

CEIAG in the Curriculum KS3 Science

Careers, Education, Information, Advice and Guidance - Teachers make links with careers/real world applications in teaching Science through:

<u>Year Group</u>	<u>Subject Topic</u>	<u>Link to CEIAG</u>	<u>Half term it is scheduled to be covered in</u>
7	Chemistry 1 In Chemistry 1 we will be looking at particle theory, learning about elements and compounds and introducing acids and alkalis. Biology 1 In Biology 1 we will using microscopes to observe plant and animal cells, we will look at the role of DNA and study the adaptation of animals to their environments. Physics 1 In Physics 1 we will be looking at energy stores, forces and introducing electricity.	Pharmaceuticals, Education Environmental Scientist Engineer, Electrician	Year 7 term 1
7	Chemistry 2 In Chemistry 2 we will be looking at change of state, chemical reactions and physical reactions, and finally the composition on air. Biology 2 In Biology 2 we will study the organisation of organs in the body, sexual reproduction and photosynthesis in plants. Physics 2 In Physics 2 we will be looking at speed and how to calculate it, balanced and unbalanced forces and finally light and sound	Pollution Scientist, Pharmaceuticals Health Scientist, Gardener, Medic Sound / Light Man, Law Enforcement, Construction	Year 7 term 2
7	Chemistry 3 In Chemistry 3 we will learn about symbols and word equations, look at neutralisation reactions and finally endo and exothermic reactions. Biology 3 In Biology 3 we will look at asexual reproduction, respiration in plants and animals, evolution and look at relationships in nature in terms of food chains Physics 3 In Physics 3 we will be looking electric circuits, how electromagnets work, space and renewable energy sources	Chemical Engineer, Pharmaceuticals, fireman, Plant Scientist, Environmental Scientist, Doctor, midwife, palaeologist, ecologist, Astronomer, Electrician, Environmental Scientist, power station employee	Year 7 term 3

<u>Year Group</u>	<u>Subject Topic</u>	<u>Link to CEIAG</u>	<u>Half term it is scheduled to be covered in</u>
8	Practical Skills In this module we will be looking at variables, Planning an investigation, writing a method and drawing graphs Chemistry 1 In Chemistry 1 we will be looking at states of matter, metals & non-metals, chemical & physical changes, the periodic table, metal oxides and the reactivity series. Physics 1 In Physics 1 we will be looking at forces, pressure and speed	Research Chemist, Lab Technician Chemical Engineer, Education, chemical engineer, pharmacologist, research scientist Building Industry, Law Enforcement, race car designer, civil engineer	Year 8 term 1
8	Biology 1 In Biology 1 we will study respiration, enzymes, balanced diets and breathing Chemistry 2 In Chemistry 2 we will be looking at Metal Ores, The Carbon Cycle, Recycling and Thermal Decomposition Physics 2 In Physics 2 we will be commencing at heat losses and electrical circuits	Health Sciences, Dietician, Medic, vet, nurse, midwife, personal trainer Environmental Scientist, Education, crude oil scientist, electroplater, jeweller, environmentalist Construction, Product Design, Electrician	Year 8 term 2
8	Biology 2 In Biology 2 we will study evolution, photosynthesis, genetics, biodiversity Physics 3 In Physics 2 this term we will be concluding heat losses and electrical circuits. Practical Skills In this module we will be looking at practical skills that will be required for the GCSE courses in year 9.	Geneticist, Environmental Scientist, Botanist, farmer, gardener Construction, Product Design, Electrician Research Scientist, Lab Technician,	Year 8 term 3

Key Stage 4

<u>Year Group</u>	<u>Subject Topic</u>	<u>Link to CEIAG</u>	<u>Half term it is scheduled to be covered in</u>
KS4 topics	Homeostasis	Doctor / Nurse / Vet Opticians / Pharmacy Other Health Care	Year 9 half term 4 Year 10 half term 4 Year 11 half term 1
	Cell Biology	Doctor / Nurse / Vet Opticians / Pharmacy Other Health Care	Year 9 half term 1
	Atomic Structure	Chemist Lab technician	Year 9 half term 1
	Electricity	Electrician	Year 9 half term 3 Year 10 half term 1
	Energy	Engineering	Year 9 half term 1
	Chemical Energy Changes	Engineering Product Designer	Year 9 half term 1 Year 10 half term 1 Year 11 half term 1
	Bioenergetics	Agriculture	Year 9 half term 2 Year 10 half term 2
	Ecology	Agriculture / Zoology Nature Conservation Palaeontologist	Year 9 half term 2 Year 10 half term 6
	Infection & response	Doctor / Nurse / Vet Opticians / Pharmacy Other Health Care	Year 9 half term 3 Year 10 half term 3
	Forces	Engineering / Construction Rocket Scientist / Astronaut Pilot	Year 9 half term 4 Year 10 half term 4 Year 11 half term 4
	Chemistry of the atmosphere	Climate Change Scientist Astrophysics / Archaeologist Palaeontologist	Year 9 half term 4 Year 10 half term 4
	Particle Model	Astrophysics / Pharmaceuticals Bio-Medical Science	Year 9 half term 6 Year 10 half term 6
	Waves and radiation	Nuclear Physicist Communications Engineer	Year 9 half term 6 Year 10 half term 6 Year 11 half term 2

Key Stage 5

<u>Year Group</u>	<u>Subject Topic</u>	<u>Link to CEIAG</u>	<u>Half term it is scheduled to be covered in</u>
<u>12</u>	Biology units	Microbiologist, Physiotherapist, Dietician Radiologist, Pharmacist, Nurse, Dental Technician, Clinical Scientist, Research Scientist.	Students cover this all year as the content is split between teachers
	Chemistry units	Lab Technician, Biochemist, Pharmacist, Formulation Technician	
	Physics	Medical Imagery, Radiologist, Sound Technician, H&S Inspector, Food Standard Inspector	
<u>13</u>	Biology units In these units students will study cell structure, specialised cells, and specialised tissues. They will then study how tissues are linked to diseases such as atherosclerosis COPD, IBS and crones	Microbiologist, Physiotherapist, Dietician, Radiologist, Pharmacist, Nurse, Dental Technician, Clinical Scientist, Research Scientist, Biomedical Scientist	
	Chemistry units In these units students study different types of bonding, polar and dipolar molecules, oxidation states, chemical ions and relate these fundamental chemical properties to manufacturing and industry.	Lab Technician, Biochemist, Pharmacist, Formulation Technician, Analytical Chemist	
	Physics In these units students will study different waves, the electromagnetic spectrum, refraction, dispersion and optical fibres. This will then be related to the use of waves in communication systems.	Medical Imagery Technician, Radiologist, Radiographer, Sound Technician, H&S Inspector, Food Standard Inspector	
	Biology units In these units students will study different organs and organ systems in the body such as the lungs, heart and the urinary system. They will also study microbiology and the use of aseptic techniques	Cardiologist, Radiologist, Physiotherapist, Nurse, Microbiologist, Pathologist, Histologist, Biomedical Scientist	
	Chemistry In these topics students will study the properties and uses of different chemical substances, electrolysis and the extraction of metals from their ores. They will also study organic chemistry including alkenes alkanes and alcohols. Students will also have the opportunity to make different pharmaceuticals such as paracetamol and banana oil.	Environmental Scientist, Drug Researcher/Developer, Formulation Technician, Analytical Chemist	
	Physics In these topics students will study thermal physics, properties and uses of materials and fluid dynamics. They will then apply this knowledge to actual uses of these concepts such as mechanical engines and structural engineering.	Communication Technician, Mechanical Engineer, Structural Engineer, Architect, Electrical Engineer	