

Honors Biology

Unit 3: Cell Structure & Function

Topics

1. Cell Structure & Function
2. Cell Membrane Structure & Function

Topic 1	Cell Structure & Function
Essential Questions	<ol style="list-style-type: none">1. What is cell theory?2. What are the basic attributes of cells?3. What are the major features of eukaryotic cells?4. What are the major features of prokaryotic cells?
“I Can”	<ol style="list-style-type: none">1. I can describe the structure and/ or function of subcellular components and organelles.2. I can describe the membrane- bound structures of the eukaryotic cell.3. I can describe similarities and/or differences in compartmentalization between prokaryotic and eukaryotic cells.

Topic 2	Cell Membrane Structure & Function
Essential Questions	<ol style="list-style-type: none">1. How is the structure of the cell membrane related to its function?2. How do substances move across membranes?
“I Can”	<ol style="list-style-type: none">1. I can describe the roles of each of the components of the cell membrane in maintaining the internal environment of the cell.2. I can explain how the structure of biological membranes influences selective permeability.3. I can describe the role of the cell wall in maintaining cell structure and function.

Unit 3 STANDARDS

[Next Generation Science Standards \(NGSS\)](#)

HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. [Clarification Statement: Emphasis is on functions at the organism system level such as nutrient uptake, water delivery, and organism movement in response to neural stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to regulate and deliver the proper amount of blood within the circulatory system.] [Assessment Boundary: Assessment does not include interactions and functions at the molecular or chemical reaction level.]

HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. [Clarification Statement: Examples of investigations could include heart rate response to exercise, stomate response to moisture and temperature, and root development in response to water levels.] [Assessment Boundary: Assessment does not include the cellular processes involved in the feedback mechanism.]