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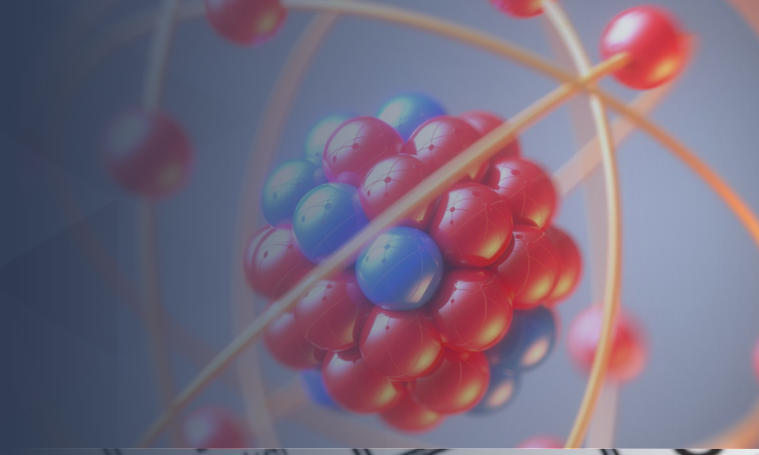
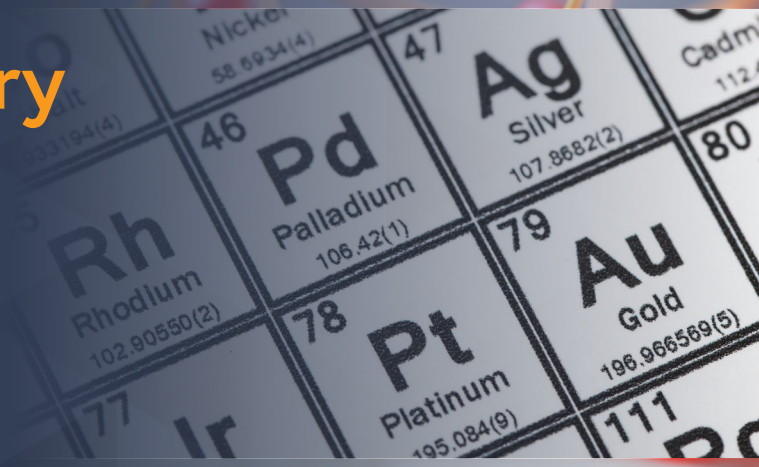
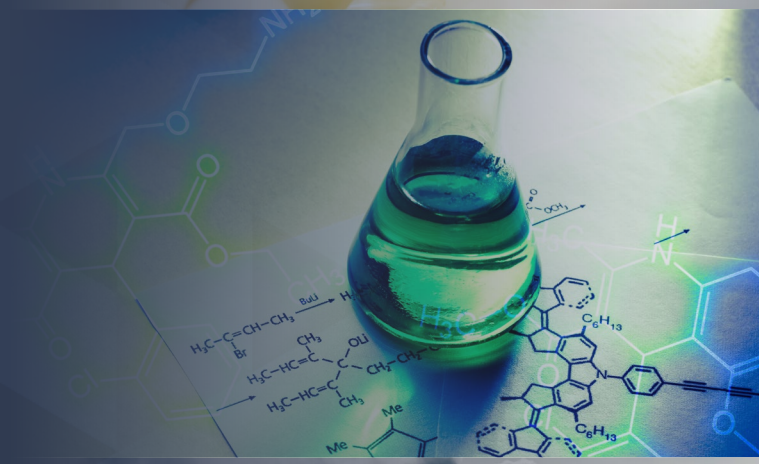
AQA GCSE Chemistry
Teaching and Revision Essentials







AQA GCSE Chemistry
Teaching and Revision Essentials

Titles contained within this booklet have been compiled to support the teaching and learning of the AQA GCSE Chemistry specification. The playlists can be accessed by teachers as well as students wishing to guide their exam revision.

AQA GCSE Chemistry
The periodic table

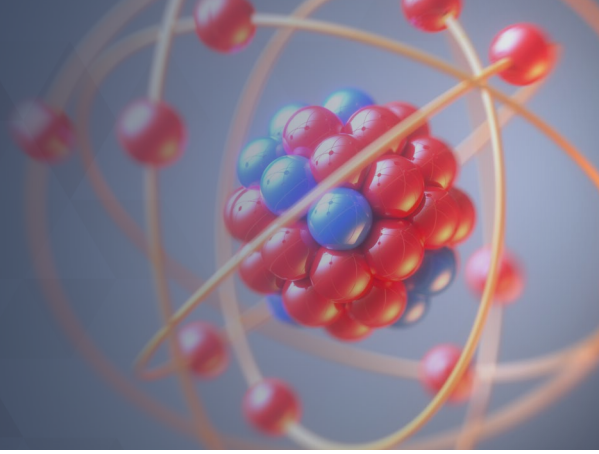
Essential viewing Supplementary viewing Resources available

Title	Series	Length	Description	Link
The Periodic Table		27 min	This programme explores the development and nature of the modern periodic table, atomic structure, valency and ionisation, table groups and radioactivity.	https://clickv.ie/w/sqxl
All Episodes	Periodic Classification of Elements	6 mins/ clip	A straightforward animated guide covering the structure of the periodic table, valency, metallic character, chemical reactivity and nature of oxides	https://clickv.ie/w/4Ecp
Episode 4: The Periodic Table	Shedding Light on Atoms	32 min	This episode compares and contrasts metals with non-metals, and investigates how Dmitri Mendeleev, the scientist who devised the first Periodic Table, organised the elements.	https://clickv.ie/w/9qxl
Separating Mixtures	Science Building Blocks	22 min	The properties of mixtures and how to separate them are addressed in this programme.	https://clickv.ie/w/4qxl
Bohr's Model of the Atom		27 min	This programme focuses on Neils Bohr, who worked with some of the best physicists of the 20th century to devise his atomic model.	https://clickv.ie/w/Dqxl
Episode 5: Protons, Neutrons and Electrons	Shedding Light on Atoms	39 min	In this episode we take a look at the three types of particles that make up atoms and describe how they are arranged within atoms.	https://clickv.ie/w/Cqxl
Meeting the Tributes: Elements 1-18	The Periodic Games	19 min	When Chlorine Everclean voluntarily takes her sister's place in The 75th Periodic Games, hosts Titanium Alloy and Caesium Lepton are taken by surprise! Meet the tributes offered by every group of the periodic table as they prepare to do battle in the Laboratoria.	https://clickv.ie/w/8qxl
Materials and their Properties - Elements and Compounds	Science in Action	19 min	Elements and compounds are the building blocks of substances. This programme shows real-life examples putting scientific concepts into context.	https://clickv.ie/w/Jqxl
Periodic Table: Properties of Element Groups	Science Key Concepts: Chemistry	17 min	Element groups in the periodic table have common properties. This video discusses Mendeleev's periodic table, noble gases, and transitional metals.	https://clickv.ie/w/irxl

	Title	Series	Length	Description	Link
	Materials and Their Properties - Elements and Mixtures	Science in Action	10 min	We take a look at what make up certain objects, first we look at a golden leaf, and we see just exactly how many atoms make it up. We then delve into the properties of gold.	https://clickv.ie/w/Kqxl
	Separation Techniques	Lab Skills	7 min	Separating mixtures is an important skill. This clip looks at how to: fan-fold filter paper; separate a mixture of iron filings, sand and sodium chloride; recover a dissolved salt like sodium chloride; and perform suction filtration.	https://clickv.ie/w/Hqxl
	Episode 1: The Atom with the Golden Electron	Atom Bond	11 min	Together with Oxygen and Fluorine, Gold penetrates Carbon's secret school and finds atoms being drilled about bonding – vital information for Project D. Gold thinks it's time to meet the Queen of the Bleach, Chlorine, but the others are not so sure.	https://clickv.ie/w/Eqxl

View the playlist for The periodic table at:
https://clickv.ie/w/oV8p

AQA GCSE Chemistry
Bonding, structure, and the properties of matter



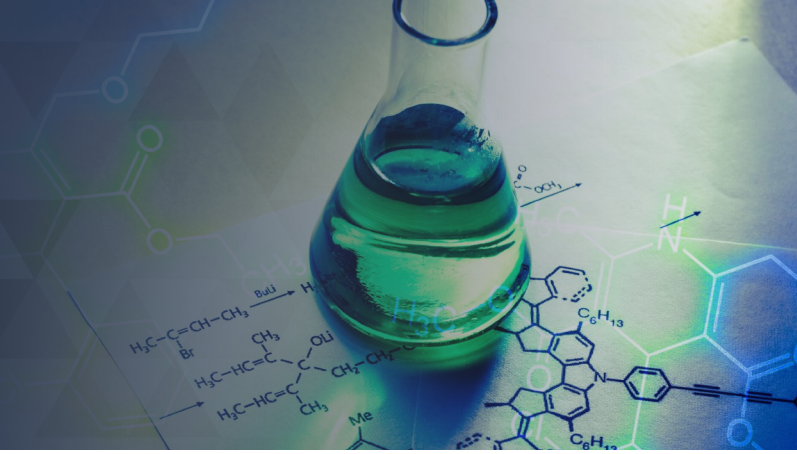
Essential viewing Supplementary viewing Resources available

Title	Series	Length	Description	Link
Chemistry of Carbon: A Very Versatile Atom		12 min	This programme illustrates the mechanics of the carbon cycle, explores some of the special properties of the ubiquitous element, and looks at the importance of carbon in the chemical makeup of all living things.	https://clickv.ie/w/-qxl
Metallic	All About Chemical Bonding	14 min	Before delving into metallic bonding, viewers are provided with an overview of why bonding occurs, learn about Gilbert Lewis's Octet rule and why the elements in the periodic table are categorised the way they are.	https://clickv.ie/w/Oqxl
Covalent	All About Chemical Bonding	16 min	A summary as to why covalent bonding occurs, how the geometry of molecules is predicted by the valence shell electron air repulsion theory, the two types of weak forces of attraction between molecules, dipole interactions and dispersion forces, and covalent network solids.	https://clickv.ie/w/Tqxl
Ionic	All About Chemical Bonding	15 min	Viewers will discover how and why bonding occurs, the Gilbert Lewis theory, the importance of the valence shell, the periodic table and its elements, and the common properties of ionic compounds. Electronegativity, Pauling scale, and ionisation energy are also introduced.	https://clickv.ie/w/Qqxl
Ionic Compounds: Opposites Do Attract	Understanding Chemistry in Our World	28 min	This programme uses the periodic table to guide understanding as it explores complex bonds and the naming conventions for ionic compounds.	https://clickv.ie/w/arxl
Changing States of Matter	Science Building Blocks	27 min	This programme explains particle theory of matter, changes of state, latent heat, expanding and contracting, and states of matter.	https://clickv.ie/w/Zqxl
Training Day: Ionic and Covalent Bonds	The Periodic Games	13 min	The start of The Periodic Games is just a day away. As attraction sparks between Chlorine and Sodium, President H2O fears that their new bond could incite revolution. Meanwhile, the other tributes are in training, forming covalent bonds.	https://clickv.ie/w/Uqxl
Episode 4: Carbon Is Forever	Atom Bond	7 min	In the hideout, Chlorine is trapped in Carbon's buckyball, and Gold is put behind bars. Carbon's heavies throw Gold and Chlorine into some aqua regia – and the pair finally bond.	https://clickv.ie/w/Rqxl

	Title	Series	Length	Description	Link
	Episode 2: You Only Bond Twice	Atom Bond	7 min	Gold finally meets the mysterious Chlorine and they try bonding, but to no avail. Suddenly Carbon and his heavies arrive on the scene. Gold and Chlorine are able to escape, but before they know it, Chlorine has ionically bonded with Potassium and Gold calls for backup. Water arrives and Potassium Chloride is taken to a secret location. Can the ionic bond be broken?	https://clickv.ie/w/Sqxl
	Episode 3: Bond Another Day	Atom Bond	7 min	In a secret location, Copper and Silver separate Chlorine from Potassium. Gold and Chlorine return to Carbon's secret school – but cannot find Fluorine and Oxygen. Carbon appears, and Gold and Chlorine flee to a nearby bond shop where they meet Oxygen – now an Ozone molecule.	https://clickv.ie/w/Vqxl
	Properties of Nanoparticles	Nanoparticles	11 min	This clip examines the properties of nanoparticles and the amazing range of applications – now and into the future. It also looks at some of the risks of this emerging field of science and technology.	https://clickv.ie/w/Wqxl
	Gases, Liquids, Solids: Going through Phases	Understanding Chemistry in Our World	28 min	This lesson brings to life the amazing physical changes that are going on around us every day and explores how substances behave differently as they change states (gas, liquid, solid).	https://clickv.ie/w/Ftxl

View the playlist for Bonding, structure, and the properties of matter at:
https://clickv.ie/w/Eb9p

AQA GCSE Chemistry
Quantitative chemistry



Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Periodic Table: Structures of Atoms	Science Key Concepts: Chemistry	18 min	The periodic table organises elements according to their properties. This video discusses the discoveries of atomic structures, atomic numbers and mass numbers, and electron shell configurations.	https://clickv.ie/w/erxl
	The Amazing Mole		26 min	Science has been revolutionised since the discovery of the mole and its relationships to mass, volume, concentration and number of particles. This programme introduces students to this fundamental concept in chemistry.	https://clickv.ie/w/crxl
	Solutions		5 min	Students will learn about components, concentration and properties of solutions, how to define dilute and concentrated solutions, and to list the properties of solutions.	https://clickv.ie/w/grxl
	Chemical Equations in the Real World		19 min	This programme takes an in-depth look at five common products that are in use all around us and explores the chemistry behind their manufacture and/or use, including chemical equations.	https://clickv.ie/w/drxl

View the playlist for Quantitative chemistry at:
https://clickv.ie/w/Lb9p

AQA GCSE Chemistry
Chemical changes

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Metals	Science Bank	5 min	This programme uses laboratory demonstrations and graphics to illustrate and explain the materials focused on.	https://clickv.ie/w/krxl
	Episode 2: Oxygen Everywhere	Shedding Light on Atoms	23 min	This video examines how hydrogen and the formation of water was discovered, oxygen's role in producing metal oxides from metals and its role in respiration.	https://clickv.ie/w/prxl
	Acid/Base Chemistry: Proton Power	Understanding Chemistry in Our World	28 min	This video identifies the difference between acids, bases, and salts, including their structure, formula, physical properties, and the substances they interact with. Also included is the integral role of neutralisation reactions, hydrogen and water, and safety.	https://clickv.ie/w/orxl
	Acids and Bases in the Home		18 min	This programme covers the features of acids and bases, their physical and chemical properties, the pH scale, indicators, strong and weak acids and bases, and the concept of neutral substances.	https://clickv.ie/w/nrxl
	Titration	Lab Skills	2 min	This clip demonstrates how to set up and perform a titration using a simple acid-base reaction.	https://clickv.ie/w/qrxl
	Understanding Electrolysis		30 min	This programme looks at the chemistry of electrolysis including the types of electrochemical cells, industrial applications, rechargeable batteries, Faraday's First Law of Electrolysis, and stoichiometric calculations.	https://clickv.ie/w/mrxl
	Chemical Reactions: Atoms Find New Partners	Understanding Chemistry in Our World	28 min	This lesson explores chemical reactions and changes, how to classify them, and how to calculate substances to ensure the necessary amounts of the ingredients are used and the desired amount of material is created.	https://clickv.ie/w/lrxl

View the playlist for Chemical changes at:
https://clickv.ie/w/Wb9p

AQA GCSE Chemistry
Energy changes

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Applying the Concepts	Equilibrium Series	20 min	The programme covers Le Chatelier's principle, the equilibrium law, calculating K. It examines how K changes when the temperature of exothermic and endothermic reactions changes, with a focus on sulphuric acid manufacture.	https://clickv.ie/w/urxl
	Electrochemistry: The Chemistry of Batteries	Understanding Chemistry in Our World	28 min	This film will introduce you to the components of batteries and help you better understand the workings behind the batteries from the past, present and even the future.	https://clickv.ie/w/trxl
	Wet Cells, Dry Cells, Fuel Cells: An Introduction		33 min	This programme covers the history and development of different types of fuel cells including redox, wet and dry cells, secondary cells, fuel cell, NASA, and proton exchange membrane fuel cell.	https://clickv.ie/w/8rxl

View the playlist for Energy changes at:
https://clickv.ie/w/ac9p

AQA GCSE Chemistry
The rate and extent of chemical change

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	All Episodes	Chemical Equilibrium	4 mins/ clip	Understanding chemical equilibria is an important skill for any student of chemistry. This series of ten short videos, featuring clear explanations and lab demonstrations, cover a range of topics on chemical equilibrium and are an essential resource for senior secondary students.	https://clickv.ie/w/BEcp
	Applying the Concepts	Equilibrium Series	20 min	The programme covers Le Chatelier's principle, the equilibrium law, calculating K. It examines how K changes when the temperature of exothermic and endothermic reactions changes, with a focus on sulphuric acid manufacture.	https://clickv.ie/w/urxl
	Rates and Equilibrium: Controlling Reactions	Understanding Chemistry in Our World	28 min	This video looks at how successful reactions occur and why they occur at different rates.	https://clickv.ie/w/xrxl

View the playlist for The rate and extent of chemical change at:
https://clickv.ie/w/0rxl

AQA GCSE Chemistry
Organic chemistry

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Organic Molecules	Understanding Chemistry in Our World	28 min	This film explores why organic compounds play such an integral role in our bodies and the world around us. You will learn how to identify organic compounds, the role carbon plays in the diversity of organic compounds, as well as why shape matters so much in chemistry.	https://clickv.ie/w/yrxl
	Carbon Chemistry		43 min	This programme looks at the variety of carbon compounds, their nomenclature, structure, and uses footage from the laboratory and industry.	https://clickv.ie/w/3rxl

View the playlist for Organic chemistry at:
https://clickv.ie/w/fc9p

AQA GCSE Chemistry
Chemical analysis

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Types of Pure Substances, Solutions and Mixtures		14 min	This video explores the types and properties of pure substances, and various types of solutions.	https://clickv.ie/w/4rxl
	Chromatography	Chemical Analysis Techniques	6 min	This programme will investigate the analytical techniques of chromatography, mass spectrometry and spectroscopy. It also addresses the theory behind how a range of analytical techniques work and how the data produced by these techniques is interpreted.	https://clickv.ie/w/5rxl

View the playlist for Chemical analysis at:
https://clickv.ie/w/kc9p

AQA GCSE Chemistry
Chemistry of the atmosphere

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Greenhouse Effect	Horizon	48 min	Greenhouse gases such as water vapour, methane and carbon dioxide stop heat escaping from the Earth into space. An increased greenhouse effect can lead to global warming and climate change.	https://clickv.ie/w/Arxl
	Climate Change - The Facts		58 min	After one of the hottest years on record, Sir David Attenborough looks at the science of climate change and potential solutions to this global threat.	https://clickv.ie/w/Brxl
	Climate Change: Our Responsibility	Classroom Video Issues	26 min	This programme establishes the vital importance of the greenhouse effect for life on Earth and then presents a balanced argument to assess whether or not anthropogenic climate change is in fact taking place.	https://clickv.ie/w/Crxl
	The Science of Pollution		34 min	This programme explores pollution and its impacts on the environment and disastrous consequences. Studied in detail are greenhouse gases, oil, fossil fuels, plastic, litter, and human waste.	https://clickv.ie/w/Drxl
	Air - The Elixir of Life	The Modern Alchemist	59 min	Inside your lungs is a mixture of highly reactive and incredibly stable gases. Oxygen is the most reactive constituent. This documentary explores the world of air.	https://clickv.ie/w/Erxl

View the playlist for Chemistry of the atmosphere at:
https://clickv.ie/w/sc9p

AQA GCSE Chemistry
Using resources

Essential viewing Supplementary viewing Resources available

	Title	Series	Length	Description	Link
	Renewables	Electricity Generation	43 min	This programme examines the pros and cons of various renewable energy sources such as wind, solar, biomass, tidal, geothermal and HEP. It will encourage students to consider whether 100% renewable electricity is realistic.	https://clickv.ie/w/Grxl
	Non-renewables	Electricity Generation	27 min	This programme explores the pros and cons of coal, gas and uranium as a fuel source. It also includes debates around nuclear safety, fracking, and carbon capture and storage.	https://clickv.ie/w/Hrxl
	Water in the UK	Water Supply and Management	15 min	This programme explores British water supply and demand, and examples of water management programs across the country, including initiatives incorporated in London's Olympic Park.	https://clickv.ie/w/Irxl
	Volvo: Life Cycle Assessment	Product Design and Sustainability Series	27 min	Volvo's environmental experts show how life cycle assessment has enabled them to reduce the carbon footprint of their products, from design, through manufacturing, use and end of life recycling.	https://clickv.ie/w/Jrxl
	Down In the Dumps	Global Environment	19 min	This programme investigates the enormous amount of domestic and industrial waste that is produced and what happens to it. It considers the effect of waste, particularly toxic waste, on the environment and explores the potential for recycling various material.	https://clickv.ie/w/Lrxl
	Corrosion Chemistry		30 min	This programme is designed to help students understand the chemistry in corrosion. It examines what causes corrosion, necessary conditions for corrosion to occur, which metals corrode, oxidisation, electricity and redox and corrosion minimisation.	https://clickv.ie/w/Krxl

View the playlist for Using resources at:
https://clickv.ie/w/zc9p

Notes

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