

## Year 7 Curriculum Map : Biology

	Autumn	Spring	Summer
<b>Assessment Objectives</b>	AO1 - Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures (40%) AO2 - Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. (40%) AO3 - Analyse information and ideas to: interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures. (20%)		
<b>Unit Length</b>	<b>Topic: B1 Cells and Organisation (12 lessons)</b>	<b>Topic: B2 Reproduction and Variation (14 lessons)</b>	<b>B3 Interdependence ( 12 lessons)</b>
<b>Key Learning Outcomes</b>	<u>Unit One – Cell biology and organisation 1</u>  1. Cells, tissues organs, and organ systems- the organisation of living organisms. 2. What are the function and structure of the human skeleton to include support, protection, movement and making blood cells? 3. How do joints support movement? Intentional monitoring 4. What is the structure and function of the muscular system and can you name examples of antagonistic muscles? 5. What is the structure and function of plant and animal cells? 6. How do you observe, interpret and record cell structure using a light microscope? 7. Progress assessment, feedback, reteach and DIRT. 8. How did our understanding of cells develop through history? 9. What is a specialised cell and how are they adapted for their function? Intentional monitoring 10. What is role of diffusion in living organisms? 11. What are the structural adaptations of some unicellular organisms? 12. End of unit assessment, feedback reteach, DIRT.	<u>Unit two- Reproduction</u>  1. What is adolescence; and what happens to boys and girls during puberty ? 2. What is the structure and function of the male reproductive system? 3. What is the structure and function of the female reproductive system? 4. What is fertilisation and implantation? Intentional monitoring 5. What is the menstrual cycle? 6. How can pregnancy be prevented? 7. How does the foetus develop from fertilisation until birth? 8. How does material lifestyle affect the development of the foetus? 9. Progress assessment, feedback, reteach and DIRT. 10. What is variation is and what causes this (genetic and environmental)? 11. What is continuous and discontinuous variation? 12. How do plants reproduce? 13. How are wind pollinated, and insect pollinated plants different? Intentional monitoring 14. What is fertilisation and fruit formation in plants? 15. How to plants disperse seeds and why is this important to plant reproduction? 16. End of unit assessment, feedback reteach, DIRT.	<u>Unit 3- Interdependence</u>  1. Can you describe the relationships within a food web? 2. Identify trophic levels and roles 3. What could occur if a new predator is added to a food web or an organism has been removed? Intentional monitoring 4. What is the impact of bioaccumulation? 5. What are the alternative ways of securing high yields (e.g. biological pest control, intercropping)? 6. Why are insects so important to food security? 7. Progress assessment, feedback, reteach and DIRT. 8. What are the issues surrounding declining populations i.e. Bee population in UK? 9. What is biodiversity and what are the causes of decreasing biodiversity (e.g. monoculture-growing 1 crop across large areas)? Intentional monitoring 10. What is the importance of plant reproduction through insect pollination in human food security? 11. Why do humans rely on other animals such as insects in food production? 12. End of unit assessment, feedback reteach, DIRT.
<b>Prior knowledge</b>	KS2:  Transport of nutrients in blood	KS2: The basic structure of common flowering plants (this includes leaves, flowers, petals, fruit roots, bulb, seed, trunk, branches, stem).	KS2:  Making conclusions based on data

	Single celled organisms in living things	How seeds and bulbs grow into mature plants. Notice that animals (including humans) have offspring that grow into adults. Identify and describe the function of the different parts of a flowering plant Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Describe the life process of reproduction in some animals and plants (including asexual and sexual reproduction). Puberty: Anatomy of male and female reproductive system. Menstrual cycle (including the thickening of the uterus wall). Journey of the sperm to the egg (sexual intercourse and fertilisation).	Plant reproduction inc. Parts/functions  Constructing food chains and understanding predators and prey  Describe the positive and negative impact of humans on the environment
<b>CEIAG Specific careers links</b>	Physiotherapist Scientific research Medicine Sports coaching	Fertility specialist Farming and agriculture Botanists Landscape gardening	Farming and agriculture Conservationist
<b>RRSA</b>	Article 14: Freedom of thought, belief and religion Article 24: Health and the Health services Article 28: Right to education	Article 14: Freedom of thought, belief and religion Article 28: Right to education Article 29: Goals of education Article 27: Adequate standard of living	Article 28: Right to education Article 29: Goals of education Article 32: Child Labour
<b>Cross curricular links</b>	PE- Muscles, joints and skeleton Maths- Microscopy calculations, unit conversions DT- 3D printing of joints Chemistry- diffusion	Personal development- Adolescence, puberty, sex, drugs and pregnancy. Maths- Data collection, measurements, scatter-graph production, data analysis and comparison.	Geography – biodiversity, sustainability, ecosystems. Maths- Calculate means Conversion minutes to seconds or vice versa
<b>Useful websites/videos</b>	<a href="https://www.bbc.co.uk/bitesize/guides/z9hyvcw/revision/3">https://www.bbc.co.uk/bitesize/guides/z9hyvcw/revision/3</a> <a href="https://www.youtube.com/watch?v=A_eq4Ks0HTE">https://www.youtube.com/watch?v=A_eq4Ks0HTE</a>	<a href="https://www.bbc.com/bitesize/guides/z9fgr82/revision/1">https://www.bbc.com/bitesize/guides/z9fgr82/revision/1</a>	<a href="https://www.bbc.co.uk/bitesize/topics/zxhhvcw">https://www.bbc.co.uk/bitesize/topics/zxhhvcw</a>
<b>Wider Reading</b>	Robert Hooke- More than just springs article <a href="http://www.the-scientist.com">www.the-scientist.com</a>	‘Puberty, Reproduction and Birth’ by Oaka Books, Laurence Andrew Page et al. 4 books by Roble H. Harris: ‘It’s Perfectly Normal’ ‘Its Not the Stork’ ‘It’s so Amazing’ ‘Who has What?’ ‘What Makes a Baby’ by Corey Silverberg ‘Where did I Come From’ by Peter Mayle.	Seed dispersal – story of 5 plants reading opportunity (on the one drive)
<b>Literacy Programme</b>	<ul style="list-style-type: none"> <li>Decode it NOW</li> <li>Guided practice/model answers</li> <li>Sentence Starters</li> <li>Writing strategies</li> </ul>	<ul style="list-style-type: none"> <li>Decode it NOW</li> <li>Guided practice/model answers</li> <li>Sentence Starters</li> <li>Writing strategies</li> </ul>	<ul style="list-style-type: none"> <li>Decode it NOW</li> <li>Guided practice/model answers</li> <li>Sentence Starters</li> <li>Writing strategies</li> </ul>
<b>Independent Learning Tasks</b>	Mind-map revision homework Retrieval practice homework Knowledge Organiser practice Questions.	Mind-map revision homework Retrieval practice homework Knowledge Organiser practice Questions.	Mind-map revision homework Retrieval practice homework Knowledge Organiser practice Questions.