

All Hallows RC High School

Specialising in Business, Enterprise & Sports



SCIENCE CURRICULUM OVERVIEW

M. BEACOM

September 2021



WE AIM FOR ALL HALLOWS RC
BUSINESS, ENTERPRISE AND SPORTS COLLEGE TO BE A
CATHOLIC SCHOOL
TO WHICH CHILDREN WISH TO COME
TO WHICH PARENTS WISH TO SEND THEIR CHILDREN
AND WHERE TEACHERS
WISH TO TEACH

OUR MISSION IS TO OFFER A
HIGH QUALITY
CATHOLIC EDUCATION
FOR ALL, IN AN ENVIRONMENT WHERE
GOSPEL VALUES ARE CENTRAL
TO TEACHING AND LEARNING
AND IN WHICH THE
UNIQUE VALUE
OF EACH PERSON IS
RECOGNISED AND RESPECTED

Curriculum Intent

At All Hallows Science Department, we aim to give our pupils a KS3 & KS4 curriculum that is broad, balanced and relevant. We want to promote a love for learning and enquiry, as well as making science engaging and intellectually challenging. We strive for our pupils to learn and master skills which will help them understand and process the Science of yesterday, today and the future.

- **We aim** to create engaging lessons that promotes teaching for understanding rather than covering fragmented content.
- **We aim** to teach the pupils the KS3 National curriculum and use a logical order of objectives which uses big ideas to equip students for success at GCSE later on and in life.
- **We aim** to group topics so they are in a sequenced and logical order; a spiral idea where topics have a natural progression in order of increasing difficulty and understanding.
- **We aim** to have a bigger focus on practical skills in each topic so pupils are better prepared for 'working scientifically' type questions
- **We aim** for assessments to be interleaved so pupils are constantly revisiting previous topics to ensure their learning is holistic and not in a modular format.
- **We aim** to use various strategies to make sure pupils remember what they need to learn and retain it in their long term memory.

How will we do it?

- To develop scientific **knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics.
- To develop critical **thinkers** by understanding the **nature, processes** and **methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them.
- To be equipped with the scientific knowledge required to understand the **uses** and **implications** of science, today and for the future.
- To be **scientifically literate (fundamental and derived)** and therefore make informed decisions about everyday life and have an understanding of how

science is practised by being able to describe, analyse and evaluate scientific charts, texts and graphs.

- To have an **appreciation for the natural world** around them and how to maintain a balanced lifestyle
- To have **fundamental experimental skills** to develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience.

KS3 Order of Teaching 2021/2022

Year	Term 1	Term 2	Term 3
7	<ol style="list-style-type: none"> Matter – Particle model and separating mixtures Reactions – Metals, non-metals and acids-alkali (a) Earth – structure 	<ol style="list-style-type: none"> (b) Earth: Universe Energy – Energy costs and energy transfer Forces – Speed and Gravity 	<ol style="list-style-type: none"> Electromagnetism – Voltage, resistance and current Waves – Sound and light Ecosystems – Independence and plant reproduction
8	<ol style="list-style-type: none"> Organisms – Movement and cells Genes – variation and human reproduction Matter – Periodic table and elements 	<ol style="list-style-type: none"> Reaction – chemical energy and types of reaction Earth – climate and Earths resources Electromagnetism – Magnetism and electromagnetism 	<ol style="list-style-type: none"> Waves – wave effects and wave properties Energy – work, heating and cooling Forces – contact, forces and pressure
9	<ol style="list-style-type: none"> Organisms – breathing and digestion Ecosystems – respiration and photosynthesis Genes – Evolution and inheritance 	GCSE	GCSE

Assessment Year 7: 1, 2+3a, 3b*, 4+5, 6+7, 8

Assessment Year 8: 9+10, 11*, 12+13, 14, 15+16, 17

Assessment Year 9: 18, 19+20

More detail about what is taught in each section can be found using this link:

<https://filestore.aqa.org.uk/resources/science/specifications/AQA-SCIENCE-KS3-SYLLABUS.PDF>

KS4 Order of Teaching 2021/2022

Year	Term 1		
9	B7: Ecology Assessments Keywords	C1: Atomic Structure Assessments Keywords	P3: Particle Model of Matter Assessments Keywords
Practical	Quadrats Decay	Chromatography	SHC Density
10	B4: Bioenergetics Assessments Keywords	C2: Structure and Bonding Assessments Keywords	P1: Energy Assessments Keywords
Practical	Photosynthesis		Thermal Insulation
11	5b. Homeostasis and Response (Hormones) Assessments Keywords	C7: Organic Chemistry Assessments Keywords C9: Chem of the Atmosphere Assessments Keywords	P2: Electricity Assessments Keywords
Practical	Plant responses		Resistance I-V Characteristics

Year	Term 2		
9	B2: Organisation Assessments Keywords		P6: Waves Assessments Keywords
Practical	Osmosis, Enzymes, Food Tests		Ripple tank, Radiation and Absorption Refraction and Reflection
10	B3: Infection and Response Assessments Keywords	C4: Chemical Change Assessments Keywords	P5: Forces and Motion Assessments Keywords
Practical	Microbiology	Making salts, Electrolysis, Neutralisation	Extension of the spring, Acceleration
11	B6: Inheritance, Variation and Evolution Assessments Keywords	C10: Using Resources Assessments Keywords C8: Chemical Analysis Assessments Keywords	P7: Magnetism and electro-magnetism Assessments Keywords
Practical		Water purification, Chromatography, Identifying ions	

Year	Term 3		
9	B1: Cell Biology Assessments Keywords	C5: Energy Changes Assessments Keywords C6: Rates Assessments Keywords	Skills in Science
Practical	Microscopy	Temp changes, Rates	
10	B5a: Homeostasis and Response (Nerves) Assessments Keywords	C3: Quantitative Chemistry Assessments Keywords	P4: Radioactivity Assessments Keywords P8: Space Assessments Keywords
Practical	Reaction time		

More detail about what is taught in each section can be found using this links. Select combined science trilogy or one of the separate science links (Biology, Chemistry, & Physics).

Combined Science: <https://www.aqa.org.uk/subjects/science/gcse>

#TheAllHallowsWay



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