

Biology
Cell Organelle
Webquest

Name _____ Period _____ Date _____

This webquest has **TWO** parts to it. You need to go to www.rodensclassroom.com and click on the "BIOLOGY" link. Once there click on the Unit 3-Cell Organelles & Function. This will take you to our unit homepage. You can find the **CELL ORGANELLE WEBQUEST** on the left side of the page. Click on that link to get started...

Task 1: In this section you will make **CELL ORGANELLE TRADING CARDS**. Please read the instructions for Task 1 on the webpage.

Task 2: In this section you will use various websites to find information and answer questions. Use our website to find the links to the various websites that you will need.

WEBSITE #1:

<http://askabiologist.asu.edu/research/buildingblocks/cellparts.html>

1.) How many different kinds of cells are in your body? _____

2.) What parts of our bodies are made of dead cells?

3.) Match the following organelles to their functions...

_____ Plasma Membrane
_____ Nucleolus
_____ Nucleus
_____ Endoplasmic Reticulum
_____ Rough ER
_____ Smooth ER
_____ Ribosomes
_____ Golgi Complex
_____ Mitochondria
_____ Chloroplast
_____ Vesicles
_____ Vacuole
_____ Cytoplasm
_____ Cell Wall
_____ Peroxisomes
_____ Centrioles
_____ Lysosomes
_____ Cytoskeleton

1. Control the movement of food and water in and out of cell.
2. Helps shape and support the cell.
3. Provide protection and support for plants.
4. Help organize chromosomes.
5. Where protein is synthesized.
6. Control center of cell.
7. Where photosynthesis takes place.
8. Have messenger RNA that helps make proteins.
9. Where lipids are synthesized.
10. Sorting and shipping of proteins.
11. Network of pathways (membranes) around cell.
12. Makes ribosomes.
13. Cell's powerhouse.
14. Store and transport cell products.
15. Contains all other organelles and a lot of water.
16. Collect and safely break down toxic chemicals.
17. Help break down large molecules into smaller ones.
18. Stores large amounts of water and other nutrients.

WEBSITE #2:

http://www.wiley.com/legacy/college/boyer/0470003790/animations/cell_structure/cell_structure.htm

*****Click on "Animal Cell" Read the text and follow the directions.**

(Move your cursor around and click on each organelle and read about what it does)

1.) Pick any three of the organelles: Name and define their function.

a)

b)

c)

*****Click "continue" and answer the "Pop-up Questions."**

(you may have to use the REVIEW button on the lower left to find the answers)

Answer to Pop Up Question #1-

Answer to Pop Up Question #2-

Answer to Pop Up Question #3-

Answer to Pop Up Question #4-

Answer to Pop Up Question #5-

Answer to Pop Up Question #6-

Answer to Pop Up Question #7-

*****When you are finished, click on "Plant cell" and read the text.**

1.) Pick any three of the organelles: Name and define their function.

a)

b)

c)

*****Click "continue" and answer the "Pop-up Questions."**

(you may have to use the REVIEW button on the lower left to find the answers)

Answer to Pop Up Question #1- _____

Answer to Pop Up Question #2- _____

Answer to Pop Up Question #3- _____

Answer to Pop Up Question #4- _____

Answer to Pop Up Question #5- _____

Answer to Pop Up Question #6- _____

Answer to Pop Up Question #7- _____

WEBSITE #3:

http://www.cellsalive.com/cells/cell_model.htm

*****Click on the "Plant Cell" first.**

*****Move your cursor around the plant cell.**

*****Click on the organelles to look/read about them.**

*****Use the "RETURN TO CELL DIAGRAM" TO GO BACK TO THE CELL**

1.) Click on the GOLGI COMPLEX.

a.) This organelle is sometimes called the _____ instead of "complex".

b.) What type of molecules does it package?

2.) Click on the CHLOROPLAST.

a.) What type of cells are these found in?

animal

plant

both

b.) What color does this organelle give a plant?

c.) How many membranes do chloroplasts have?

3.) Click on the CELL WALL.

a.) What polysaccharide makes up this organelle?

b.) What pressure makes plants crisp?

4.) Click on the VACUOLE

a.) In which organism are these the biggest?

animal

plant

b.) What happens to the plant if this organelle is NOT full of water?

5.) Click on CYTOSOL

a.) Explain the difference between Cytosol and Cytoplasm.

*****Now, click on the "Animal Cell." Click on the different parts and read about them.**

1.) Why is the rough endoplasmic reticulum so "rough?"

2.) Think about your house, condo or apartment. What part of your home would be like the mitochondria of the cell? Why?

*****Go to the left column of the page and click on "Cell Biology"**
*****Click on "How big?..." and click on "Start the Animation"**

10) How big is a blood cell? How does its size compare to Dust Mites, and then to the E. coli bacteria?

WEBSITE #4:

http://www.wiley.com/legacy/college/boyer/0470003790/animations/cell_structure/cell_structure.htm

*****Click on "Construct a cell" First, construct an animal cell.**

1.) First construct the ANIMAL CELL. Name the five parts that do NOT BELONG in the animal cell (as you figured out during construction)

2.) Now construct the plant cell next. Name the four parts that do NOT BELONG in the plant cell.

WEBSITE #5:

http://www.umdj.org/site/c.otJVJ7MMIqE/b.5692879/k.3851/What_is_Mitochondrial_Disease.htm

- 1.) This disease is caused by the failure of what organelle?
- 2.) What percentage of total energy does the mitochondria supply to the cell?
- 3.) What happens to the cell if the mitochondria does not supply this energy? (two things)
- 4.) Where in the body are the cells the most affected by this disease? (7 places)
- 5.) List FIVE possible symptoms of this disease.
- 6.) Mitochondrial diseases are the result of _____ in the mtDNA.

WEBSITE #6:

http://www.pompe.com/patient/learning/pc_eng_pt_lsds.asp

- 1.) What organelle does "Pompe Disease" affect in the cell?
- 2.) This disease is the result of a _____ defect.
- 3.) Name three LSD diseases.