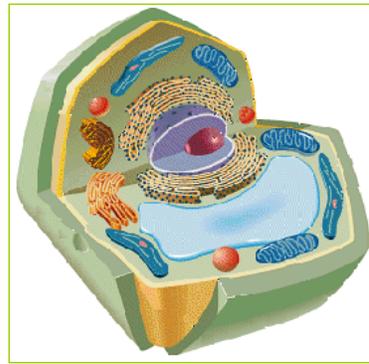


# The Basic Structure of a cell

- \_\_\_\_\_ are the \_\_\_\_\_ units of organisms
  - ❖ Cells can only be observed under microscope
- Two basic types of cells:



\_\_\_\_\_ Cell



\_\_\_\_\_ Cell

- \_\_\_\_\_ Cell

## ❖ Cell Wall:

- Made of \_\_\_\_\_ which forms very thin fibres
- \_\_\_\_\_ and rigid
- In plant cells only
- \_\_\_\_\_ and \_\_\_\_\_ the enclosed substances (\_\_\_\_\_)
- Resist entry of \_\_\_\_\_ water into the cell
- \_\_\_\_\_ to the cell
- A \_\_\_\_\_
- Large \_\_\_\_\_ spaces present between cellulose fibres
  - freely \_\_\_\_\_

## ❖ Cell membrane:

- \_\_\_\_\_ immediately \_\_\_\_\_
- Made of \_\_\_\_\_ and \_\_\_\_\_
  - Selectively \_\_\_\_\_
- A living layer
- Can \_\_\_\_\_ of materials into and out of the cell

## ❖ Cytoplasm:

- \_\_\_\_\_-like substance enclosed by \_\_\_\_\_
- Provide a medium for \_\_\_\_\_ to take place
- Contains \_\_\_\_\_ and granules :
- e.g. \_\_\_\_\_, mitochondrion

## ❖ Chloroplast:

- Contain the green pigment \_\_\_\_\_
  - To trap \_\_\_\_\_, to make food by photosynthesis



# Cell Organelle Research Worksheet

Fill in the charts below using your textbook pages.

Organelle	Nucleus			Drawing of The Organelle
Found in ....	Plant	Animal	Both	
What it does in the cell				
Something that performs the same function				

Organelle	Cell Membrane			Drawing of The Organelle
Found in ....	Plant	Animal	Both	
What it does in the cell				
Something that performs the same function				

Organelle	Cytoplasm			Drawing of The Organelle
Found in ....	Plant	Animal	Both	
What it does in the cell				
Something that performs the same function				

Organelle	Ribosome			Drawing of The Organelle
Found in ....	Plant	Animal	Both	
What it does in the cell				
Something that performs the same function				

Organelle	Mitochondria			Drawing of The Organelle
Found in ....	Plant	Animal	Both	
What it does in the cell				
Something that performs the same function				

Organelle	Vacuole	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

Organelle	Golgi body	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

Organelle	Smooth and Rough ER	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

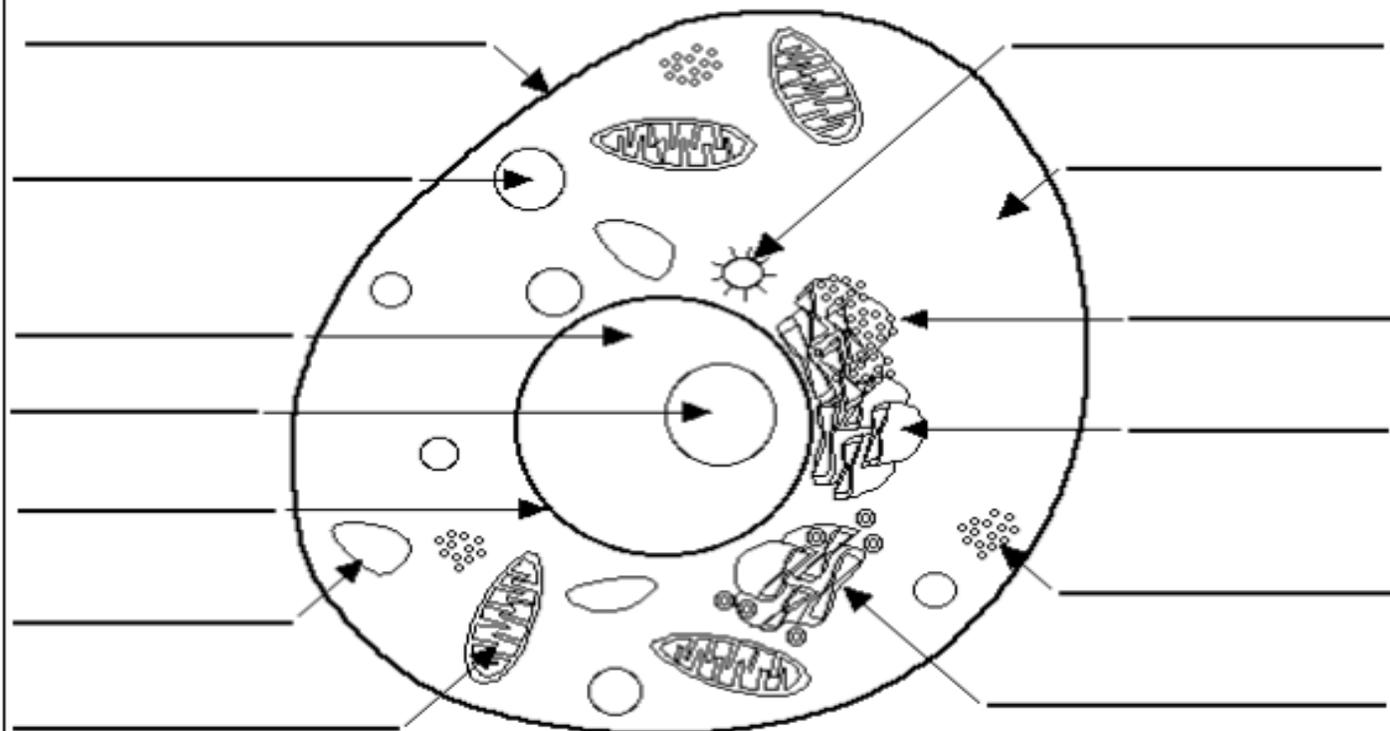
Organelle	Lysosome	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

Organelle	Cell Wall	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

Organelle	Chloroplasts	Drawing of The Organelle
Found in ....	Plant      Animal      Both	
What it does in the cell		
Example of something similar		

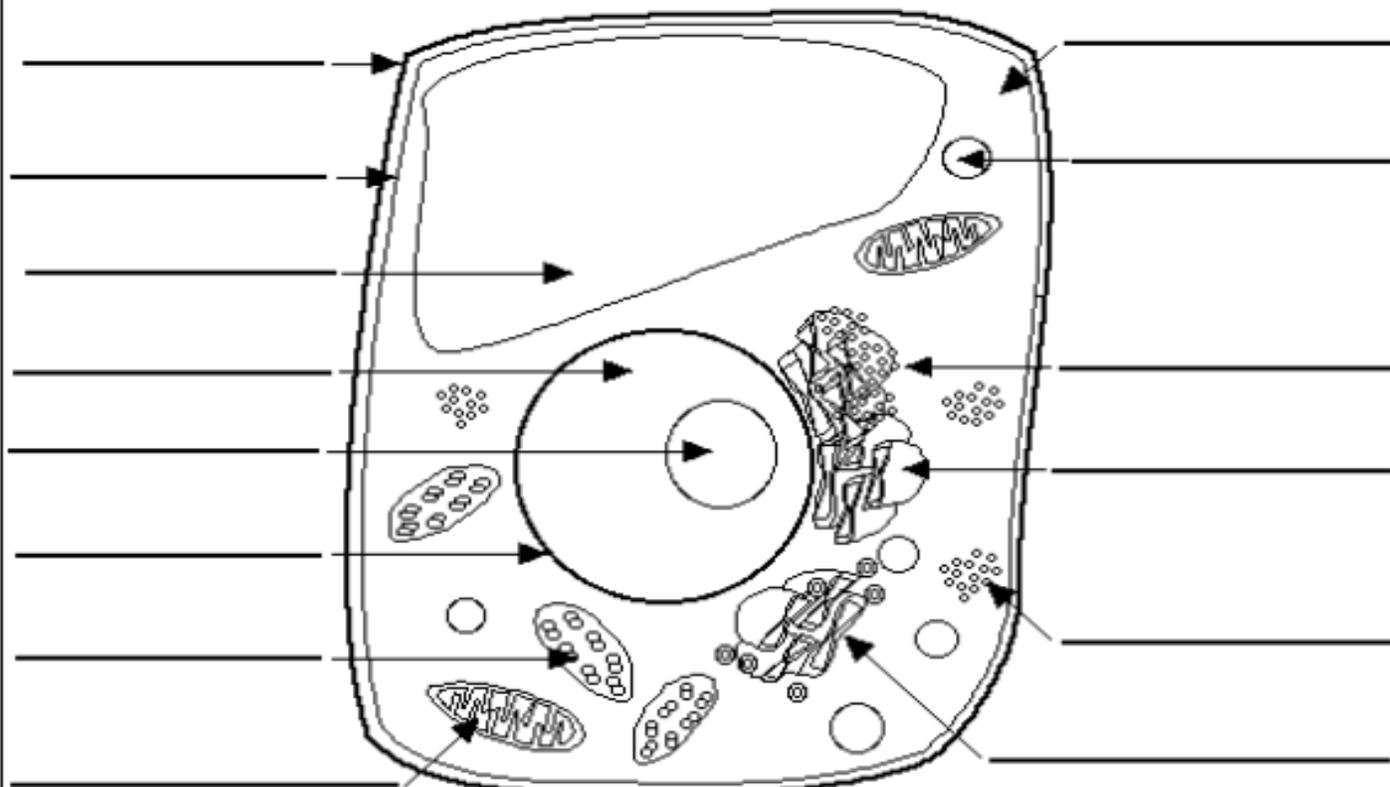
## Comparing Plant And Animal Cells

### Cross-Section of an Animal Cell



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### Cross-Section of a Plant Cell



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## The Incredible Edible Cell

You will be required to construct a model of a plant OR animal cell. All models must be made out of edible materials. Each model must include all of the following organelles:

- Cell wall (if plant cell)
- Cell membrane
- Nucleus
- Cytoplasm
- Endoplasmic Reticulum (rough)
- Golgi Bodies
- Ribosomes (free)
- Mitochondria
- Vacuoles (small for animal; large for plant)
- Lysosomes (if animal cell)
- Chloroplasts (if plant cell)
- Nucleolus

### Grading:

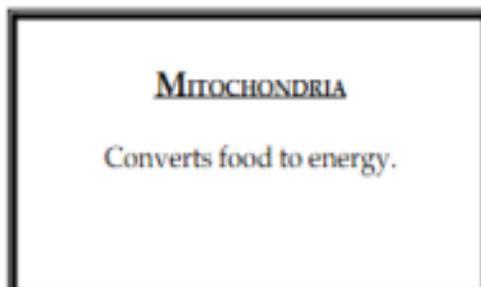
Grades will be based on the following questions:

- ❖ Is your name on the project?
- ❖ Is the cell type identified? Tell if it is a plant or animal cell.
- ❖ Is the model a 3-D representation of a plant or animal cell?
- ❖ Are all the organelles included? (11 for plants cells, 10 for animal cells)
- ❖ Are the organelles correctly labeled? Each organelle must be labeled with its name and function. You may label each organelle or use a key.
- ❖ Are the relationships between the parts (if any) shown correctly? Are the ribosomes on the endoplasmic reticulum? Is the endoplasmic reticulum near the nucleus? If a plant cell, are the chloroplasts around the vacuole?
- ❖ Are the materials acceptable?
- ❖ Is the model less than 30 centimeters on any side?

You may use the following materials, but they cannot count as part of the cell: container, plastic wrap, paper, or toothpicks. Keep in mind that these projects will be eaten after they have been graded!

**BONUS:** You could be awarded with a bonus (5 extra credit points) if your project is selected to be the **Most Accurate**, **Most Attractive**, or **Most Disgusting**. Students will vote to decide the winner in each category.

Sample label



### Resources for You

<http://www.cellsalive.com/>

[http://www.biology4kids.com/files/cell\\_main.html](http://www.biology4kids.com/files/cell_main.html)

**\*\*\*Will not be accepted late\*\*\***