

Prior learning	<ul style="list-style-type: none"> Year 7 – Animal and Plant cell structure; Specialised cells; Practical-viewing specimens under a light microscope; Year 8-Unicellular organisms (microorganisms) 			
Lesson Number	AQA Spec	Title	Content	Assessment / Homework
1	4.1.1.1	<i>Standard form (Math's skills)</i>	<ul style="list-style-type: none"> Be able to convert units (kilo, metres, centi, milli, micro and nano) Use prefixes and powers of ten for orders of magnitude (e.g. tera, giga, mega) To recognise and use numbers in decimal and standard form. Use an appropriate number of significant figures in calculations. 	
2	4.1.1.1 4.1.1.2	Cell structure	<ul style="list-style-type: none"> Describe the structure of eukaryotic cells (plants and animals) and prokaryotic cells (bacteria) Explain how the main sub-cellular structures are related to their functions. Math's skills: understand the scale and size of cells and be able to make order of magnitude calculations; including the use of standard form. 	
3	4.1.1.2 4.1.1.5	The light microscope & Required practical 1: Using a light microscopeto observe and record animal and plant cells	<ul style="list-style-type: none"> Describe how to use a light microscope. Describe how to make a specimen Observe plant cells with a light microscope. Understand the limitations of light microscopy. Math's skills: calculate Magnification and Total magnification Req Practical - Use a light microscope to observe, draw and label a plant cell (onion cell) Include a magnification scale How to write a method Completing a risk assessment 	Skills Assessment: 15 marks

4	4.1.1.5	The Electron Microscope	<ul style="list-style-type: none"> Describe what features can be seen with an electron microscope. Compare the differences in the magnification and resolving power (resolution) of light and electron microscopes. Describe simply how electron microscopes work in comparison to light microscopes. Describe how microscopy techniques have developed over time and explain how electron microscopy has increased our understanding of sub-cellular structures. 	
5	4.1.2.1 4.1.2.2	Cell Division-Mitosis and the Cell cycle	<ul style="list-style-type: none"> Describe the importance of cell division in the growth and development of multicellular organisms Describe what the nucleus contains Label and describe the different 3 different stages of the cell cycle Describe what mitosis is and its steps 	Assessment: 25 mark multiple choice quiz
6	4.1.1.3 4.1.1.4	Cell differentiation & specialisation	<ul style="list-style-type: none"> Explain the importance of cell differentiation and where/when this occurs in plants and animals. Describe how cells, tissues, organs and organ systems are organised to make up an organism. Explain how the structure of different cells relates to their function (sperm, neurone, muscle cells in animals; root hair cell, xylem and phloem in plant cells) 	
7	4.1.2.3	Stem cells	<ul style="list-style-type: none"> Describe what stem cells are Describe the function of stem cells in embryonic and adult animals. Explain how stem cells can be useful Identify the risks in using stem cells. Evaluate the benefits and disadvantages of using stem cells (including social and ethical concerns). Describe how plant meristems can be used usefully <i>Describe what therapeutic cloning is and its uses – higher tier only</i> 	
END OF UNIT TEST				
Where will we use these ideas again		<ul style="list-style-type: none"> Year 9 – B1b Respiration and Transport: Osmosis required practical Year 9 – B2 Photosynthesis: Plant cell structures in leaves, roots & stem; Year 10 – B3 Organisation: How red blood cells are adapted for their function; Year 10 – B4 Infection and response: What is cancer (mitosis); treating diseases using stem cells; Year 10– B5 Homeostasis: Neurone structure (Nervous system); Fertilisation; Year 11 – B6 Genetics: Learning about the nucleus in more detail; Comparing mitosis to meiosis 		