

Life Processes at the Cellular Level

Checklist



Use this alongside our Walkthrough Guides to tick off the concepts you're confident with to plan your study and find areas of improvement!

Cell Structure and Organelles

- I can explain what **organelles** are
- I can explain the differences between **animal cells** and **plant cells**
- I can explain the structure and function of the **cell membrane**
- I can explain the structure and function of a **phospholipid bilayer**
- I can explain the function of the **cytoplasm**
- I can explain the function of the **nucleus**
- I can explain the function and structure of **mitochondria**
- I can explain why different cells have different numbers of mitochondria
- I can explain the function and structure of **chloroplasts**
- I can explain why different plant cells have different numbers of chloroplasts
- I can explain why only plants have chloroplasts
- I can explain the types of cells that have cell walls and explain why

Enzymes

- I can define a **catalyst**
- I can explain an **enzyme**
- I can explain enzyme structure
- I can explain the relationship between substrates and the active site
- I can compare and contrast the **induced to fit** and the **lock and key model** of enzyme function
- I can explain how temperature affects enzyme activity
- I can explain how pH affects enzyme activity
- I can explain how inhibitors affect enzyme activity
- I can explain the purpose of **coenzymes**
- I can explain how substrate availability affects enzyme activity

Transport

- I can define **passive transport**
- I can define **diffusion**
- I can define **osmosis**
- I can define **facilitated diffusion**
- I can define **active transport**
- I can explain the purpose of active pumps in the membrane
- I can explain **endocytosis** and **exocytosis**

Photosynthesis

- I can define **photosynthesis**
- I can explain the purpose of photosynthesis
- I can write the equation for photosynthesis
- I can explain the two stages of photosynthesis
- I can explain why the **stroma** is clear
- I can explain why thylakoid stacks are arranged the way they are

Respiration

- I can define **aerobic respiration**
- I can explain the purpose of aerobic respiration
- I can write the equation for aerobic respiration
- I can explain the three stages of aerobic respiration
- I can explain why the inner membrane of mitochondria forms the wiggly cristae
- I can define **anaerobic respiration**
- I can explain why anaerobic respiration takes place

Cell Cycle

- I can explain the four stages of the cell cycle
- I can explain the process of **DNA replication**
- I can define **mitosis**
- I can explain the purpose of mitosis
- I can discuss the factors affecting life processes
- I can explain why different types of cells differ in structure to fit their purpose