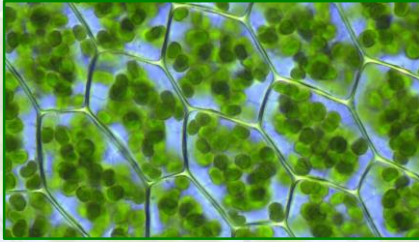


Photosynthesis Task Cards



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1

Define photosynthesis.

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2

___ produce their own ___
and are also called producers.



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3

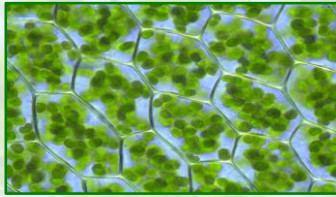
Heterotrophs must consume
___ and are also called ___.



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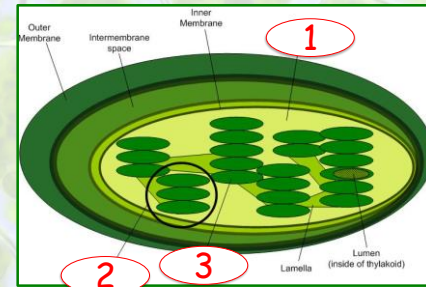
_____ are the organelles in plants where photosynthesis takes place.



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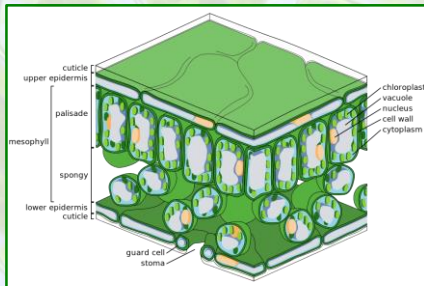
Label these chloroplast structures.



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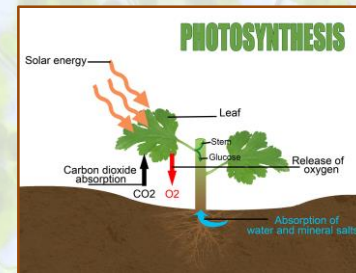
Identify the leaf layer where chloroplasts are concentrated.



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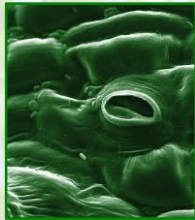
Write the word equation for photosynthesis.



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8

Pores on the underside of the leaf are called ____.



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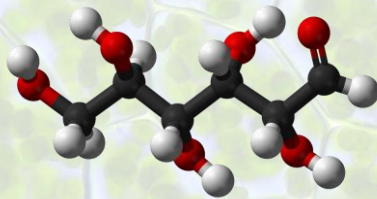
9

The primary "food" produced by photosynthesis is a 6-carbon sugar called ____.

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What do plants use glucose for?



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Where do plants store excess glucose?



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Veins carry ___ and ___ to various parts of a plant.



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13

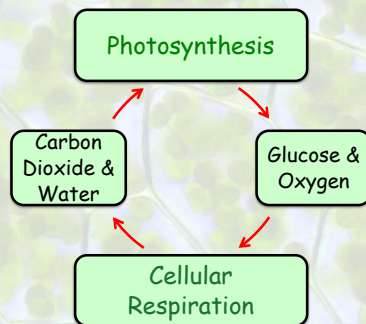
Complete the chemical equation for photosynthesis.



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14

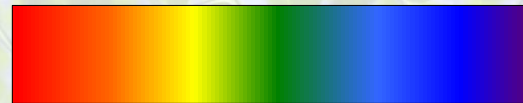
Explain this diagram.



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15

Visible light energy is absorbed by ___ molecules.



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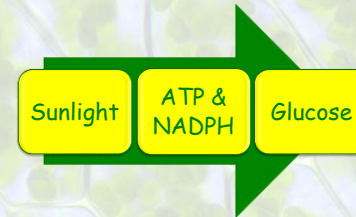
16

The **green** pigment in plants is called ____.

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17

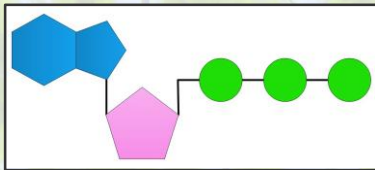
____ first converts light energy into ATP & NADPH. Then, ATP & NADPH are used to make ____.



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An ATP molecule contains ____ energy that is released when a ____ group is pulled away.



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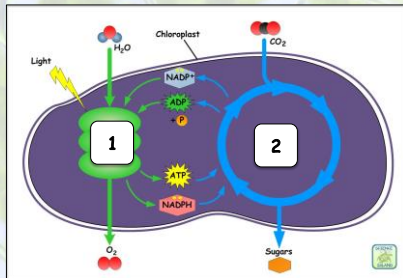
19

NADPH is a high energy ____ that is used to help turn CO_2 into glucose.

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20

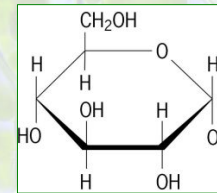
Name the two stages of photosynthesis.



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21

The stage of photosynthesis that actually produces sugar is ____.



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22

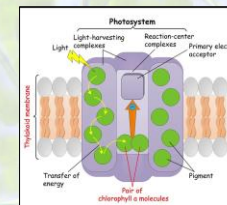


Where do the light reactions occur?
Where does the Calvin Cycle occur?

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23

A ____ is a cluster of chlorophyll and other molecules built into the thylakoid membrane which can capture ____ energy.



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The Light Reactions start when a pigment molecule in _____ absorbs a photon of light which excites one of the pigment's _____.

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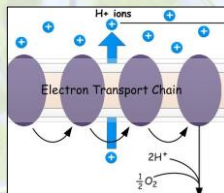
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An excited electron is passed from PSII to an _____ _____ on its way to PSI.

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The electron transport chain of PSII uses the energy of falling _____ to pump _____ ions across the thylakoid membrane.



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27

_____ is the diffusion of ions through a semi-permeable membrane. This diffusion through an ATP Synthase molecule produces _____ from ADP.

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Photosystem I passes a light-excited electron to a short electron transport chain which generates ____.

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List the products of the Light Reactions.

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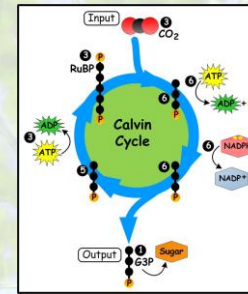
30

The Calvin Cycle does not require ____, but it does require the ____ of the Light Reactions.

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List the inputs and outputs of the Calvin Cycle.



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Photosynthesis is the ultimate source of the ____ we breathe and the ____ we eat.



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33

Put these 4 steps of the Calvin Cycle in the correct order.

- RuBP Regenerated
- Reduction to form G3P
- G3P Released
- Carbon fixation

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34

Put these 4 steps of the Light Reactions in the correct order.

- ATP-producing ETC
- Photosystem I
- Photosystem II
- NADPH-producing ETC

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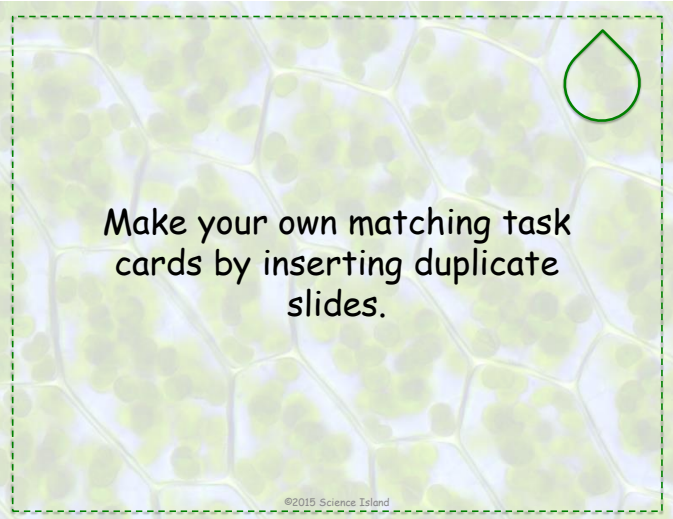
35

Complete these statements about the carbon cycle:

Photosynthesis converts inorganic CO_2 into ____ compounds. Cellular respiration uses organic compounds and releases ____ into the atmosphere.



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