

## Curriculum Map: Year 10 Biology

	Half Term 1	Half Term 4	Half Term 5
<b>Topic</b>	<b>Respiration and Metabolism</b>	<b>Homeostasis Control of blood Glucose</b>	<b>Hormonal control of the menstrual cycle and contraception The Nervous system</b>
<b>Intent</b>	Students will learn about the process of aerobic and anaerobic respiration. Students will understand the effects of exercise on respiration. Students will link their knowledge from other topics to consolidate their knowledge of metabolism.	Students to understand the need to control a constant environment in the human body. Understand how glucose levels are controlled within the body and the causes and treatments of diabetes.	Students to understand the need to control a constant environment in the human body. Develop understanding of the role of hormones in reproduction and the development of contraceptive methods. Understand how the nervous system can bring about fast responses.
<b>Key Knowledge</b>	<ul style="list-style-type: none"> <li>• Aerobic respiration equation.</li> <li>• Anaerobic respiration equation for animals, plants and yeast.</li> <li>• Recall what is energy needed for.</li> <li>• Describe the effect of exercise on the body.</li> <li>• Define oxygen debt.</li> <li>• Describe what metabolism includes.</li> </ul>	<ul style="list-style-type: none"> <li>• Definition of homeostasis.</li> <li>• Identify the structures of the endocrine system.</li> <li>• The process of how glucose levels are controlled in the body.</li> <li>• Causes and treatments of diabetes.</li> <li>• Relationship between obesity and diabetes.</li> </ul>	<ul style="list-style-type: none"> <li>• Hormonal control of the menstrual cycle.</li> <li>• How hormones can be used in contraception.</li> <li>• How hormones can be used to treat infertility.</li> <li>• The process of negative feedback.</li> <li>• The pathway of a reflex action.</li> </ul>
<b>Key Skills</b>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions confidently in both written and spoken work.</li> <li>• Comparisons.</li> <li>• Data interpretation.</li> <li>• Use scientific vocabulary, terminology and definitions confidently in both written and spoken work.</li> <li>• Oracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions confidently in both written and spoken work.</li> <li>• Observation.</li> <li>• Drawing.</li> <li>• Interpret diagrams.</li> <li>• Analysis of graphs.</li> <li>• Comparisons.</li> <li>• Data interpretation and evaluation.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions confidently in both written and spoken work.</li> <li>• Evaluation of evidence.</li> <li>• Oracy.</li> <li>• Data and graph interpretation.</li> </ul>
<b>Key Vocabulary</b>	Respiration, aerobic, anaerobic, exothermic, lactic acid, yeast, fermentation, heart rate, breathing rate, oxygen debt, metabolism, reaction.	Homeostasis, endocrine, hormone, thyroid, gland, pituitary, pancreas, receptors, stimuli, optimum, adrenal gland.	Effector, response, coordinator, ovary, testes, follicle stimulating hormone, luteinising hormone, oestrogen, progesterone, ovulation, menstrual cycle, uterus, contraception, In vitro fertilisation, embryo, reflex, sensory, motor neurone.

<b>Key Reading</b>	CGP revision guide BBC bitesize GCSE Combined Science Biology	BBC Bitesize: combined Science Trilogy CGP revision guide	BBC Bitesize: combined Science Trilogy CGP revision guide
<b>End Point</b>	Students are competent in answering structured and longer response exam style questions.	Students are competent in answering structured and longer response exam style questions. Students are competent in answering graph-based questions. Able to structure comparative sentences.	Students are competent in answering structured and longer response exam style questions. Able to structure evaluations. Can interpret diagrams and flow charts.
<b>Form of Assessment</b>	Exam ready questions	Exam ready questions	Exam ready questions
<b>Enrichment Opportunities</b>	Use of outdoor classroom. As Universities start to offer science-based workshops again Y10 will be given the opportunity to take part in trips to local Universities to gain insights into scientific courses and careers. Linked with Duke of Edinburgh there is an opportunity for some students to gain hands on experience in a science career with a Science technician as part of their skills or volunteering section.		
<b>Leadership Opportunities</b>	Year 10 provides a fantastic opportunity for a student to embrace the role of a subject leader which will meet regularly with a teacher from the subject. They will talk to other pupil about the subject and share your views with teachers. They will think about how you can make the subject even more interesting than it is already, as well as examining ways in which students learn effectively. They will tell students and other groups of people what is great about the subject! Students will also be offered to take place in open evening giving them an opportunity to show what skills and knowledge they have developed over the course. Chances to formally present within lessons and take ownership of that process. Student examples to demonstrate good quality work. Group work.		



**AMBITION**



**RESILIENCE**



**COURTESY**



**KINDNESS**