

No.	Title	Revision statement	Youtube Link	Note
	<b>1. Cell Biology (Paper 1)</b>			
1	<input type="checkbox"/> Eukaryotes and Prokaryotes	Label the key parts of eukaryotes and prokaryotes (bacteria) and know the differences between these types of cell	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
2	<input type="checkbox"/> Cell Specialisation	Describe some ways cells are specialised to do their jobs, including sperm, muscle and nerve cells in animals and root hair cells, xylem and phloem in plants	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
3	<input type="checkbox"/> Cell Differentiation	Explain why cell differentiation is important in animals and plants and where undifferentiated cells are found	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
4	<input type="checkbox"/> Microscopy	Describe how microscopy has changed over time. Describe the uses of electron microscopes and the difference in magnification and resolution between the light microscope and electron microscope	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
5	<input type="checkbox"/> Microscopy Calculations	Describe how to grow microorganisms using the aseptic technique and explain the reasons for the different steps.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
6	<input type="checkbox"/> <b>Culturing Microorganisms</b>	Describe how to culture (grow) microorganisms. Calculate the population growth of microorganisms and measure and calculate the inhibition zones where microorganisms have been killed off.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
7	<input type="checkbox"/> <b>Culturing Microorganisms - Calculations</b>	Calculate the magnification, image size and the real size of a cell or cell structure.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
8	<input type="checkbox"/> Mitosis and the Cell Cycle	Explain the three overall stages of the cell cycle and the importance of mitosis.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
9	<input type="checkbox"/> Stem Cells	Describe the function of stem cells in embryos, in adult animals and in the meristems in plants and the use of therapeutic cloning.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
10	<input type="checkbox"/> Diffusion	Define diffusion, give examples of where it is important in living things and explain the factors that affect the rate of diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
11	<input type="checkbox"/> Diffusion II - Exchange Surfaces	Calculate surface area to volume ratio, explain its importance, and how the small intestine, alveoli in the lungs and gills in fish are adapted for diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
12	<input type="checkbox"/> Osmosis	Define osmosis and explain the direction of water movement based on the concentration of solutions inside and outside of cells.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
13	<input type="checkbox"/> Active Transport	Define active transport, explain its use in absorption of sugars in the small intestine, minerals in plants and know the difference between active transport and diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
	<b>2. Organisation (Paper 1)</b>			
14	<input type="checkbox"/> The Human Digestive Systems - Enzymes	Describe the structure and function of enzymes, explain factors that affect them (temperature, pH) and summarise their role in metabolism	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
15	<input type="checkbox"/> Digestive System and Digestion	Show how cells are built into tissues, organs and organ systems, label the digestive system and recall the sites of production and the action of carbohydrates, amylase, proteases and lipases.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
16	<input type="checkbox"/> The Heart and Blood Vessels	Describe heart structure, describe what we mean by a double circulation and compare arteries, veins and capillaries.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
17	<input type="checkbox"/> The Heart and Blood Vessels - Control of Heart Rate	Explain how the heart rate is controlled by the body and how artificial pacemakers work.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
18	<input type="checkbox"/> Blood	Describe the components of the blood and the role of the different components.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
19	<input type="checkbox"/> Coronary Heart Disease	Describe what is meant by coronary heart disease and what the various possible treatments are, including benefits and risks	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
20	<input type="checkbox"/> Health Issues	Describe the relationship between health and disease and the interactions between different types of disease	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
21	<input type="checkbox"/> Effect of Lifestyle on Some non-Communicable Diseases	Explain the effect of lifestyle factors including diet, alcohol and smoking on non-communicable diseases	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
22	<input type="checkbox"/> Cancer	Describe cancer as the result of changes in cells that lead to uncontrolled growth and division	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
23	<input type="checkbox"/> Plant Tissues	Explain how the structures of plant tissues are related to their functions	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
24	<input type="checkbox"/> Plant Organ Systems - Transport	Describe the process of transport of substances such as sugars, water and minerals in plants	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
25	<input type="checkbox"/> Plant Organ Systems - Factors affecting Transpiration	Explain the effect of changing temperature, humidity, air movement and light intensity on the rate of transpiration	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
	<b>3. Infection and Response (Paper 1)</b>			
26	<input type="checkbox"/> Communicable Diseases	Explain how diseases caused by viruses, bacteria, protozoa and fungi are spread in animals and plants and how the spread can be reduced.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
27	<input type="checkbox"/> Human Defence Systems	Explain the role of the immune system in the defence against disease	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
28	<input type="checkbox"/> Vaccination	Explain how vaccination will prevent illness in an individual, and how the spread of pathogens can be reduced by immunising a large proportion of the population	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
29	<input type="checkbox"/> Antibiotics and Painkillers	Explain the use of antibiotics and other medicines in treating disease	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
30	<input type="checkbox"/> The Discovery and Development of New Drugs	Describe the process of discovery and development of potential new medicines, including preclinical and clinical testing	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
31	<input type="checkbox"/> <b>Monoclonal Antibodies and Uses - Higher Tier</b>	Describe how monoclonal antibodies are produced and give example of their uses.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
32	<input type="checkbox"/> <b>Plant Diseases</b>	Describe how plant diseases are detected and identified and describe the effect of lack of chlorophyll and nitrates.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
33	<input type="checkbox"/> Plant Defence Responses	Describe physical and chemical plant defence responses	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
	<b>4. Bioenergetics (Paper 1)</b>			
34	<input type="checkbox"/> Photosynthesis and Measuring Rates - Higher Tier	Describe photosynthesis as an endothermic reaction and describe some ways in which the rate of photosynthesis can be measured.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
35	<input type="checkbox"/> Limiting Factors in Photosynthesis - Higher Tier	Explain the effects of temperature, light intensity, carbon dioxide concentration, and the amount of chlorophyll on the rate of photosynthesis	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
36	<input type="checkbox"/> Uses of Glucose from Photosynthesis	Describe five uses of glucose made from photosynthesis.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
37	<input type="checkbox"/> Aerobic and Anaerobic Respiration	Compare the processes of aerobic and anaerobic respiration with regard to the need for oxygen, the differing products and the relative amounts of energy transferred	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
38	<input type="checkbox"/> Response to Exercise	Explain how during exercise the human body reacts to the increased demand for energy, including the oxygen debt.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
39	<input type="checkbox"/> Metabolism	Define metabolism and give five examples of what metabolism reactions are in the body.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
	<b>5. Homeostasis and Response (Paper 2)</b>			
40	<input type="checkbox"/> Homeostasis	Explain what homeostasis is and give an overview of how conditions are kept constant inside the body.		
41	<input type="checkbox"/> The Human Nervous System Structure and Function	Explain how the structure of the nervous system is adapted to its functions.		
42	<input type="checkbox"/> The Human Nervous System and Reflexes	Explain how the various structures in a reflex arc, including the sensory neurone, synapse, relay neurone and motor neurone, relate to their function.		
43	<input type="checkbox"/> <b>The Brain Higher Tier Content</b>	Label the cerebral cortex, cerebellum and medulla on a diagram of the brain, and describe their functions. Describe some of the difficulties in investigating brain function.		
44	<input type="checkbox"/> <b>The Eye</b>	Relate the structures of the eye to their functions. Including accommodation to focus on near or distant objects and adaptation to dim light.		
45	<input type="checkbox"/> <b>The Eye - Defects</b>	Interpret ray diagrams, showing the two common defects of the eye and demonstrate how spectacle lenses correct them.		
46	<input type="checkbox"/> <b>Control of Body Temperature</b>	Explain how body mechanisms lower or raise body temperature.		
47	<input type="checkbox"/> The Human Endocrine System	Describe the principles of hormonal coordination and control by the human endocrine system		Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
48	<input type="checkbox"/> Control of Blood Glucose Concentration Higher Tier Content	Explain how the negative feedback mechanism controlling blood glucose works. Compare Type 1 and Type 2 diabetes and explain how they can be treated.		<a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>
49	<input type="checkbox"/> <b>Maintaining Water and Nitrogen Balance - Higher Tier Content</b>	Describe the function of kidneys in maintaining the water balance of the body.		
50	<input type="checkbox"/> <b>Maintaining Water and Nitrogen Balance - Dialysis</b>	Describe the basic principles of dialysis.		
51	<input type="checkbox"/> <b>Maintaining Water and Nitrogen Balance - ADH - Higher Tier</b>	Describe the effect of ADH on the permeability of the kidney tubules		
52	<input type="checkbox"/> Hormones in Human Reproduction (Higher Tier Content)	Describe the roles of hormones in human reproduction, including the menstrual cycle		
53	<input type="checkbox"/> Contraception	Evaluate different hormonal and non-hormonal methods of contraception.		
54	<input type="checkbox"/> Hormones in Fertility - Higher Tier	Explain the use of hormones in modern reproductive technologies to treat infertility.		
55	<input type="checkbox"/> Negative Feedback Adrenaline and Thyroxine - Higher Tier	Explain how negative feedback works and explain the roles of thyroxine and adrenaline in the body.		
56	<input type="checkbox"/> <b>Plant Hormones</b>	Describe the role of hormones in the growth of plants, including gravitropism (geotropism) and phototropism.		
57	<input type="checkbox"/> <b>Uses of Plant Hormones - Higher Tier</b>	Describe the uses of auxins, gibberellins and ethene.		
	<b>6. Inheritance, Variation and Evolution (Paper 2)</b>			
58	<input type="checkbox"/> Meiosis	Explain how meiosis halves the number of chromosomes in gametes and fertilisation restores the full number of chromosomes.		
59	<input type="checkbox"/> Sexual and Asexual Reproduction	Describe the features of sexual and asexual reproduction.		
60	<input type="checkbox"/> <b>Advantages of Sexual and Asexual Reproduction</b>	Explain the advantages and disadvantages of asexual and sexual reproduction. Explain how selective breeding (artificial selection) creates plants and animals with desired characteristics.		
61	<input type="checkbox"/> DNA and the Genome	Describe the structure of DNA and define a genome.		
62	<input type="checkbox"/> The Human Genome Project	Discuss the advantages of understanding the human genome.		
63	<input type="checkbox"/> <b>DNA Structure</b>	Describe DNA as a polymer made from four different nucleotides.		
64	<input type="checkbox"/> <b>DNA and Protein Synthesis - Higher Tier</b>	Describe the process of protein synthesis. Explain how the structure of DNA affects the particular protein molecule made.		
65	<input type="checkbox"/> DNA and Mutations - Higher Tier	Explain the effect of mutations on protein synthesis.		
66	<input type="checkbox"/> Genetic Inheritance	Using key terms, explain how inherited genes control the characteristics of living organisms. Carry out a monohybrid cross using a Punnett square to identify the possible allele combinations of the offspring.		
67	<input type="checkbox"/> Cystic Fibrosis	Describe the inherited disorder, cystic fibrosis and make predictions on the inheritance patterns for this recessive disorder.		Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
68	<input type="checkbox"/> Polydactyly	Describe the genetic disorder called polydactyly. Explain the inheritance patterns based on the fact that this is caused by a dominant allele.		<a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>
69	<input type="checkbox"/> The Inheritance of Sex	Carry out a genetic cross to show sex inheritance.		
70	<input type="checkbox"/> Variation	Describe evolution as a change in the inherited characteristics of a population over time through a process of natural selection.		
71	<input type="checkbox"/> Evolution	Describe how the genome and its interaction with the environment influence the development of the characteristics of an organism.		
72	<input type="checkbox"/> Selective Breeding	Explain the impact of selective breeding of food plants and domesticated animals.		
73	<input type="checkbox"/> Genetic Engineering	Describe genetic engineering as a process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic.		
74	<input type="checkbox"/> Genetic Engineering - Higher Tier	Describe the main steps in the process of genetic engineering.		

75	<input type="checkbox"/>	<b>Cloning</b>	Describe four different methods of cloning living things, including tissue culture, taking cuttings, embryo transplants and adult cell cloning.	
76	<input type="checkbox"/>	<b>Darwin and Evolution</b>	Describe how the theory of evolution by natural selection developed over time.	
77	<input type="checkbox"/>	<b>Speciation</b>	Describe the work of Darwin and Wallace in the development of the theory of evolution by natural selection.	
78	<input type="checkbox"/>	<b>Understanding Genetics</b>	Describe the development of our understanding of genetics including the work of Mendel.	
79	<input type="checkbox"/>	Evidence for Evolution	Describe the evidence for evolution including fossils.	
80	<input type="checkbox"/>	Extinction	Describe factors which may contribute to the extinction of a species.	
81	<input type="checkbox"/>	Antibiotic Resistance	Describe how bacteria can become resistant to antibiotics.	
82	<input type="checkbox"/>	Classification	Interpret given information to show understanding of the Linnaean system of classification.	
<b>7. Ecology (Paper 2)</b>				
83	<input type="checkbox"/>	Communities	Describe different levels of organisation in an ecosystem from individual organisms to the whole ecosystem. Explain the importance of interdependence and competition in a community.	
84	<input type="checkbox"/>	Adaptations	Explain how organisms are adapted to live in their natural environment.	
85	<input type="checkbox"/>	Levels of Organisation	Describe and explain feeding relationships in a community. Explain how food chains show feeding relationships and pyramids of biomass show the mass of living material in a food chain.	
86	<input type="checkbox"/>	Measuring Distribution and Abundance	Describe how experimental methods using transects and quadrats are used to determine the distribution and abundance of species in an ecosystem.	
87	<input type="checkbox"/>	The Carbon Cycle	Explain the importance of the carbon and water cycles to living organisms.	
88	<input type="checkbox"/>	The Water Cycle	Describe the stages in the water cycle.	
89	<input type="checkbox"/>	<b>Decomposition</b>	Explain how temperature, water and availability of oxygen affect the rate of decay of biological material.	
90	<input type="checkbox"/>	<b>Impact of Environmental Change - Higher Tier</b>	Evaluate the impact of environmental changes on the distribution of species in an ecosystem.	
91	<input type="checkbox"/>	Biodiversity	Explain how waste, deforestation and global warming have an impact on biodiversity.	
92	<input type="checkbox"/>	Waste Management	Describe how the disposal of waste impacts the environment.	
93	<input type="checkbox"/>	Land Use and Deforestation	Describe the impact of deforestation and explain why deforestation happens.	
94	<input type="checkbox"/>	Maintaining Biodiversity	Describe both positive and negative human interactions in an ecosystem and explain their impact on biodiversity.	
95	<input type="checkbox"/>	<b>Trophic Levels, Pyramids and Transfer of Biomass</b>	Describe the differences between the trophic levels of organisms within an ecosystem.	
96	<input type="checkbox"/>	<b>Food Security</b>	Describe what food security is and give some of the factors affecting food security.	
97	<input type="checkbox"/>	<b>Farming Techniques</b>	Describe how the efficiency of food production can be improved by restricting energy transfer from food animals to the environment.	
98	<input type="checkbox"/>	<b>Sustainable Fisheries</b>	Describe methods for keeping fish stock at maintainable levels.	
99	<input type="checkbox"/>	<b>Biotechnology in Food Production</b>	Describe and explain some possible biotechnical and agricultural solutions, including genetic modification, to the demands of the growing human population.	

Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.  
<https://www.thesciencebreak.com>

No.	Title	Revision statement	Youtube Link
<b>1. Atomic structure and the periodic table (Paper 1)</b>			
1	<input type="checkbox"/> Atoms, Elements and Compounds	Define atom, element and compounds and understand that compounds are elements in fixed proportions	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
2	<input type="checkbox"/> Balancing Equations	Balance formula equations	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
3	<input type="checkbox"/> Mixtures	Describe, explain and give examples of processes of separation • suggest suitable separation and purification techniques	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
4	<input type="checkbox"/> Development of the Atom Model	Explain how the scattering experiment led to a change in the atomic model and describe differences between the plum pudding and nuclear model of the atom	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
5	<input type="checkbox"/> Atomic Structure	Using the nuclear model, describe atoms. Including details about the size of atoms, the relative masses and charges of sub-atomic particles	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
6	<input type="checkbox"/> Electronic Structures	The electronic structure of an atom can be represented by numbers or by a diagram. For example, the electronic structure of sodium is 2,8,1	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
7	<input type="checkbox"/> Isotopes and Relative Atomic Masses	Calculate the relative atomic mass of an element given the percentage abundance of its isotopes	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
8	<input type="checkbox"/> The Development of the Periodic Table	Describe the key events in the development of the modern periodic table and the work of Mendeleev	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
9	<input type="checkbox"/> The Periodic Table	Explain how the position of an element in the periodic table is related to the arrangement of electrons in its atoms and hence to its atomic number	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
10	<input type="checkbox"/> Group 0 The Noble Gases	Explain how properties of the elements in Group 0 depend on the outer shell of electrons of the atoms. Predict properties from given trends down group 0	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
11	<input type="checkbox"/> Group 1 The Alkali Metals	Describe the reactions of the first three alkali metals with oxygen, chlorine and water and explain how properties of the elements in Group 1 depend on the outer shell of electrons of the atoms	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
12	<input type="checkbox"/> Group 7 The Halogens	Describe the properties of the group 7 elements called the halogens	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
13	<input type="checkbox"/> The Transition Elements (Chemistry Only)	Describe the general properties of the transition metals by reference to Cr, Mn, Fe, Co, Ni, Cu	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
<b>2. Bonding, structure, and the properties of matter (Paper 1)</b>			
14	<input type="checkbox"/> Chemical Bonds	Explain chemical bonding in terms of electrostatic forces and the transfer or sharing of electrons	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
15	<input type="checkbox"/> Ionic Bonding	Draw dot and cross diagrams for ionic compounds formed by metals in Groups 1 and 2 with non-metals in Groups 6 and 7	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
16	<input type="checkbox"/> Ionic Compounds and Limitations of Models	Describe the limitations of using models to show ionic structures and also work out the empirical formula from a model or diagram	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
17	<input type="checkbox"/> Properties of Ionic Compounds	Be able to explain the properties of ionic compounds based on the bonding between the particles (ions)	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
18	<input type="checkbox"/> Covalent Bonding	Draw dot and cross diagrams for the molecules of hydrogen, chlorine, oxygen, nitrogen, hydrogen chloride, water, ammonia and methane	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
19	<input type="checkbox"/> Giant Covalent Structures	Explain the properties of diamond, graphite and silicon dioxide based on the arrangement and bonding of the atoms in their structure	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
20	<input type="checkbox"/> Properties of Substances made of Small Molecules	Use the idea that intermolecular forces are weak compared with covalent bonds to explain the bulk properties of molecular substances	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
21	<input type="checkbox"/> Metallic Bonding	Explain metallic bonding and recognise substances as metallic giant structures from diagrams showing their bonding	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
22	<input type="checkbox"/> Conduction in Metals and Alloys	Explain why metals conduct electricity and why alloys are harder than pure metals in terms of distortion of the layers of atoms	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
23	<input type="checkbox"/> Polymers	Describe polymers from diagrams showing their bonding and structure	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
24	<input type="checkbox"/> Graphene and the Fullerenes	Describe graphene and fullerenes from diagrams and descriptions of their bonding and structure & give examples of the uses of fullerenes, including carbon nanotubes	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
25	<input type="checkbox"/> The Particle Model and State Symbols	Predict the states of substances at different temperatures and explain the limitations of particle theory	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
26	<input type="checkbox"/> States of Matter	Predict the states of substances at different temperatures given appropriate data	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
27	<input type="checkbox"/> The Sizes and Properties of Particles (Chemistry Only)	Compare 'nano' dimensions to typical dimensions of atoms and molecules	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
<b>3. Quantitative chemistry (Paper 1)</b>			
28	<input type="checkbox"/> Relative Formula Mass and Conservation of Mass	Calculate relative formula mass and understand the conservation of mass in chemical reactions, including the use of large and small numbers (subscript) in formulae	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
29	<input type="checkbox"/> Moles (Higher)	Use the relative formula mass of a substance to calculate the number of moles in a given mass of that substance and vice versa	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
30	<input type="checkbox"/> Using Moles to Balance Equations (Higher)	Balance an equation given the masses of reactants and products	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
31	<input type="checkbox"/> The Amount of Substances in Equations (Higher)	Calculate the masses of reactants and products from the balanced symbol equation and the mass of a given reactant or product	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
32	<input type="checkbox"/> Limiting Reactants (Higher)	Explain the effect of a limiting quantity of a reactant on the amount of products it is possible to obtain	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
33	<input type="checkbox"/> Concentrations of Solutions (Higher Content)	Calculate the mass of solute in a given volume of solution of known concentration in terms of mass per given volume of solution	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
34	<input type="checkbox"/> Percentage Yields (Higher Content)	Calculate the percentage yield & calculate the theoretical mass of a product from a given mass of reactant and the balanced equation for the reaction.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
35	<input type="checkbox"/> Atom Economy	Calculate the atom economy of a reaction to form a desired product from the balanced equation	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
36	<input type="checkbox"/> Using Concentrations of Solutions (Chemistry Only, Higher)	Explain how the concentration of a solution in mol/dm <sup>3</sup> is related to the mass of the solute and the volume of the solution	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
37	<input type="checkbox"/> Using Amounts and Volumes of Gases (Chemistry Only and Higher)	Calculate volumes of gaseous reactants and products from a balanced equation and a given volume of a gaseous reactant or product	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
<b>4. Chemical changes (Paper 1)</b>			
38	<input type="checkbox"/> Metal Oxides	Explain reduction and oxidation in terms of loss or gain of oxygen	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
39	<input type="checkbox"/> The Reactivity Series	Describe the reactions, if any, of potassium, sodium, lithium, calcium, magnesium, zinc, iron and copper with water or dilute acids	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
40	<input type="checkbox"/> The Extraction of Metals and Reduction	In terms of metal reduction, state the substances which are oxidised or reduced in terms of gain or loss of oxygen	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
41	<input type="checkbox"/> Oxidation and Reduction in Terms of Electrons (Higher)	Write ionic equations for displacement reactions and identify, in a given reaction, symbol equation or half equation, which species are oxidised and which are reduced	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
42	<input type="checkbox"/> Reactions of Acids with Metals (Higher)	Explain in terms of gain or loss of electrons redox reactions and identify which species are oxidised and which are reduced in given chemical equations	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
43	<input type="checkbox"/> Neutralisation of Acids and Salt Production	Predict products from given reactants and use the formulae of common ions to deduce the formulae of salts	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
44	<input type="checkbox"/> Soluble Salts	Describe how to make pure, dry samples of named soluble salts from information provided	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
45	<input type="checkbox"/> The pH Scale and Neutralisation	Describe the use of universal indicator or a wide range indicator to measure the approximate pH of a solution	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
46	<input type="checkbox"/> Titration (Chemistry Only)	Describe how to carry out titrations using strong acids and strong alkalis only to find the reacting volumes accurately	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
47	<input type="checkbox"/> Strong and Weak Acids (Higher)	Use and explain the terms dilute and concentrated (in terms of amount of substance), and weak and strong (in terms of the degree of ionisation) in relation to acids	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
48	<input type="checkbox"/> Process of Electrolysis (Higher)	Write and/or balance half equations for the reactions occurring at the electrodes during electrolysis	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
49	<input type="checkbox"/> Using Electrolysis to Extract Metals	For the extraction of aluminium, be able to explain why a mixture is used as the electrolyte & why the positive electrode must be continually replaced	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>

50	<input type="checkbox"/>	Electrolysis of Aqueous Solutions	Be able to predict the products of the electrolysis of aqueous solutions containing a single ionic compound	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
51	<input type="checkbox"/>	Half Equations at Electrodes (Higher)	Show how reactions at electrodes can be represented by half equations	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
<b>5. Energy changes (Paper 1)</b>				
52	<input type="checkbox"/>	Exothermic and Endothermic Reactions	Distinguish between exothermic and endothermic reactions on the basis of the temperature change of the surroundings	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
53	<input type="checkbox"/>	Reaction Profiles	Draw simple reaction profiles (energy level diagrams) for exothermic and endothermic reactions showing the relative energies of reactants and products	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
54	<input type="checkbox"/>	The Energy Change of Reactions (Higher)	Be able to calculate the energy transferred in chemical reactions using bond energies supplied	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
55	<input type="checkbox"/>	Cells and Batteries	Interpret data for relative reactivity of different metals and evaluate the use of different types of cells	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
56	<input type="checkbox"/>	Fuel Cells	Evaluate the use of hydrogen fuel cells in comparison with rechargeable cells and batteries & (HT only) write the half equations for the electrode reactions in the hydrogen fuel cell	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
<b>6. The rate and extent of chemical change (Paper 2)</b>				
57	<input type="checkbox"/>	Calculating Rates of Reaction (Higher Content)	calculate the mean rate of a reaction, draw, and interpret graphs showing the quantity of product (HT only) calculate the gradient of a tangent to the curve on these graphs	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
58	<input type="checkbox"/>	Factors Which Affect Rates of Reaction	Be able to recall how changing certain factors (temperature, pressure, surface area and concentration) the rate of chemical reactions	
59	<input type="checkbox"/>	Catalysts	Be able to identify catalysts in reactions from their effect on the rate of reaction and because they are not included in the chemical equation for the reaction	
60	<input type="checkbox"/>	Reversible Reactions	Describe what we mean by a reversible chemical reaction and what equilibrium is	
61	<input type="checkbox"/>	The Effect of Changing Conditions on Equilibrium (Higher)	Be able to make qualitative predictions about the effect of changes on systems at equilibrium when given appropriate information	<a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>
<b>7. Organic chemistry (Paper 2)</b>				
62	<input type="checkbox"/>	Crude Oil Hydrocarbons and Alkanes	Be able to recognise substances as alkanes given their formulae	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
63	<input type="checkbox"/>	Fractional Distillation and Hydrocarbons and Alkanes	Be able to explain how fractional distillation works in terms of evaporation and condensation	
64	<input type="checkbox"/>	Cracking and Alkenes	Be able to give examples to illustrate the usefulness of cracking and balance chemical equations as examples of cracking given the formulae of the reactants and products	
65	<input type="checkbox"/>	Structure and Reactions of Alkenes (Chemistry Only)	Describe, be able to identify and draw structures of the first four members of the homologous series of alkenes (ethene, butene, propene, pentene)	
66	<input type="checkbox"/>	Alcohols (Chemistry Only)	Describe what happens when any of the first four alcohols react with sodium, burn in air, are added to water, react with an oxidising agent & recall the main uses of these alcohols	
67	<input type="checkbox"/>	Carboxylic Acids (Chemistry Only and Higher Content)	Describe what happens when the first four carboxylic acids react with carbonates, dissolve in water, react with alcohols & (HT only) explain why carboxylic acids are weak acids	
68	<input type="checkbox"/>	Addition Polymerisation (Chemistry Only)	Recognise addition polymers and monomers from diagrams in the forms shown and from the presence of the functional group C=C in the monomers	
69	<input type="checkbox"/>	Condensation Polymerisation (Chemistry Only and Higher)	Be able to explain the basic principles of condensation polymerisation by reference to the functional groups in the monomers and the repeating units in the polymers	
70	<input type="checkbox"/>	DNA and other Naturally Occurring Polymers (Chemistry Only)	Be able to name the types of monomers from which these naturally occurring polymers are made	
<b>8. Chemical analysis (Paper 2)</b>				
71	<input type="checkbox"/>	Pure Substances	Be able to use melting point and boiling point data to distinguish pure from impure substances and what we mean by 'formulations'	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
72	<input type="checkbox"/>	Chromatography	Explain how paper chromatography separates mixtures, suggest how chromatographic methods can be used to identify pure substances & impure substances & determine R <sub>f</sub> values from chromatograms	
73	<input type="checkbox"/>	Identification of Common Gases	Describe the test for four common gases, hydrogen, oxygen, chlorine and carbon dioxide	
74	<input type="checkbox"/>	Flame Tests (Chemistry Only)	Identify some metal ions (cations): lithium, sodium, potassium, calcium and copper compounds produce distinctive colours in flame tests	
75	<input type="checkbox"/>	Metal Hydroxides (Chemistry Only)	Identify metal ions and write balanced equations for the reactions to produce the insoluble hydroxides	<a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>
76	<input type="checkbox"/>	Identification of carbonates, halides and sulfates (Chemistry Only)	Describe the process to identify carbonates, halides and sulphates	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
77	<input type="checkbox"/>	Flame Emission Spectroscopy (Chemistry Only)	Be able to interpret an instrumental result given appropriate data in chart or tabular form, when accompanied by a reference set in the same form	
<b>9. Chemistry of the atmosphere (Paper 2)</b>				
78	<input type="checkbox"/>	The Earth's Atmosphere	Describe the main changes in the atmosphere over time and some of the likely causes of these changes	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
79	<input type="checkbox"/>	Global Climate Change and Carbon Footprints	Describe briefly four potential effects of global climate change and evaluate the quality of evidence in a report about global climate change given appropriate information	
80	<input type="checkbox"/>	Greenhouse gases and Human Activities	Be able to describe the greenhouse effect in terms of the interaction of short and long wavelength radiation with matter	
81	<input type="checkbox"/>	Atmospheric Pollutants from Fuels	Describe how carbon monoxide, soot (carbon particles), sulfur dioxide and oxides of nitrogen are produced by burning fuels and predict the products of combustion of a fuel	
<b>4.10 Using resources</b>				
82	<input type="checkbox"/>	Using the Earth's Resources and Sustainable Development	State examples of natural products that are supplemented or replaced by agricultural and synthetic products & distinguish between finite and renewable resources	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice.
83	<input type="checkbox"/>	Potable Water	Describe the differences in treatment of ground water and salty water & give reasons for the steps used to produce potable water	
84	<input type="checkbox"/>	Waste Water Treatment	Be able to describe the steps in wastewater treatment and the reason for the steps	
85	<input type="checkbox"/>	Alternative Methods of Extracting Metals (Higher)	Be able to evaluate alternative biological methods of metal extraction	
86	<input type="checkbox"/>	Life Cycle Assessment	Be able to carry out simple comparative LCAs for shopping bags made from plastic and paper	
87	<input type="checkbox"/>	Ways of Reducing the use of Resources	Be able to evaluate ways of reducing the use of limited resources	
88	<input type="checkbox"/>	Corrosion and its Prevention (Chemistry Only)	Describe experiments and interpret results to show that both air and water are necessary for rusting and explain sacrificial protection in terms of relative reactivity	
89	<input type="checkbox"/>	Alloys as Useful Materials	Recall a use of each of the alloys of gold (including the meaning of carats), steel, brass and bronze	
90	<input type="checkbox"/>	Glass and Ceramics	Compare quantitatively, the physical properties of glass and clay ceramics	
91	<input type="checkbox"/>	Polymers and Composites	Explain how low density and high density poly(ethene) are both produced the difference between thermosoftening and thermosetting polymers and give examples of composites	
92	<input type="checkbox"/>	The Haber Process	Apply the principles of dynamic equilibrium in Reversible reactions and dynamic equilibrium to the Haber process and (HT only) interpret graphs of reaction conditions versus rate	<a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>

No.	Title	Revision statement	Youtube Link
	<b>1 Energy</b>		
1	<input type="checkbox"/> Kinetic Energy	Give the meaning of kinetic energy and use the equation to calculate kinetic energy.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
2	<input type="checkbox"/> Gravitational Potential Energy	Give the meaning of gravitational potential energy and use the equation for calculating it.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
3	<input type="checkbox"/> Kinetic Energy and Gravitational Potential Energy	Be able to calculate the gravitational potential energy gained by an object from its kinetic energy when thrown upwards.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
4	<input type="checkbox"/> Elastic Potential Energy	Give the meaning of elastic potential energy and use the equation to calculate this energy store.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
5	<input type="checkbox"/> Specific Heat Capacity	Explain what is meant by specific heat capacity and use the equation.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
6	<input type="checkbox"/> Power	Define the term power, know two ways of saying the units and use the equation.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
7	<input type="checkbox"/> Energy Transfers in Systems	Describe some energy transfers including in closed systems	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
8	<input type="checkbox"/> Reducing Unwanted Energy Transfers	Give ways of reducing unwanted energy transfers and describe how to do a thermal conductivity experiment.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
9	<input type="checkbox"/> Efficiency	Say what is meant by the term efficiency, use the equation and give some ways if improving efficiency	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
10	<input type="checkbox"/> National and Global Energy Resources	Name renewable and non-renewable energy sources and give the advantage and disadvantage of renewable energy sources.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
	<b>2. Electricity</b>		
11	<input type="checkbox"/> Standard Circuit Diagram Symbols	Recognise and remember all the standard circuit symbol diagrams needed for GCSE physics	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
12	<input type="checkbox"/> Electrical Charge and Current	Be able to describe what electrical charge is and use the equation for calculating electrical charge	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
13	<input type="checkbox"/> Current Resistance and Potential Difference	Be able to describe the relationship between current, resistance and potential difference and use the equation to calculate one if the other two are known	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
14	<input type="checkbox"/> Resistors	Describe the graphs that show current versus potential difference for a fixed resistor, a lamp and a diode.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
15	<input type="checkbox"/> Resistors II	Describe the relationship between current and potential difference for a thermistor and a light dependent resistor	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
16	<input type="checkbox"/> Series and Parallel Circuits	Give the difference between series and parallel circuits in terms of potential difference, current and resistance.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
17	<input type="checkbox"/> Mains Electricity	Describe the features of main electricity, and the structure of a three pin plug and the relevant colours on the live, neutral and earth wires.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
18	<input type="checkbox"/> Mains Electricity II	Explain how a fuse works as a safety device in a three-pin plug connected to an appliance by a three-core cable	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
19	<input type="checkbox"/> Power	Explain what electrical power is, remember and use two equations to calculate power in a circuit.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
20	<input type="checkbox"/> Energy Transfers in Everyday Devices	Use two equations for energy transferred in devices	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
21	<input type="checkbox"/> The National Grid	Be able to explain why the National Grid system is an efficient way to transfer energy	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
22	<input type="checkbox"/> Static Electricity - Physics Only	Describe the production of static electricity, and sparking, by rubbing surfaces and the transfer of electrons	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
23	<input type="checkbox"/> Electric Fields - Physics Only	Explain how the concept of an electric field helps to explain the non-contact force between charged objects as well as other electrostatic phenomena such as sparking.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
	<b>4.3 Particle model of matter</b>		
24	<input type="checkbox"/> Density of Materials	Be able to recognise/draw simple diagrams to model the difference between solids, liquids and gases and know and use the density equation	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
25	<input type="checkbox"/> Changes of State	Be able to describe how, when substances change state (melt, freeze, boil, evaporate, condense or sublimate), mass is conserved	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
26	<input type="checkbox"/> Internal Energy	Give the meaning of internal energy and describe how the internal energy of a system can change.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
27	<input type="checkbox"/> Specific Latent Heat	Be able to interpret heating and cooling graphs that include changes of state and use the specific latent heat equation	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
28	<input type="checkbox"/> Particle Motion in Gases	Explain how the motion of the molecules in a gas is related to both its temperature and its pressure and the relation between the temperature of a gas and its pressure at constant volume	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
29	<input type="checkbox"/> Pressure in Gases - Physics only	Be able to calculate the change in the pressure of a gas or the volume of a gas (a fixed mass held at constant temperature) when either the pressure or volume is increased or decreased	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
	<b>4. Atomic structure</b>		
30	<input type="checkbox"/> The Structure of an Atom and Isotopes	Explain why the electron arrangements of atoms may change with the absorption of electromagnetic radiation	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
31	<input type="checkbox"/> Development of the Atom Model	Explain how the scattering experiment led to a change in the atomic model and describe differences between the plum pudding and nuclear model of the atom	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
32	<input type="checkbox"/> Radioactive Decay and Nuclear Radiation	Give the properties of alpha particles, beta particles and gamma rays related to their penetration through materials, their range in air and ionising power	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
33	<input type="checkbox"/> Nuclear Equations	Be able to use the names and symbols of common nuclei and particles to write balanced equations that show single alpha ( $\alpha$ ) and beta ( $\beta$ ) decay.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
34	<input type="checkbox"/> Half lives and the Random Nature of Radioactive Decay	Be able to explain the concept of half-life and how it is related to the random nature of radioactive decay and be able to determine the half-life of a radioactive isotope from given information	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
35	<input type="checkbox"/> Radioactive Contamination	Be able to compare the hazards associated with contamination and irradiation	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
36	<input type="checkbox"/> Background Radiation - Physics only	Be able to give the sources of background radiation and evaluate doses and dangers	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
37	<input type="checkbox"/> Medical Uses of Radiation - Physics only	Describe and evaluate the uses of nuclear radiations for exploration of internal organs, and for control or destruction of unwanted tissue	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
38	<input type="checkbox"/> Nuclear Fission - Physics only	Be able to draw/interpret diagrams representing nuclear fission and how a chain reaction may occur	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
39	<input type="checkbox"/> Nuclear Fusion - Physics only	Be able to describe nuclear fusion is the joining of two light nuclei to form a heavier nucleus.	<a href="https://www.youtube.com/watch?v=">https://www.youtube.com/watch?v=</a>
	<b>5. Forces</b>		
40	<input type="checkbox"/> Forces - Scalar, Vector, Contact, Non-Contact	Be able to describe the interaction between pairs of objects which produce a force on each object. The forces to be represented as vectors	
41	<input type="checkbox"/> Gravity and Weight	Describe the link between gravity and weight and use the equation used to calculate weight.	
42	<input type="checkbox"/> Resultant Forces- Higher Tier Content	Explain the motion of an object based on the resultant forces acting on that object	
43	<input type="checkbox"/> Resultant Forces, Resolution of Forces - Higher	Be able to use vector diagrams to illustrate resolution of forces, equilibrium situations and determine the resultant of two forces, to include both magnitude and direction	
44	<input type="checkbox"/> Work Done and Energy Transfer	Be able to describe the energy transfer involved when work is done.	
45	<input type="checkbox"/> Forces and Elasticity	Describe the difference between a linear and non-linear relationship between force and extension and calculate a spring constant in linear cases	
46	<input type="checkbox"/> Forces and Elasticity II	Be able to calculate the spring constant from equation or from a graph.	
47	<input type="checkbox"/> Moments - Physics only	Be able to calculate the size of a force, or its distance from a pivot, acting on an object that is balanced	

48	<input type="checkbox"/>	Gears and Levers - Physics only	Be able to explain how levers and gears transmit the rotational effects of forces		
49	<input type="checkbox"/>	Pressure in a Fluid 1 - Physics only	Be able to recall and apply the equation for pressure in a fluid		
50	<input type="checkbox"/>	Pressure in a Fluid 2- Physics Only - Higher Tier	Explain why, in a liquid, pressure at a point increases with the height of the column of liquid above that point and with the density of the liquid and calculate the differences in pressure at different depths in a liquid		
51	<input type="checkbox"/>	Atmospheric Pressure - Physics only	Describe a simple model of the Earth's atmosphere and of atmospheric pressure and explain why atmospheric pressure varies with height above a surface.		
52	<input type="checkbox"/>	Distance, Displacement and Speed	Be able to describe displacement in terms of both the magnitude and direction, calculate speed and give typical speeds for moving objects	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice. <a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>	
53	<input type="checkbox"/>	Distance Time Relationship	Be able to draw distance–time graphs from measurements and extract and interpret lines and slopes of distance–time graphs, translating information between graphical and numerical form		
54	<input type="checkbox"/>	Velocity Time Graphs Acceleration and Distance	Be able to determine speed from a distance–time graph including the use of a tangent to calculate speed		
55	<input type="checkbox"/>	Acceleration Equations	draw velocity–time graphs from measurements and interpret lines to determine acceleration and use velocity–time graphs to determine distance travelled (or displacement)		
56	<input type="checkbox"/>	Acceleration and Falling Objects	Be able to draw and interpret velocity–time graphs for objects that reach terminal velocity		
57	<input type="checkbox"/>	Acceleration and Falling Objects Physics Only	Be able to describe the forces on a falling object.		
58	<input type="checkbox"/>	Newton's First Law	Be able to apply Newton's First Law to explain the motion of objects moving with a uniform velocity and objects where the speed and/or direction changes		
59	<input type="checkbox"/>	Newton's Second Law	Be able to link acceleration to force and mass and use the $F = ma$ equation		
60	<input type="checkbox"/>	Inertia and Inertial Mass HIGHER	Be able to explain inertial mass as a measure of how difficult it is to change the velocity of an object		
61	<input type="checkbox"/>	Newton's Third Law	Be able to apply Newton's Third Law to examples of equilibrium situations		
62	<input type="checkbox"/>	Stopping Distances	Describe what stopping distance is and how it is calculated		
63	<input type="checkbox"/>	Stopping Distances and Braking Force	Give the energy changes that happen as a result of the braking force exerted by a car.		
64	<input type="checkbox"/>	Momentum - Higher Tier	Complete calculations involving an event, such as the collision of two objects		
65	<input type="checkbox"/>	Momentum- Physics Only - Higher Tier	Give the law of conservation of momentum and describe momentum in an event such as a collision		
66	<input type="checkbox"/>	Changes in Momentum- Physics Only - Higher Tier	Be able to explain how safety features that are based on cushioning are to do with the concept of rate of change of momentum		
<b>6. Waves</b>					
67	<input type="checkbox"/>	Waves	Be able to describe the difference between longitudinal and transverse waves		
68	<input type="checkbox"/>	Waves II - Physics only	Be able to show how changes in velocity, frequency and wavelength, in transmission of sound waves from one medium to another, are interrelated		
69	<input type="checkbox"/>	Reflection of Waves - Physics only	Be able to construct ray diagrams to illustrate the reflection of a wave at a surface and describe the effects of reflection, transmission and absorption of waves at material interfaces		
70	<input type="checkbox"/>	Sound Waves - Physics Only - Higher Tier	Describe, with examples, processes which convert wave disturbances between sound waves and vibrations in solids.		
71	<input type="checkbox"/>	Ultrasound - Physics Only - Higher Tier	Describe the use of ultrasound in various examples		
72	<input type="checkbox"/>	Seismic Waves - Physics Only - Higher Tier	Describe the features of seismic waves and how they help determine the makeup of the earth.		
73	<input type="checkbox"/>	Echo Sounding - Physics Only - Higher Tier	Describe how high frequency sound waves are used to detect objects in deep water and measure water depth	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice. <a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>	
74	<input type="checkbox"/>	Types of Electromagnetic Waves	Be able to give examples that illustrate the transfer of energy by electromagnetic waves		
75	<input type="checkbox"/>	Properties of Electromagnetic Waves I	Be able to use wave front diagrams to explain refraction in terms of the change of speed that happens when a wave travels from one medium to a different medium		
76	<input type="checkbox"/>	Properties of Electromagnetic Waves II	Describe the production and reception of radio waves and describe some hazards of electromagnetic waves.		
77	<input type="checkbox"/>	Lenses I - Physics only	Be able to construct ray diagrams to illustrate the similarities and differences between convex lenses		
78	<input type="checkbox"/>	Lenses II - Physics only	Be able to construct ray diagrams to illustrate the similarities and differences between concave lenses		
79	<input type="checkbox"/>	Visible Light - Physics only	Describe how the colour of an object is related to the differential absorption, transmission and reflection of different wavelengths of light by the object		
80	<input type="checkbox"/>	Absorption and Emission of Infrared - Physics only	Be able to explain how the temperature of a body is related to the balance between incoming radiation absorbed and radiation emitted		
81	<input type="checkbox"/>	Absorption and Emission of Infrared II - Physics only	Explain how the intensity and wavelength distribution of any emission depends on the temperature of the body		
<b>7. Magnetism and electromagnetism</b>					
82	<input type="checkbox"/>	Poles of a Magnet	Describe the attraction and repulsion between unlike and like poles for permanent magnets and the difference between permanent and induced magnets		
83	<input type="checkbox"/>	Magnetic Fields	Describe how to plot and draw the magnetic field pattern of a magnet using a compass showing magnetic field pattern and how strength and direction change from one point to another		
84	<input type="checkbox"/>	Electromagnets	Describe what an electromagnet is and be able to draw magnetic field lines around a solenoid and a current carrying wire.		
85	<input type="checkbox"/>	Electromagnetic Devices - Physics Only - Higher Tier	Be able to interpret diagrams of electromagnetic devices in order to explain how they work		
86	<input type="checkbox"/>	Flemings LHR	be able to use Fleming's left-hand rule to represent the relative orientation of the force, the current in the conductor and the magnetic field.	Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice. <a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>	
87	<input type="checkbox"/>	Electric Motors Higher	Be able to explain how the force on a conductor in a magnetic field causes the rotation of the coil in an electric motor.		
88	<input type="checkbox"/>	Loudspeaker - Physics Only - Higher Tier	Be able to explain how a moving-coil loudspeaker and headphones work		
89	<input type="checkbox"/>	Induced Potential - Physics Only - Higher Tier	Be able to recall the factors that affect the size and direction of the induced potential difference/induced current		
90	<input type="checkbox"/>	The Generator Effect - Physics Only - Higher Tier	Explain how the generator effect is used in an alternator to generate ac and in a dynamo to generate dc		
91	<input type="checkbox"/>	Microphones - Physics Only - Higher Tier	Be able to explain how a moving-coil microphone works		
92	<input type="checkbox"/>	Transformers - Physics Only - Higher Tier	Use equation linking the pds and number of turns in the two coils of a transformer to the currents and the power transfer involved		
<b>8. Space physics (physics only)</b>					
93	<input type="checkbox"/>	Solar System and the Life Cycle of Stars - Physics O	Describe and explain the life cycle of a star		Subscribe at The Science Break for all paper 2 videos, notes sheets and plenty of exam practice. <a href="https://www.thesciencebreak.com">https://www.thesciencebreak.com</a>
94	<input type="checkbox"/>	Orbital Motion - Physics only - Higher Tier Content	Be able to describe the similarities and distinctions between the planets, their moons, and artificial satellites		
95	<input type="checkbox"/>	Red Shift - Physics Only - Higher Tier	Be able to use the idea of red-shift to explain the movement of galaxies and to give evidence for the big bang		

No.	Title		Revision statement	Youtube Link	
	<b>1. Cell Biology (Paper 1)</b>	<b>0,1,2</b>			Note
1	<input checked="" type="checkbox"/> Eukaryotes and Prokaryotes		Label the key parts of eukaryotes and prokaryotes (bacteria) and know the differences between these types of cell	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
2	<input checked="" type="checkbox"/> Cell Specialisation		Describe some ways cells are specialised to do their jobs, including sperm, muscle and nerve cells in animals and root hair cells, xylem and phloem in plants	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	Revised but need to go over it one more time.
3	<input checked="" type="checkbox"/> Cell Differentiation		Explain why cell differentiation is important in animals and plants and where undifferentiated cells are found	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	Ask my teacher if undifferentiated and unspecialised is the same thing.
4	<input type="checkbox"/> Microscopy		Describe how microscopy has changed over time. Describe the uses of electron microscopes and the difference in magnification and resolution between the light microscope and electron microscope	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	Recap on unit conversions
5	<input checked="" type="checkbox"/> Microscopy Calculations		Describe how to grow microorganisms using the aseptic technique and explain the reasons for the different steps.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	Remember I AM to help with calculations
6	<input type="checkbox"/> <b>Culturing Microorganisms</b>		Describe how to culture (grow) microorganisms. Calculate the population growth of microorganisms and measure and calculate the inhibition zones where microorganisms have been killed off.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
7	<input checked="" type="checkbox"/> <b>Culturing Microorganisms - Calculations</b>		Calculate the magnification, image size and the real size of a cell or cell structure.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
8	<input checked="" type="checkbox"/> Mitosis and the Cell Cycle		Explain the three overall stages of the cell cycle and the importance of mitosis.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	Stage 1 - DNA copies itself, sub-cellular structures increase, Stage 2 - mitosis, chromosomes line up at the centre of the nucleus, then move to opposite ends, Stage 3 - cell membrane and cytoplasm splits.
9	<input checked="" type="checkbox"/> Stem Cells		Describe the function of stem cells in embryos, in adult animals and in the meristems in plants and the use of therapeutic cloning.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
10	<input checked="" type="checkbox"/> Diffusion		Define diffusion, give examples of where it is important in living things and explain the factors that affect the rate of diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
11	<input checked="" type="checkbox"/> Diffusion II - Exchange Surfaces		Calculate surface area to volume ratio, explain its importance, and how the small intestine, alveoli in the lungs and gills in fish are adapted for diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
12	<input type="checkbox"/> Osmosis		Define osmosis and explain the direction of water movement based on the concentration of solutions inside and outside of cells.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
13	<input checked="" type="checkbox"/> Active Transport		Define active transport, explain its use in absorption of sugars in the small intestine, minerals in plants and know the difference between active transport and diffusion.	<a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a>	
	<b>2. Organisation (Paper 1)</b>				