## Curriculum Map: SCIENCE (CORE & COMBINED)



Year 8	Year 9	Year 10	Year 11
TOPIC/KNOW Photosynthese Material Che Heat Transfer Chemical rea Gas exchange Motion  SKILLS Further deve skills, which i - Plan writ met ers and microscopes a, including finding g errors, plotting explaining trends skills: dience equations, ntifying units errages  TOPIC/KNOW Photosynthese Material Che Heat Transfer Chemical rea Gas exchange Motion  SKILLS Further deve skills, which i - Plan writ met spec safe - Cone inve worl inve worl interro and findi erro and and fit	VLEDGE sis mistry rs ctions e systems  SKILLS Further developme skills, which include include: ming investigations: ing detailed hods, naming cific apparatus and ty precautions ducting stigations, including king safely with acids alkalis, Bunsen ners, electrical ipment and roscopes lysing data, including ing and describing ors, plotting graphs explaining trends, drawing lines of best  TOPIC/KNOWLEDG Cells Atomic structure Energy Transport  Planning investigat detailed methods, in specific apparatus a precautions  Conducting investig including working s acids and alkalis, Bu burners, electrical and microscopes  Analysing data, incl finding and describ plotting graphs and trends, and drawing best fit Further mathemati	TOPIC/KNOWLEDGE Combined Science Communicable diseases Quantitative chemistry Atomic structure Non-communicable dise Extracting metals Waves  Int of science Extracting metals Waves  SKILLS Further developing scient skills including; developing method to record accurate results, measuring accurate graph plotting, drawing conclusions and evaluating methods  Gations, afely with unsen Equipment  Develop and learn to ap observational, practical, modelling, enquiry and problem-solving skills in laboratory, in the field at other learning environmethols  Develop the ability to everal skills:  Cal skills:  Cal skills:  Can fair	TOPIC/KNOWLEDGE Combined Science Respiration Organic chemistry Magnetism Inheritance Chemistry of the atmosphere Variation and evolution  SKILLS  of the  ply  the end in ents. raluate of the
fit Further math - Usin equal - Usin unit	nematical skills: ng and rearranging ations ng and converting s  Rearranging equati worded tasks ldentifying and con units	through critical analysis methodology, evidence conclusions, both quality	of the and
	TLEDGE unit Photosynthe Material Che Heat Transfer Chemical rea Gas exchange Motion  SKILLS Further deve skills, which is res and microscopes a, including finding g errors, plotting kplaining trends I skills: cience equations, ntifying units rerages  - Ana find error and and fit  Further math - Usir equ - Usir unit	TOPIC/KNOWLEDGE unit Photosynthesis Material Chemistry Heat Transfers Chemical reactions Gas exchange systems Motion  SKILLS Further development of science skills, which include: - Planning investigations: writing detailed methods, naming specific apparatus and safety precautions - Conducting investigations, including working safely with acids as is kills: clience equations, nitifying units rerages - Analysing data, including finding and describing errors, plotting rerages - Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills: - Using and rearranging equations - Using and converting  TOPIC/KNOWLEDGE Cells Atomic structure Energy Transport  SKILLS Further development skills, which include:  Planning investigations: writing detailed methods, specific apparatus a precautions  Conducting investig including working s acids and alkalis, Bu burners, electrical equipment and microscopes - Analysing data, including finding and describ plotting graphs and trends, and drawing best fit Further mathematical skills: - Using and rearranging equations - Using and converting Identifying and converting  TOPIC/KNOWLEDGE Cells Atomic structure Energy Transport  SKILLS Further development skills, Atomic structure Energy Transport  SKILLS Further development skills, which include:  Conducting investigations: precautions  Conducting investig including working s acids and alkalis, Bu burners, electrical end microscopes Analysing data, incl finding and describ plotting graphs and trends, and drawing best fit Further mathematical skills: - Using and rearranging equations - Using and converting	TOPIC/KNOWLEDGE Photosynthesis Insisation Material Chemistry Heat Transfers Chemical reactions Gas exchange systems Motion  SKILLS SKILLS Further development of science skills, which include: Planning investigations: writing detailed methods, naming specific apparatus and safety precautions less is skills: inence equations, including finding and describing errors, plotting equipment and microscopes - Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills: - Using and converting units  TOPIC/KNOWLEDGE Combined Science Communicable diseases Quantitative chemistry Atomic structure Energy Transport SKILLS Further development of science skills, which include:  SKILLS Further developing scier skills, which include:  SKILLS Further development of science skills, which include:  SKILLS Further developing scier skills, which include:  SKILLS Further developing sciers skills and alkalis, Bunsen burners, electrical equipment and microscopes  Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills:

			<ul> <li>Calculating averages and ranges</li> <li>Rounding numbers to a number of significant digits</li> <li>Presenting answer in standard form</li> </ul>		
Term 2	TOPIC/KNOWLEDGE Forces Atoms, elements and compounds Magnetism  SKILLS Science skills:  - Planning investigations:     writing detailed     methods, safety     precautions - Conducting     investigations, including     safely working with     Bunsen burners and     microscopes - Analysing data, including     finding and describing     errors, plotting graphs     and explaining trends  Mathematical skills: - How to use science     equations, - Using and identifying     units - Calculating averages	TOPIC/KNOWLEDGE Respiration Atmosphere Light Genetics and Evolution  SKILLS Further development of science skills, which include:  - Planning investigations: writing detailed methods, naming specific apparatus and safety precautions  - Conducting investigations, including working safely with acids and alkalis, Bunsen burners, electrical equipment and microscopes  - Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills: - Using and rearranging equations	TOPIC/KNOWLEDGE Separating mixtures Electric circuits Transport in cells  SKILLS Further development of science skills, which include: - Planning investigations: writing detailed methods, naming specific apparatus and safety precautions - Conducting investigations, including working safely with acids and alkalis, Bunsen burners, electrical equipment and microscopes - Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills: - Rearranging equations for worded tasks	TOPIC/KNOWLEDGE Communicable diseases Quantitative chemistry Atomic structure Non-communicable diseases Extracting metals Waves  SKILLS Further developing scientific skills including; developing a method to record accurate results, measuring accurately, graph plotting, drawing conclusions and evaluating methods	TOPIC/KNOWLEDGE Respiration Organic chemistry Magnetism Inheritance Chemistry of the atmosphere Variation and evolution  SKILLS Further developing scientific skills including; developing a method to record accurate results, measuring accurately, graph plotting, drawing conclusions and evaluating methods

		<ul> <li>Using and converting units</li> <li>Calculating averages and ranges</li> </ul>	<ul> <li>Identifying and converting units</li> <li>Calculating averages and ranges</li> <li>Rounding numbers to a number of significant digits</li> <li>Presenting answer in standard form</li> </ul>		
Term 3	TOPIC/KNOWLEDGE	<i>TOPIC/KNOWLEDGE</i> Matter	TOPIC/KNOWLEDGE	TOPIC/KNOWLEDGE  Combined Science	TOPIC/KNOWLEDGE Content Review and
	Nutrition and Digestion Acid and metal reactions	Sound	Digestive enzymes Structure and bonding	Electrolysis	Examination Preparation
	Electricity	Geology Project	Matter	Energy changes and rates of	<u> </u>
	Ecosystems	Ecology Project	Bone composition project	reaction	Students will revisit and review
	Space	SWI I S		Ecology	the content of the examination
		SKILLS Further development of science	SKILLS		units
	SKILLS	skills, which include:	Further development of science	SKILLS	
	Science skills:  - Planning investigations: writing detailed methods, safety precautions  - Conducting investigations, including safely working with Bunsen burners and microscopes  - Analysing data, including finding and describing errors, plotting graphs and explaining trends  Mathematical skills:	<ul> <li>Planning investigations:         writing detailed         methods, naming         specific apparatus and         safety precautions</li> <li>Conducting         investigations, including         working safely with acids         and alkalis, Bunsen         burners, electrical         equipment and         microscopes</li> <li>Analysing data, including         finding and describing</li> </ul>	skills, which include:  - Planning investigations: writing detailed methods, naming specific apparatus and safety precautions - Conducting investigations, including working safely with acids and alkalis, Bunsen burners, electrical equipment and microscopes	Further developing scientific skills including; developing a method to record accurate results, measuring accurately, graph plotting, drawing conclusions and evaluating methods  Develop and learn to apply observational, practical, modelling, enquiry and problem solving skills in the	Combined Science: Paper 1 Biology Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics. Paper 2 Biology Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.  Paper 1 Chemistry Chemistry topics 8–12: Atomic structure and the periodic table:
	How to use science equations     Using and identifying units     Calculating averages	errors, plotting graphs and explaining trends, and drawing lines of best fit  Further mathematical skills:  - Using and rearranging equations  - Using and converting units	Analysing data, including finding and describing errors, plotting graphs and explaining trends, and drawing lines of best fit Further mathematical skills: Rearranging equations	problem-solving skills in the laboratory, in the field and in other learning environments.  Develop the ability to evaluate claims based on science through critical analysis of the methodology, evidence and	structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.  Paper 2 Chemistry Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry: Chemical

for worded tasks

Organic chemistry; Chemical

units

	- Calculating averages and ranges	<ul> <li>Identifying and converting units</li> <li>Calculating averages and ranges</li> <li>Rounding numbers to a number of significant digits</li> <li>Presenting answer in standard form</li> </ul>	conclusions, both qualitatively and quantitatively.	analysis; Chemistry of the atmosphere; and Using resources.  Paper 1 Physics Physics topics 18–21: Energy; Electricity; Particle model of matter; and atomic structure. Paper 2 Physics Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism  SKILLS Further developing scientific skills including; developing a method to record accurate results, measuring accurately, graph plotting, drawing conclusions and evaluating methods  Develop and learn to apply observational, practical, modelling, enquiry and problemsolving skills in the laboratory, in the field and in other learning
				Develop and learn to apply observational, practical, modelling, enquiry and problem-
				Develop the ability to evaluate claims based on science through critical analysis of the methodology, evidence and conclusions, both qualitatively and quantitatively.
Career Pathways			-	