



## Year 11 Revision Schedule 2023\_24

<b>Subject/Course:</b>	<b>GCSE Combined Biology FOUNDATION (AQA)</b>
<b>Student Name:</b>	<b>GCSE Year 11 students</b>

		Topic	Key knowledge/skills/questions	Resources/activities/links
<b>Week 1</b>	<b>Monday 15 January 2024</b>	4.5.1 Homeostasis 4.5.2 The human nervous system 4.5.3 Hormonal coordination in humans	<ul style="list-style-type: none"> <li>• What homeostasis is and why it is important</li> <li>• The different parts of the nervous system and how they work together to co-ordinate a nervous response</li> <li>• Reflex actions- examples and how they are different to a normal nervous response</li> <li>• Synapses- how they work</li> <li>• CORE PRACTICAL- investigating reaction time</li> <li>• Different glands of the endocrine system – names and labels, which hormones they secrete</li> <li>• Controlling blood glucose using insulin</li> <li>• Which hormones control puberty and the menstrual cycle</li> <li>• How different contraceptives work</li> </ul>	<ul style="list-style-type: none"> <li>• BBC bitesize homeostasis and response <a href="https://www.bbc.co.uk/bitesize/topics/zyybb82">https://www.bbc.co.uk/bitesize/topics/zyybb82</a></li> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 2</b>	<b>Monday 22 January 2024</b>	4.6.1 Reproduction 4.7.1 Adaptations, interdependence and competition	<ul style="list-style-type: none"> <li>• DNA structure and function including what a genome is</li> <li>• What are genes and chromosomes</li> <li>• Sexual vs asexual reproduction</li> <li>• The cell cycle</li> <li>• The processes of mitosis and meiosis – how they work, what they are used for, the differences between them</li> <li>• What ecosystems are</li> <li>• Competition in animals and plants- why and how they do this</li> <li>• Adaptation in animals and plants- different types of adaptations for different environments</li> <li>• Abiotic and biotic factors- what these are and examples of each</li> </ul>	<ul style="list-style-type: none"> <li>• BBC bitesize Reproduction <a href="https://www.bbc.co.uk/bitesize/guides/zycmk2p/revision/1">https://www.bbc.co.uk/bitesize/guides/zycmk2p/revision/1</a></li> <li>• BBC bitesize Ecology <a href="https://www.bbc.co.uk/bitesize/topics/zxxhh39">https://www.bbc.co.uk/bitesize/topics/zxxhh39</a></li> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 3</b>	<b>Monday 29 January 2024</b>	4.7.2 Organisation of an ecosystem 4.7.3 Biodiversity and the effect of	<ul style="list-style-type: none"> <li>• Food chains- how these are structured and the naming system we use for each stage (i.e. producers/consumers)</li> <li>• CORE PRACTICAL: How to sample an area using quadrats or transects to estimate biodiversity or population size (e.g. of a type of plant)</li> </ul>	<ul style="list-style-type: none"> <li>• BBC bitesize Ecology <a href="https://www.bbc.co.uk/bitesize/topics/zxxhh39">https://www.bbc.co.uk/bitesize/topics/zxxhh39</a></li> </ul>

		human interaction on ecosystems	<ul style="list-style-type: none"> <li>The water cycle</li> <li>The carbon cycle</li> <li>Biodiversity- what this means and why it is important</li> <li>How humans are affecting biodiversity (land use, water pollution, air pollution)</li> <li>Global warming- how and why this is happening</li> <li>Deforestation- reasons for doing this and the impact it has on the environment</li> <li>How we can help to maintain ecosystems and biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 4</b>	<b>Monday 5 February</b>	<p>Summarise the above</p> <p>Focus on Practical Skills</p> <p>Focus on exam technique by practising past papers</p>	<ul style="list-style-type: none"> <li>Make sure you are confident with the content you have revised over the past 3 weeks- go over any tricky areas again</li> <li>Use blank page retrieval to identify gaps and address these by making a mind map</li> <li>Remind yourself of the key practical skills that might be assessed</li> <li>Practise answering questions in enough detail, using key vocabulary and under timed conditions</li> </ul>	<p>BBC bitesize Practical Skills  <a href="https://www.bbc.co.uk/bitesize/topics/zqqmmsg">https://www.bbc.co.uk/bitesize/topics/zqqmmsg</a></p> <p>Link to AQA past papers  <a href="https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology">https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology</a></p>
<b>Week 5</b>	<b>Half Term Monday 12 February</b>	<p>Summarise the above Focus on Practical Skills</p> <p>Focus on exam technique by practising past papers</p>	<ul style="list-style-type: none"> <li>Make sure you are confident with the content you have revised over the past 3 weeks- go over any tricky areas again</li> <li>Use blank page retrieval to identify gaps and address these by making a mind map</li> <li>Remind yourself of the key practical skills that might be assessed</li> <li>Practise answering questions in enough detail, using key vocabulary and under timed conditions</li> </ul>	<p>BBC bitesize Practical Skills  <a href="https://www.bbc.co.uk/bitesize/topics/zqqmmsg">https://www.bbc.co.uk/bitesize/topics/zqqmmsg</a></p> <p>Link to AQA past papers  <a href="https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology">https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology</a></p>
<b>Week 6</b>	<b>Monday 19 February</b>	<p>4.1.1 Cell structure</p> <p>4.1.2 Cell division</p> <p>4.1.3 Transport in cells</p>	<ul style="list-style-type: none"> <li>Eukaryote and prokaryote structure</li> <li>Animal and plant cell structure and functions of sub cellular structures</li> <li>How to use a microscope to observe cells and draw cells seen</li> <li>Cell specialisation and cell differentiation</li> <li>Differences between light and electron microscopes</li> <li>How to use the magnification equation</li> <li>Where chromosomes are found</li> <li>What happens in the cell cycle and why the cell cycle happens</li> <li>What a stem cell is and where stems cells are found in embryos, adults and plants</li> <li>Use of stem cells for therapeutic cloning and production of cloned plants</li> <li>What happens in diffusion and which factors affect the rate of diffusion</li> </ul>	<p>BBC bitesize Cells  <a href="https://www.bbc.co.uk/bitesize/topics/z2mttv4">https://www.bbc.co.uk/bitesize/topics/z2mttv4</a></p> <ul style="list-style-type: none"> <li>Educake- please log on and choose these topics to answer questions on</li> </ul>

			<ul style="list-style-type: none"> <li>• How to calculate SA:V</li> <li>• Explain how animal and plants are adapted for exchanging materials</li> <li>• What is osmosis and what happened in the required practical investigating the effect of changing salt solution on the mass of plant tissue (potato chips)</li> <li>• What is active transport</li> </ul>	
<b>Week 7</b>	<b>Monday 26 February</b>	<p>4.2.1 Principles of organisation</p> <p>4.2.2 animal tissues, organs and organ systems</p> <p>4.2.3 Plant tissues, organs and organ systems</p>	<ul style="list-style-type: none"> <li>• What is the organisation in living organisms</li> <li>• Digestive system- what are the organs and their functions</li> <li>• Enzyme structure and function – including the lock and key theory</li> <li>• Digestive enzymes- amylase, protease and lipase- where are these produced and what do they do</li> <li>• Role of bile</li> <li>• How temperature and pH affect enzyme activity</li> <li>• Required practical Food tests</li> <li>• Required practical effect of pH on the rate of reaction of amylase enzyme on digestion of starch</li> <li>• Heart structure and types of blood vessels</li> <li>• What is in the tissue blood</li> <li>• Coronary heart diseases- what it is and how valves and transplants can be treatments</li> <li>• Factors that can cause/ contribute to ill health</li> <li>• Use disease data to draw conclusions</li> <li>• Cancer cells and the difference between benign tumours and malignant tumours.</li> <li>• Plant tissues- epidermal, palisade and spongy mesophyll, xylem and phloem</li> <li>• Leaf structure</li> <li>• Adaptations of root hair cells, xylem and phloem</li> <li>• Transpiration-how it is measured (potometer) and which factors affect it</li> <li>• Role of leaves, stem, root</li> <li>• Translocation and where this happens in a plant</li> </ul>	<p>BBC bitesize Organisation  <a href="https://www.bbc.co.uk/bitesize/topics/zwj22nb">https://www.bbc.co.uk/bitesize/topics/zwj22nb</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 8</b>	<b>Monday 4 March</b>	4.3.1 Communicable disease	<ul style="list-style-type: none"> <li>• Spread of diseases</li> <li>• Pathogen definition</li> <li>• How do bacteria and viruses make us poorly</li> <li>• Symptoms and treatments/prevention of spread for viral diseases – measles, HIV, TMV</li> <li>• Symptoms and treatments/prevention of spread for bacterial diseases – <i>Salmonella</i>, Gonorrhoea,</li> <li>• Symptoms and treatments/prevention of spread for fungal diseases – Rose black spot</li> <li>• Symptoms and treatments/prevention of spread for protist diseases – Malaria</li> <li>• Non specific defence systems in the human body</li> <li>• Role of white blood cells defending against pathogens</li> <li>• Vaccination – what happens in the body</li> </ul>	<p>BBC bitesize Infection and response  <a href="https://www.bbc.co.uk/bitesize/topics/z9kww6f">https://www.bbc.co.uk/bitesize/topics/z9kww6f</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>

			<ul style="list-style-type: none"> <li>• Antibiotics- what these medicines do and issues with their overuse</li> <li>• What do painkillers do?</li> <li>• Origin of drugs digitalis and aspirin and how Penicillin was discovered</li> <li>• Stages needed when testing a drug and why these steps are important</li> </ul>	
<b>Week 9</b>	<b>Monday 11 March</b>	4.4.1 Photosynthesis 4.4.2 Respiration	<ul style="list-style-type: none"> <li>• Photosynthesis equation and photosynthesis is an endothermic reaction</li> <li>• Effects of temperature, light intensity, carbon dioxide concentration and amount of chlorophyll on the rate of photosynthesis</li> <li>• Understanding these factors (above) interact and one may be a limiting factor</li> <li>• Required practical: investigating the effect of light intensity on the rate of photosynthesis</li> <li>• Uses of glucose (produced in photosynthesis)</li> <li>• Respiration is an exothermic reaction</li> <li>• Equations for aerobic respiration and anaerobic respiration (muscles and yeast/plants)</li> <li>• Why do organisms need energy</li> <li>• Effect of exercise on the body and issues with ongoing anaerobic respiration occurring- muscle fatigue, lactic acid production and oxygen debt</li> <li>• What is metabolism (definition and examples)</li> </ul>	<p>BBC bitesize Bioenergetics <a href="https://www.bbc.co.uk/bitesize/topics/zgr997h">https://www.bbc.co.uk/bitesize/topics/zgr997h</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 10</b>	<b>Monday 18 March</b>	4.5.1 Homeostasis 4.5.2 The human nervous system 4.5.3 Hormonal coordination in humans	<ul style="list-style-type: none"> <li>• What homeostasis is and why it is important</li> <li>• The different parts of the nervous system and how they work together to co-ordinate a nervous response</li> <li>• Reflex actions- examples and how they are different to a normal nervous response</li> <li>• Synapses- how they work</li> <li>• CORE PRACTICAL- investigating reaction time</li> <li>• Different glands of the endocrine system – names and labels, which hormones they secrete</li> <li>• Controlling blood glucose using insulin</li> <li>• Which hormones control puberty and the menstrual cycle</li> <li>• How different contraceptives work</li> </ul>	<p>BBC bitesize homeostasis and response <a href="https://www.bbc.co.uk/bitesize/topics/zyybb82">https://www.bbc.co.uk/bitesize/topics/zyybb82</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 11</b>	<b>Monday 25 March</b>	4.7.1 Adaptations, interdependence and competition 4.7.2 Organisation of an ecosystem 4.7.3 Biodiversity and the effect of human interaction on ecosystems	<ul style="list-style-type: none"> <li>• Competition in animals and plants- why and how they do this</li> <li>• Adaptation in animals and plants- different types of adaptations for different environments</li> <li>• Abiotic and biotic factors- what these are and examples of each</li> <li>• Food chains- how these are structured and the naming system we use for each stage (i.e. producers/consumers)</li> <li>• CORE PRACTICAL: How to sample an area using quadrats or transects to estimate biodiversity or population size (e.g. of a type of plant)</li> <li>• The water cycle</li> <li>• The carbon cycle</li> <li>• Biodiversity- what this means and why it is important</li> </ul>	<p>BBC bitesize Ecology <a href="https://www.bbc.co.uk/bitesize/topics/zxxhh39">https://www.bbc.co.uk/bitesize/topics/zxxhh39</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>

			<ul style="list-style-type: none"> <li>• How humans are affecting biodiversity (land use, water pollution, air pollution)</li> <li>• Global warming- how and why this is happening</li> <li>• Deforestation- reasons for doing this and the impact it has on the environment</li> <li>• How we can help to maintain ecosystems and biodiversity</li> </ul>	
<b>Week 12</b>	<b>Easter Monday 1 April</b>	<p>4.6.1 Reproduction</p> <p>4.6.2 Variation and evolution</p> <p>4.6.3 Development of understanding on genetics and evolution</p> <p>4.6.4 Classification of living organisms</p>	<ul style="list-style-type: none"> <li>• The process of meiosis</li> <li>• Differences between sexual and asexual reproduction</li> <li>• Structure of DNA and define genome</li> <li>• Importance of understanding the human genome</li> <li>• Alleles, dominant, recessive, homozygous, heterozygous, genotype and phenotype</li> <li>• Predicting the probability of inheriting a characteristic -using a Punnett square</li> <li>• Inheritance of Polydactyly and Cystic fibrosis</li> <li>• Determination of sex</li> <li>• What causes differences in individuals in a population</li> <li>• The process of evolution</li> <li>• Evidence for evolution (fossils, genes, resistant bacteria)</li> <li>• Extinction</li> <li>• The process of selective breeding</li> <li>• The process of genetic engineering</li> <li>• Classification of living organisms and evolutionary trees</li> </ul>	<p>BBC bitesize Inheritance, variation and evolution  <a href="https://www.bbc.co.uk/bitesize/topics/zppffcw">https://www.bbc.co.uk/bitesize/topics/zppffcw</a></p> <p>BBC bitesize Cells  <a href="https://www.bbc.co.uk/bitesize/topics/z2mttv4">https://www.bbc.co.uk/bitesize/topics/z2mttv4</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 13</b>	<b>Easter Monday 8 April</b>	<p>4.4.1 Photosynthesis</p> <p>4.4.2 Respiration</p> <p>4.2.1 Principles or organisation</p> <p>4.2.2 animal tissues, organs and organ systems</p> <p>4.2.3 Plant tissues, organs and organ systems</p>	<ul style="list-style-type: none"> <li>• Photosynthesis equation and photosynthesis is an endothermic reaction</li> <li>• Effects of temperature, light intensity, carbon dioxide concentration and amount of chlorophyll on the rate of photosynthesis</li> <li>• Understanding these factors (above) interact and one may be a limiting factor</li> <li>• Required practical: investigating the effect of light intensity on the rate of photosynthesis</li> <li>• Uses of glucose (produced in photosynthesis)</li> <li>• Respiration is an exothermic reaction</li> <li>• Equations for aerobic respiration and anaerobic respiration (muscles and yeast/plants)</li> <li>• Why do organisms need energy</li> <li>• Effect of exercise on the body and issues with ongoing anaerobic respiration occurring- muscle fatigue, lactic acid production and oxygen debt</li> <li>• What is metabolism (definition and examples)</li> <li>• What is the organisation in living organisms</li> <li>• Digestive system- what are the organs and their functions</li> <li>• Enzyme structure and function – including the lock and key theory</li> <li>• Digestive enzymes- amylase, protease and lipase- where are these produced and what do they do</li> <li>• Role of bile</li> <li>• How temperature and pH affect enzyme activity</li> </ul>	<p>BBC bitesize Organisation  <a href="https://www.bbc.co.uk/bitesize/topics/zwj22nb">https://www.bbc.co.uk/bitesize/topics/zwj22nb</a></p> <p>BBC bitesize Bioenergetics  <a href="https://www.bbc.co.uk/bitesize/topics/zgr997h">https://www.bbc.co.uk/bitesize/topics/zgr997h</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>

			<ul style="list-style-type: none"> <li>• Required practical Food tests</li> <li>• Required practical effect of pH on the rate of reaction of amylase enzyme on digestion of starch</li> <li>• Heart structure and types of blood vessels</li> <li>• What is in the tissue blood</li> <li>• Coronary heart diseases- what it is and how valves and transplants can be treatments</li> <li>• Factors that can cause/ contribute to ill health</li> <li>• Use disease data to draw conclusions</li> <li>• Cancer cells and the difference between benign tumours and malignant tumours.</li> <li>• Plant tissues- epidermal, palisade and spongy mesophyll, xylem and phloem</li> <li>• Leaf structure</li> <li>• Adaptations of root hair cells, xylem and phloem</li> <li>• Transpiration-how it is measured (potometer) and which factors affect it</li> <li>• Role of leaves, stem, root</li> <li>• Translocation and where this happens in a plant</li> </ul>	
<b>Week 14</b>	<b>Monday 15 April</b>	4.3.1 Communicable disease	<ul style="list-style-type: none"> <li>• Spread of diseases</li> <li>• Pathogen definition</li> <li>• How do bacteria and viruses make us poorly</li> <li>• Symptoms and treatments/prevention of spread for viral diseases – measles, HIV, TMV</li> <li>• Symptoms and treatments/prevention of spread for bacterial diseases – <i>Salmonella</i>, Gonorrhoea,</li> <li>• Symptoms and treatments/prevention of spread for fungal diseases – Rose black spot</li> <li>• Symptoms and treatments/prevention of spread for protist diseases – Malaria</li> <li>• Non specific defence systems in the human body</li> <li>• Role of white blood cells defending against pathogens</li> <li>• Vaccination – what happens in the body</li> <li>• Antibiotics- what these medicines do and issues with their overuse</li> <li>• What do painkillers do?</li> <li>• Origin of drugs digitalis and aspirin and how Penicillin was discovered</li> <li>• Stages needed when testing a drug and why these steps are important</li> </ul>	<p>BBC bitesize Infection and response  <a href="https://www.bbc.co.uk/bitesize/topics/z9kww6f">https://www.bbc.co.uk/bitesize/topics/z9kww6f</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 15</b>	<b>Monday 22 April</b>	4.1.1 Cell structure 4.1.2 Cell division 4.1.3 Transport in cells	<ul style="list-style-type: none"> <li>• Eukaryote and prokaryote structure</li> <li>• Animal and plant cell structure and functions of sub cellular structures</li> <li>• How to use a microscope to observe cells and draw cells seen</li> <li>• Cell specialisation and cell differentiation</li> <li>• Differences between light and electron microscopes</li> </ul>	<p>BBC bitesize Cells  <a href="https://www.bbc.co.uk/bitesize/topics/z2mttv4">https://www.bbc.co.uk/bitesize/topics/z2mttv4</a></p>



		4.6.4 Classification of living organisms	<ul style="list-style-type: none"> <li>• Determination of sex</li> <li>• What causes differences in individuals in a population</li> <li>• The process of evolution</li> <li>• Evidence for evolution (fossils, genes, resistant bacteria)</li> <li>• Extinction</li> <li>• The process of selective breeding</li> <li>• The process of genetic engineering</li> <li>• Classification of living organisms and evolutionary trees</li> </ul>	
<b>Week 19</b>	<b>Monday 20 May</b>	4.5.1 Homeostasis 4.5.2 The human nervous system 4.5.3 Hormonal coordination in humans	<ul style="list-style-type: none"> <li>• What homeostasis is and why it is important</li> <li>• The different parts of the nervous system and how they work together to co-ordinate a nervous response</li> <li>• Reflex actions- examples and how they are different to a normal nervous response</li> <li>• Synapses- how they work</li> <li>• Required practical - investigating reaction time</li> <li>• Different glands of the endocrine system – names and labels, which hormones they secrete</li> <li>• Controlling blood glucose using insulin</li> <li>• Which hormones control puberty and the menstrual cycle</li> <li>• How different contraceptives work</li> </ul>	<p>BBC bitesize homeostasis and response <a href="https://www.bbc.co.uk/bitesize/topics/zyybb82">https://www.bbc.co.uk/bitesize/topics/zyybb82</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>
<b>Week 20</b>	<b>Half Term Monday 27 May</b>	4.7.1 Adaptations, interdependence and competition 4.7.2 Organisation of an ecosystem 4.7.3 Biodiversity and the effect of human interaction on ecosystems	<ul style="list-style-type: none"> <li>• Competition in animals and plants- why and how they do this</li> <li>• Adaptation in animals and plants- different types of adaptations for different environments</li> <li>• Abiotic and biotic factors- what these are and examples of each</li> <li>• Food chains- how these are structured and the naming system we use for each stage (i.e. producers/consumers)</li> <li>• CORE PRACTICAL: How to sample an area using quadrats or transects to estimate biodiversity or population size (e.g. of a type of plant)</li> <li>• The water cycle</li> <li>• The carbon cycle</li> </ul>	<p>BBC bitesize Ecology <a href="https://www.bbc.co.uk/bitesize/topics/zxxhh39">https://www.bbc.co.uk/bitesize/topics/zxxhh39</a></p> <ul style="list-style-type: none"> <li>• Educake- please log on and choose these topics to answer questions on</li> </ul>



			<ul style="list-style-type: none"> <li>• Biodiversity- what this means and why it is important</li> <li>• How humans are affecting biodiversity (land use, water pollution, air pollution)</li> <li>• Global warming- how and why this is happening</li> <li>• Deforestation- reasons for doing this and the impact it has on the environment</li> <li>• How we can help to maintain ecosystems and biodiversity</li> </ul>	
<b>Week 21</b>	<b>Monday 3 June</b>  <b>Paper 2 Exam</b> <b>7<sup>th</sup> June pm</b>	Paper 2 Revision Homeostasis and response, inheritance variation and evolution and ecology	Paper 2 personal revision ( 4.5 Homeostasis, 4.6 Inheritance, variation and evolution, 4.7 Ecology) Complete blank page retrieval of your revision sheets for these chapters Identify which gaps you still have Use revision guides, bbc bitesize and educake to address these issues	BBC bitesize trilogy science revision: <a href="https://www.bbc.co.uk/bitesize/examspecs/z8r997h">https://www.bbc.co.uk/bitesize/examspecs/z8r997h</a>  AQA past paper questions paper 2 <a href="https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology">https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessment-resources?f.Component%7C7=Paper+2+Biology</a>
<b>Week 22</b>	<b>Monday 10 June</b>	x	x	x