

Year 9 home learning work for Science

Revise the topics for this year using checklists and web links below. Remember to make and save good quality notes or flashcards so that you can use them again in year 11 . Searching for “AQA separate science revision” will help you to find more resources

<https://www.bbc.co.uk/bitesize/examspecs/zpgcbk7> - Biology

<https://www.bbc.co.uk/bitesize/examspecs/z8xtmnb> - Chemistry

<https://www.bbc.co.uk/bitesize/examspecs/zsc9rdm> - Physics

<https://www.youtube.com/channel/UCBgvmal8AR4QIK2e0EfJwaA> - Primrose Kitten

https://www.youtube.com/channel/UCqbOeHaAUXw9II7sBVG3_bw - Free science lessons

https://www.youtube.com/channel/UC-TM-z1-tmX1iK_H4SxVhww - Required practicals

<https://www.aqa.org.uk/find-past-papers-and-mark-schemes> - AQA past papers

Y9 AQA GCSE BIOLOGY

UNIT 1: Cell Biology

Cell Structure	Eukaryotes and prokaryotes		
	Animal cells and plant cells		
	Cell specialisation		
	Cell differentiation		
	Microscopy		
	Culturing microorganisms		
Cell division	Chromosomes		
	Mitosis and the cell cycle		
	Stem cells		
Transport in cells	Diffusion		
	Osmosis		
	Active transport		

Unit 2: Organisation

Principles of organisation	Principles of organisation		
Animal tissue, organs and organ systems	The human digestive system		
	The heart and blood vessels		
	Blood		
	Coronary heart disease: a non-communicable disease		
	Health issues		
	The effect of lifestyle on some non-communicable diseases		
	Cancer		
Plant tissue, organs and systems	Plant tissues		
	Plant organ systems		

Unit 4: Bioenergetics

Photosynthesis	Photosynthetic reaction		
	Rate of photosynthesis		
	Uses of glucose from photosynthesis		
Respiration	Aerobic and anaerobic respiration		
	Response to exercise		
	Metabolism		

Y9 AQA GCSE CHEMISTRY

UNIT 1: Atomic structure and the periodic table

A simple model of the atom, symbols, relative atomic mass, electronic charge and isotopes	Atoms, elements and compounds		
	Mixtures		
	Development of the model of the atom		
	Relative electrical charges of subatomic particles		
	Size and mass of atoms		
	Relative atomic mass		
	Electronic structure		
The periodic table	The periodic table		
	Development of the periodic table		
	Metals and non-metals		
	Group 0		
	Group 1		
Properties of transition metals	Group 7		
	Comparison with Group 1 elements		
	Typical properties		

UNIT 2: Bonding, structure, and the properties of matter

Chemical bonds, ionic, covalent and metallic	Chemical bonds		
	Ionic bonding		
	Ionic compounds		
	Covalent bonding		
	Metallic bonding		
How bonding and structure are related to the properties of substances	The three states		
	State symbols		
	Properties of ionic compounds		
	Properties of small molecules		
	Polymers		
	Giant covalent structures		
	Properties of metals and alloys		
Metals as conductors			
Structure and bonding of carbon	Diamond		
	Graphite		
	Graphene and fullerenes		
Bulk and surface properties of matter including nanoparticles	Sizes of particles and their properties		
	Uses of nanoparticles		

UNIT 5: Energy changes

Exothermic and endothermic reactions	Energy transfer during exothermic and endothermic reactions		
	Reactions profiles		
	The energy change reactions		
Chemical cells and fuel cells	Cells and batteries		
	Fuel cells		

UNIT 6: The rate and extent of chemical change

Rate of reaction	Calculating rates of reactions		
	Factors which affect the rate of chemical reactions		
	Collision theory and activation energy		
	Catalysts		

UNIT 7: Organic chemistry

Carbon compounds as fuels and feedstocks	Crude oil, hydrocarbons and alkanes		
	Fractional distillation and petrochemicals		
	Properties of hydrocarbons		
	Cracking and alkenes		

UNIT 9: Chemistry of the atmosphere

The composition and evolution of the Earth's atmosphere	The properties of different gases in the atmosphere		
	The Earth's early atmosphere		
	How oxygen increased		
	How carbon dioxide decreased		
Carbon dioxide and methane as greenhouse gases	Greenhouse gases		
	Human activities which contribute to an increase in greenhouse gases in the atmosphere		
	Global climate change		
	The carbon footprint and its reduction		
Common atmospheric pollutants and their sources	Atmospheric pollutants from fuels		
	Properties and effects of atmospheric pollutants		

Y9 AQA GCSE PHYSICS

UNIT 1: Energy

Energy changes in a system, and the ways energy is stored before and after such changes	Energy stores and systems		
	Changes in energy		
	Energy changes in systems		
	Power		
Conservation and dissipation of energy	Energy transfers in a system		
	Efficiency		
National and global energy resources	National and global energy resources		

Unit 2: Electricity

Current, potential difference and resistance	Standard circuit diagram symbols		
	Electrical charge and current		
	Current, resistance and potential difference		
	Resistors		
Series and parallel circuits	Series and parallel circuits		
Domestic uses and safety	Direct and alternating potential difference		
	Mains electricity		
Energy transfers	Power		
	Energy transfers in everyday appliances		
	The National Grid		
Static electricity	Static charge		
	Electric fields		

Unit 3: Particle model of matter

Changes of state and the particle model	Density of materials		
	Changes of state		
Internal energy and energy transfers	Internal energy		
	Temperature changes in a system and specific heat capacity		
	Changes of heat and specific latent heat		
Particle model and pressure	Particle motion in gases		
	Pressure in gases		
	Increasing the pressure of a gas		