

Meadow Park School - Curriculum Map 2023-2024



Key Stage	Year Group	Subject	Teacher	Programme of Study		
KS4	Year 10	Science	Trevor Ngawoofah	AQA GCSE Biology		
Autumn a		Autumn b	Spring a	Spring b	Summer a	Summer b
Topic(s)		Topic(s)	Topic(s)	Topic(s)	Topic(s)	Topic(s)
Cell Biology		Bioenergetics	Organisation	Infection and Response	Required Practicals/Revision:	Required Practicals/Revision:
Core Knowledge:		Core Knowledge:	Core Knowledge:	Core Knowledge:	Required Practicals	Required Practicals
Eukaryotes & prokaryotes Animal & plant cells Cell Specialisation Microscopy & calculating magnification Cell division: Meiosis & mitosis Stem cells Transport in cells: Diffusion, osmosis & active transport		Photosynthesis: equation, reactants, products & limiting factors associated with the chemical reaction Investigating the effect of light intensity of the rate of photosynthesis (RP) Uses of glucose from photosynthesis Respiration: aerobic vs anaerobic Factors which affect our metabolism	Principles of organisation: cells, tissues, organs & organ systems The human digestive system: organs involved & the actions of digestive enzymes (RP) The heart and blood vessels: functions & adaptations including the composition of the blood Coronary heart disease Health issues in humans & the effect that lifestyle can have on non-communicable diseases (CHD, cancer) Plant tissues & organs	Pathogens: structures, cellular processes and entry to the body Viral, bacterial, protist & fungal infections Human barriers to infection: skin, stomach acid etc The human immune system: role of lymphocytes and phagocytes in the immune response (antitoxins, antibodies & engulfing of pathogens) The processes of immunisation with vaccines Antibiotic treatment vs painkillers Discovery & development of drugs Plant pathogens & infection: TMV Antibiotic testing and calculation of clear zone using mathematical pi	Microscopes Culturing Microbes Effects of Osmosis on Plant Tissues Food Tests Effect of pH on amylase Photosynthesis Revision of Paper 1 topics	Reaction Times Plant Responses Sampling Organisms Decay Revision of Paper 1 topics
Personal Development/Careers		Personal Development/Careers	Personal Development/Careers	Personal Development/Careers	Personal Development/Careers	Personal Development/Careers
Career focus: Biology, Medical Technologist, Industrial Technologist PD Focus: Health and Well-being Emphasis placed on social skills with the practical investigation task. Are students able to work in a group, listen to ideas and divide a task up fairly before relaying their findings back to their group?		Career focus: Botanist, Agronomist, Food analysis and nutrition PD Focus: Health and Well-being Emphasis placed on social skills with the practical investigation task. Are students able to work in a group, listen to ideas and divide a task up fairly before relaying their findings back to	Career focus: Healthcare sciences and NHS careers, Nutritionist, Health visitor, Gastroenterologist PD Focus: Relationships Listening, speaking, problem solving, creativity, staying positive, aiming high, leadership, teamwork	Career focus: Virologist, zoology, pharmaceutical careers, healthcare Science PD Focus: Relationships Listening, speaking, problem solving, creativity, staying positive, aiming high, leadership, teamwork	Career focus: Healthcare Science PD Focus: Living in the wider world Emphasis placed on social skills with the practical investigation task. Are students able to work in a group, listen to ideas and divide a task up fairly before relaying their findings back to their class	Career Focus Medical Technologist PD Focus: Living in the wider world Emphasis placed on social skills with the practical investigation task. Are students able to work in a group, listen to ideas and divide a task up fairly before relaying their findings back to the group

Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing
<ul style="list-style-type: none"> - Recording research on acids and alkalis clearly spelling key words correctly. - Recording observations from practical tasks clearly. - Writing in full sentences with correct punctuation to answer open ended questions. 	<ul style="list-style-type: none"> - Writing in full sentences with correct punctuation to form conclusions and answers to open ended questions. - Including correctly spelt key words in descriptions. - Applying knowledge of phonics to spell out new words when reading information / methods for practical tasks. 	<ul style="list-style-type: none"> - Reading factual information on diseases and balanced diets, highlighting key facts and using their skills of inference. - Recording observations clearly spelling key words correctly. - Writing conclusions using full sentences and using connectives to include explanations. 	<ul style="list-style-type: none"> - Using deduction to highlight key facts within a text answer short questions. - Using inference to form ideas and opinions about research or a concept/ theory. - Writing in full sentences with correct punctuation to answer open ended questions. 	<ul style="list-style-type: none"> - Recording observations clearly spelling key words correctly. - Writing conclusions using full sentences and using connectives to include explanations. - Applying knowledge of phonics to spell out new words when reading information / methods for practical tasks. 	<ul style="list-style-type: none"> - Reading factual information on adaptations, highlighting key facts and using their skills of inference. - Recording observations clearly spelling key words correctly. - Writing in full sentences with correct punctuation to answer open ended questions.
Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening
<ul style="list-style-type: none"> - Listening carefully to methods ahead of practical skills. - Verbally sharing ideas about practical results/ listening respectfully to the ideas of others. - 	<ul style="list-style-type: none"> - Listening carefully to methods ahead of practical skills. - Verbally sharing ideas about practical results/ listening respectfully to the ideas of others. - 	<ul style="list-style-type: none"> - Speaking respectfully to their peers when working as a team during the practical investigations. - Including key words when verbally explaining results and ideas. 	<ul style="list-style-type: none"> - Listening attentively during verbal explanations recalling the information that has been relayed in video clips. 	<ul style="list-style-type: none"> - Listening carefully to methods ahead of practical skills. - Verbally sharing ideas about practical results/ listening respectfully to the ideas of others. 	<ul style="list-style-type: none"> - Listening attentively during verbal explanations recalling the information that has been relayed in video clips. - Verbally sharing ideas about practical results/ listening respectfully to the ideas of others.
Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning
<ul style="list-style-type: none"> Calculating cell sizes - Reading scales accurately during practical tasks. 	<ul style="list-style-type: none"> - Reading scales accurately during practical tasks. - Interpreting data to form a conclusion and support key facts. 	<ul style="list-style-type: none"> - Reading scales accurately during practical tasks. - Using basic operations to analyse data in order to form a conclusion. - Using deduction to prove or disprove a statement. 	<ul style="list-style-type: none"> - Using basic operations to analyse data in order to form a conclusion. - Using deduction to prove or disprove a statement 	<ul style="list-style-type: none"> - Using basic operations to analyse data in order to form a conclusion. - Using deduction to prove or disprove a statement 	<ul style="list-style-type: none"> - Using basic operations to analyse data in order to form a conclusion. - Using deduction to prove or disprove a statement.
Creative Media	Creative Media	Creative Media	Creative Media	Creative Media	Creative Media
<ul style="list-style-type: none"> - Using ICT to complete online quizzes to assess knowledge and understanding of animal and plant cells - Using Power Point to record research 	<ul style="list-style-type: none"> - Using ICT to watch stimulations of the effect of exercise on the body. - Using SENECA to complete optional online homework/ extension tasks in class. 	<ul style="list-style-type: none"> - Using ICT to visualise how food moves through the digestive system. - Using ICT to visualise how enzymes break down large food molecules. - Using SENECA to complete optional online homework/ extension tasks in class. 	<ul style="list-style-type: none"> - Using ICT to visualise the immune system in action. - Use ICT to research key facts and concepts. 	<ul style="list-style-type: none"> - Using ICT to visualise magnetic fields around magnets. - Using ICT to research key facts about the uses of magnets and electromagnets. - Using Power point to present research. 	<ul style="list-style-type: none"> - Using ICT to visualise how predators and prey interact. - Using SENECA to complete optional online homework/ extension tasks in class.

