









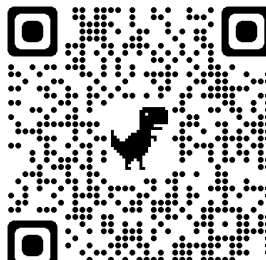






Year 10 PPE Revision Lists and Links

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	
B1 Cell Biology	Cell Structure 	Eukaryotes and prokaryote	4.1.1.1 Eukaryotes and prokaryotes
		Animal and plant cells	4.1.1.2 Animal cells 4.1.1.2 Plant cells
		Cell specialisation and differentiation	4.1.1.3 Animal cell specialisation / 4.1.1.4 differentiation 4.1.1.3 Plant cell specialisation / 4.1.1.4 differentiation
		Cell differentiation	
		Microscopy	4.1.1.5 Microscopy
		Required practical: use a light microscope to observe, draw and label a selection of plant and animal cells.	Required practical activity 1: use a light microscope to observe, draw and label a selection of plant
	Cell Division 	Mitosis and the cell cycle	4.1.2.2 Mitosis and the cell cycle
		Stem cells	4.1.2.3 Stem cells
	Transport Systems 	Diffusion	4.1.3.1 Diffusion
			4.1.3.1 Compare surface area to volume ratios
		Osmosis	4.1.3.2 Osmosis
		Required practical: investigate the effect of sugar solutions on the mass of plant tissue	Required practical activity 2: investigate the effect of a range of concentrations of salt or sugar
	Active transport	4.1.3.3 Active transport	




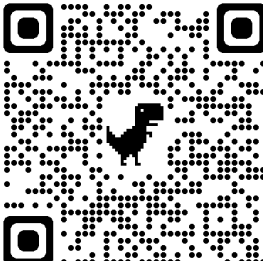
[Sample Exam Questions - Cell Biology](#)





Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)		
C1 Atomic Structure and Periodic Table	<u>Atoms, Elements and Compounds</u> 	<u>4.1.1.1 Atoms, elements and compounds</u> <u>Interpreting Chemical Formula</u>	<u>The Periodic Table</u> 	
			<u>4.1.2.1 The periodic table</u>	
			4.1.2.2 Development of the periodic table	
			<u>4.1.2.3 Metals and non-metals</u>	
	<u>Mixtures</u> 	4.1.1.2 Mixtures <u>Filtration and Crystallisation</u> <u>Distillation</u> <u>Fractional Distillation</u> <u>Chromatography</u>	<u>Groups of the Periodic Table</u> 	<u>4.1.2.4 Group 0</u>
			<u>4.1.2.5 Group 1</u> <u>Group 1 (Part 2)</u>	
			<u>4.1.2.6 Group 7</u> <u>Group 7 (Part 2)</u>	
	<u>Atomic Structure</u> 	4.1.1.3 The development of the model of the atom <u>Alpha Scattering Experiment</u> <u>Nuclear Model</u>	<u>Sample Exam Questions – Atomic Structure and the Periodic Table</u>	
		<u>4.1.1.5 Size and mass of atoms</u>		
		4.1.1.4 Relative electrical charges of subatomic particles <u>4.1.1.6 Relative atomic mass</u>		
	<u>4.1.1.7 Electronic structure</u>			




Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)		
P1 Energy	Changes in Energy Stores 	Kinetic Energy	Specific Heat Capacity	
		Elastic Potential Energy	Cooling of buildings	
		Gravitational Potential Energy	Required Practical – Specific Heat Capacity	
		Energy Transfers e.g., Pendulum		
		Energy Transfer e.g., Bung Jumper		
	Work, Power and Efficiency 	Work Done	Energy Resources and Demands	Energy from Fossil Fuels
		Power		Nuclear Power
		Efficiency		UK Energy Mix
				Renewable Energy Resources
	Sample Exam Questions – Energy			

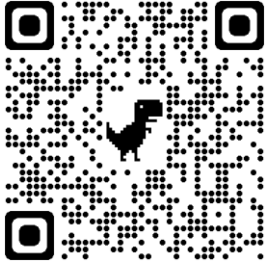
Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)
B2 Organisation	Animal tissues, organs, and organ systems 	The human digestive system 4.2.2.1 The human digestive system 4.2.2.1 Digestive Enzymes 4.2.2.1 Small Intestines 4.2.2.1 Effect of Temperature and pH on Enzymes
	Required practical use reagents to test for a range of carbohydrates, lipids, and proteins.	Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and
	Required practical investigate the effect of pH on the rate of reaction of amylase enzyme. 	Required practical activity 4: investigate the effect of pH on the rate of reaction of amylase enzyme.
	The heart and blood vessels 	4.2.2.2 The Heart and Circulation 4.2.2.2 Arteries, Veins and Capillaries
	Blood	4.2.2.3 Blood
	Coronary heart	4.2.2.4 Coronary heart disease
		4.2.2.5 Communicable and Non-Communicable Diseases
	The effect of lifestyle on some non-communicable diseases	4.2.2.6 Lifestyle and Disease 4.2.2.6 Correlating Risk Factors
	Cancer	4.2.2.7 Cancer
	Plant tissues, organs and systems 	4.2.3.1 Plant tissues 4.2.3.2 Plant organ system






[Sample Exam Questions - Organisation](#)





Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)		
C2 Structure and Bonding	Ionic Bonding and Compounds 	Ionic Bonding 1	Giant Covalent Compounds – Carbon Allotropes 	
		Ionic Bonding 2	Diamond and Silicon Dioxide	
		Properties of Ionic Compounds	Graphite	
			Graphene and Fullerenes	
			Polymers	
	Covalent Bonding and Simple Covalent Compounds 	Covalent Bonding 1	Metallic Bonding 	Metals and Alloys
		Covalent Bonding 2		
		Covalent Bonding 3		Limitations of Bonding Diagrams
		Properties of Covalent Molecules		
	Samples Exam Questions – Structure and Bonding			






Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	
P2 Electricity	<p><u>Electric circuits</u></p> 	<p>Current in series circuits Current in parallel circuits Potential difference in series circuits Potential difference in parallel circuits Potential difference from batteries Charge in circuits Calculating energy transfer by components Resistance Resistors Resistance of a filament lamp Diodes and LEDs Resistors in series and parallel Light dependent resistors Thermistors Energy transfer by appliances Power of components</p>	<p><u>P2 Electricity Playlist</u></p> 
	<p><u>Mains electricity</u></p> 	<p>DC and AC supply Mains electricity The national grid TRIPLE: Static electricity TRIPLE: Electric fields</p>	<p><u>Sample Exam Questions - Electricity</u></p> 







Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	
B3 Infection and Response	Pathogens and disease 	Communicable disease	4.3.1.1 Communicable diseases and non-communicable diseases 4.3.1.1 Pathogens
		Viral diseases	4.3.1.2 Measles and HIV 4.3.1.2-3 Infectious diseases in plants
		Bacterial diseases	4.3.1.3 Salmonella and Gonorrhoea
		Protist diseases	4.3.1.5 Malaria
	Defending against disease 	Human defence systems	4.3.1.6 Non-specific defence systems 4.3.1.6 The immune system
		Vaccination	4.3.1.7 Vaccines
		Antibiotics and painkillers	4.3.1.8 Antibiotics
		Discovery and development of drugs	4.3.1.8 Testing medicines
Sample Exam Questions – Infectious Diseases			


Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	
C3 Quantitative Chemistry	Calculations in Chemistry (Core) 	Conservation of Mass	Calculating Moles
		Charges on Ions	Calculating Moles of a Compound
		Formula of Ionic Compounds	Calculating Mass using Moles
		Balancing Chemical Equations	Using Moles to Balance Equations
		Relative Formula Mass	Avogadro's Constant (Calculating the number of particles of a substance)
		Calculating Percentage by Mass	Reacting Masses
		Calculating Concentration	Limiting Reactants
		Sample Exam Questions – Quantitative Chemistry	

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	Subject Content (Link to BBC Bitesize)		
P3 Particle Model of Matter	<u>Density of materials</u> 	Density	<u>Particle model of matter playlist</u> 	<u>Particles in gases</u> 	Particle motion in gases TRIPLE: Pressure in gases TRIPLE: Work done on gases
	<u>Temperature change and energy</u> 	Internal energy Specific heat capacity Heating and cooling graphs Specific latent heat		<u>Sample Exam Questions – Particle Model of Matter</u> 	

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)		
B4 Bioenergetics	<u>Photosynthesis</u> 	Photosynthesis Uses of glucose Limiting factors	<u>Bioenergetics playlist</u> 	<u>Sample Exam Questions – Bioenergetics</u> 
	<u>Respiration</u> 	Respiration Exercise Metabolism		

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	Subject Content (Link to BBC Bitesize)		
C4 Chemical Changes	<p><u>Reactions of metals</u></p> 	<p>Reactions of metals with oxygen The reactivity series Extraction of metals Higher: Oxidation and reduction (electrons)</p>	<p><u>Chemical Changes Playlist</u></p> 	<p><u>Electrolysis</u></p> 	<p>Electrolysis Aluminium oxide Aqueous solutions</p>
	<p><u>Acids, alkalis and salts</u></p> 	<p>Acids and alkalis Acids reacting with metals Acid reactions Higher: Strong and weak acids Triple: Titration</p>		<p><u>Sample Exam Questions – Chemical Changes</u></p> 	

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)	Subject Content (Link to BBC Bitesize)		
P4 Atomic Structure and Radiation	Models of the Atom 	Atomic structure Alpha-scattering and nuclear model	Atomic Structure playlist 	Radioactive decay 	Radioactivity Alpha, beta, gamma radiation Nuclear equations Half-life
	Atoms, isotopes and ions 	Atomic and mass number		Uses and dangers of radiation 	Irradiation and contamination TRIPLE: background radiation TRIPLE: nuclear medicine TRIPLE: Fission and fusion
	Sample Exam Questions – Atomic Structure and Radiation 				

Subject Content (Link to BBC Bitesize)		Area for revision/retrieval (Link to Free Science Lessons Video)		
C5 Energy Changes	Endothermic and Exothermic Reactions 	Exothermic and Endothermic Reactions		
		Calculating Bond Energies		
		Calculating Bond Energies 2		
		Required Practical 4 – Energy Changes		
Sample Exam Questions – Energy Changes				