

Topic: Levels of Organization of Cells

Learning Objective/Outcome: recognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms.

Keywords/Questions	Notes
What dictates cell structure?	Cell function will dictate cell structure including organelle types, numbers, and cell shape.
What is the function of a neuron?	The neuron is specialized to send messages very quickly to react with a motor response
What forms tissue?	Different types of cells performing specialized functions form a tissue
List 4 types of tissue and function.	Nervous: sensory input, integration, and motor response Muscle: the fibers contract and relax to provide movement Connective: bind other organs together, hold organs in place, cushion them, and fill space. Epithelial: secretion, selective absorption, protection, transcellular transport, and sensing
What forms an organ?	Two or more different types of tissue working together to perform a specific function
Give an example of an organ and its function.	Lungs perform the process of gas exchange. Oxygen comes in and enters the blood stream and carbon dioxide exits as a waste product of metabolism
What forms an organ system?	Organs working together to perform certain functions form organ systems.

<p>What are the six human organ systems?</p>	<p>Skeletal: support, movement, protection, blood cell production</p> <p>Muscular: movement, stabilization of joints, and generate heat</p> <p>Digestive: digestion and absorption of nutrients</p> <p>Respiratory: process of gas exchange</p> <p>Nervous: sensory input, integration, and motor response</p> <p>Circulatory: transport blood and oxygen throughout the body</p>
<p>What forms an organism?</p>	<p>Organ systems working together to form a fully functional living being that can thrive in a particular environment</p>
<p>Define organism.</p>	<p>A complex structure of interdependent and subordinate elements that create a life form</p>

Summary

There are five levels of organization, and each one builds upon each other beginning with a single cell. All organisms are composed of increasing levels of complexity that all lead to various functions. Some include cognitive thought, movement, respiration, and digestion.