

Y9 Biology Topic B1a – Cells and microscopes

Microscopes

Learning outcome	Had a look	Nearly there	Nailed it!
Recall what an electron microscope is.			
Recall what is meant by an instrument's resolution.			
Explain why some cell structures can be seen with an electron microscope but not with a light microscope.			
Calculate total magnification using a formula.			
Calculate sizes using magnifications.			
Interpret the SI prefixes milli-, micro-, nano- and pico-.			

Plant and animal cells

Learning outcome	Had a look	Nearly there	Nailed it!
Identify the parts of plant and animal cells.			
Recall the parts of plant and animal cells.			
Make drawings of plant and animal cells using a light microscope and identify their parts.			
Describe the functions of the sub-cellular structures commonly found in eukaryotic cells (nucleus, cell membrane, cell wall, chloroplasts, mitochondria and ribosomes).			
Estimate sizes using microscope fields of view.			
Estimate sizes using scale bars.			

Specialised cells

Learning outcome	Had a look	Nearly there	Nailed it!
Describe how sperm cells are adapted to their function.			
Describe how egg cells are adapted to their function.			
Describe how ciliated epithelial cells are adapted to their function.			
Draw conclusions about a cell's function from its adaptations.			

Inside bacteria

Y9 Biology Topic B2a – Mitosis and growth

Mitosis

Learning outcome	Had a look	Nearly there	Nailed it!
List the names and order of the stages of the cell cycle, including mitosis.			

Y9 Biology Topic B1a – Cells and microscopes

Describe what happens in each stage of the cell cycle, including mitosis.			
Describe why mitosis is important for an organism. (growth, repair, asexual reproduction)			
Explain why organisms may rely on asexual reproduction.			
Describe how mitosis produces genetically identical, diploid cells.			

Animal growth

Learning outcome	Had a look	Nearly there	Nailed it!
Define growth in animals as an increase in cell number and size.			
Give examples of specialised animal cells.			
Describe how structure of specialised animal cells is related to their function.			
Explain why cell differentiation is important in the development of specialised cells.			
Use percentile growth curves to interpret growth in children.			

Plant growth

Learning outcome			
Learning outcome	Had a look	Nearly there	Nailed it!
Identify the common parts of bacteria.			
Describe the functions of common parts of bacteria.			
Describe why bacteria are classified as being prokaryotic.			
H Change numbers to and from standard form.			
Compare eukaryotic and prokaryotic cells.			