

Culcheth High School Key Stage 4 Curriculum Map 2023 - 2024

Subject: Biology Year 11

Exam Board: AQA



CULCHETH
HIGH SCHOOL
THE BEST THAT WE CAN BE

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Key Concepts	Topic 5, 6 and 7 Homeostasis and response, inheritance, variation and evolution. Ecology	Topic 5 and 6 Homeostasis and response, inheritance, variation and evolution	Topic 5 and 6 Homeostasis and response, inheritance, variation and evolution	Topic 5 and 6 Homeostasis and response, inheritance, variation and evolution	Topic 6 inheritance, variation and evolution	Revision
Themes	<p>Topic 5</p> <ul style="list-style-type: none"> • Homeostasis • Human nervous system • Hormonal coordination in humans • Reproduction and contraception <p>Topic 6</p> <ul style="list-style-type: none"> • Reproduction • Genetic inheritance • Variation • Evolution • Selective breeding and genetic engineering 	<p>Topic 5</p> <ul style="list-style-type: none"> • Homeostasis • Human nervous system • Hormonal coordination in humans • Reproduction and contraception <p>Topic 6</p> <ul style="list-style-type: none"> • Reproduction • Genetic inheritance • Variation • Evolution • Selective breeding and genetic engineering 	<p>Topic 6</p> <ul style="list-style-type: none"> • Reproduction • Genetic inheritance • Variation • Evolution • Selective breeding and genetic engineering • Fossils • Resistant bacteria • Classification <p>Triple science also covers</p> <ul style="list-style-type: none"> • The brain • The eye 	<p>Topic 5</p> <ul style="list-style-type: none"> • Homeostasis • Human nervous system • Hormonal coordination in humans • Reproduction and contraception <p>Topic 6</p> <ul style="list-style-type: none"> • Reproduction • Genetic inheritance • Variation • Evolution • Selective breeding and genetic engineering 	<p>Topic 6</p> <ul style="list-style-type: none"> • Reproduction • Genetic inheritance • Variation • Evolution • Selective breeding and genetic engineering • Fossils • Resistant bacteria • Classification <p>Triple science also covers</p> <ul style="list-style-type: none"> • The brain • The eye 	

	<ul style="list-style-type: none"> • Fossils • Resistant bacteria • Classification <p>Topic 7</p> <ul style="list-style-type: none"> • Adaptations, interdependence and competition • Organisation of an ecosystem • Biodiversity and the effect of humans on an ecosystem, <p>Triple science also covers</p> <ul style="list-style-type: none"> • The brain • The eye • Maintaining water and nitrogen balance in the body • Fertility treatment • Plant hormones • DNA structure • Cloning • Theory of evolution <p>Practicals in lessons</p>	<ul style="list-style-type: none"> • Fossils • Resistant bacteria • Classification <p>Triple science also covers</p> <ul style="list-style-type: none"> • The brain • The eye • Maintaining water and nitrogen balance in the body • Fertility treatment • Plant hormones • DNA structure • Cloning • Theory of evolution <p>Practicals in lessons</p>	<ul style="list-style-type: none"> • Maintaining water and nitrogen balance in the body • Fertility treatment • Plant hormones • DNA structure • Cloning • Theory of evolution <p>Practicals in lessons</p>	<ul style="list-style-type: none"> • Fossils • Resistant bacteria • Classification <p>Triple science also covers</p> <ul style="list-style-type: none"> • The brain • The eye • Maintaining water and nitrogen balance in the body • Fertility treatment • Plant hormones • DNA structure • Cloning • Theory of evolution <p>Practicals in lessons</p>	<ul style="list-style-type: none"> • Maintaining water and nitrogen balance in the body • Fertility treatment • Plant hormones • DNA structure • Cloning • Theory of evolution <p>Practicals in lessons</p>	
<p>Writing whole school literacy focus</p>	<p>Scientific writing:</p> <ul style="list-style-type: none"> • Writing a plan 					

	<ul style="list-style-type: none"> ● Drawing a conclusion ● Evaluating a method ● Presenting findings ● Spelling and using scientific vocabulary in the correct context ● Understanding the different Prefixes and Suffixes of scientific vocabulary 					
<p style="text-align: center;">Spiritual, Moral, Social and Cultural theme (SMSC) Fundamental British Values</p>	<p>In Biology in Year 11 we deal with SMSC and British values in the following areas:</p> <ul style="list-style-type: none"> ● Human impact on the environment – How the increase in human population size has had an impact on pollution and global warming. Also, how the increased population size has affected biodiversity. ● Food security – How increased population size and climate change have affected the food supply for different countries. The use of Biotechnology to overcome these issues. ● Gene technology – Moral issues relating to processes such as selective breeding, genetic engineering and cloning. ● Theory of Evolution – Understanding the resistance from religion and the public that Darwin and Wallace faced when writing their papers on the Theory of Evolution as well as their own personal beliefs. ● The causes of variety in human (and other) populations are studied in Meiosis and Variation. Thus an opportunity to reflect on the reasonableness of tolerance of all peoples is provided. ● Moral and social issues are evident when considering the way that microorganisms can evolve and become resistant to antibiotics, and insects can become resistant to pesticides ● Study of classification systems brings to light the many ways in which organisms may be classified according to custom and social mores and thus has a cultural dimension making pupils aware that the scientific framework is not the only way of viewing the natural world ● Impact of non-communicable diseases – Diabetes, Heart disease and Cancer. ● Developing new drugs – The need for animal testing in preclinical drug trials. ● Monoclonal Antibodies – The use of mice in the production of Monoclonal Antibodies. ● Spread of Malaria – Understanding of low socio-economic areas having fewer resources to stop the spread. ● The publication by a doctor that the MMR vaccine is linked to autism without rigorous scientific testing and the implications of this on the health of a generation of children in the UK. ● The use of NHS money to fund treatment associated with obesity and drug/alcohol abuse ● The legal aspects of drug abuse ● The use of stem cells in reproductive research and the cure for inherited diseases ● Embryo selection 					
<p style="text-align: center;">Key Assessment Foci, suggested Assessments and Feedback week</p>	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar
<p style="text-align: center;">Special Events</p>				13-22 nd March National Science and Engineering Week		
<p style="text-align: center;">Possible Visits</p>		Science Live Trip Triple				

**CEIAG - Possible
Employer
Engagement
Activities**

Careers communication / Oracy

- Research and presentation in Space topic (Autumn term 2) and Energy resources topic (summer term 2)
- QWC science exam questions
- Science skills sheets

Teamwork

- Practicals
- Oracy presentations
- Range of group activities throughout course e.g. think pair share, snowballing, debating, project-based learning, talking triads, card sorts

Negation and persuasions

- During practical activities and presentations

Problem solving – working individually and with others to find solutions to problems. e.g.

- Practical skills
- Data analysis,
- Comparison/Evaluate exam questions

Leadership

- During practical activities and presentations

Organisation

- Practical skills – planning, equipment list, implementation, time management
- Exam technique – time management
- Presentations – time management

Perseverance and motivation

- Data analysis
- Evaluate exam questions
- Presentation

Ability to work under pressure

- Timed activities
- QMAs
- PPE

AQA Exam Board – Triple Students will be awarded 3 separate numerical GCSE Science grades one for each Science. 6 exams 1r 45 mins long, 28 assessed pieces of practical work.

AQA Exam Board – Trilogy Students will be awarded 2 numerical GCSE Science grades based on an average of the 3 sciences e.g. 3,4 or 4,5. 6 exams 1r 15 mins long, 21 assessed pieces of practical work