out)

Main idea

How Cells Do This

Essential details

Sugar (glucose, $C_6H_{12}O_6$)

Essential details

Water (H_2O)

Essential details

Sugar is broken down in cytoplasm

Oxygen gas (O_2)

Carbon Dioxide (CO_2)

In presence of oxygen the mitochondria will convert the glucose into ATP, releasing carbon dioxide and water

ATP

Equation:

Glucose + Oxygen \rightarrow Carbon Dioxide + Water + ATP

$C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + ATP$

So What? (What's important to understand about this?)

The ATP molecules that are produced provides energy required to perform the functions necessary to life

Biology Unit 5 Organizers

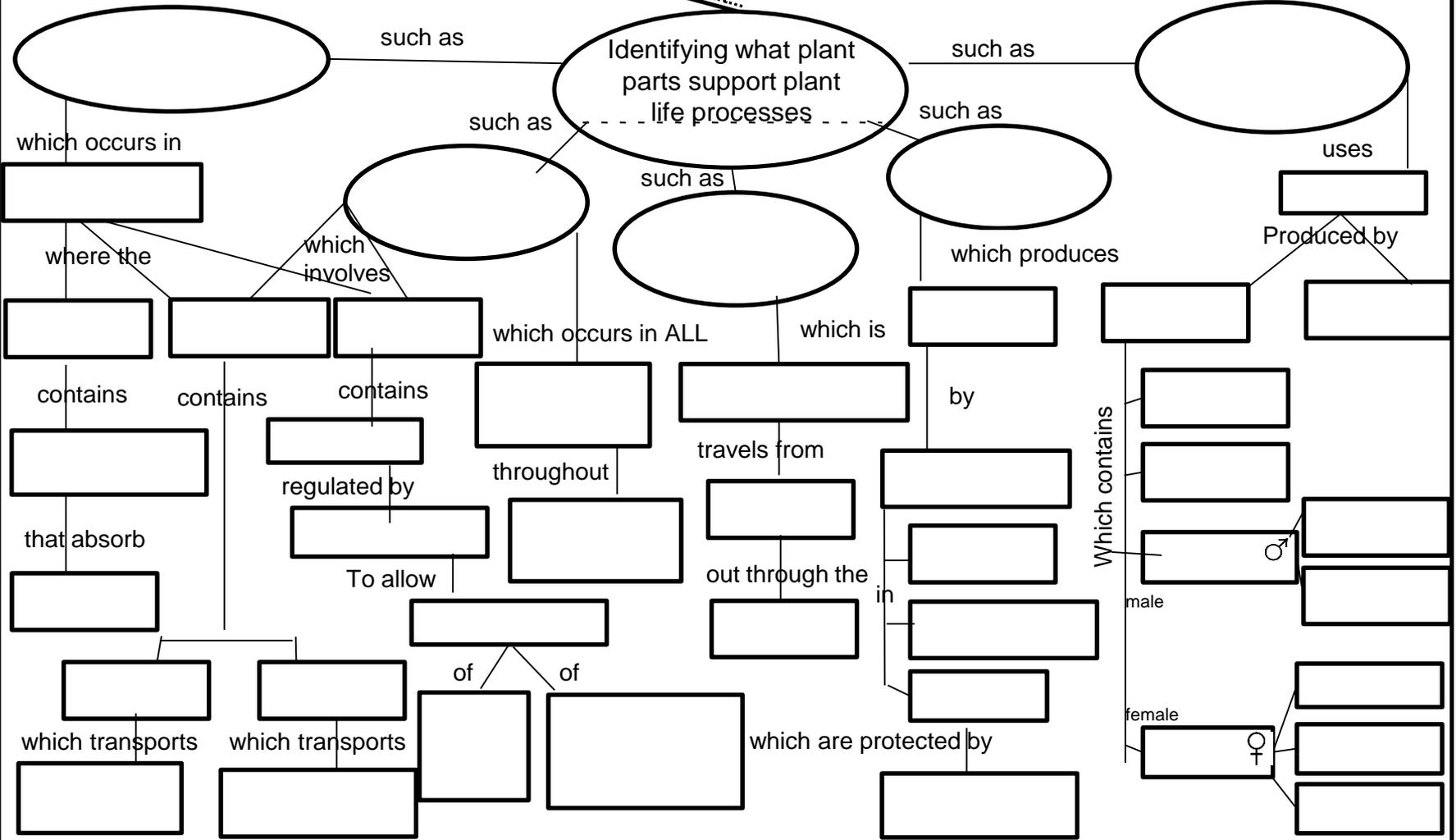
Student Copy

The Unit Organizer

Plants

NAME _____
DATE _____

9 Expanded Unit Map



NEW
UNIT
SELF-TEST
QUESTIONS

The FRAME Routine

Key Topic
Photosynthesis

is about...

Main idea
Reactants (what goes in)

Main idea
Products (what comes out)

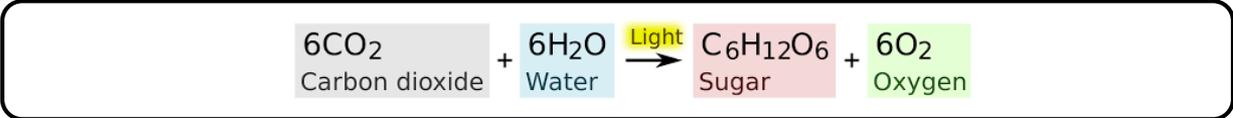
Main idea
How Plants do This

Essential details

Essential details

Essential details

Equation



So What? (What's important to understand about this?)

The FRAME Routine

Key Topic
Cellular Respiration

is about...

[Empty box for notes]

Main idea
Reactants (what goes in)

Main idea
Products (what comes out)

Main idea
How Cells Do This

Essential details

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Essential details

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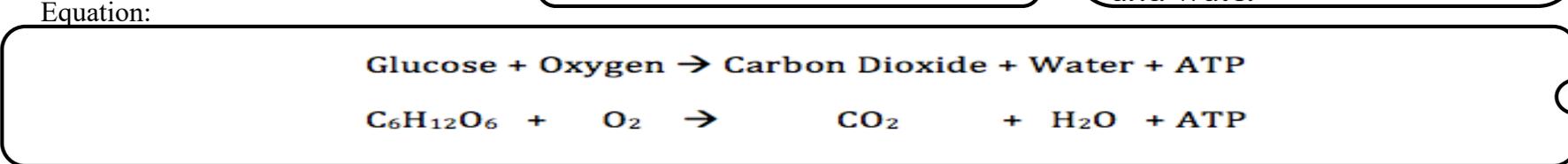
Essential details

[Empty box]

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In presence of _____ the mitochondria will convert the glucose into ATP, releasing carbon dioxide and water



So What? (What's important to understand about this?)

[Empty box for notes]