



Week Start	Content Description	Assessment	Events
September			
18 th	<p><u>Respiration and gas exchange</u></p> <p>a) define respiration as the release of energy from food substances in all living cells</p> <p>(b) define aerobic respiration as the release of a relatively large amount of energy by the breakdown of food substances in the presence of oxygen</p> <p>(c) state the equation (in words or symbols) for aerobic respiration</p> <p>(d) state the uses of energy in the human body: muscle contraction, protein synthesis, cell division, active transport, growth, the passage of nerve impulses and the maintenance of a constant body temperature</p>	<p>Formative; baseline assessment</p> <p>Questions p. 146</p>	
25 th	<p><u>Respiration and gas exchange</u></p> <p>(e) define anaerobic respiration as the release of a relatively small amount of energy by the breakdown of food substances in the absence of oxygen</p> <p>(f) state the equation (in words or symbols) for anaerobic respiration in humans and in yeast</p> <p>(g) describe the effect of lactic acid production</p>	<p>classified past papers</p>	<p>29th Swimming Gala</p>
October			
2 th	<p><u>Respiration and gas exchange</u></p> <p>(k) state the characteristics of, and describe the role of, the exchange surface of the alveoli in gas exchange</p> <p>(l) describe the role of cilia, diaphragm, ribs and intercostal muscles (external and internal) in breathing</p> <p>Excretion</p> <p>9.1 Structure and function of kidneys 9.2 Kidney dialysis</p> <p>(a) define excretion as the removal of toxic materials and the waste products of metabolism from organisms</p> <p>(b) describe the removal of carbon dioxide from the lungs</p>	<p>HW p 151-152</p> <p>End of topic test</p>	<p>6th Armed Forces Day</p>

9 th	<p>Excretion</p> <p>(c) identify on diagrams and name the kidneys, ureters, bladder, urethra and state the function of each (the function of the kidney should be described simply as removing urea and excess salts and water from the blood; details of kidney structure and nephron are not required)</p>	Formative questions p. 159 #12.4 -12.11	
October			
16 th	<p>Excretion</p> <p>d) describe dialysis in kidney machines as the diffusion of waste products and salts (small molecules) through a membrane; large molecules (e.g. protein) remain in the blood</p>	Classified past papers End of topic test	18 th Careers Day
23 rd	Half term break		
30 th	<p>Coordination and response</p> <p>A)state that the nervous system (brain, spinal cord and nerves) serves to coordinate and regulate bodily functions</p> <p>(b) describe the gross structure of the eye as seen in front view and in horizontal section</p> <p>(c) state the principal functions of component parts of the eye in producing a focused image of near and distant objects on the retina</p>	Formative questions p.164 # 13.1-13.8 HW given from classified past papers	
November			
6 th	<p>Coordination and response</p> <p>d)describe the pupil reflex in response to bright and dim light</p> <p>(e) outline the functions of sensory neurons, relay neurons and motor neurons</p> <p>(f) discuss the function of the brain and spinal cord in producing a coordinated response as a result of a specific stimulus (reflex action)</p>	Formative questions p.170 # 13.9-13.18 HW given from past papers	
13 th	<p>Coordination and response</p> <p>(g) define a hormone as a chemical substance, produced by a gland, carried by the blood, which alters the activity of one or more specific target organs and is then destroyed by the liver</p> <p>(h) state the role of the hormone adrenaline in boosting the blood glucose concentration</p>	HW p. 176 Summative assessment: End of topic test	

	and give examples of situations in which this may occur		
20 th	<p><u>Homeostasis</u></p> <p>a) define homeostasis as the maintenance of a constant internal environment (b) explain the concept of control by negative feedback (c) identify, on a diagram of the skin, hairs, sweat glands, temperature receptors, blood vessels and fatty tissue (d) describe the maintenance of a constant body temperature in humans in terms of insulation and the role of temperature receptors in the skin, sweating, shivering, blood vessels near the skin surface and the coordinating role of the brain.</p>	<p>Formative assessment Questions 14.1-14.6</p> <p>Classified past papers</p>	
27 th	<p><u>Drugs</u></p> <p>(a) define a drug as any externally administered substance that modifies or affects chemical reactions in the body (b) describe the medicinal use of antibiotics for the treatment of bacterial infection (c) describe the effects of the abuse of heroin: a powerful depressant, problems of addiction, severe withdrawal symptoms and associated problems such as crime and infection, e.g. AIDS (d) describe the effects of excessive consumption of alcohol: reduced self-control, depressant, effect on reaction times, damage to liver and social implications</p>	<p>Creating concept maps summarizing the effects of different drugs on the body.</p>	
December			
4 th		AP 1 exam	
11 th		AP 1 exam	
18 th		Winter break	
25 th		Winter break	
January			
1 st		Winter break	
8 th	<p><u>Drugs</u></p> <p>(e) describe the effects of tobacco smoke and its major toxic components (nicotine, tar and carbon monoxide) on health: strong association with bronchitis, emphysema, lung cancer and heart disease, and the association</p>	<p>Formative assessment: end of topic questions p. 195</p> <p>Classifies past papers</p>	

	<p>between smoking during pregnancy and reduced birth weight of the baby</p> <p>(f) recognize the fact that many people regard smoking as no longer socially acceptable.</p>	<p>Summative assessment: end of topic test</p>	
15 th	<p><u>Reproduction on plants</u></p> <p>a) define mitosis as cell division giving rise to genetically identical cells in which the chromosome number is maintained and state the role of mitosis in growth, repair of damaged tissues, replacement of worn out cells and asexual reproduction</p> <p>b) define asexual reproduction as the process resulting in the production of genetically identical offspring from one parent and describe one named, commercially important application of asexual reproduction in plants</p> <p>(c) define meiosis as a reduction division in which the chromosome number is halved from diploid to haploid</p> <p>(d) state that gametes are the result of meiosis (reduction division)</p> <p>(e) define sexual reproduction as the process involving the fusion of haploid nuclei to form a diploid zygote and the production of genetically dissimilar offspring</p> <p>f) identify and draw, using a hand lens if necessary, the sepals, petals, stamens and carpels of one, locally available, named, insect-pollinated, dicotyledonous flower, and examine the pollen grains under a light microscope</p> <p>(g) state the functions of the sepals, petals, anthers and carpels</p>	<p>Formative assessment p. 198 #16.1 – 16.3</p> <p>Classified past papers</p>	9 th First Day IB Mocks
22 nd	<p><u>Reproduction on plants</u></p> <p>h) describe the growth of the pollen tube and its entry into the ovule followed by fertilization (production of endosperm and details of development are not required)</p> <p>(l) investigate and describe the structure of a non-endospermic seed in terms of the embryo (radicle, plumule and cotyledons) and Testa, protected by the pericarp (fruit wall)</p> <p>(m) state that seed and fruit dispersal by wind and by animals provides a means of colonizing new areas</p> <p>(n) describe the external features of one, locally available, named example of a wind-dispersed fruit or seed and of one named example of an animal-dispersed fruit or seed</p>	<p>Formative assessment: 16.4-16.12</p> <p>HW p. 209</p> <p>Summative assessment: End of topic test</p>	15 th Last Day IB Mocks

	<p>(o) investigate and state the environmental conditions that affect germination of seeds: suitable temperature, water and oxygen</p> <p>(p) describe the uses of enzymes in the germination of seeds</p>		
29 th	<p><u>Reproduction in humans</u></p> <p>(q) identify on diagrams of the male reproductive system and state the functions of the testes, scrotum, sperm ducts, prostate gland, urethra and penis</p> <p>(r) identify on diagrams of the female reproductive system and state the functions of the ovaries, oviducts, uterus, cervix and vagina</p> <p>(s) compare male and female gametes in terms of size, numbers and mobility</p> <p>(t) describe the menstrual cycle, with reference to the alternation of menstruation and ovulation, the natural variation in its length and the fertile and infertile phases of the cycle</p>	Formative assessment p. 213 #17.1 -17.7	26 th Revolution Day
February			
5 th	<p><u>Reproduction in humans</u></p> <p>(u) explain the role of hormones in controlling the menstrual cycle (including FSH, LH, progesterone and estrogen)</p> <p>(v) describe fertilization and early development of the zygote simply in terms of the formation of a ball of cells that becomes implanted in the wall of the uterus (w) state the function of the amniotic sac and the amniotic fluid</p> <p>(x) describe the function of the placenta and umbilical cord in relation to exchange of dissolved nutrients, gases and excretory products (no structural details are required)</p> <p>(y) describe the special dietary needs of pregnant women</p>	<p>Formative assessment p. 213 #17.8 -17.13</p> <p>Classified past papers</p>	
12 th	<p><u>Reproduction in humans</u></p> <p>(z) describe the advantages of breast milk compared with bottle milk</p> <p>(aa) describe the following methods of birth control: natural, chemical (spermicides),</p>	Formative assessment p. 227	

	mechanical, hormonal and surgical (bb) explain that syphilis is caused by a bacterium that is transmitted during sexual intercourse		
19 th	<u>Half term break</u>		
26 th	<u>Reproduction in humans</u> (cc) describe the symptoms, signs, effects and treatment of syphilis (dd) discuss the spread of human immunodeficiency virus (HIV) and methods by which it may be controlled.	Summative assessment: End of topic test	14 th - YR9 Murder Mystery
March (22nd Ramadan Starts)			
5 th	<u>Inheritance</u> a) describe the difference between continuous and discontinuous variation and give examples of each (b) state that a chromosome includes a long molecule of DNA (c) state that DNA is divided up into sections called genes (d) explain that genes may be copied and passed on to the next generation (e) define a gene as a unit of inheritance and distinguish clearly between the terms gene and allele (f) describe complete dominance using the terms dominant, recessive, phenotype and genotype (g) describe mutation as a change in the structure of a gene (e.g. sickle cell anaemia) or in the chromosome number (e.g. 47 in Down's syndrome instead of 46) (h) name radiation and chemicals as factors that may increase the rate of mutation	Formative assessment: 18.1-18.7	
12 th	<u>Inheritance</u> (l) describe the determination of sex in humans (XX and XY chromosomes) (m) describe variation and state that competition leads to differential survival of organisms, and reproduction by those organisms best fitted to the environment (n) assess the importance of natural selection as a possible mechanism for evolution (o) describe the role of artificial selection in the production of economically important plants and animals	Practicing pedigree questions Questions 18.8-18.12	

	<p>(p) explain that DNA controls the production of proteins</p> <p>(q) state that each gene controls the production of one protein</p> <p>(r) explain that genes may be transferred between cells (reference should be made to transfer between organisms of the same or different species)</p>		
19 th	<p><u>Inheritance</u></p> <p>s) explain that the gene that controls the production of human insulin can be inserted into bacterial DNA</p> <p>(t) understand that such genetically engineered bacteria can be used to produce human insulin on a commercial scale</p> <p>(u) discuss potential advantages and dangers of genetic engineering</p>	<p>End of topic questions p. 245</p> <p>End of topic test.</p>	16 th Sports Day
26 th	<p><u>Variation and Natural selection</u></p> <p>Describe the development of strains of antibiotic-resistant bacteria, including MRSA, as an example of natural selection 4 Describe artificial selection (selective breeding) with reference to:</p> <p>(a) selection by humans of animals or plants with desirable features</p> <p>(b) crossing these to produce the next generation</p> <p>(c) selection of offspring showing the desirable features</p> <p>(d) repetition over many generations 5 Describe the role of artificial selection in the production of economically important plants and animals</p>	<p>End of topic questions p. 245</p> <p>End of topic test.</p>	
April			
2 th	<p><u>Organisms and their environment</u></p> <p>a) Understand that the Sun is the principal source of energy input to most biological systems</p> <p>b) Explain why most forms of life are completely dependent on photosynthesis</p> <p>c) Describe the flow of energy through food chains and webs including energy from light and energy in living organisms and its eventual transfer to the environment</p> <p>d) Construct and interpret simple food chains</p>	<p>Quizzes</p> <p>Classified past papers</p> <p>HW p286</p>	29 th IB Art Exhibition

	<p>e) Understand the terms producer, consumer, herbivore, carnivore and decomposer</p> <p>f) Describe food webs as networks of interconnected food chains and construct and interpret them</p>		
April			
9 th	<p>Organisms and their environment</p> <p>g) Explain why the transfer of energy from one trophic level to another is inefficient</p> <p>h) Explain why food chains usually have fewer than five trophic levels</p> <p>i) Explain why it is more energy efficient for humans to eat crop plants than to eat livestock that have been fed on crop plants</p> <p>j) Construct and interpret pyramids of numbers, biomass and energy</p>	<p>End of topic questions p. 300</p> <p>End of topic test.</p>	
16 th	Spring Break		
23 rd	Spring Break		
30 th	Biotechnology	<p>Classified past papers</p> <p>End of topic test.</p>	4 th Labor Day
May			
7 th	Chapter 1-5 revision	Solving classified past papers with feedback	7 th to 9 th Science Fair
14 th	Chapter 6-10 revision	Solving classified past papers with feedback	
21 st	Chapter 11-15 revision	Solving classified past papers with feedback	
28 th	Chapter 16-20 revision	Solving classified past papers with feedback	
June			
4 th	Chapter 21 revision	Solving classified past papers with feedback	
11 th	EOY Exams		
18 th	18 th to 20 th Week Without Walls		<p>21st Students Last Day</p> <p>22nd Teachers Last Day</p>
End of Year			

Additional Notes: