The Acorns School

Overview plans for academic year 2023-2024

Subject: **Biology** **Year group/cohort:** **11**

	Knowledge and Understanding	**Knowledge and Understanding**	**Skills**	**Skills**	**Assessment**	**Subject specific literacy**	**Cross curricular links**
	Components (Key concepts)	Composite (Bigger picture)	Components (Key concepts)	Composite (Bigger picture)	What is being assessed, how, and when?	Key Vocabulary	Including Personal Development and SMSC
Autumn Term 1	Introduce to the endocrine and Nervous Systems. Explore the conditions that must be maintained linking back to previous concepts, such as enzyme activity and diabetes. Understand and explain two mechanisms are vital to support students in developing their comparative skills between these	**B5 Homeostasis**	To plan and carry out an investigation into the effect of a factor on human reaction time	**Required Practical – Reaction Time**	Formative Assessment – Diabetes Formative Assessment – Contraception (WS)	Adrenaline Homeostasis Reflex actions Central nervous system Gland Hormone Effector Receptor Stimulus Contraception Progesterone vasoconstriction vasodilation Phototropism Gravitropism	

	two responses. Understand why both systems are important and think about what would happen to a person if either system was to go wrong linking back to previous content and Health. To understand the structure and function of the eye and brain.		To investigate the effect of light or gravity on the growth of newly germinated seedlings. Eye dissection Brain Dissection	**Required Practical – Plants** **Practical** **Practical**	6 Mark Questions Formative Assessment – Plant Hormones Formative Assessment – The Eye WS End of Topic Assessment		
Autumn Term 2	Investigate the implications of Asexual reproduction and the lack of variation it can lead to, understand and describe	**B6 Variation and evolution**		**Genetics**	Formative Assessment – DNA		Students get the opportunity to study the work of famous scientists Mendel, Lamarck and Darwin and how their discoveries

	Ecosystems and communities. The structure of DNA is introduced linking this to the Human genome project where pupils discuss both the positives and negatives with mapping the entire human genome and its potential applications. Investigate evolution and evaluate the proposed theories of Charles Darwin and Jean Bapiste Lamarck. Comparing both theories, students use research along with application of their working		Use of tally charts to determine probability		Formative Assessment - Evolution		shaped the development of genetics and evolution. Explain the potential benefits and risks of cloning in agriculture and in medicine and that some people have ethical objections

	scientifically skills to decide why Lamarck's theory was rejected in favour of Darwin's.				End of Topic Assessment		
Spring Term 1	Define key terms – communities, biotic and abiotic, biodiversity, and ecosystem. Describe and explain the adaptations of organisms. Describe how to investigate the distribution of organisms in a given area. Discuss how materials are recycled. Discuss the impact of humans on organisms and the environment.	**B7 Ecology**	To measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species To investigate the effect of temperature on the rate of decay of fresh milk by measuring pH change.	**Required Practical Quadrats** **Required Practical Decay**	Formative assessment Quadrats/Sampling Techniques (NUM) 6 Mark Question Formative Assessment Decay End of Topic Assessment	Community Biotic Abiotic Adaptation Biodiversity Ecosystem	

Spring Term 2		**Preparation for GCSE**					
Summer Term 1							
Summer Term 2							

Subject Information including exam board details:

AQA Biology 4461

Careers linked to this subject area:

Biologist

Ecologist

Geneticist

Marine Biologist

Health Care

Paramedic

Medical Careers

Enrichment Opportunities:

Science in the News : Science News Explores | News from all fields of science for readers of any age (snexplores.org)

Seneca Learning Free Homework & Revision for A Level, GCSE, KS3 & KS2 (senecalearning.com)

Focus Educational log in – Interactive Required Practicals https://www.focuselearning.co.uk/u/38146/gbhzCgxzycptBrCnafDAomEiyydluFiqv

BBC Bitesize GCSE Biology (Single Science) - AQA - BBC Bitesize