



KS4 Learning overview

Subject: Combined Science

Exam board: AQA

Year 11		
Term	Topics	Extra learning opportunities
Autumn 1	1. Rate and extent of chemical change	Research the effect of temperature on rate of reaction by making lava at home. Write a report on the outcome. Make sure you include pictures of your fun experiment. Use this link: Make an Alka-Seltzer Powered Lava Lamp STEM Activity (sciencebuddies.org)
	2. Organic Chemistry	Find out how perfumes are made and what are the key ingredients in them
Autumn 2	1. Chemical Analysis	Research how chemical analysis is used in forensic science to solve a crime scene
	2. Chemistry of the atmosphere	Using the link below, monitor the levels of pollutants example sulfur dioxide, particulates on a daily basis for a week, and write down what you notice, for example are there certain days or time of day where pollutants are highest/lowest and why you think that might be Latest measured levels based on data provided by the Environment Agency - Defra, UK.
Spring 1	1. Earth's resources	Worldwide one in three people do not have access to safe drinking water. Research how different countries get their water How Different Countries Get Their Water (businessinsider.com)
	2. Forces	Magazines and journals: Physics World- The Institute of Physics own magazine covering current Physics research and latest developments New Scientist- Reports on current developments from across the world of science

		BBC Science News- the latest news in science from around the world Science Daily- Website featuring the latest Science developments, with a specific area for Physics research Specific Topic resources: Formula 1 Car Development And Production HOW IT'S MADE - YouTube BBC Documentary - Super Sub USS Submarines Ultimate Structures -National Geographic - YouTube How Gravity Shapes The Human Body With Jim Al-Khalili Gravity And Me Spark - YouTube Gravity, size and mass Physics - Wonders of Life - YouTube BBC iPlayer - Brian Coxs Adventures in Space and Time - Series 1: 3. What Is Gravity?
Spring2	1. Waves	Magazines and journals: Physics World- The Institute of Physics own magazine covering current Physics research and latest developments New Scientist- Reports on current developments from across the world of science BBC Science News- the latest news in science from around the world Science Daily- Website featuring the latest Science developments, with a specific area for Physics research Specific Topic resources: Electromagnetism : Documentary on How the Electromagnetic Spectrum Works (Full Documentary) - YouTube NASA - Tour of the Electromagnetic Spectrum - YouTube How to Measure the Speed of Light with Marshmallows - Christmas Lectures with Neil Johnson - YouTube Light waves, visible and invisible - Lucianne Walkowicz - YouTube

	2. Magnets and electromagnets	Magazines and journals: Physics World- The Institute of Physics own magazine covering current Physics research and latest developments New Scientist- Reports on current developments from across the world of science BBC Science News- the latest news in science from around the world Science Daily- Website featuring the latest Science developments, with a specific area for Physics research Specific Topic resources: Nikola Tesla Documentary The Forgotten Inventor - YouTube Research Nikola Tesla, and how electric cars work.
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