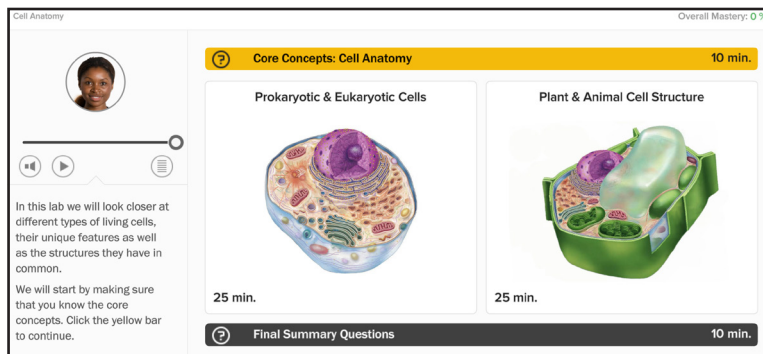




General Lab Outline

- I. Core Concepts
- II. Prokaryotic and Eukaryotic Cells Exercise
- III. Plant and Animal Cell Structure Exercise
- IV. Final Summary Questions



Assessed Learning Outcomes

Core Concepts: Cell Anatomy

- A. Understand the cell's importance as the basic unit of life
- B. Understand that all living organisms are made of cells
- C. Recall characteristics common to all cells: DNA, cell membrane, cytoplasm
- D. Understand that living cells are divided into prokaryotes and eukaryotes, and these are structurally different

Prokaryotic & Eukaryotic Cells Exercise

- A. Human kidney cells
 1. Simulator: Kidney Tissue
 - a. Recall the main structures of eukaryotic cell
 2. Label Game: Kidney Tissue
 3. Further review
 - a. Recall the structural difference between eukaryotes and prokaryotes
 - b. Recall the main structures of a prokaryote

Animal & Plant Cell Structure Exercise

- A. Animal & Plant Cells
 1. Label Game: Main structures of animal and plant cells
 2. Further Review
 - a. Understand the structural differences between plant and animal cells
 - b. Identify structures found in both animal and plant cells

3. Simulator: Elodea Cells

- a. Identify the main structures of a plant cell on two microscopy slides (one of normal Elodea cells and one of cells in hypertonic solution)

4. Further review

- a. Identify which structures plant cells and prokaryotes have in common
- b. Understand the function of chloroplasts in plant cells
- c. Understand the function of the cell wall in plant cells
- d. Understand the function of the central vacuole in plant cells

Final Summary Questions

- A. Understand which cell type, prokaryotic or eukaryotic, is characteristic of different organisms
- B. Describe and discuss relationships between cell structure, function, and multicellularity
- C. Identify the chloroplast as the site of photosynthesis in green plants
- D. Understand the adaptive significance of organelles characteristic of plant cells

Student Instructions for Simulators

Prokaryotic & Eukaryotic Cells

Task: View the slide of kidney tissue and identify the main structures of the eukaryotic cell.

Plant & Animal Cell Structure

Task: View the two slides of Elodea and identify the main structures of the plant cell.

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