

HOLMER GREEN SENIOR SCHOOL – CURRICULUM INFORMATION

Subject: SCIENCE

Year Group:	7 +8
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	NA
Assessment requirements:	For every topic students will complete a SOLO assessment. They will also complete an open book test for exam practice. For each assessment point they will complete a test included all content learnt in Science up to that point. This grade will be reported.
Scheme of work overview:	<p>Year 7 Biology- Cells, movement, Interdependence, Plant Reproduction, Variation, Human Reproduction</p> <p>Chemistry- Particle Model, Separating Mixtures, Metals and non-metals, Acids and Alkalis, Earth Structure</p> <p>Physics- Speed, Gravity, Current, Voltage and Resistance, Energy Costs, Energy Transfers, Sound and Light</p> <p>Year 8 (old KS3 SOW) Biology- Photosynthesis, Respiration and Circulation, Reproduction and Growth, Ecosystems</p> <p>Chemistry- Acids and Alkalis, Materials and everyday Chemistry, Earth and Atmosphere</p> <p>Physics – Energy, Waves, Space</p>
Reading materials/resources:	KS3 Science Study Guide ISBN: 978 1 84146 385 8

Year Group:	9
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	Students will complete continual Required Practicals throughout the GCSE. For every topic students will complete a SOLO assessment. They will also complete an open book test for exam practice. For each assessment point they will complete a test included all content learnt in Science up to that point. This grade will be reported.

Scheme of work overview:	How Science Works intro unit Biology- Cells and Transport, Organisation, Ecology Chemistry- Atomic Structure and the Periodic Table, Chemistry of the Atmosphere, Using Resources, Organic Chemistry Physics- Forces 1, Matter, Waves, Forces 2
Reading materials/resources:	Trilogy Higher ISBN 978 1 78294 559 8 Foundation ISBN 978 1 78294 560 4 Triple Biology ISBN 978 1 78294 556 7 Chemistry ISBN 978 1 78294 557 4 Physics ISBN 978 1 78294 558 1

Year Group:	10
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	Students will complete continual Required Practicals throughout the GCSE. For every topic students will complete a SOLO assessment. They will also complete an open book test for exam practice. For each assessment point they will complete a test included all content learnt in Science up to that point. This grade will be reported.
Scheme of work overview:	Biology- Infection, Homeostasis, Reproduction Chemistry- Chemical Analysis, Rates, Chemical Changes, Energy Changes, Bonding Physics- Electricity, Space, Radiation
Reading materials/resources:	Trilogy Higher ISBN 978 1 78294 559 8 Foundation ISBN 978 1 78294 560 4 Triple Biology ISBN 978 1 78294 556 7 Chemistry ISBN 978 1 78294 557 4 Physics ISBN 978 1 78294 558 1

Year Group:	11
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	Students will complete continual Required Practicals throughout the GCSE. For every topic students will complete a SOLO assessment. They will also complete an open book test for exam practice. For each assessment point they will complete a test included all content learnt in Science up to that point. This grade will be reported.
Scheme of work overview:	Biology- Bioenergetics, Variation and Evolution Chemistry- Quantitative Chemistry Physics- Forces 3, Magnetism
Reading materials/resources:	Trilogy Higher ISBN 978 1 78294 559 8 Foundation ISBN 978 1 78294 560 4 Triple Biology ISBN 978 1 78294 556 7 Chemistry ISBN 978 1 78294 557 4 Physics ISBN 978 1 78294 558 1

Year Group:	12- Biology
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	No formal Assessments in year 12 unless the AS qualification is taken Practical grade from continuous assessment throughout the course AS 2 written exams A2 3 Written exams
Scheme of work overview:	Biological molecules Cells Organisms exchange substances with their environment Genetic information, variation and relationships between organisms Energy transfers in and between organisms (A-level only) Organisms respond to changes in their internal and external environments (A-level only) Genetics, populations, evolution and ecosystems (A-level only) The control of gene expression (A-level only)

Reading materials/resources:	AQA Biology A Level- Student Book 978 019 835177 1
-------------------------------------	-------------------------------------------------------

Year Group:	12- Chemistry
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	No formal Assessments in year 12 unless the AS qualification is taken Practical grade from continuous assessment throughout the course AS 2 written exams A2 3 Written exams
Scheme of work overview:	Physical chemistry Atomic structure Amount of substance Bonding Energetics Kinetics Chemical equilibria, Le Chatelier's principle and K_c Oxidation, reduction and redox equations Thermodynamics (A-level only) Rate equations (A-level only) Equilibrium constant K_p for homogeneous systems (A-level only) Electrode potentials and electrochemical cells (A-level only) Acids and bases (A-level only) Inorganic chemistry Periodicity Group 2, the alkaline earth metals Group 7(17), the halogens Properties of Period 3 elements and their oxides (A-level only) Transition metals (A-level only) Reactions of ions in aqueous solution (A-level only) Organic chemistry Introduction to organic chemistry Alkanes Halogenoalkanes Alkenes Alcohols Organic analysis
Reading materials/resources:	AQA Chemistry A Level Student Book 978 019 835182 5

Year Group:	12- Physics
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	AQA
Assessment requirements:	No formal Assessments in year 12 unless the AS qualification is taken Practical grade from continuous assessment throughout the course

	AS 2 written exams A2 3 Written exams
Scheme of work overview:	Core Content Measurements and their errors Particles and radiation Waves Mechanics and materials Electricity Further mechanics and thermal physics (A-level only) Fields and their consequences (A-level only) Nuclear physics (A-level only) Options Astrophysics (A-level only) Medical physics (A-level only) Engineering physics (A-level only) Turning points in physics (A-level only) Electronics (A-level only)
Reading materials/resources:	AQA Physics A Level Student Book 978 019 835187 0

Year Group:	12 and 13
Exam Board: <i>(For years 10, 11, 12 and 13 only)</i>	Edexcel BTEC
Assessment requirements:	Continuous written assignments A minimum of a pass grade must be achieved in all assignments
Scheme of work overview:	Unit 1- Fundamentals of Science Unit 2- Working in the Science Industry Unit 4- Scientific Practical Techniques 18- Genetics and Genetic Engineering 31- Criminology 32- Forensic Evidence Collection and Analysis
Reading materials/resources:	BTEC Level 3 National Applied Science Student Book ISBN: 9781846906800