

Cells and Life Guided Notes

Quick Links: Use the following links to move to other sections of the notes.

- [Organization of Organisms](#)
- [Cells and the Structure of Life](#)
- [Cell Structure and Functions](#)
- [Prokaryotes and Eukaryotes Advanced](#)

Organization of Organisms Guided Notes

Directions: Preview the notes before reading the lesson. As you read the lesson, fill in the guided notes.

1. It's All About the Organization

Talk Like a Scientist: Record any key terms and definitions that are unfamiliar to you.

Key Term(s)	Definition(s)

2. Building Blocks

Focus Question: What are the levels of organization in an organism?

- List the hierarchy of structures that make up organisms, starting with the smallest to the largest.

3. Essential Elements

Focus Question: How are atoms related to molecules?

- Describe how atoms make up molecules.

4. Cells—Small but Mighty

Focus Question: What is the basic unit of structure and function in all living organisms?

- Define unicellular.
- Define multicellular.
- List two types of specialized cells in the human body.

5. Taking It to New Levels

Focus Question: How do specialized cells form organ systems?

Complete the table to describe the structure of tissues, organs, and organ systems.

Structure	Description
Tissues	
Organs	
Organ Systems	

- List two examples of how organ systems interact with each other.
- Do cells in one system interact with cells in another system? Explain.

6. Summary and Assessment

Stop. Set a timer for two minutes and review your notes. Next, in 20 words or less, write a summary to describe what you learned in this lesson. Challenge: Use at least three key terms from the lesson in your summary.

Summary

Cells and the Structure of Life Guided Notes

Directions: Preview the notes before reading the lesson. As you read the lesson, fill in the guided notes.

1. A Common Thread

Talk Like a Scientist: Record any key terms and definitions that are unfamiliar to you.

Key Term(s)	Definition(s)

2. Supported by Science

Focus Question: What is a scientific theory?

- What are four characteristics of a scientific theory?

- Compare a scientific theory to an everyday theory.

3. The History of the Cell Theory

Focus Question: How did the cell theory develop?

- Give a brief summary of the development of cell theory.
- Define replicable.
- Why should experiments be replicable?

4. Cell Theory

Focus Question: What is the cell theory?

- List the three parts of the cell theory.

5. Take a Cell-fie

Focus Question: What advancements helped develop the cell theory?

- How did the microscope help with the development of the cell theory?

6. Practice Like a Scientist

- Describe the cell theory in your own words.

7. Summary and Assessment

Stop. Set a timer for two minutes and re-read/review your notes. Imagine that you are teaching a second-grade student about this lesson. In a way that a second grader would understand, list three key ideas from this lesson.

Three Key Ideas

Cell Structure and Functions Guided Notes

Directions: Preview the notes before reading the lesson. As you read the lesson, fill in the guided notes.

1. Cell-ing Features

Talk Like a Scientist: Record any key terms and definitions that are unfamiliar to you.

Key Term(s)	Definition(s)

2. Journey Through the Cells

Focus Question: What's inside a cell?

- What is an organelle?
- List two things you learned from the Virtual Cell Tour.

3. Plant vs. Animal

Focus Question: What are some similarities and differences between plant and animal cells?

Complete the table to describe each organelle. Place an "X" in the column to mark whether the organelle is in plant cells only, animal cells only, or both.

Organelle	Description	Plant Cell Only	Animal Cell Only	Both
Cell Wall				
Cell Membrane				
Chloroplasts				
Cytoplasm				
Mitochondria				
Nucleus				
Vacuoles				

4. Models in Science

Focus Question: How do models help us better understand science?

- List one benefit of a scientific model.
- List one limitation of a scientific model.

5. Practice Like a Scientist

- Which cell part is like the brain of the cell?

- List two organelles that are in plant cells but not in animal cells.

6. Summary and Assessment

Re-read/review your notes. Use facts and ideas from this lesson to write one sentence or phrase beginning with each letter of the word "cells." One example is done for you.

Cytoplasm is the gel-like fluid in cells.

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Prokaryotes and Eukaryotes Advanced Guided Notes

Directions: Preview the notes before reading the lesson. As you read the lesson, fill in the guided notes.

1. More Alike Than You Think

Talk Like a Scientist: Record any key terms and definitions that are unfamiliar to you.

Key Term(s)	Definition(s)

2. Cell Showdown: Prokaryotes vs. Eukaryotes

Focus Question: What are prokaryotes and eukaryotes?

Complete the table by adding characteristics of eukaryotes and prokaryotes.

Characteristics of Eukaryotes	Characteristics of Prokaryotes

- Describe the biggest difference between eukaryotic cells and prokaryotic cells.
- What type of cells, eukaryotic or prokaryotic, are in plant and animal cells?

3. Name That Cell

Focus Question: How are the structures of prokaryotes and eukaryotes similar and different?

- List the structures that are in *both* prokaryotic and eukaryotic cells.

4. It's All About the Membrane

Focus Question: What structures make up the cell membrane in prokaryotic and eukaryotic cells?

- Describe the structure of the cell membrane.
- What is the function of the cell membrane?
- Describe what could happen if the cell membrane was not functioning

5. Move It

Focus Question: How do substances move across the cell membrane?

- What is homeostasis?
- Describe passive transport through a cell membrane.
- Describe active transport through a cell membrane.

6. Going with the Flow

Focus Question: What are two different types of passive transport?

- Describe diffusion.
- Describe osmosis.
- What is the difference between osmosis and diffusion?

7. Summary and Assessment

Use your notes and write two questions that you think could be asked during your discussion-based assessment. Record your two questions below.

Questions