

Hartford Church of England High School – Year 8 – Science

Year 8	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Topic(s)	8A and 8D – Food, Nutrition and Microbes	8E – Combustion	8B – Plant growth & Their reproduction	8K – Energy	8J – Light	8C – Breathing and Respiration
Focus	Types & uses of different nutrients Organs involved in digestion Role of enzymes Bacteria & decomposers	Products of combustion Oxidation reactions Fire Safety Air pollution Global warming Dalton's atomic model	Classification of plants Types of reproduction Pollination Fertilisation & dispersal Life cycle of a plant	Temperature changes Energy transfer by heating Making energy transfers efficient Calculation of power	Light v sound waves Reflection of light Refraction of light Cameras v eyes Coloured objects	Aerobic respiration Breathing & gaseous exchange Transport of oxygen Anaerobic respiration
Vocabulary	Digestion, Carbohydrate, Protein, Deficiency, Enzyme, Absorption, Diffusion, Soluble, Villus, Kilojoules	Oxidation, Oxide, Exothermic, Independent Variable, Pollutant, Esthma, Phlogiston, Element, Compound, Soot.	Classification, Biodiversity, Genus, Species, Pollination, Fertilisation, Dispersal, Germination, Photosynthesis, Respiration	Evaporate, Temperature, Conduction, Convection, Density, Radiation, Thermal, Efficiency, Power, Sankey diagram	Transparent, Translucent, Opaque, Reflection, Refraction, Incidence, Specular, Diffuse, Lens, Filter	Aerobic, Anaerobic, Ventilation, Diffusion, Haemoglobin, Capillary, Gills, Stomata, Oxygen, Respiration
Assessment	Midstake - Application of Knowledge - The Journey of a Cheese Sandwich	Midstake - Application of Knowledge - Making Magnesium Oxide	Midstake - Application of Knowledge - How Do Plants Grow?	Midstake - Experimental Skills & Investigation - Investigation Insulation	Midstake - Application of Knowledge - Light Effects	Midstake - Knowledge Recall - What Happens When We Exercise?
Curriculum Thread	Structure & Function of Living Organisms, Humans & Animals, Plants & The Environment	Matter, The Periodic Table, Chemical Reactions and The Earth & Atmosphere	Structure & Function of Living Organisms, Humans & Animals, Plants & The Environment	Energy, Motion & Forces, Waves and Electricity & Magnetism	Energy, Motion & Forces, Waves and Electricity & Magnetism	Structure & Function of Living Organisms, Humans & Animals, Plants & The Environment
Wider Reading	Joe Wicks Eat well guide BBC Bitesize	Periodic Table of Videos by Martyn Poliakoff Uncle Tungsten – Oliver Sachs BBC Bitesize	David Attenborough The Selfish Gene – Richard Dawkins BBC Bitesize	Richard Hammond blast lab Catalyst magazine KS3 revision guides from CGP	The Magic of Reality by Richard Dawkins BBC Bitesize	Horrible Sciences Pig Heart Boy New Scientist Biological Sciences Review BBC Bitesize

Year 8	Topic 7	Topic 8	Topic 9	Topic 10	Topic 11	Topic 12
Topic(s)	8G metal uses & their reactions	9A Genetics & evolution	9J – Force fields & Electromagnets	8H – Rocks	8I – Fluids & 9E – Materials	8L – Earth & Space
Focus	Properties of metals Reactions involving metals (water & acid) Reactivity of metals Making alloys	Types of variation DNA & inheritance Natural selection Extinction	Magnetic fields Electrostatic fields Current & resistance Electromagnets Distance/time graphs & speed	Describing rocks Types of rock Weathering & erosion The rock cycle	Investigating density Changes of state Pressure in fluids	Models of the solar system The seasons Weight & gravity Beyond the solar system
Vocabulary	Rust, Corrosion, Anomalous, Repeatable, Reliable, Accurate, Reproducible, Effervescence, Alloy, Acid.	Variation, Classification, Inherit, DNA, Chromosome, Extinction, Gene, Evolution, Natural Selection	Force field, Gravitational/Electric/Magnetic field, Non-contact, Mass, Weight, Electrons, Charge, Resistance, Current, Potential difference, Electromagnet	Grain, mineral, Permeable, Interlocking, Igneous, Metamorphic, Sedimentary, Magma, Weathering, Freezethaw, Rock	Density, Volume, Mass, Change of state, Anomalous, Freezing, Evaporate, Condenses, Pressure, Fluids	Earth, Moon, Planet, Star, Sun, Elliptical, Phase, Equator, Hemisphere, Satellite.
Assessment	Midstakes - Making Magnesium Oxide or Investigating How Metals React – Experimental skills and investigations	Midstakes - Investigating Variation in Peas – Application of knowledge	Midstakes - Electromagnetic Strength - Experimental skills and investigation	Midstakes - The Rock Cycle - Knowledge recall	Midstakes - Investigating How Metals React – Experimental skills and investigation	Midstakes - Interplanetary Postcards – Application of knowledge
Curriculum Thread	Matter, The Periodic Table, Chemical Reactions and The Earth & Atmosphere	Structure & Function of Living Organisms, Humans & Animals, Plants & The Environment	Energy, Motion & Forces, Waves and Electricity & Magnetism	Matter, The Periodic Table, Chemical Reactions and The Earth & Atmosphere	Matter, The Periodic Table, Chemical Reactions and The Earth & Atmosphere	Energy, Motion & Forces, Waves and Electricity & Magnetism
Wider Reading	Stuff Matters: Exploring the Marvelous Materials That Shape Our Man-Made World Mark Miodowni	Amazing evolution: The Journey of life by Anna Claybourne On the origin of species by Charles Darwin	The science books of magnets: Neil Ardley Marvellous magnets: the science of magnetism: John Lesley	Geology for kids: a junior scientists guide to rocks, minerals and the earth beneath our feet Everything: rocks and minerals (National Geographic)	Stuff Matters: Exploring the Marvelous Materials That Shape Our Man-Made World Mark Miodownik The New Science of Strong Materials: Or	Exploring the Cosmos with James Webb: The Next Generation Space Telescope BBC news- space exploration

	Rocks and Minerals to Aluminum by Robin Johnson				Why You Don't Fall through the Floor J.E. Gordon.	
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