

2023/24 THE HAYLING COLLEGE- SCIENCE. YEAR 11

	AUTUMN TERM				SPRING TERM				SPRING TERM		
TOPIC ROTATIONS Topics are taught in rotations by specialist teachers (excluding those studying triple science)	HOMEOSTASIS AND RESPONSE	INHERITANCE & VARIATION	EVOLUTION	ECOLOGY	RATES OF REACTIONS	ORGANIC CHEMISTRY AND ANALYSIS	USING RESOURCES AND THE ATMOSPHERE	FORCES AND MOTIONS	WAVES	MAGNETISM AND ELECTROMAGNETISM	Exam Preparation
THE BIG QUESTION	How are conditions in the body controlled?	What are inheritable characteristics	How do living things change over time?	How does our reliance on earth resources have an impact?	How do we use particle theory to explain rates of reactions?	What different contexts would you encounter organic chemistry?	Identify what resources are being depleted from the earth and what problems is this creating	What is the difference between a contact and non-contact force?	What are the properties of a wave?	What creates a magnetic field and how can these fields be used and measured?	Where are the gaps in my scientific knowledge?
ACQUIRED KNOWLEDGE Includes disciplinary (skills based) and substantive precise outcomes for each knowledge bloke. Alongside opportunities to explore SMSC related subjects when appropriate.	Explain how cells only survive when in the correct conditions. Describe how the body controls and responds to the world. <u>Eyes, kidneys brain and plant hormones.</u>	Describe how variation is caused environment & inheritance. Model how dominant and recessive alleles match. <u>DNA and cloning</u>	Identify the evidence of evolution, classification & extinction. <u>Show how peer review produces theories of evolution apply to our modern of genetics.</u>	Describe how competition impacts food chains. Model how materials are recycled and how an increase in human population is impacting ecosystems. <u>Food security</u>	Experimentally measure rates of reactions. Explore how reactions can be reversible and test to see what variables affect them. <u>Le-chatelier</u>	Describe how once-living organisms have become fossil fuels. Sequence how fossil fuels are refined, <u>Functional groups polymers and testing.</u>	Explore how the earth's natural environment is dynamic and changes can be the result of man-made overuse of resources. <u>Haber and plastics.</u>	Analyse forces that act on objects in different ways. Experimental measurement Newtons three laws of motions. <u>Leavers/gear, pressure and momentum safety.</u>	Measure the key characteristics of a wave and links to how they can travel through different states. Explain how the electromagnetic spectrum is used. <u>Seismic sound and light</u>	Draw electromagnetic fields and show how motion and current all interact. <u>Transformers, evidence from outer space.</u>	Review of prior learning through completion of PLCs.
ASSESSMENT Formative assessments are accompanied by a question level analysis and teacher feedback. This is graded using our EDSM criteria and reported to parents termly.	homeostasis and response end of topic formative assessment.	inheritance, variation. end of topic formative assessment. Physics paper 1	Evolution end of topic formative assessment.	Ecology end of topic formative assessment.	rates of reactions end of topic formative assessment. Final mock paper 1	organic chemistry and analysis end of topic formative assessment.	using resources and the atmosphere end of topic formative assessment.	forces and motions end of topic formative assessment.	waves end of topic formative assessment.	magnetism and electromagnetism end of topic formative assessment. Final mock paper 2	Practice papers.
KEY TERMS Each topic is accompanied by a set of key words that are reinforced in each lesson	<u>Biology key terms:</u> *	<u>Biology key terms:</u> *	<u>Biology key terms:</u> *	<u>Biology key terms:</u> *	<u>Chemistry key terms:</u> *	<u>Chemistry key terms:</u> *	<u>Chemistry key terms:</u> *	<u>Physics key terms:</u> *	<u>Physics key terms:</u> *	<u>Physics key terms:</u> *	<u>Word Clouds</u> *
HOMELEARNING Students are expected to study up to an hour each week	fortnightly SENECA tasks & practice paper	fortnightly SENECA tasks	fortnightly SENECA tasks	fortnightly SENECA tasks & practice paper	fortnightly SENECA tasks	fortnightly SENECA tasks	fortnightly SENECA tasks	fortnightly SENECA tasks	fortnightly SENECA tasks & practice paper	fortnightly SENECA tasks	Mock QLA feedforward task and <u>PLCs</u> .*

* Students will need to be members of the science resources google webpage to access these resources. Triple science content