A2.2 Cell structure

What the Cell · DP Biology · note-taking sheet · SL statements A2.2.1–11

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 49–81) where you want more detail.

Guiding questions. What do all cells share, and how do they differ? How do we use microscopes to study cell structure?

A2.2.1–2 Cells and microscopes

Use cell theory to make a prediction about a newly discovered organism.

Write the magnification formula. A cell is 15 µm wide, and it is 30 mm wide in an image. Find the magnification.

A2.2.3 Developments in microscopy

Technique	What it shows, and why it is useful
Electron microscopy	
Fluorescent stains and immunofluorescence	
Freeze fracture	
Cryogenic electron microscopy	

A2.2.4–6 Types of cell

List the three structures that all cells have, with a reason for each.

	Prokaryote	Eukaryote
DNA		
Ribosomes		
Compartments		

Draw a prokaryote and label its five structures.

A2.2.6 Organelles

Organelle	Function
Nucleus	
Mitochondrion	
Rough ER	
Golgi apparatus	
Lysosome	

A2.2.7 Functions of life

List the eight functions of life. Give an example for each in a single-celled organism.

A2.2.8–9 Differences and atypical cells

	Animals	Fungi	Plants
Cell wall			
Vacuole			
Plastids			
Centrioles, cilia			

How many nuclei do these have: fungal hyphae, skeletal muscle, red blood cells, sieve tube elements?

A2.2.10–11 Micrographs

Choose a micrograph. Draw one organelle from it, labelling it and annotating it with its function.

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

☐ Cell theory
☐ Magnification
☐ Scale bars
☐ Modern techniques
☐ Common structures
☐ Prokaryotes
☐ Eukaryotes
☐ Functions of life
☐ Animals, fungi, plants
☐ Atypical cells