

Chapter 2 Lesson 2 Notes

Single-Celled Organisms

- Need to be organized
- Carry out all the functions needed for their survival, including:
 - obtaining nutrients
 - waste removal
 - movement
 - protection
 - reproduction



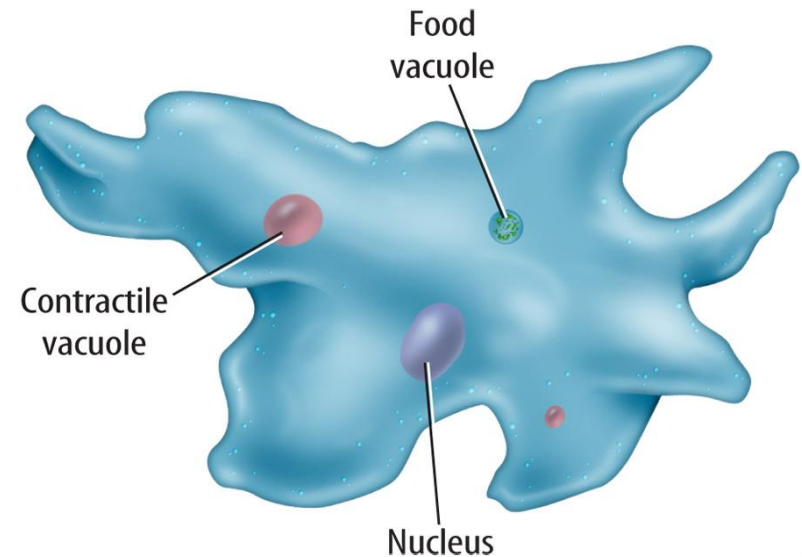
Prokaryotes

- Single-celled organisms that do not have nuclei or other organelles, such as bacteria
 - Still have structures with specific functions
 - Same processes that occur in eukaryotic organelles happen along specialized membranes in bacteria



Eukaryotes

- Protists are single-celled eukaryotes
 - Include amoeba and some fungi
 - Are more complex than prokaryotes
 - Have a nucleus and membrane-bound organelles



Eukaryotes (cont.)

- Single-celled eukaryotes are more complex than cells in multicellular eukaryotes.
 - Single-celled: exist alone and must do everything needed for their survival within the single cell
 - Multicellular eukaryotes: rely on one another and cannot survive alone



Multicellular Organisms

- Multicellular organisms require organization.
- They have many cells and usually have more than one type of cell.

Virtual
Lab



How do animal and
plant cells work?



Resources



Cell Differentiation

- Process in which cells become different types of cells
- Differentiated cells: specialized structures and shapes for specific functions, such as liver cells or brain cells
- Once most human cells differentiate, they cannot become any other type of cell.

Brain
POP™

Cell
Specialization

[Click here to learn more!](#)

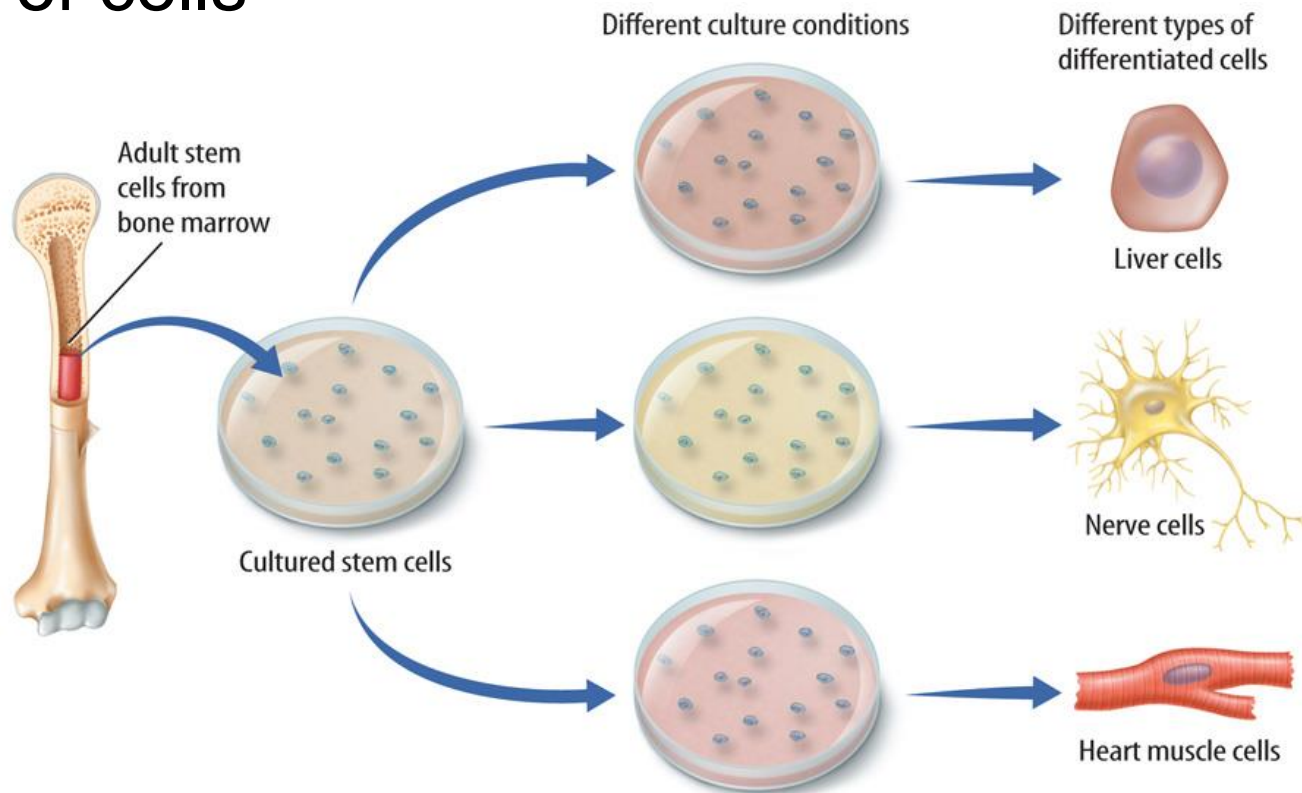


Resources



Stem Cells

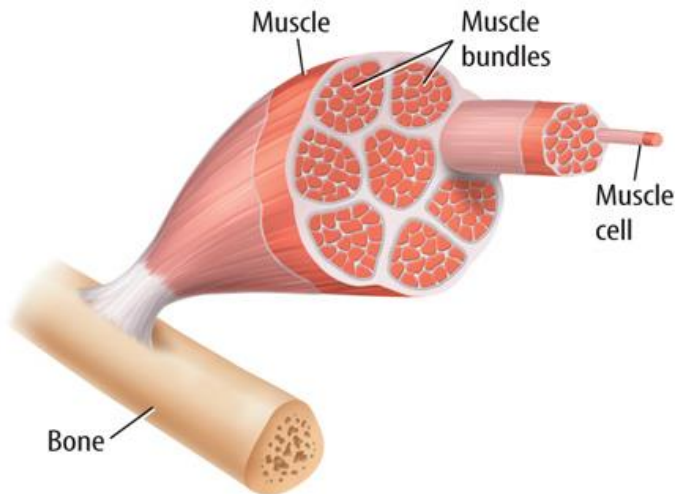
- Cells that can become different types of cells



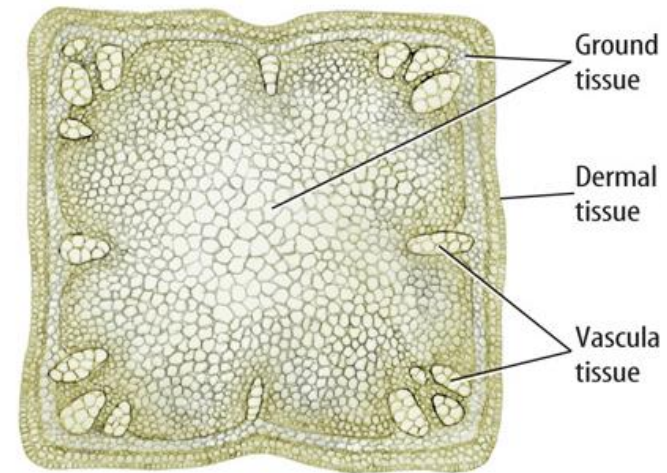
Tissues



- Groups of similar cells that work together and perform a function



Animal Tissue

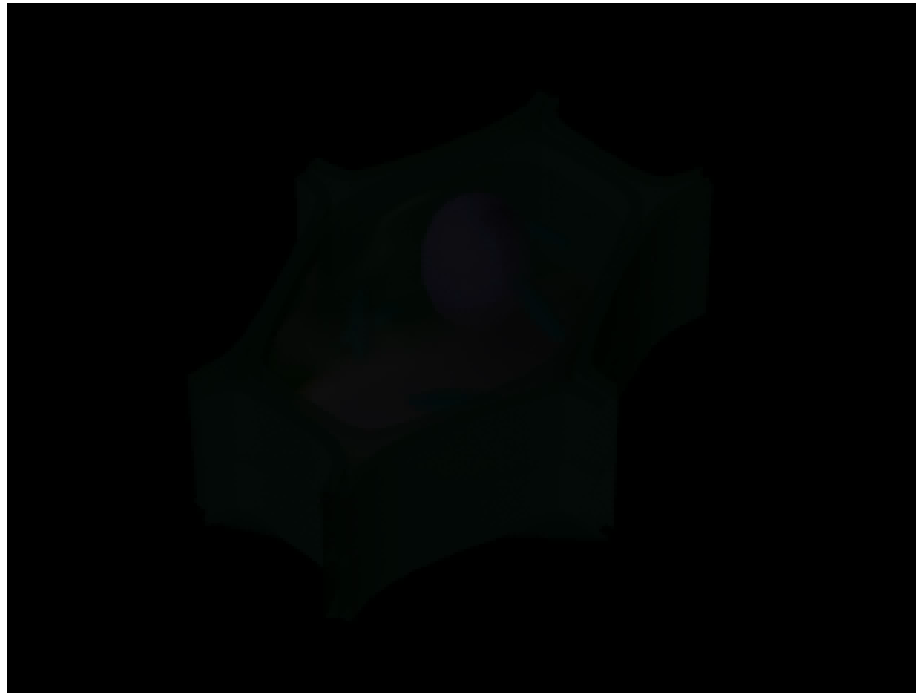


Plant Tissue



Tissues (cont.)

concepts In Motion

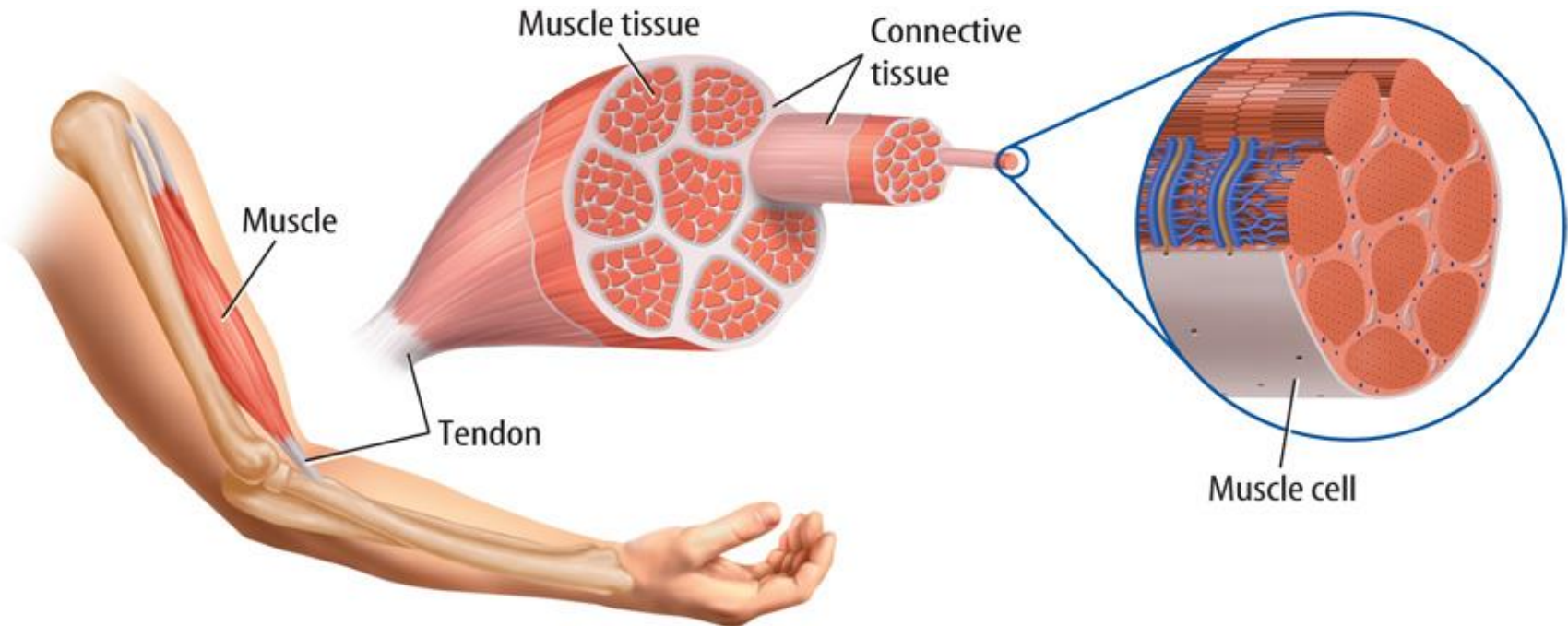


Resources



Organs

- A group of similar tissues that work together to perform a function



Organs (cont.)

- Human organs include the heart, lungs, brain, and muscles.
- Plant organs have organs, such as leaves, that store nutrients, exchange gases, transport water or nutrients, or perform photosynthesis.



Organ Systems

- One or more organs that work together and perform one or more functions

**Interactive
Table**



Human Organ
Systems

[Part A](#) [Part B](#) [Part C](#)



Resources

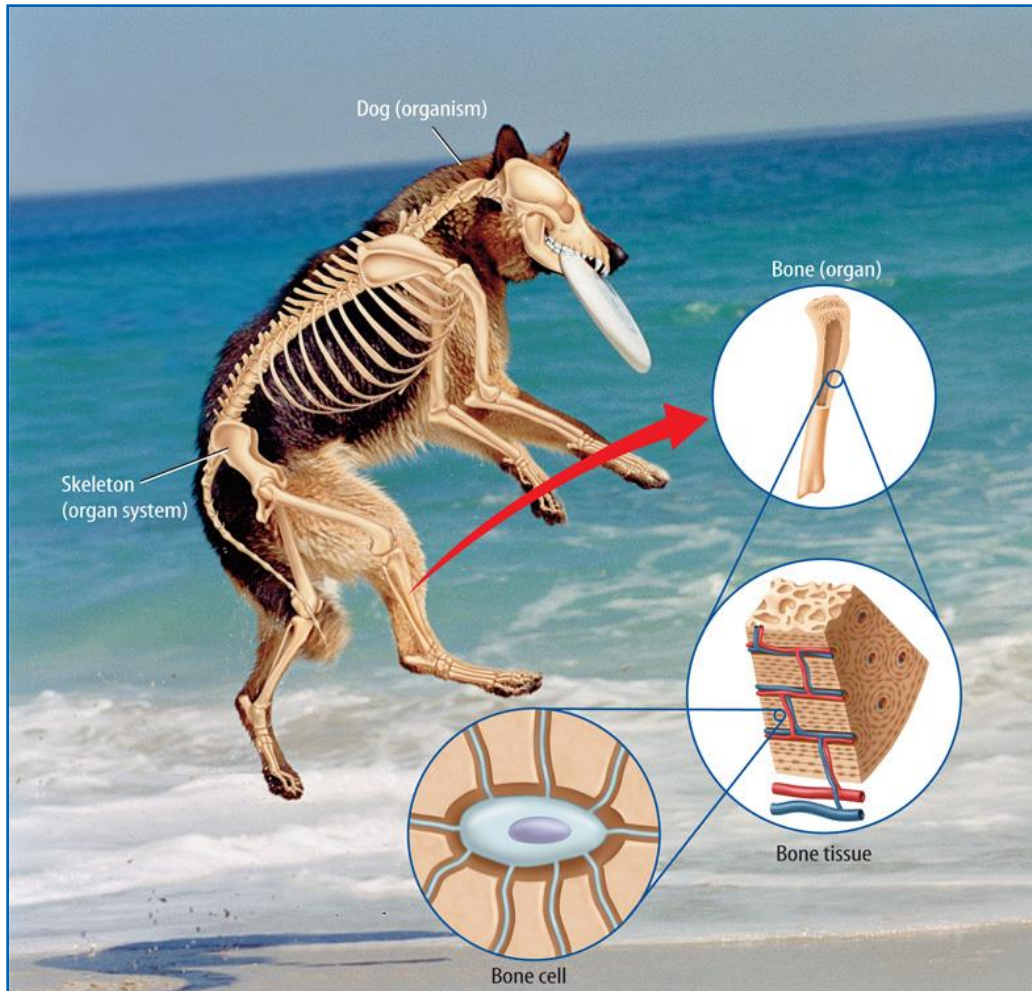


Organisms

- The most complex unit of living things is a multicellular organism.
- Multicellular organisms usually have many organ systems.
- Each organ system has its own function but is dependent on other organ systems.



Organisms (cont.)

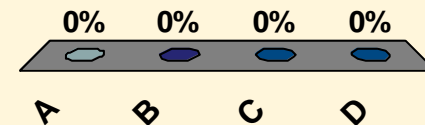
[Resources](#)

LESSON 2 Review



Where do bacteria carry out the processes that occur in the organelles of eukaryotes?

- A nucleus
- B chloroplast
- C smooth ER
- D specialized membranes**



Resources

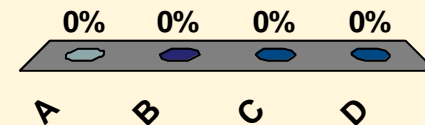


LESSON 2 Review



What are undifferentiated cells called?

- A** stem cells
- B** tissues
- C** prokaryotes
- D** liver cells



Resources

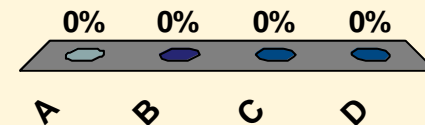


LESSON 2 Review



What organ system produces hormones that control body functions?

- A skeletal
- B lymphatic
- C nervous
- D endocrine**



Resources

