

Year 10 Overview of Scheme of Work for Science GCSE Biology

Please note that there may be some slight variation on topics taught in which weeks dependent on each class taught

Week	Topic titles	Key Assessments
1	B1.1 Diet and exercise <ul style="list-style-type: none"> • Understand the body's metabolic rate and things that affect it. • Know the benefits of regular exercise. 	Keeping healthy assessment
2	B1.2 Diet and health <ul style="list-style-type: none"> • Know what makes a healthy diet. • Understand that inherited factors also affect health. • Evaluate claims made by slimming programmes and slimming foods. 	Keeping healthy assessment
3	B1.3 Infectious diseases <ul style="list-style-type: none"> • State that micro-organisms that cause infections are called pathogens. • Know that bacteria and viruses reproduce rapidly inside the body. • Know that some bacteria produce toxins. • Know the contribution made by Semmelweis to infection control. 	Keeping healthy assessment
4	B1.4 Antibiotics and painkillers <ul style="list-style-type: none"> • Understand the roles of antibiotics and painkillers in treating diseases. 	Keeping healthy assessment
5	B1.5 Immunity and immunisation <ul style="list-style-type: none"> • Describe how the immune system deals with pathogens. • Know that people can be immunised against some diseases. 	Keeping healthy assessment
6	Controlled assessment - Planning	<i>GCSE Controlled assessment</i>
7	Controlled assessment - Reporting on the planning research Assessment	<i>GCSE Controlled assessment</i>
8	Controlled assessment - Practical work	<i>GCSE Controlled assessment</i>
9	Controlled assessment - Processing primary data	<i>GCSE Controlled assessment</i>
10	Controlled assessment - Analysing results Assessment	<i>GCSE Controlled assessment</i>
11	B1.6 The nervous system <ul style="list-style-type: none"> • Understand the role and organisation of the nervous system. • Know that receptors detect stimuli. • Recall the body's sense organs and the information they gather. • Know that nerve impulses pass from receptors along neurons. • Recall how reflex actions come about. • Recall how impulses travel across synapses. 	Nerves, Hormones & Drugs assessment

12	B1.7 Hormones and control of the body <ul style="list-style-type: none"> • Know that internal conditions are controlled. • Know that many processes in the body are controlled by hormones. 	Nerves, Hormones & Drugs assessment
13	B1.8 How hormones <ul style="list-style-type: none"> • Know that several hormones are involved in the menstrual cycle. • Describe the roles of FSH and oestrogen in the menstrual cycle. • Explain how oestrogen and progesterone can be used as contraceptives. 	Nerves, Hormones & Drugs assessment
14	B1.9 Using hormones to control fertility <ul style="list-style-type: none"> • Know that hormones can be used in <i>in vitro fertilisation</i> (IVF) to control fertility. • Evaluate the benefits and problems of using hormones to control fertility. 	Nerves, Hormones & Drugs assessment
15	B1.10 Controlling plant growth <ul style="list-style-type: none"> • Know that plants are sensitive to light, moisture, and the force of gravity. • Understand that plants produce hormones to control and coordinate growth. • Recall how plant hormones can be used in agriculture and horticulture. 	Nerves, Hormones & Drugs assessment
16	B1.11 Drugs and you <ul style="list-style-type: none"> • Know about different types of drugs. • Evaluate why some people use illegal drugs for recreation. 	Nerves, Hormones & Drugs assessment
17	B1.12 Testing new drugs <ul style="list-style-type: none"> • Understand why new drugs have to be tested. • Describe how a double blind trial is carried out. 	Nerves, Hormones & Drugs assessment
18	B1.13 Animal adaptations <ul style="list-style-type: none"> • Know that adaptations of organisms help them survive. • Identify and explain adaptations of animals 	Adaptations assessment
19	B1.14 Plant adaptations <ul style="list-style-type: none"> • Know that plants show adaptations to hot and cold environments. • Understand that the adaptations of the plant control where it can grow. 	Adaptations assessment
20	B1.15 Extreme adaptations <ul style="list-style-type: none"> • Know that there are many extreme conditions found on Earth. • Know that organisms are found in most environments, and show adaptations to those extreme environments. 	Adaptations assessment
21	B1.16 Competition for resources <ul style="list-style-type: none"> • Know that organisms compete with each other for resources, and that this can affect their distribution. 	Adaptations assessment

	<ul style="list-style-type: none"> • Know that organisms need to find ways to deal with competition if they are to live together. 	
22	B1.17 Changes in distribution <ul style="list-style-type: none"> • Know that the distribution of organisms is affected by the environment. • Discuss the change in distribution of a named species. 	Adaptations assessment
23	B1.18 Indicating pollution <ul style="list-style-type: none"> • Know that organisms are affected by pollution. • Know that organisms can be used by environmental biologists to indicate levels of pollution. 	Energy cycles assessment
24	B1.19 Pyramids of biomass <ul style="list-style-type: none"> • Understand how food chains and pyramids of biomass show the feeding relationships between organisms. • Appreciate the ways in which scientists work. 	Energy cycles assessment
25	B1.20 Energy flow in food chains <ul style="list-style-type: none"> • Know that energy is lost at every link in the food chain. • Know that farming methods try to reduce energy loss. 	Energy cycles assessment
26	B1.21 Recycling in nature <ul style="list-style-type: none"> • Know that nature recycles by the decay of dead material. • Know that microbes play an important part in the process of decay. 	Energy cycles assessment
27	B1.22 The carbon cycle <ul style="list-style-type: none"> • Know that elements are cycled between the living and non-living world. • Understand the steps in the carbon cycle. • Be aware of processes that cause an imbalance in the cycle. 	Energy cycles assessment
28	B1.23 Variation <ul style="list-style-type: none"> • State that most body cells contain chromosomes, which carry information in the form of genes. • State that genes control the characteristics of the body. • Know that differences in characteristics may be due to differences in genes, or the environment, or both. 	Variations assessment
29	B1.24 Reproduction <ul style="list-style-type: none"> • Know that there are two forms of reproduction, asexual and sexual. • Recall that new plants can be produced quickly and cheaply by taking genetically identical cuttings from older plants. 	Variations assessment
30	B1.25 Cloning <ul style="list-style-type: none"> • Know that modern cloning techniques include tissue culture, embryo transplants, and adult cloning. • Interpret information about cloning techniques. 	Variations assessment

	<ul style="list-style-type: none"> • Make informed judgements about issues concerning cloning. 	
31	B1.26 Genetic engineering <ul style="list-style-type: none"> • State that in genetic engineering genes can be transferred from one cell to another cell. • State that genes can be transferred to the cells of animals and plants at an early stage in their development so that they develop the desired characteristics. 	Variations assessment
32	B1.27 GM crops <ul style="list-style-type: none"> • Understand that new genes can be transferred to crop plants, which are then called genetically modified crops. • Know that some GM crops are resistant to insects or to herbicides. • Know that GM crops may show improved yields or improved nutritional content. 	Variations assessment
33	B1.28 Concerns about GM crops <ul style="list-style-type: none"> • Make informed judgements about the economic, social and ethical issues of GM crops. 	Variations assessment
34	B1.29 Classification <ul style="list-style-type: none"> • Know that in classification, organisms are grouped based on similarities and differences. • Know the characteristics of some of the major groups. 	Evolution assessment
35	B1.30 Surviving change <ul style="list-style-type: none"> • Know the causes and effects of evolution. • Know how a new species develops. • Develop evolutionary family trees. 	Evolution assessment
36	B1.31 Evolution in action <ul style="list-style-type: none"> • Know that there is evidence for evolution such as fossils. • Know that evolution can result in the formation of new species. • Give several examples of evolution in action. 	Evolution assessment
37	B1.32 Evolutionary theory <ul style="list-style-type: none"> • Know how Darwin collected his evidence. • Evaluate other theories of evolution. 	Evolution assessment
38	GCSE Revision	
39	GCSE Revision	