

- The Cell
- The building blocks of life
- Cells are not the smallest structure that make up living organisms. They are merely the smallest functional units. Cells themselves contain smaller units called _____
 - Tiny cell structures that carry out specific functions within a cell.
 - Produce energy, build and transport materials, and store and recycle waste.

Slide 4

- To get inside.....
- You must first go through the _____
 - a rigid layer of non-living material that surrounds mostly plant cells
- Animal cells do not have cell walls.
- Made of _____
- Protects and supports a plant cell.
- It's what gives a tree its strength.
- Figure 1 on your plant cell diagram the thick part

Slide 5

- All cells have a _____. In plants it is next to the cell wall.
 - Separates the cell from its environment.
 - Controls what substances come into and out of a cell.
 - Figure 1 on your plant and animal cell diagram Thin layer on the plant cell diagram

Slide 6

- After you go through the cell membrane, you enter the _____.
 - A clear gel-like fluid that fills the cell and contains the organelles.
 - Constantly moving fluid

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- Floating around within the cytoplasm we have all kinds of good stuff:
- The _____
 - The packaging and shipping department for newly formed proteins in the cell.
 - A folded collection of sacks and tubes.
 - Figure 3 on your plant and animal cell diagram

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- _____ (E.R.)
 - Network of tubes or membranes
 - Carries materials through cell
 - Figure 2 on your plant and animal cell diagram

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- _____
 - Small bodies free or attached to E.R.
 - Produces proteins

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- _____
 - Bean-shaped with inner membranes.
 - Breaks down sugar molecules into energy.
 - Figure 6 on your plant and animal cell diagram

Slide 11

- _____
 - Small fluid-filled sacs
 - Store food, water, waste.
 - Figure 5 on your plant cell diagram

Slide 12

- _____
 - Small, round, with a membrane
 - Breaks down larger food molecules into smaller molecules.
 - Digests old cell parts.
 - Figure 5 on your animal cell diagram

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- _____
 - Plants only, not animal cells.
 - Green, oval usually containing chlorophyll (green pigment).
 - Uses energy from sun to make food for the plant (photosynthesis)
 - Figure 7 on your plant cell diagram

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- Finally.. The brains of the operation.
- The _____
 - The brain of the cell, directing all the cells activities.
 - Surrounded by the Nuclear Membrane
 - Protection and regulation of material transport.
 - Figure 4 on your plant and animal cell diagram

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- And in that cell brain.....
- The _____
 - Genetic material which chemically directs all of the cell's activities.
 - Made of DNA and affiliated proteins
 - Fine twisted stuff within Figure 4 on your plant and animal cell diagram

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- And in that cell brain.....
- _____
 - Instructions in DNA are copied here
 - Works with ribosomes in the synthesis of protein
 - Dark area within Figure 4 on your plant and animal cell diagram

Slide 18

- Bacteria
- This little guys are about 10x smaller than the average animal cell.
- They have cell walls and cell membranes...
- They do not have a _____

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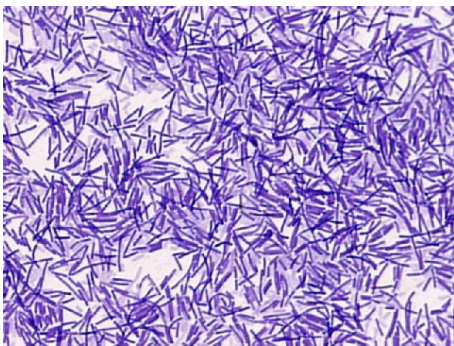
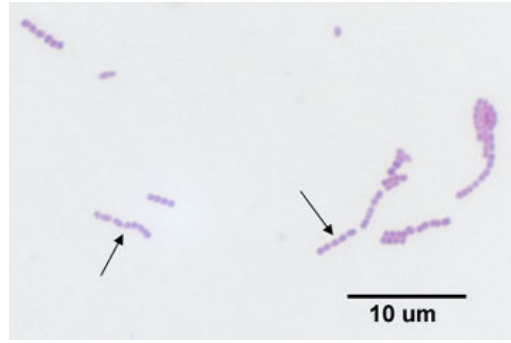
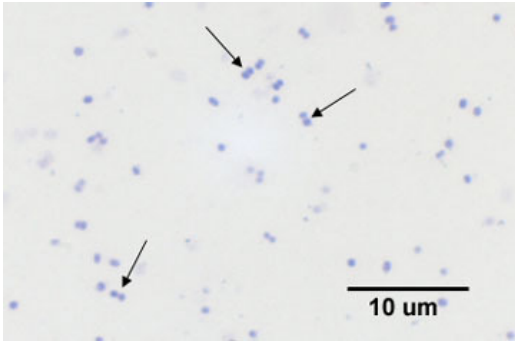
- Important definition here!
- Organisms whose cells contain a nucleus are called _____
- Organisms whose cells DO NOT contain a nucleus are called _____
- Bacteria are prokaryotes.

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- Important exception!
- Red blood cells in mammals (like you and me) DO NOT contain a nucleus or even DNA.

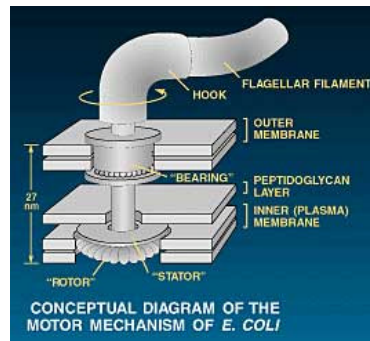
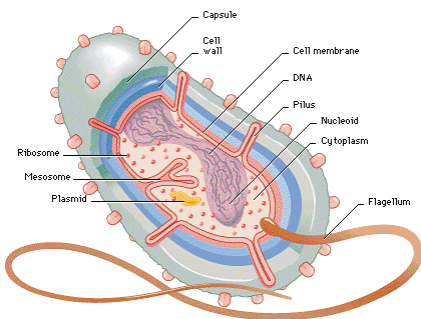
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- Bacteria
- Come in three basic shapes.
- Sphere : _____
- Rod : _____
- _____



Slide 21

- We are not going to get back into cell structure, however, it is at least worth looking at bacteria mobility.
- - long whip like structure
 - spins like a propeller
 - Rotary joint

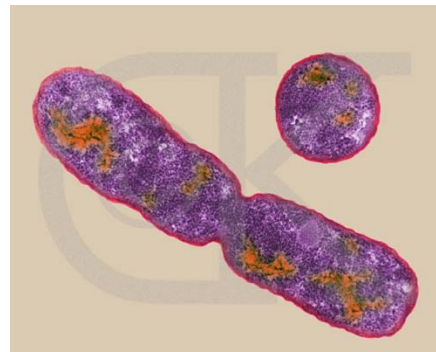
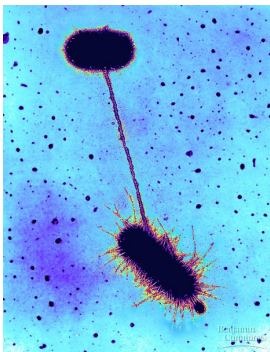


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- Bacteria exist in two Kingdoms.
- _____
 - Live in extreme environments
 - Acids, intestines, sewage, 110 degree water etc
 - Produce foul odors
- _____
 - Live everywhere else
 - Many are beneficial

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- Bacteria Reproduction
- _____ reproduction
 - Reproduction with only one parent
 - binary fission
 - one cell divides to form two identical cells
- _____ l Reproduction
 - Two parents combine genetic material
 - Conjugation
 - Transfer genetic material through a thin bridge



Slide 35

- Virus
- _____
 - Do not use energy to grow
 - Do not respond to their surroundings
 - Sub-microscopic
 - Unable to grow or reproduce outside a host cell.
 - A host is an organism that harbors a virus or parasite.

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- Each viral particle, or _____, consists of just two parts
 - Genetic material, DNA or RNA.
- A protective protein coat called a _____.

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- Viruses multiply by entering a host cell and taking over cell function with its own genetic material.
- The infected host cells then produce more protein and genetic material to assemble new virion.

