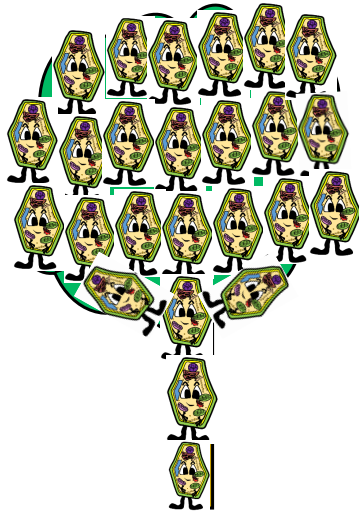

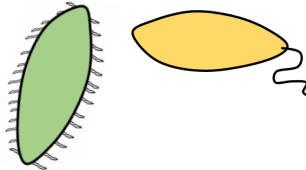
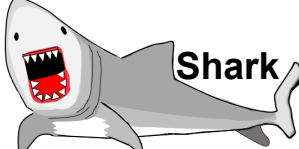






# All Living Things Are Made Up of Cells



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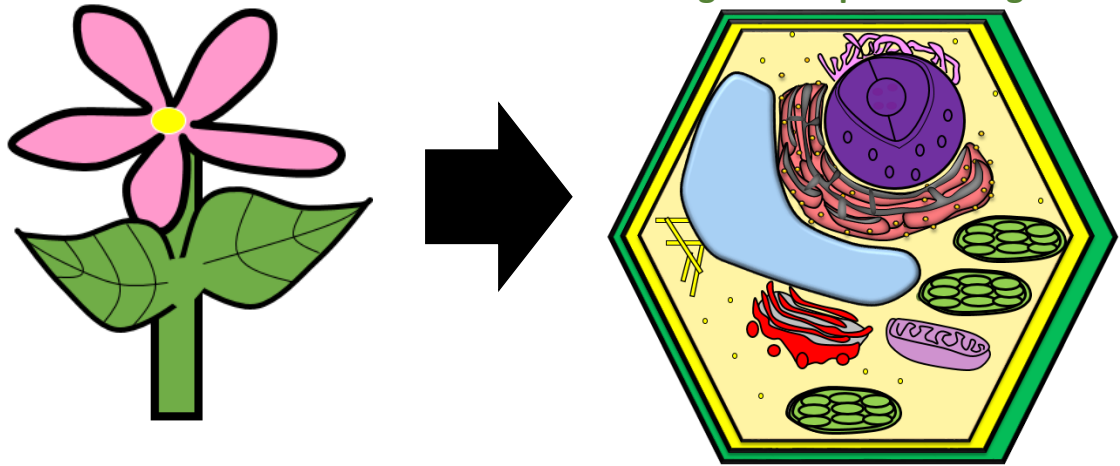
## Some Living Things Are Made Up of One Cell or Many Cells

Prokaryotic Organisms (Unicellular)	Eukaryotic Organisms (Multicellular)
<p>Consist of 1 cell</p> <p><b>Bacteria</b> </p> <p><b>Protozoa</b> </p>	<p>Consists of multiple cells</p> <p> <b>Shark</b></p> <p> <b>Plant</b></p> <p> <b>Frog</b></p> <p> <b>Human</b></p> <p> <b>Bird</b></p>

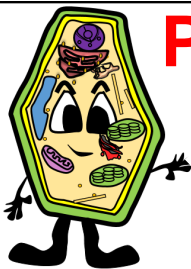
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# Plants are made up of plant cells

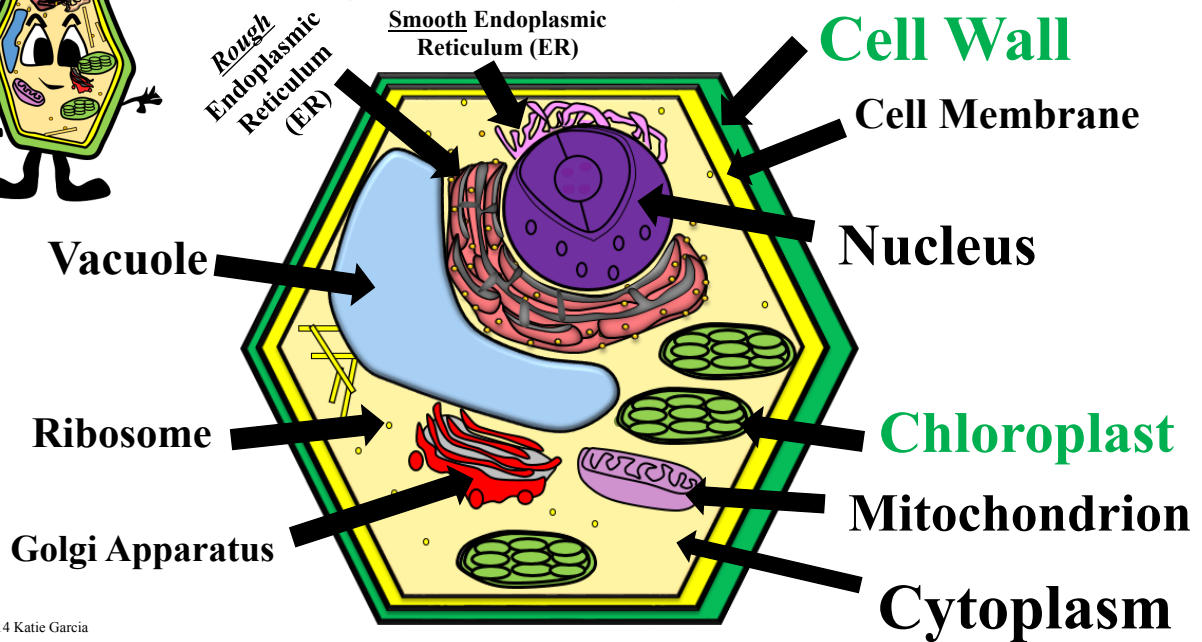
Plant cells have rectangular shapes and edges.



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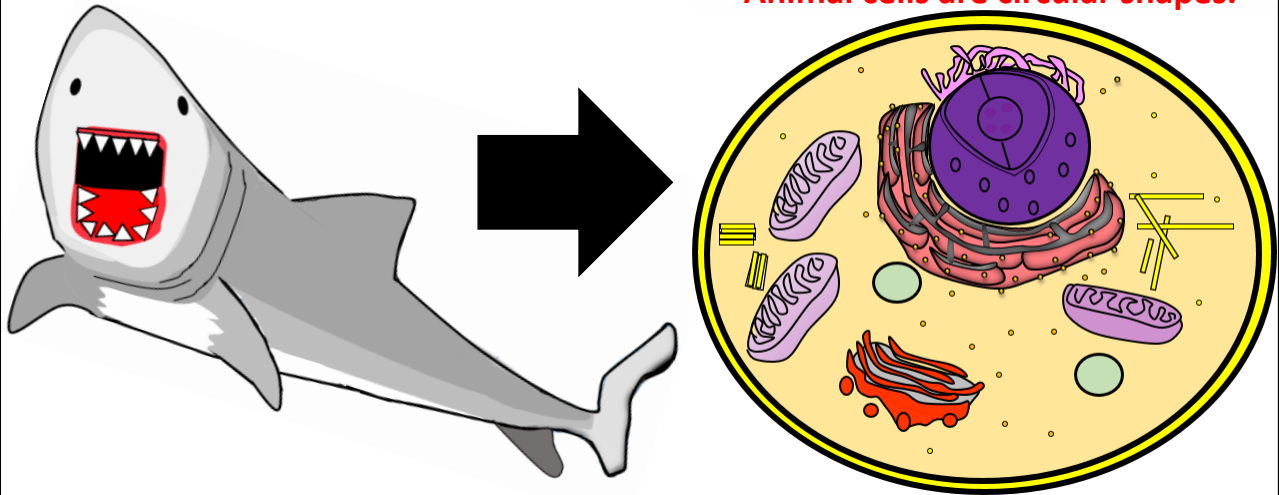
## Plant Cell - Parts



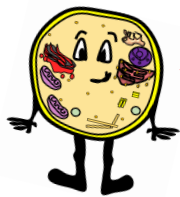
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# Animals are made up of animal cells

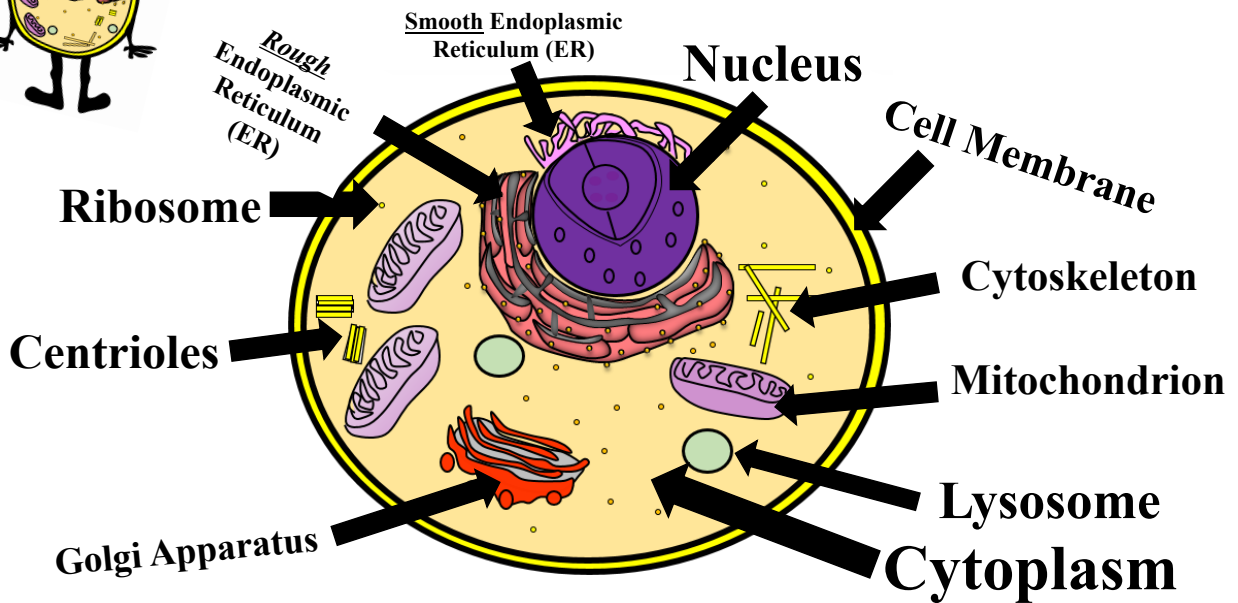
Animal cells are circular shapes.



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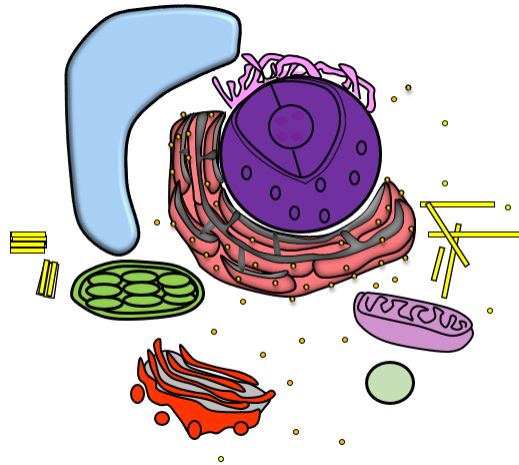


## Animal Cell - Parts



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# These Are All Called ORGANELLES



- **organelle** – specialized structure that performs important cellular functions within a eukaryotic cell “**little organs**”






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## What's Their Function?

- **Cell membrane**  
aka. **plasma membrane**  - thin, flexible barrier around a cell; controls what **enters & exits** the cell
- **Cell Wall**  
(plants)  - strong, supporting layer around the cell membrane in **plants, algae,** and some bacteria
- **Nucleus**  - contains the cell's **genetic material** (DNA) & controls the cell's activities (like the brain of the cell)
- **Cytoplasm**  - gel-like material inside the cell that **surrounds & protects** the cells' organelles
- **Chloroplast**  (mainly plants) - captures the energy from sunlight & uses it to **make its own food**  
✓ **photosynthesis** happens here
- **Centrioles**  (only animals) - structure that helps to **organize cell division**

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## What's Their Function?

- **Cytoskeleton**  - network of protein filaments within some cells that helps the cell **maintain its shape** & is involved in many forms of cell movement
- **Lysosome**  - filled with digestive enzymes that can **break down** certain materials & help get rid of **unwanted waste** in the cell (**like a garbage disposal**)
- **Mitochondrion**  - **powerhouse** of the cell that breaks down food to release energy through cellular respiration (**Mighty Mitochondria**)
- **Golgi Apparatus**  - helps make and **package** materials from the ER to be transported out of the **cell (like a post office)**
- **Ribosome**  - amino acids hook together to make **proteins** here

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## What's Their Function?

**Endoplasmic reticulum (ER)** - Path along where molecules, especially proteins, move from one part of the cell to another

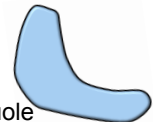
- **Smooth ER = No ribosomes** 

- **Rough endoplasmic reticulum (ER) - Has ribosomes**

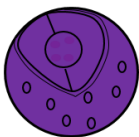


- **Vacuole** - stores materials such as water, salts, proteins, & carbohydrates

plants – LARGE vacuole  
animals – SMALL vacuole



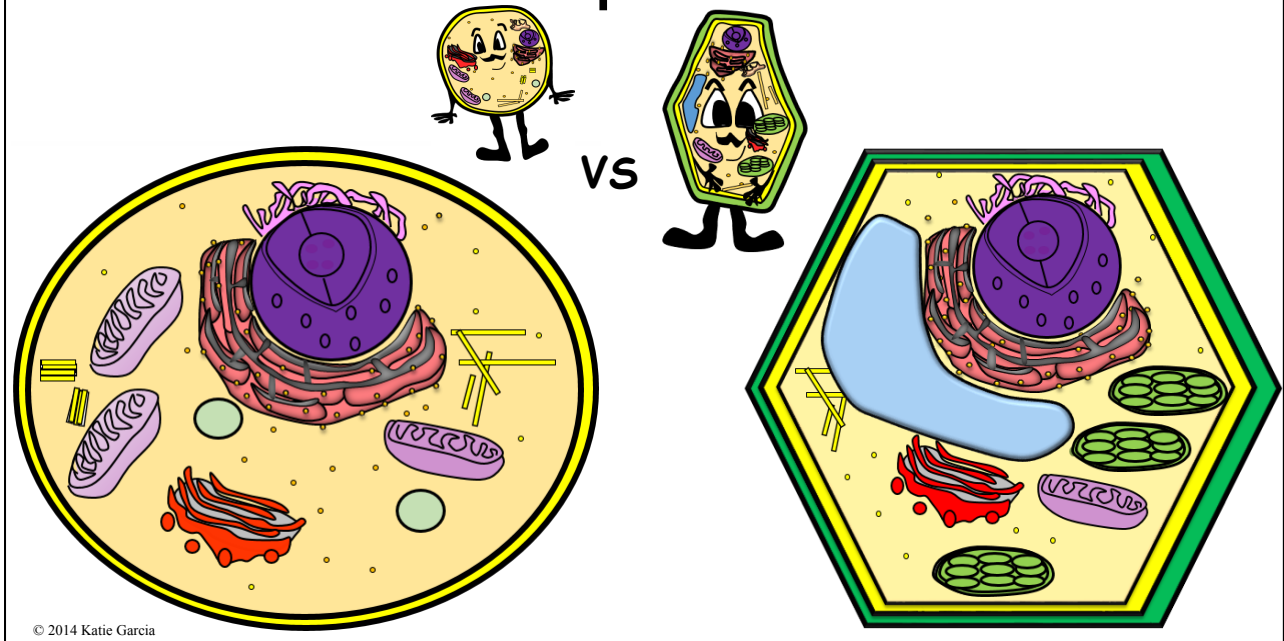
- **Nuclear membrane** – membrane that surrounds the nucleus **like an envelope** to protect genetic material. **\*Functions similar to the cell membrane**



**Nucleolus**– the very center of the **nucleus** that holds chromosomes and makes **ribosomes**

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# Comparison



# Animal vs Plant Cell

