

Cells and Systems (Grade 8)

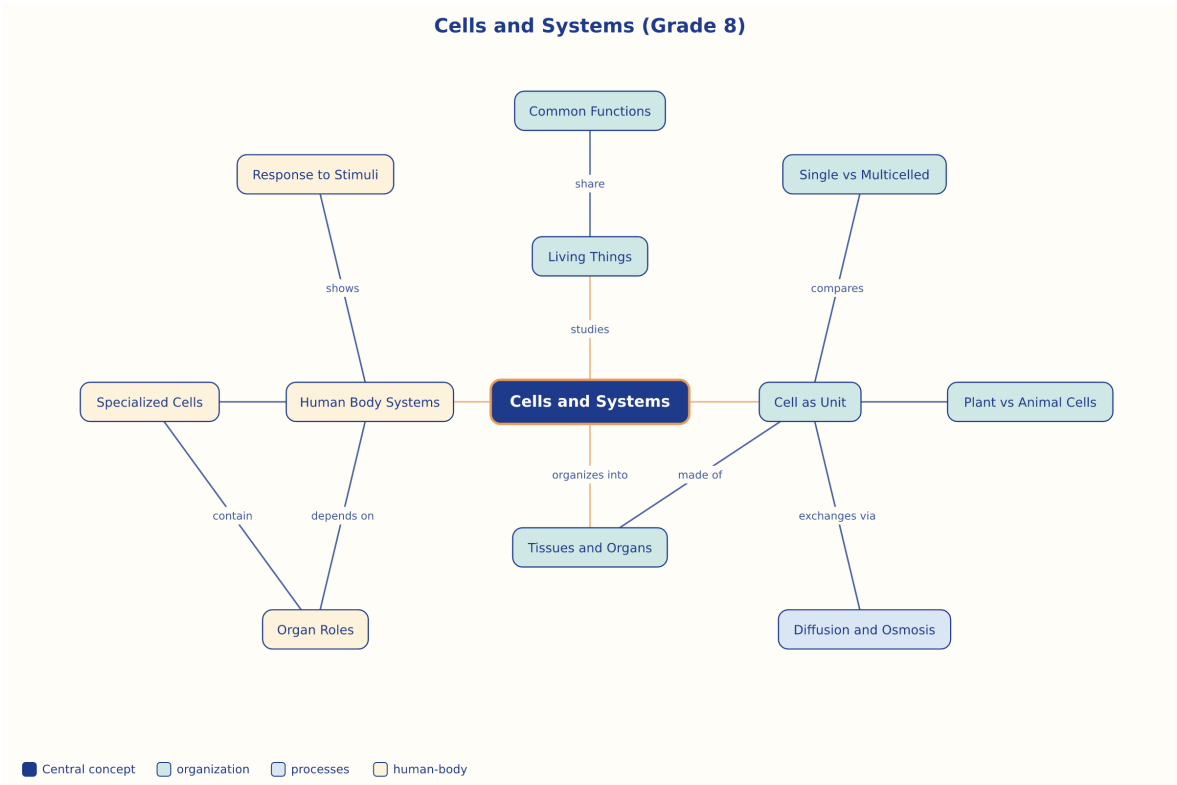
Central concept: **Cells and Systems**

Connections

- Cells and Systems (studies) -> Living Things
- Cells and Systems (built from) -> Cell as Unit
- Cells and Systems (organizes into) -> Tissues and Organs
- Cells and Systems (includes) -> Human Body Systems
- Living Things (share) -> Common Functions
- Cell as Unit (compares) -> Single vs Multicelled
- Cell as Unit (distinguishes) -> Plant vs Animal Cells
- Cell as Unit (exchanges via) -> Diffusion and Osmosis
- Tissues and Organs (made of) -> Cell as Unit
- Human Body Systems (depends on) -> Organ Roles
- Human Body Systems (built from) -> Specialized Cells
- Human Body Systems (shows) -> Response to Stimuli
- Organ Roles (contain) -> Specialized Cells

Notes

- **Cells and Systems:** Living things are organized as systems, from cells to organs, that carry out life functions ([Topic](#)). [Topic](#)
- **Living Things:** Investigated using the concept of system to describe structure and function ([Outcome](#), [Outcome](#)). [Outcome](#), [Outcome](#)
- **Cell as Unit:** The cell is the basic unit of life ([Outcome](#), [Outcome](#)). [Outcome](#), [Outcome](#)
- **Single vs Multicelled:** Compares organisms like an amoeba and a grizzly bear ([Outcome](#), [Outcome](#)). [Outcome](#), [Outcome](#)
- **Plant vs Animal Cells:** Distinguished by features such as cell wall versus cell membrane ([Outcome](#) , [Outcome](#)). [Outcome](#), [Outcome](#)
- **Diffusion and Osmosis:** Gases and liquids move into and out of cells based on concentration differences ([Outcome](#), [Outcome](#)). [Outcome](#), [Outcome](#)
- **Tissues and Organs:** Cells contribute to tissues and organs in plant and animal structures ([Outcome](#), [Outcome](#), [Topic](#)). [Outcome](#), [Outcome](#), [Topic](#)
- **Common Functions:** Different organisms meet similar needs, like food gathering, in varied ways ([Outcome](#), [Outcome](#)). [Outcome](#), [Outcome](#)
- **Human Body Systems:** Respiration, circulation, digestion, excretion and sensory awareness systems ([Outcome](#)). [Outcome](#)
- **Organ Roles:** Individual organs and tissues support healthy body function, such as lungs exchanging gases ([Outcome](#)). [Outcome](#)
- **Specialized Cells:** Nerve, muscle, blood, skin and bone cells each support healthy body function ([Outcome](#)). [Outcome](#)
- **Response to Stimuli:** Body functions change in response to conditions, such as heart rate during exercise ([Outcome](#), [Topic](#)). [Outcome](#), [Topic](#)



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