

Chapter 1

Lesson 1

1. Compare What is a difference between light microscopes and electron microscopes?
.Light microscopes can only enlarge images up to about 1,500 times their actual size. However, in the 1930s, the electron microscope was invented. [An Electron](#)~~Anelectron~~ microscope can enlarge images 100,000 times or more. With electron microscopes, scientists can see most of the structures inside a cell.(p2)page1

2. Identify What was learned about cells in the 1830s?
In the 1830s, [a German scientist](#) observed that all plant parts are made of cells.Around the same time, another German scientist observed the same thing about animals.(p1) page 2

3. Apply Name two ways you respond to your environment.
your heart rate speeds up or slows down as needed to deliver the right amount of oxygen to each cell.Your body can also respond to an invasion by a virus or bacterium. (p4) page 2

4. Explain the differences between a caterpillar and a butterfly or a puppy and a dog
All organisms grow and develop. When an organism grows, it increases in size. Organisms made of many cells usually grow by adding cells. Organisms that are only one cell grow when that cell increases in size.(p1) page 3

5. List three ways that human bodies maintain a healthy body temperature.
human bodies sweat, shiver, or change the [flow](#)~~flew~~ of blood to try to maintain a body temperature of about 37°C.(p3) page 3

6. Explain How do humans get energy?
Our cells get energy from the food that we eat. The energy in food began in the light energy that comes to Earth from the Sun. The Sun is the origin of the energy used by most organisms on Earth.(p1)page4

7. Highlight the type of water that insulates your body.
[The water that surrounds cells is important too. It insulates your body, which helps maintain homeostasis.](#)(p3) page 4

8. the type of lipids that stores energy.
Fats are the type of lipids that stores large amounts of chemical energy(page5) chart

Commented [1]: Who is the German scientist? When you come across a general statement, be sure to research the information or contact me for support. You may need this knowledge for the test.

Here are some helpful sources to read:

<https://www.lcps.org/cms/lib4/VA01000195/Centricity/Domain/142/Cells.pdf>

<https://josephminato.com/cells/celltheoryscientists.pdf>

https://d1yqpar94jqbqm.cloudfront.net/documents/Explain%20Cell%20Theory_0.pdf

Commented [2]: Revisit the text. You did not answer the question i.e. type of water...

Lesson 2

1. Describe two ways that a cell wall is different from a cell membrane.
 - 1.The cell wall is a rigid substance that surrounds the cell outside of its cell membrane.
 - 2.Substances can pass freely through a cell wall, unlike a cell membrane.(p3) page 6

3. Decide Which cell structure is made up mostly of a fluid?

- a. cytoplasm
- b. cytoskeleton

4. Name two organelle that are found only in a plant cell.(page8) the chart

- 1.Central vacuole.
- 2.Chloroplast.

5. Summarize the importance of the nucleus to the cell.

The nucleus is a large organelle found in many cells. It is surrounded by a membrane. Substances can pass into and out of nucleus through small holes, or pores.The nucleolus makes structures that make proteins.(p1) page 9

6. Identify Circle the cell functions that have to do with movement.

- Cell membrane.
Flagellum and cilium.
Cytoskeleton.(page 10) the chart

Picture This

7. Identify the features that are the same in both types of cells.

Cell membrane
Ribosomes(page11) the chart

Commented [3]: Provide textual evidence and citation to support your responses.

Commented [4]: This information is highly important to remember about the nucleus:

The nucleus (plural nuclei) is the control center of a cell because it contains genetic material called DNA. The DNA has information on making all of the molecules in the cell. The long chains of DNA are coiled into structures called chromosomes

Commented [5]: Read below:

When the Golgi apparatus needs to transport a molecule, it puts that molecule into a vesicle. A vesicle is made of membranes and carries molecules throughout the cytoplasm. Vesicles also carry substances that are released from the cell to the cell membrane.