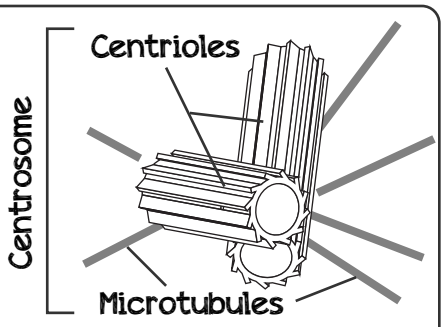
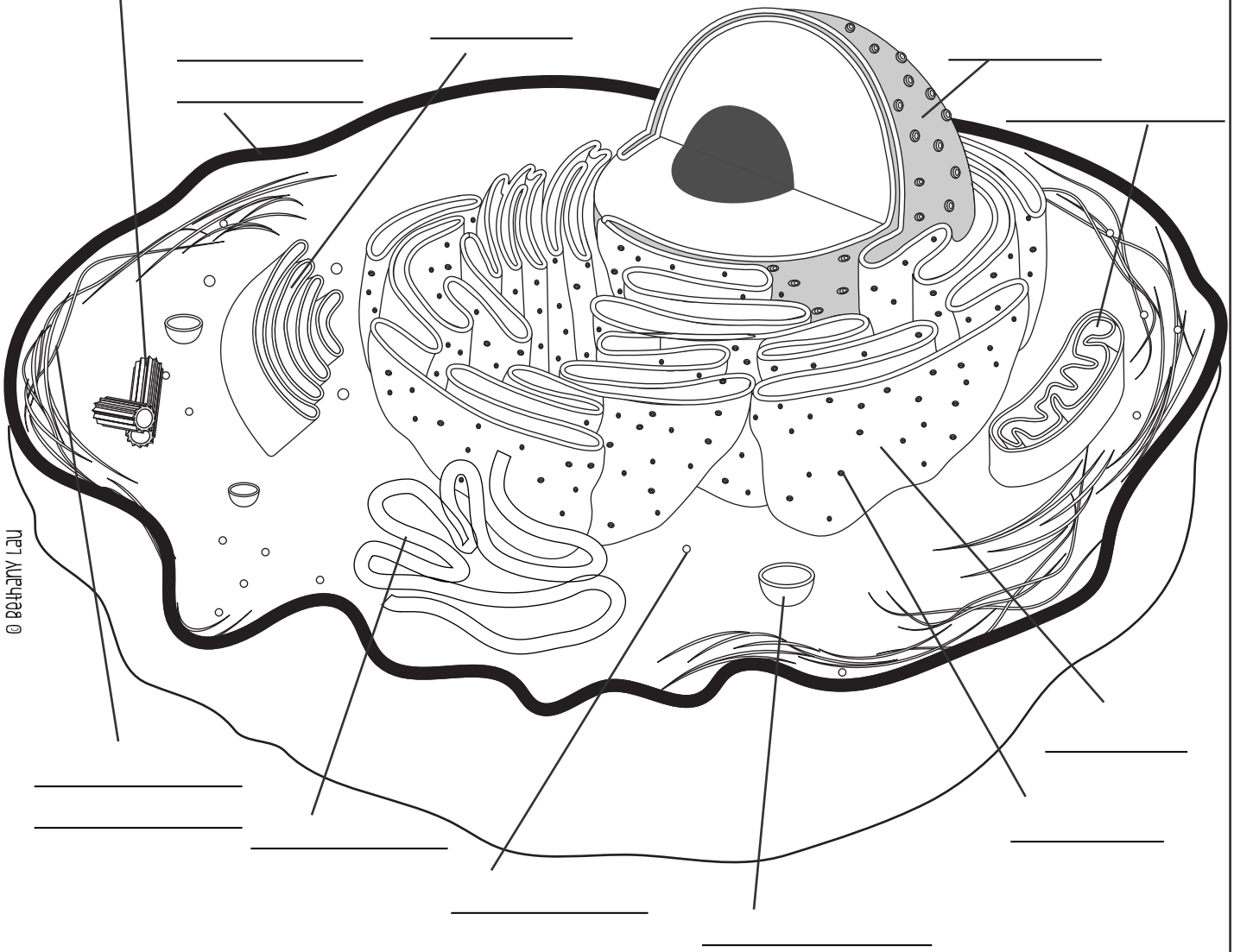
Animal Cell Specific:



* The _____ is an organelle/area of the animal cell that organizes microtubules. (_____ have microtubules but use other structures to organize them.)
* _____ are fiber-like structures that help move things around the cell.
* In the centrosome, there are two _____. These structures are important in some animal cells during _____. They help move the _____ to the new daughter cells.



Animal Cell

Plant Cell Specific:

* The large _____ in plant cells takes up a lot of space in the cell
* It stores _____ and helps the plant cell maintain the proper water pressure inside the cell under different conditions.

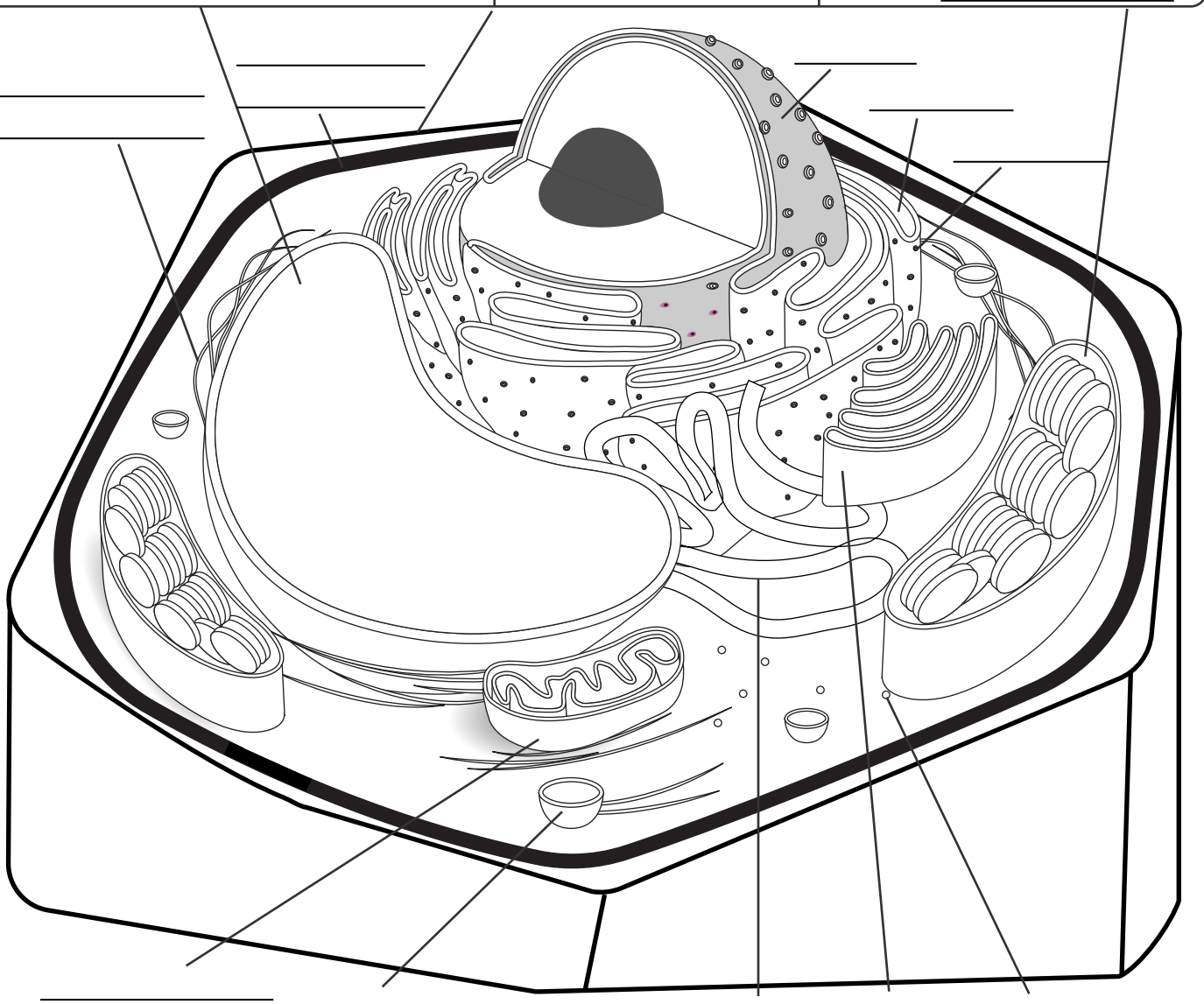
_____

* The cell wall is a more-rigid layer that plants have outside their _____.
* It is made of _____ and other molecules.

_____

* The chloroplast is an organelle that enables the plant cell to _____ _____.
* It performs _____: making sugar using water, carbon dioxide, and light energy.

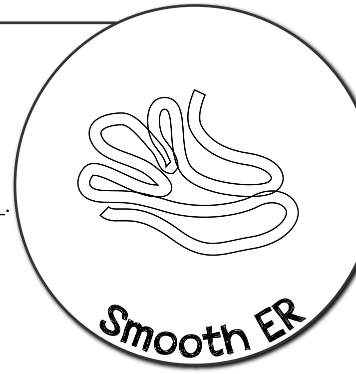
_____



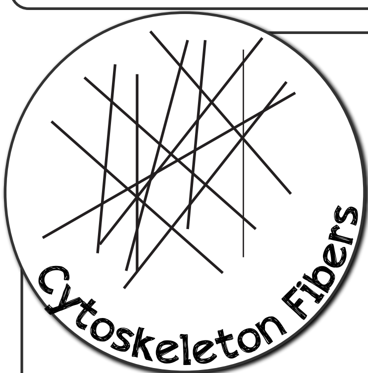
PLANT CELL

In Both Plants and Animals!

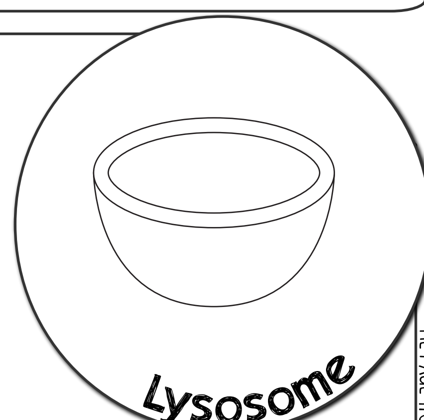
- Cell Membrane
- Nucleus
- Mitochondria
- Ribosome
- Rough Endoplasmic Reticulum
- Golgi
- Vesicles
- Smooth Endoplasmic Reticulum
- Cytoskeleton Fibers
- Lysosome



- The Smooth Endoplasmic Reticulum is responsible for producing and breaking down __________, including ________________.
- Note that it is different from the _______________ and does not ______________ on the outside of it.
- The smooth ER is also responsible for breaking down __________________.



- The cytoskeleton is a network of different ______________that are found all over the cell.
- There are three types of fibers: __________________________, ___________________________, and ___________________________________.
- ____________________, vesicles, and smaller objects inside the cell can move along these fibers.
- These fibers can affect the _____________ of the cell and they are involved in helping ______________ and ____________________ to function in moving the entire cell.



- The lysosome is like a large vesicle with a low pH inside and lots of _______________________ (enzymes that can cause hydrolysis to take place.
- _________________ carry material that needs to be broken down to a lysosome and fuse with the lysosome. The enzymes inside the lysosome break down the vesicle's material. This material can then be used by the cell in other places to make new larger ______________________.
- In a way, the lysosome is the ___________________ of the cell.

Other Organelles

Name: _____

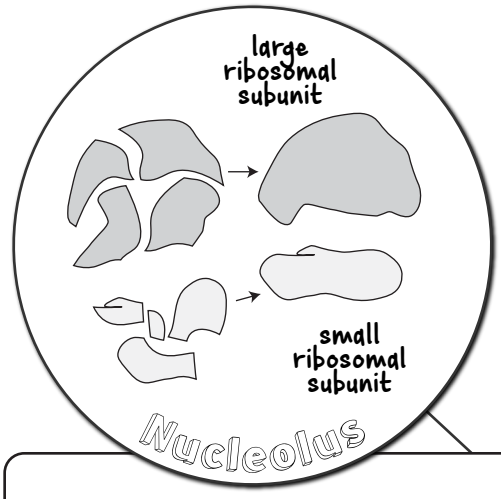
The Nucleus

Function:

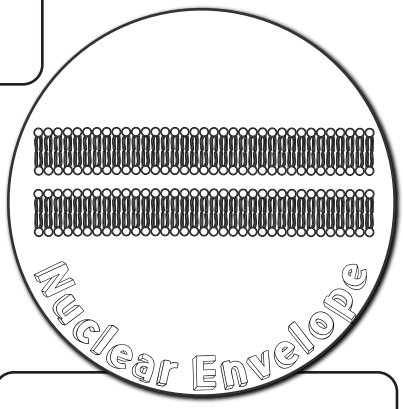
* The cell's high security library!
* Contains the _____ of the cell
* Contains the _____ the cell needs to build all the proteins the cell needs to keep the cell alive and growing

In All Eukaryotic Cells:

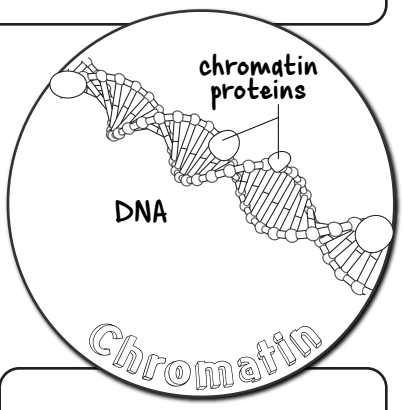
* In all _____
* Prokaryotes don't have a _____, but some have a _____ region where the DNA is found. Nucleoids do not have a membrane around the DNA to protect it.



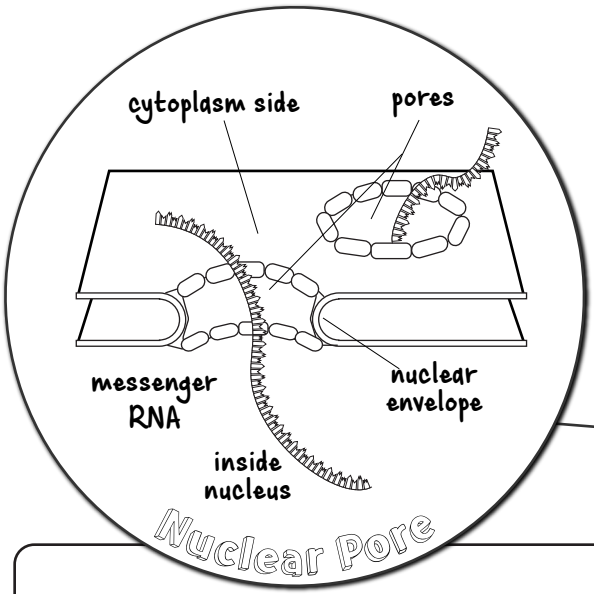
* The area where _____ are built.



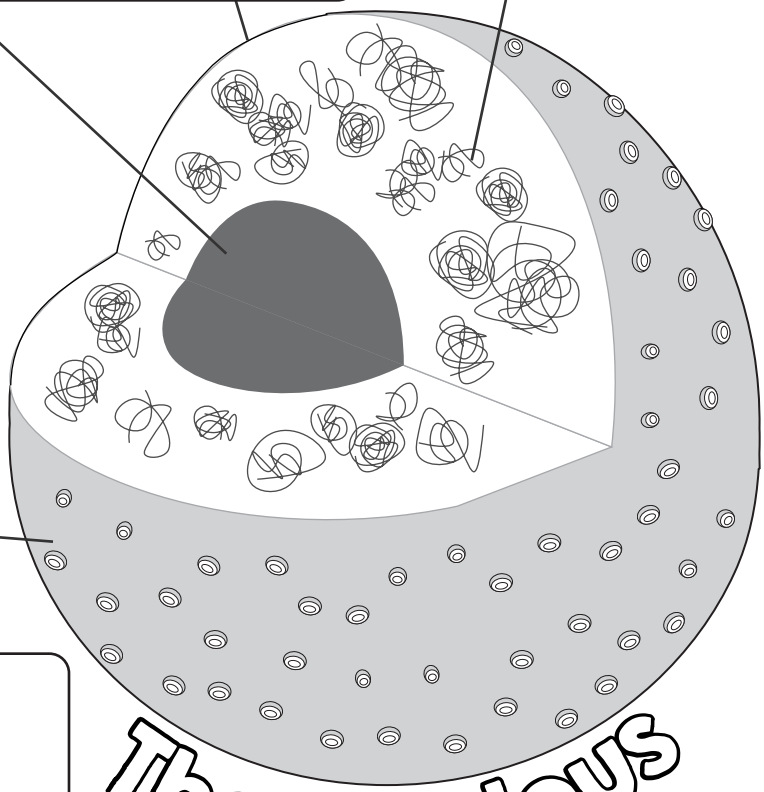
* The nuclear envelope is made up of a double layer of _____



*_____is folded and packed tightly around chromatin proteins to form the _____



* The nuclear pore is a hole in the envelope that _____ can leave to enter the _____



The Chloroplast

Name: _____

In Plant Cells

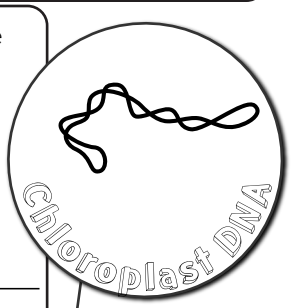
* Animal cells do not have _____ and do not undergo _____.
* Some algae have _____.

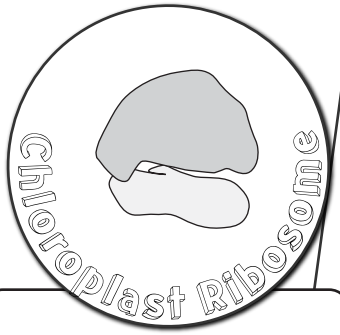
Function:

* Specialized organelle that helps plants take in the sun's _____ and build sugar molecules and produce ATP.
* This process is called _____.

$$6\,H_2O + 6\,CO_2 + \text{sunlight} \rightarrow C_6H_{12}O_6 + 6\,O_2$$

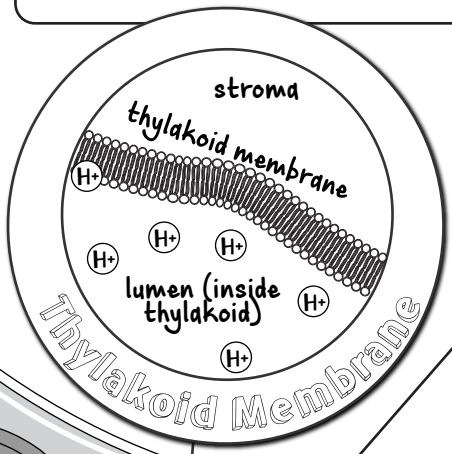
* Chloroplasts have circular _____ of DNA that have the code for building a few of the _____ chloroplasts need.



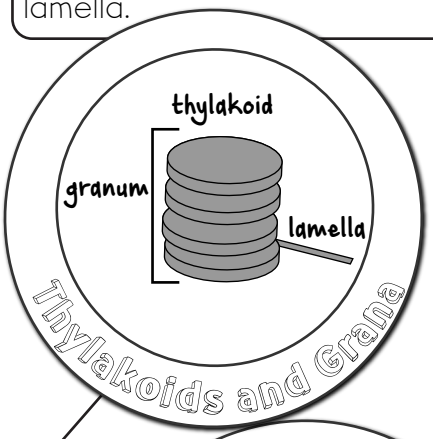


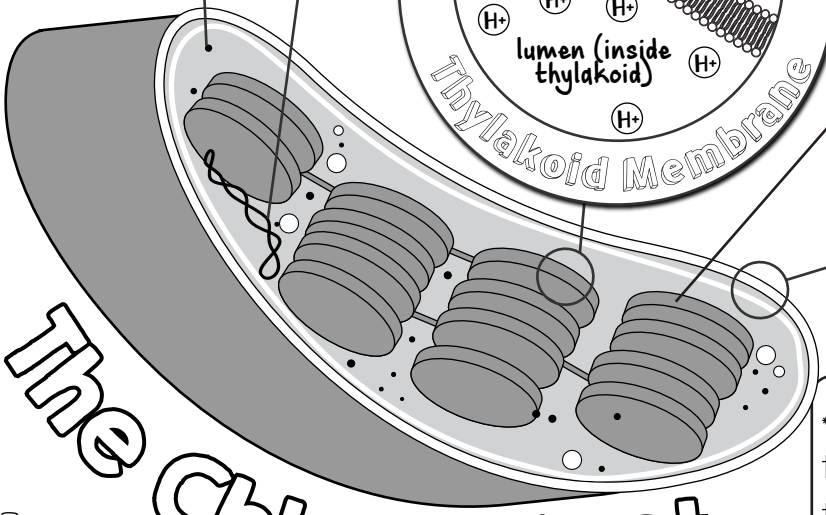
* Chloroplasts have their own _____ that help them build some of the _____ they need in

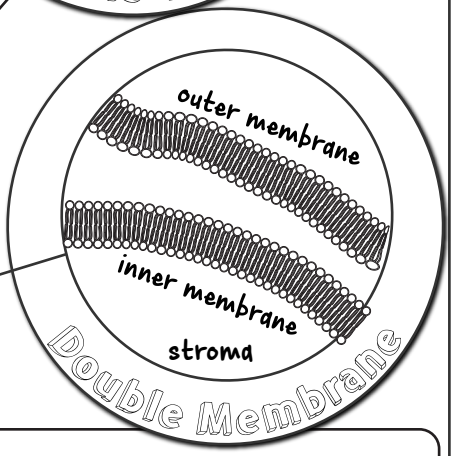
* On the thylakoid _____, enzymes and sunlight-energy collecting molecules cause _____ to build up inside the lumen of the thylakoid.
* These protons enable the chloroplast to build _____ and later _____ molecules.



* There are small membrane-enclosed pockets called _____.
* Stacks of thylakoids are called _____ and they are connected to each other with lamella.





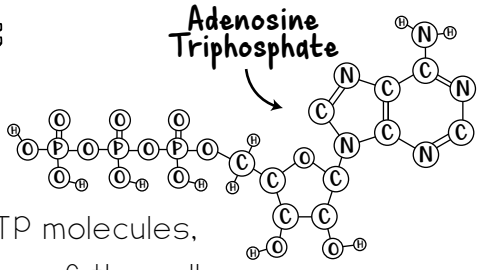


* Two membranes on the outside of the chloroplast are together called the chloroplast _____.
* They control what comes in and out.

Name: _____

Function:

Adenosine Triphosphate



* Break down sugar molecules and use their energy to build ATP molecules, the _____ of the cell.
* This process is called _____ _____.

The break down of sugar fuels the reaction to build approximately 36 _____ from ADP and P_i.

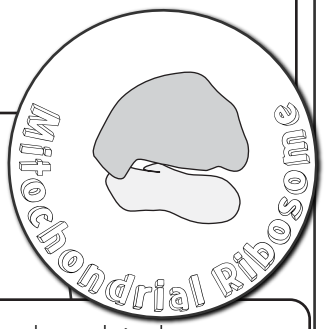
$$C_6H_{12}O_6 + 6\,O_2 \rightarrow 6\,H_2O + 6\,CO_2$$

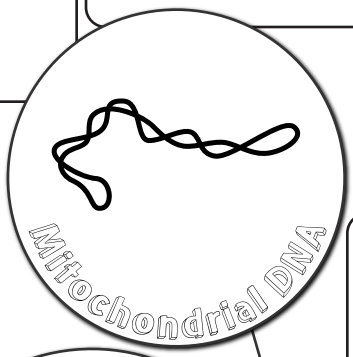
$$36\,ADP + 36\,P_i \rightarrow 36\,ATP$$

In Eukaryotic Cells

* In plant, animal, fungi, and protist cells
* _____ don't have mitochondria but they can perform some of the same reactions to help them make ATP next to their _____ _____.

Mitochondria have circular _____ of DNA that have the code for building a few of the _____ mitochondria need.

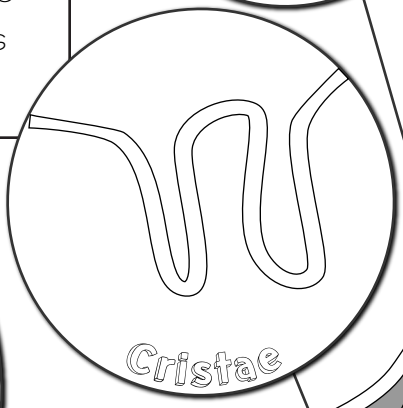


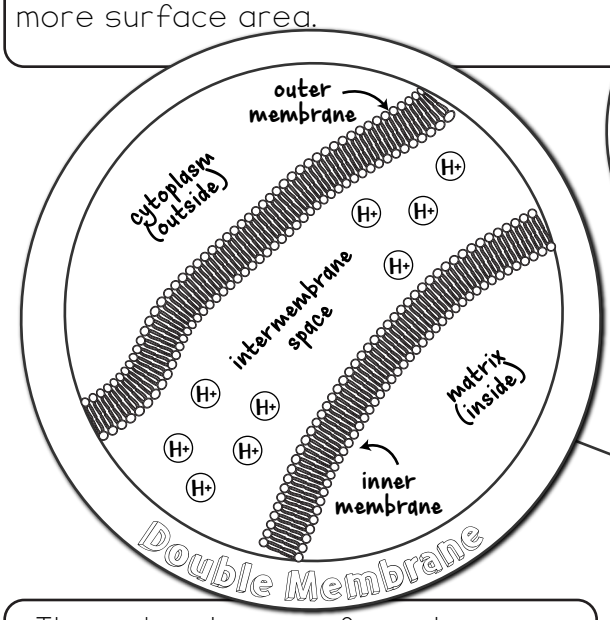


The inner membrane folds are called _____.

* The many folds have a lot of surface area.
* There is more room for the enzymes that produce _____ because there is more surface area.

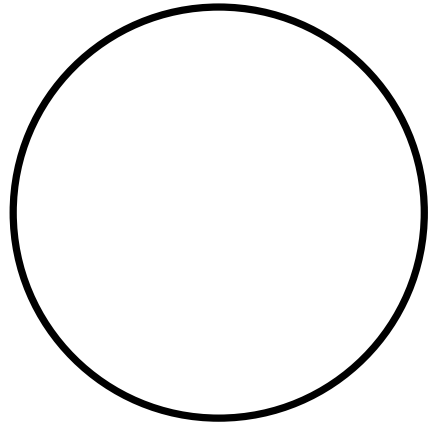
Mitochondria have their own _____ that help them produce a few _____ for use inside the mitochondria!





* These two layers of membranes separate the chemical reactions and enable the mitochondrion to create a build-up of electrons in the _____

The Mitochondrion



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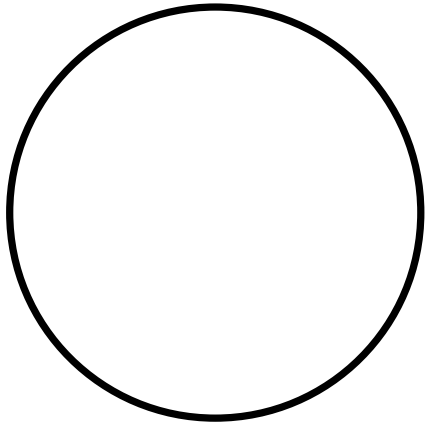

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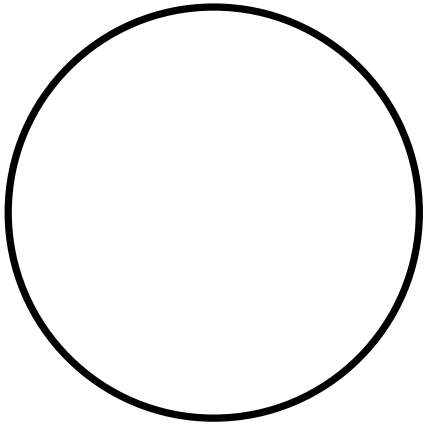

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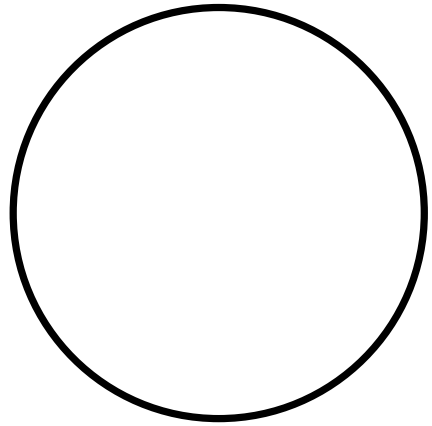

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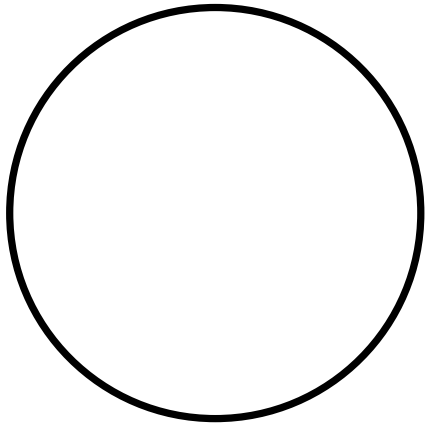

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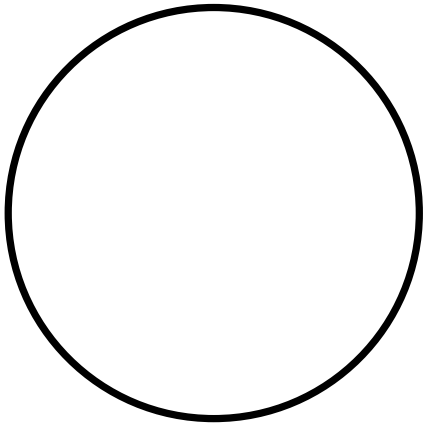

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