

Name:

Date:

# Science Unit 2 Study Guide

## Part 1: Vocabulary

Complete the following chart on vocabulary about cells and microorganisms

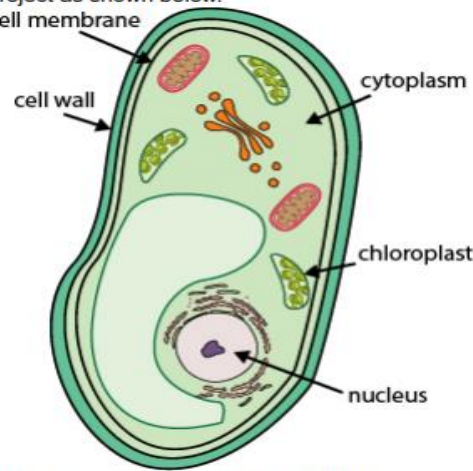
<u>Vocabulary Term</u>	<u>Definition/Function</u>	<u>Illustration/Analogy</u>
Cell		
Cell membrane		
Cell Wall		
Cytoplasm		
Vacuole		
Nucleus		
Chloroplast		
Microorganism		
Beneficial		
Harmful		

## Part 2: Matching

Match the following organelles to the analogy that best shows its function.

- |                  |  |
|------------------|--|
| a. Cell membrane | • A lunchbox that stores water and food and used napkins     |
| b. Cell wall     | • Jello that holds fruits in place                           |
| c. Cytoplasm     | • The boss of a business, the person in charge               |
| d. Vacuole       | • The bricks in a house that keep it sturdy                  |
| e. Nucleus       | • A chef, making delicious food                              |
| f. Chloroplast   | • A bodyguard that decides who goes in and out of a building |

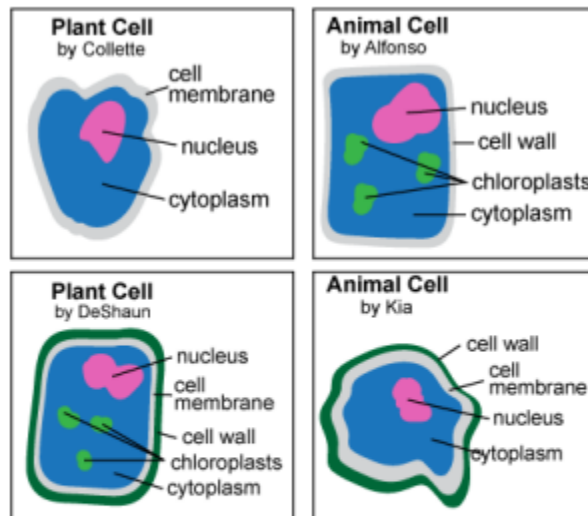
23 Sydney created a cell model for her science project as shown below.



Sydney needs to label her model. Which statement BEST describes the type of model Sydney created?

- A. Sydney has created a plant cell model because only plant cells contain chloroplasts and a cell wall.
- B. Sydney has created an animal cell model because only animal cells contain a nucleus and a cell wall.
- C. Sydney has created a plant cell model because only plant cells contain cytoplasm and a cell membrane.
- D. Sydney has created an animal cell model because only animal cells contain chloroplasts and a cell membrane.

22 Four students created cell models.



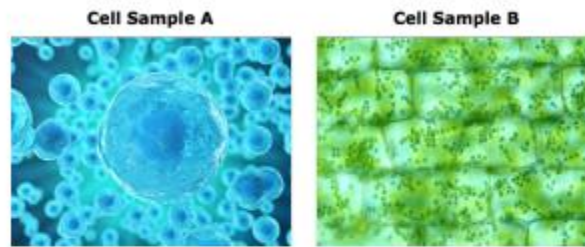
Which student's model is the most accurate model of the type of cell it describes?

- A. Collette
- B. Alfonso
- C. DeShaun
- D. Kia

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- 4 A student views two samples of cells under a microscope. The student makes observations about the structural features visible in each type of cell.



Which statement is the **BEST** explanation of the primary structural differences between the two cell samples?

- A. Cell A, the animal cell, has a clearly visible nucleus, while cell B, the plant cell, does not have a nucleus but instead has chloroplasts.
- B. Cell A, the animal cell, has a flexible shape which indicates an absence of the cell wall, while cell B, the plant cell has a consistent rectangular shape which indicates the presence of a cell wall.
- C. Cell A, the plant cell, has a chloroplast present, while cell B, the animal cell, does not have a chloroplast present.
- D. Cell A, the plant cell, has a flexible shape which indicates the presence of the cell wall, while cell B, the animal cell has a consistent rectangular shape which indicates the cell membrane.

Part A: Sort the following information from the chart below into two categories: Microorganisms that are beneficial, and Microorganisms that are harmful. Be sure to use all the microorganisms in the chart.

Microorganisms		
Microorganism	What is it?	What does it do?
Saccharomyces	fungus	used to help bread rise
Lactobacillus	bacteria	helps make yogurt and cheese
Influenza	virus	causes flu
Penicillium	fungus	used to make antibiotic
E-coli	bacteria	cause stomach illness
Ring worm	fungus	cause a skin disease

Beneficial Microorganisms	Harmful Microorganisms

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Part B: Choose two microorganisms from the previous chart. Explain in complete sentences how these microorganisms are either helpful or harmful, using details from the chart as evidence. Be sure to write your response with a Claim, Evidence, and Reasons.

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Part 4: Creating a Model

In the space provided below, draw and label a model of a plant cell and an animal cell. Be sure to draw and label all of the following organelles:

Cell Wall	Cell Membrane	Cytoplasm	Nucleus	Chloroplast	Mitochondria	Vacuole
Animal Cell				Plant Cell		