



Founded in 1888

Queen Elizabeth's Girls' School

Educating Women of the Future

Year 7 Science

Year 7 - Science - Autumn term 1st half

Unit of work	Knowledge	Skills
Working Scientifically, Acids and Alkalis	<ul style="list-style-type: none"> ● Identify scientific questions and understand that some questions cannot be answered by science. ● Understand why we repeat experiments ● Know the difference between concentrated and dilute, be able to recognise from a diagram of particles. ● Know the pH scale measures how acidic or alkaline something is and identify strong/weak acids and strong/weak alkalis ● Name some examples of indicators and describe how they are used ● Explain the process of neutralisation ● Describe how salts can be made including word equations 	<ul style="list-style-type: none"> ● Recording Data ● Identify Which type of graph to draw and correctly plot it ● Analysing Data ● Evaluating Data ● Practical skills
<p>Key Terms: Acid, Alkali, base, neutral, indicator, pH scale, concentrated, dilute, neutralisation, salt, investigation, data, independent, dependent variable, control variable, prediction, repeatable, reproducible, continuous, discrete, categoric, range, accurate, precise</p>		
<p>Course materials: Kerboodle, Activate 1</p>		
<p>Homework will include: Online Quizzes on working scientifically and Acids and Alkalis</p>		
<p>Assessment details: In class test on working scientifically, acids and alkalis. Baseline Assessment during progress week 1</p>		

Year 7 - Science - Autumn term 2nd half		
Unit of work	Knowledge	Skills
Particles and their behaviour, Forces and Electromagnets	<ul style="list-style-type: none"> Understand the idea of materials being made of different particles Draw particle models for solid liquid gas, know if they can be compressed, change shape or flow Describe and name the changes of state Explain the process of diffusion and factors which affect it. Give examples of forces Identify balanced and unbalanced forces Describe magnetism and magnetic fields Be able to categorise forces into either contact or non contact forces Describe how an electromagnet is made and how it works 	<ul style="list-style-type: none"> Interpreting data Measuring forces Using scientific apparatus Recording observations
<p>Key Terms: change of state, melting point, freezing point, boiling point, condensation, diffusion, interaction pairs, contact force, non-contact force, extensi, elastic limit, electrostatic force, mass, weight</p>		
<p>Course materials: Kerboodle, Activate 1</p>		
<p>Homework will include: Tasks based on previous learning - working scientifically, acids and alkalis, particles and their behaviour.</p>		
<p>Assessment details: Online Quizzes on Particles and their behaviour and Forces and in class test on Online Quizzes on Particles and their behaviour, Forces and electromagnets</p>		

Year 7 - Science - Spring term 1st half		
Unit of work	Knowledge	Skills
Cells and Reproduction	<ul style="list-style-type: none"> Describe the similarities and differences between plant and animal cells Describe the role of key parts of cells Recognise and describe the adaptations of specialised cells Describe the changes that happen to boys and girls during puberty Be able to label key parts of reproductive organs Describe the process of fertilisation Explain the menstrual cycle Describe plant reproductive organs in plants Describe germination and pollination 	<ul style="list-style-type: none"> Using a microscope Scientific drawings Labelling scientific diagrams
<p>Key Terms: Puberty, Adolescence, fertilisation, implantation, fetus, unicellular, diffusion</p>		
<p>Course materials: Kerboodle, Activate 1</p>		
<p>Homework will include: Tasks based on previous learning - acids and alkalis, forces and cells</p>		
<p>Assessment details: Online Quizzes on cells and reproduction. In class test on cells and reproduction. Progress review test on everything covered so far in the year.</p>		

Year 7 - Science - Spring term 2nd half

Unit of work	Knowledge	Skills
Sound and Light	<ul style="list-style-type: none"> ● Recognise and label transverse and longitudinal waves ● Explain the link between pitch and frequency, intensity and amplitude ● Describe how we hear ● Describe the range of hearing ● Explain the uses of waves outside the audible range e.g. ultrasound ● Describe how light travels including specular and diffuse reflection ● Explain the Law of reflection ● Describe refraction and give an example of where it happens ● Be able to label diagrams of reflection and refraction 	<ul style="list-style-type: none"> ● Use scientific equipment to observe reflection and refraction ● Draw accurate diagrams of practical work ● Make conclusions based on scientific data
<p>Key Terms: wavelength, amplitude, peak, trough, frequency, longitudinal wave, transverse wave luminous, non-luminous, transparent, opaque, absorb, reflection, refraction</p>		
<p>Course materials: Kerboodle, Activate 1</p>		
<p>Homework will include: Tasks based on previous learning - Electromagnets, reproduction and sound.</p>		
<p>Assessment details: Online Quizzes on sound and light. In class test on sound and light.</p>		

Year 7 - Science - Summer term 1st half

Unit of work	Knowledge	Skills
Atoms, Elements, Compounds and reactions	<ul style="list-style-type: none"> ● Define: atom, compound ● Identify atoms and compounds from particle diagrams ● Identify mixtures from particle diagrams ● Know how to write elements as their symbols by using the periodic table ● Know how to draw atoms and compounds given the number of each type of atom ● Know the signs of a chemical reaction (change of colour, temperature, irreversible) ● Define a chemical reaction as making a new substance ● Identify the reactants and products given a word equation and know the arrow means “reacts to make” ● Know that burning fuels releases energy ● Define combustion as something burning in oxygen. ● Define Thermal Decomposition and give examples. ● Write word equations and begin to balance symbol equations 	<ul style="list-style-type: none"> ● Recording Data and Making Observations ● Practical skills ● Make conclusions based on scientific data ● Using scientific apparatus
<p>Key Terms: Atom, Compound, Particles, Chemical Symbol/Formula, Molecules, Reversible, Chemical and Physical Change, Catalyst, Word equation, Fuel, Combustion, Thermal Decomposition.</p>		
<p>Course materials: Kerboodle, Activate 1</p>		
<p>Homework will include: Tasks based on previous learning - Reproduction, Particles and Light</p>		
<p>Assessment details: Online Quizzes on Atoms, Elements, Compounds and Reactions. In class test on Atoms, Elements, Compounds and reactions. Progress Review Test based on all learning so far.</p>		

Year 7 - Science - Summer term 2nd half

Unit of work	Knowledge	Skills
Structure and Function of body systems, Space	<ul style="list-style-type: none"> ● Know that the body contains organs, which have different jobs. E.g. heart, lungs, stomach, brain ● Know that we need oxygen to survive and name organs that help us do this: nose, mouth, lungs ● Know that our lungs expand with air when we breathe in, and vice versa when we breathe out ● Label key parts of the Respiratory system ● Define skeleton as all the bones in the body ● Know that muscles contract (tense) and relax to help us move ● Describe the role of joints in movement ● Know that the solar system is it contains the Sun, Earth, and 7 other planets ● Know that the Sun is a star and the Earth orbits (moves around) it ● Know that our galaxy is called the Milky Way and it contains billions of stars ● Know why we have day and night, and seasons. ● Identify new, crescent, half, and full moons from pictures ● Know that the moon orbits (moves around) the Earth every 28 days 	<ul style="list-style-type: none"> ● Recording Data and Making Observations ● Analysing and Interpreting data. ● Drawing conclusions for data provided. ● Practical skills and drawing graphs.

Key Terms: Tissue, Organism, Organ, Organ System, Respiration, Inhale, Exhale, Bones, Skeleton, Bone Marrow, Joint, Ligament, Antagonistic Muscles, Satellite, Orbit, Galaxy, Universe, Moon, Axis,

Course materials: Kerboodle, Activate 1

Homework will include: Tasks based on previous learning - Atoms, reactions and the body

Assessment details: Online Quizzes on Structure and Function of body systems and Space. In class assessment on Structure and Function of body systems and Space.