

KS3 Unit Overview – Big Picture 7A

Subject/Year group/Unit Title	Big picture questions	Pupils will focus particularly on the following statements from the programme of study:
<p>7A – BIOLOGY Cells, tissues and organs.</p> <p>Lesson 1: The microscope. Lesson 2: Viewing cells with a microscope Lesson 3: Plant cells Lesson 4: Animal cells Lesson 5: Building a model cell Lesson 6: Diffusion Lesson 7: Unicellular organisms Lesson 8: Multicellular organisms Lesson 9: Organising animals Lesson 10: Organising plants Lesson 11: How plants make food Lesson 12: Photosynthesis Lesson 13: Leaf adaptations Lesson 14: Minerals and plants Lesson 15: Gas exchange in a leaf Lesson 16: EoU Assessment</p>	<ol style="list-style-type: none"> 1. Who uses microscopes and why? 2. How do we use a microscope? 3. What are cells? 4. What is inside cells? 5. Are all cells the same? 6. How can we see cells? 7. What is photosynthesis? 8. How do plants obtain water and minerals 9. What is the role of the stomata? 	<p>BSC1: cells as the fundamental unit of living organisms, including how to interpret, observe and record cell structure using a light microscope.</p> <p>BSC2: the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts.</p> <p>BSC3: the similarities and differences between plant and animal cells.</p> <p>BSC4: the role of diffusion in the movement of materials in and between cells.</p> <p>BSC5: The structural adaptations of some unicellular organisms.</p> <p>BSC6: the hierarchical organisation of multicellular organism: from cells to tissues to organs to systems to organisms.</p> <p>BMP3: the adaptations of leaves for photosynthesis.</p> <p>BMP1: reactants in, and products of, photosynthesis, and the word equation for photosynthesis.</p> <p>BSNu6: plants making carbohydrates in their leaves by photosynthesis and gaining mineral nutrients and water from the soil via their roots.</p> <p>BSG4: The role of leaf stomata in gas exchange in plants.</p>

7A Cells, tissues and organs – Reviewed 2019 – DH/GR

Assessment tasks	As FCJ educators, we will focus on the FCJ values by:	We will ensure students skills in reading, writing, communication and mathematics are enhanced by:
<p>Classwork low stakes tests. Homework assignments. EoU Assessment. Doddle tasks. Questions from CGP KS3 Biology Workbook:</p>	<p>Companionship - Working in groups to use microscopes.</p> <p>Dignity - Consideration of stem cells and their use. Issues with embryonic stem cells.</p> <p>Excellence - Achievement and progress in lessons towards target grade.</p> <p>Justice – Laws over cell technology.</p> <p>Gentleness - Respect for living organisms</p> <p>Hope - The use of cells and how they are adapted. Development of a sense of wonder over the range of cells types and functions.</p>	<p>Key words lists. Tasks that allow full and detailed written answers to be the outcome. Presentation of drawings from using the light microscopes. Word equation – reactants and products. Discussion opportunities in class and questions and answer sessions. Numeracy – calculations on magnification and scale. Comprehension tasks set in class and for homework.</p>
We are supporting progression from KS2 in this unit by:	We are supporting progression to KS4 in this unit by:	Misconceptions and how they will be addressed
<ol style="list-style-type: none"> 1. Linking work from simple cells to whole organisms. 2. Using light microscopes to observe and interpret cells and their structure. 3. Moving K&U on plants form food chains to the chemistry of photosynthesis. 	<p>Studying cell structure and function. Investigating the role of cell parts and looking at similarities and differences between animal and plant cells and unicellular organisms.</p>	<p>Plant uses carbon dioxide and not oxygen for photosynthesis. Plants make food (producers). Plant cells possess the same cell components as animal cells.</p>