

Levels of Organization in Cells

Neurons
The neuron is specialized to send messages very quickly

Cell structure
Cell function will dictate cell structure including organelle types, numbers, and cell shape

Different structures and functions
The same DNA can have a different structure and function because DNA codes for specific proteins which determine these factors

Cell Specialization

Formation of Tissue
Different types of cells performing specialized functions form a tissue

Tissues

List tissues 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

Formation of organs
Two or more different types of tissue working together to perform a specific function

Organs

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

Example organism
A complex structure of interdependent and subordinate elements that create a life form. A bird, sea sponge, and human are all examples of organisms

Organisms

Organ Systems
Organs working together to perform certain functions form organ systems.

Define organism
Organ systems working together to form a fully functional living being that can thrive in a particular environment

Formation of organ systems
Organs working together to perform certain functions form organ systems.

Organ Systems

List 6 organ systems and function
Skeletal: support, movement, protection, blood cell production
Muscular: movement, stabilization of joints, and generate heat
Digestive: digestion and absorption of nutrients
Respiratory: process of gas exchange
Nervous: sensory input, integration, and motor response
Circulatory: transport blood and oxygen