

Sir Thomas Boughey Academy 2018/19

Faculty Area: Science.

Curriculum Map: GCSE Biology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y7 Content and Topics						
Y7 Skills						
Y7 Assessments/PPEs						
Y8 Content and Topics						
Y8 Skills						
Y8 Assessments/PPEs						
Y9 Content and Topics	<p><b><u>Cell structure and transport</u></b>            B1.1 The world of the microscope            B1.2 Animal and plant cells            B1.3 Eukaryotic and prokaryotic cells            B1.4 Specialisation in animal cells            B1.5 Specialisation in plant cells            B1.6 Diffusion            B1.7 Osmosis            B1.8 Osmosis in plants</p>	<p><b><u>Organisation and the digestive system</u></b>            B3.1 Tissues and organs            B3.2 The human digestive system            B3.3 The chemistry of food            B3.4 Catalysts and enzymes            B3.5 Factors affecting enzyme action            B3.6 How the digestive system works</p>	<p><b><u>Organising animals and plants</u></b>            B4.1 The blood            B4.2 The blood vessels            B4.3 The heart            B4.4 Helping the heart            B4.5 Breathing and gas exchange            B4.6 Tissues and organs in plants            B4.7 Transport systems in plants            B4.8 Evaporation and transpiration</p>	<p><b><u>Photosynthesis</u></b>            B8.1 Photosynthesis            B8.2 The rate of photosynthesis            B8.3 How plants use glucose            B8.4 Making the most of photosynthesis</p> <p><b><u>Respiration</u></b>            B9.1 Aerobic respiration            B9.2 The response to exercise</p>	<p><b><u>Communicable diseases</u></b>            B5.1 Health and disease            B5.2 Pathogens and disease  <i>B5.3 Growing bacteria in the lab</i>  <i>B5.4 Preventing bacterial growth</i>            B5.5 Preventing infections            B5.6 Viral diseases            B5.7 Bacterial diseases</p>	<p><b><u>Preventing and treating disease</u></b>            B6.1 Vaccination            B6.2 Antibiotics and painkillers            B6.3 Discovering drugs            B6.4 Developing drugs  <i>B6.5 Making monoclonal antibodies</i>  <i>B6.6 Uses of monoclonal antibodies</i></p>

	<p>B1.9 Active Transport B1.10 Exchanging materials</p> <p><b><u>Cell division</u></b> B2.1 Cell division B2.2 Growth and differentiation B2.3 Stem cells B2.4 Stem cell dilemmas</p>	B3.7 Making digestion efficient		B9.3 Anaerobic respiration B9.4 Metabolism and the liver	B5.8 Diseases caused by fungi and protists B5.9 Human defence responses <i>B5.10 More about plant diseases</i> <i>B5.11 Plant defence responses</i>	
Y9 Skills	B1.2 Using a light microscope B1.8 Effect of concentration of salt or sugar on plant tissue.	B3.3 Food tests for Sugar, Starch and Protein. B3.6 Effect of pH on enzyme activity.		B8.2 The effect of light on the rate of photosynthesis.	<i>B5.4 The effects of antiseptics on bacterial growth.</i>	
Y9Assessments/PPEs		Tracking Assessment		Tracking Assessment		Tracking Assessment End of Year Exam
Y10 Content and Topics	<p><b><u>Non-communicable diseases</u></b> B7.1 Non-communicable diseases B7.2 Cancer B7.3 Smoking and the risk of disease B7.4 Diet, exercise, and disease</p>	<p><b><u>The human nervous system</u></b> B10.1 Principles of homeostasis B10.2 The structure and function of the nervous system B10.3 Reflex actions <i>B10.4 The brain</i> <i>B10.5 The eye</i></p>	<p><b><u>Hormonal coordination</u></b> B11.1 Principles of hormonal control B11.2 The control of blood glucose levels B11.3 Treating diabetes B11.4 The role of negative feedback</p>	<p><b><u>Reproduction</u></b> B13.1 Types of reproduction B13.2 Cell division in sexual reproduction <i>B13.3 The best of both worlds</i> B13.4 DNA and the genome</p>	<p><b><u>Variation and evolution</u></b> B14.1 Variation B14.2 Evolution by natural selection B14.3 Selective breeding B14.4 Genetic engineering <i>B14.5 Cloning</i> <i>B14.6 Adult cell cloning</i></p>	<p><b><u>Genetics and evolution</u></b> <i>B15.1 The history of genetics</i> <i>B15.2 Theories of evolution</i> <i>B15.3 Accepting Darwin's ideas</i> <i>B15.4 Evolution and speciation</i> B15.5 Evidence for evolution</p>

	B7.5 Alcohol and other carcinogens	<p><i>B10.6 Common problems of the eye</i></p> <p><b><u>Homeostasis in action</u></b></p> <p><i>B12.1 Controlling body temperature</i></p> <p><i>B12.2 Removing waste products</i></p> <p><i>B12.3 The human kidney</i></p> <p><i>B12.4 Dialysis – an artificial kidney</i></p> <p><i>B12.5 Kidney transplants</i></p>	<p>B11.5 Human reproduction</p> <p>B11.6 Hormones and the menstrual cycle</p> <p>B11.7 The artificial control of fertility</p> <p>B11.8 Infertility treatments</p> <p><i>B11.9 Plant hormones and responses</i></p> <p><i>B11.10 Using plant hormones</i></p>	<p><i>B13.5 DNA structure and protein synthesis</i></p> <p><i>B13.6 Gene expression and mutation</i></p> <p>B13.7 Inheritance in action</p> <p>B13.8 More about genetics</p> <p>B13.9 Inherited disorders</p> <p>B13.10 Screening for genetic disorders</p>	B14.7 Ethics of genetic technologies	<p>B15.6 Fossils and extinction</p> <p>B15.7 More about extinction</p> <p>B15.8 Antibiotic resistant bacteria</p> <p>B15.9 Classification</p> <p>B15.10 New systems of classification</p>
Y10 Skills		B10.2 reaction times	<i>B11.9 The effect of light or gravity on the growth of seedlings.</i>			
Y10 Assessments/PPEs		Tracking Assessment		Tracking Assessment		Tracking Assessment End of Year Exam
Y11 Content and Topics	<p><b><u>Adaptations, interdependence, and competition</u></b></p> <p>B16.1 The importance of communities</p> <p>B16.2 Organisms in their environment</p> <p>B16.3 Distribution and abundance</p>	<p><b><u>Biodiversity and ecosystems</u></b></p> <p>B18.1 The human population explosion</p> <p>B18.2 Land and water pollution</p> <p>B18.3 Air pollution</p> <p>B18.4 Deforestation and peat destruction</p>	Revision Paper1	Revision Paper 2	Exam Season	

	<p>B16.4 Competition in animals  B16.5 Competition in plants  B16.6 Adapt and survive  B16.7 Adaptation in animals  B16.8 Adaptations in plants</p> <p><b><u>Organising an ecosystem</u></b>  B17.1 Feeding relationships  B17.2 Materials cycling  B17.3 The carbon cycle  <i>B17.4 Rates of decomposition</i></p>	<p>B18.5 Global warming  <i>B18.6 The impact of change</i>  B18.7 Maintaining biodiversity  <i>B18.8 Trophic levels and biomass</i>  <i>B18.9 Biomass transfers</i>  <i>B18.10 Factors affecting food security</i>  <i>B18.11 Making food production efficient</i>  <i>B18.12 Sustainable food production</i></p>				
Y11 Skills	<p>B16.3 Measuring population size: sampling techniques  <i>B17.4 Effect of temperature on the rate of decay.</i></p>					
Y11 Assessments/PPEs		Tracking Assessment GCSE Mock 1		Tracking Assessment GCSE Mock 2		