Label each cell as a plant cell, an animal cell or a bacterial cell.

Label the following (if present) on the diagrams:

Cell junctions

Cell wall

Chloroplast

Cytoskeleton

Flagella and Cilia

Golgi Body

Lysosome

Mitochondria

Nucleolus

Nucleus

Plasma membrane

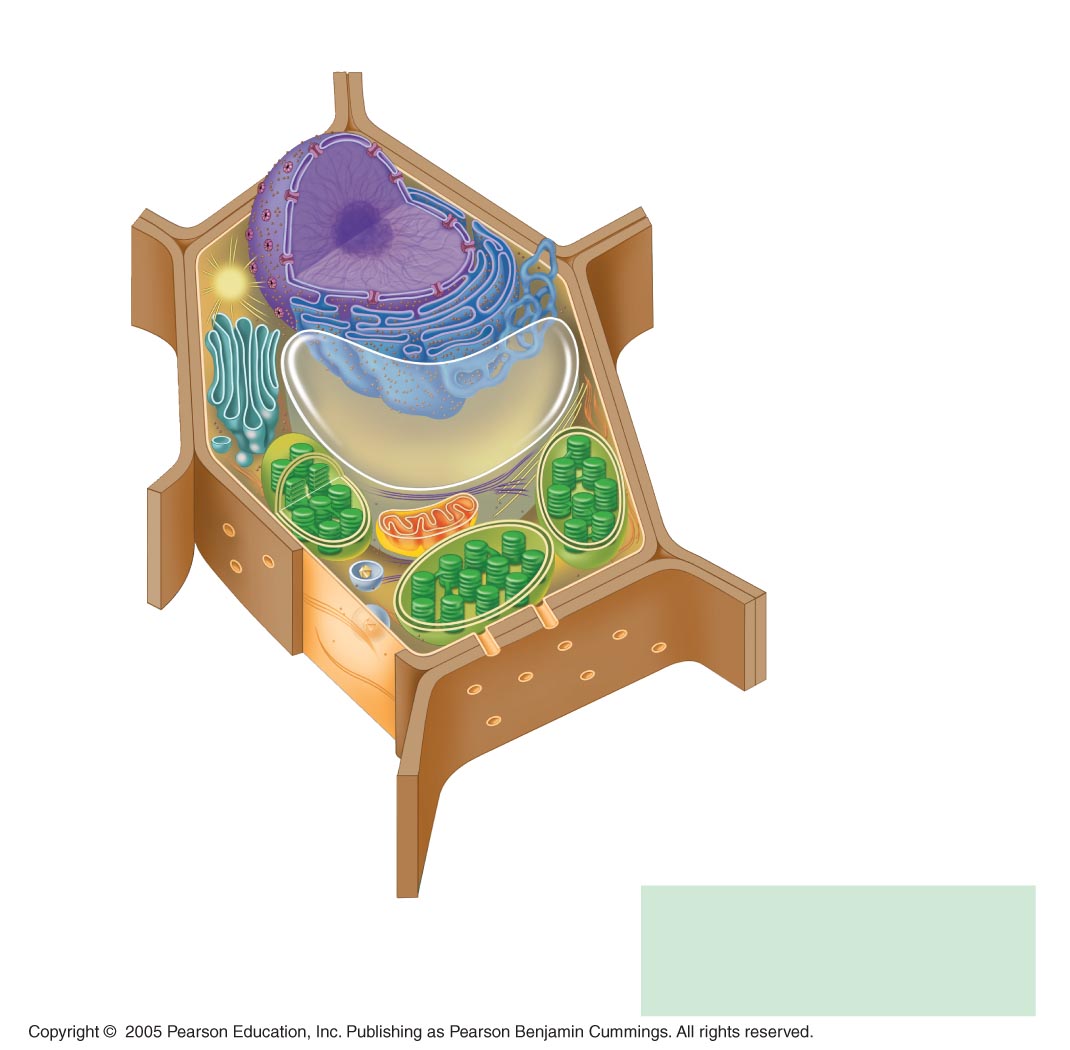
Pilli

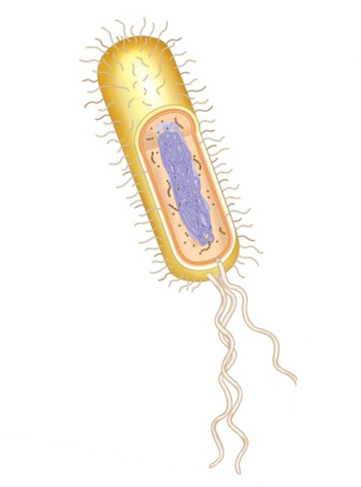
Ribosome

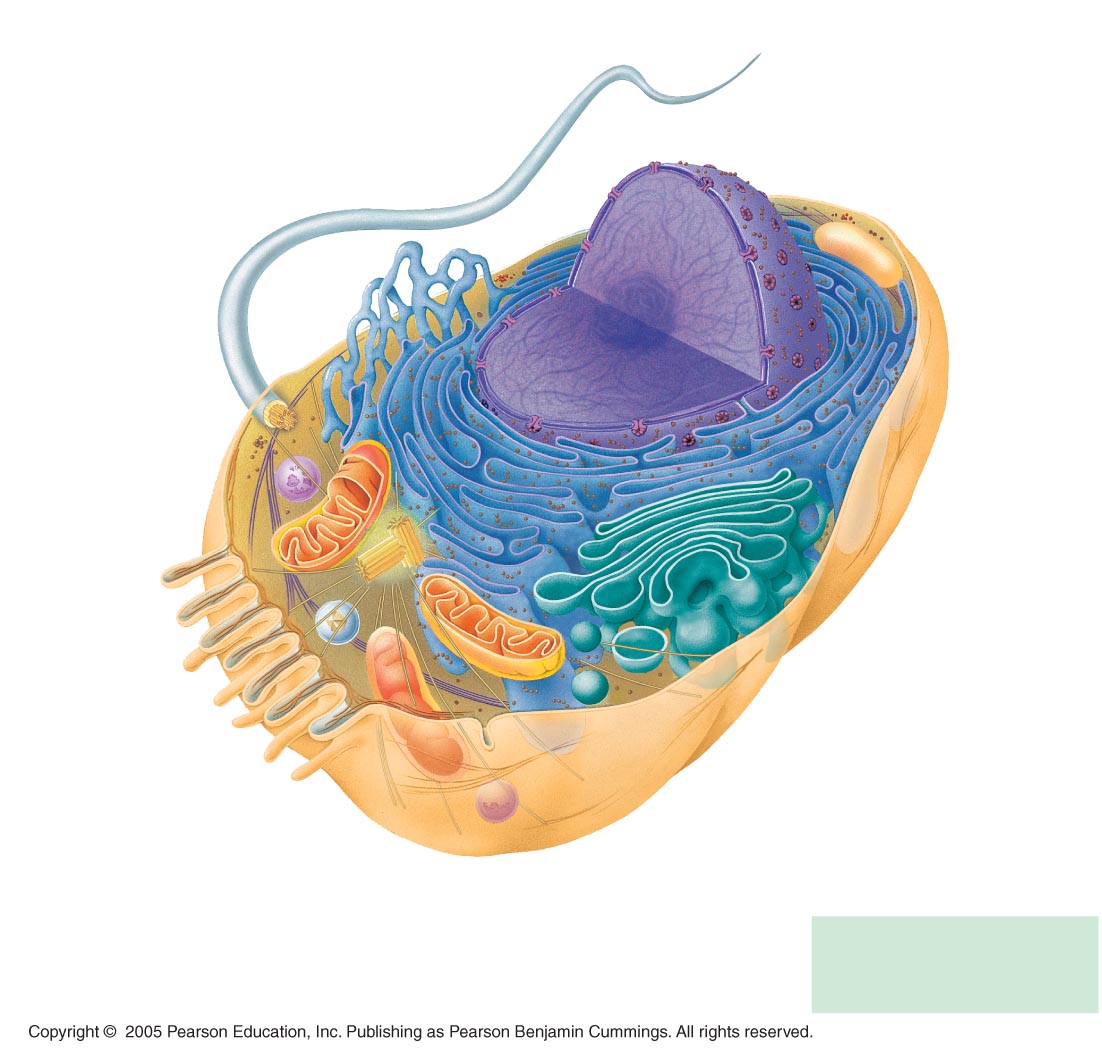
Rough endoplasmic reticulum

Smooth endoplasmic reticulum

Vacuole







Cellular Organelles & Sub-Cellular Components: Structures and Functions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cell Component  (drawing or picture) | | Details | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope? |
| Plasma membrane | | Location:  Function: |  |  |
| Cell wall | | Location:  Function: |  |  |
| Ribosome | | Location:  Function: |  |  |
| Cell Component  (drawing or picture) | Details | | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope |
| Mitochondria | Location:  Function: | |  |  |
| Chloroplast | Location:  Function: | |  |  |
| Rough Endoplasmic Reticulum | Location:  Function: | |  |  |
| Cell Component  (drawing) | Details | | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope |
| Smooth Endoplasmic Reticulum | Location:  Function: | |  |  |
| Lysosome | Location:  Function: | |  |  |
| Vacuole | Location:  Function: | |  |  |
| Cell Component  (drawing or picture) | Details | | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope |
| Nucleus | Location:  Function: | |  |  |
| Nucleolus | Location:  Function: | |  |  |
| Centrioles | Location:  Function: | |  |  |
| Cell Component  (drawing) | Details | | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope |
| Golgi Body | Location:  Function: | |  |  |
| Cilia  Flagella | Location:  Function:  Location:  Function: | |  |  |
| Peroxisomes | Location:  Function: | |  |  |
| Cell Component  (drawing) | Details | | Present In??  Prokaryotes  Plants  Animals | Visible under light microscope |
| Cytoskeleton | Location:  Function:  Structure:  Microtubules  Microfilaments  Intermediate Filaments | |  |  |
| Cell Junctions  Tight junction  Gap junction  Desmosome  Plasmodesmata | Location:  Function: | |  |  |

Credited to **Ms Foglia CELL ORGANELLES** and modified by DAllen

Explain how the following organelles work together to perform the life functions of the cell

1. Nucleus and ribosomes

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2. Endoplasmic reticulum and Golgi bodies

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3. Endoplasmic reticulum and ribosomes

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4. Golgi bodies and lysosomes

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5. Nucleus and endoplasmic reticulum

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6. Endoplasmic reticulum and Golgi bodies and vesicles

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7. Endoplasmic reticulum and cell membrane

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8. Compare and contrast the following types of microscopes: Compound light microscope, SEM, and TEM.

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9. Describe the relationship of surface area to volume. What is the importance of the surface area to volume ratio for cells?

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10. Describe the major differences between animal and plant cells.

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Objectives:

Big Idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis. EU 2B: LO 2.10-2.14

Helpful Websites:

Cells Alive (cellsalive.com)

The Biology Project ([www.biology.arizona.edu](http://www.biology.arizona.edu)) Cell Biology section lots of information here