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Subject: Biology					
Examination Board: AQA					
Specification Code: 7402					
Section: 5 Energy transfer in and between organisms					
Section: 5 Energy transfer in and setween organisms					
	Date	you l	have i	reviev	ved
Key:					
Secure at Target Grade					
<u> </u>					
Insecure at Target Grade					
No Knowledge at Target Grade					
Students' Target ALPS + 1 Fine Levelled Grades					
Photosynthesis					
Explain how the plant leaf is adapted to carry out photosynthesis					
Describe the main stages of photosynthesis					
Explain the process of oxidation and reduction					
Explain how ATP is made during the light-dependent reaction Describe the role of photolysis in the light-dependent reaction					
Explain how chloroplasts are adapted to carry out the light-dependent reaction					
Explain how carbon dioxide absorbed by plants is incorporated into organic molecules					
Describe the roles of ATP and reduced NADP in the light-independent reaction					
Describe the events in the Calvin cycle					
Respiration					
Outline where glycolysis fits into the overall process of respiration					
Describe the main stages of glycolysis and its products					
Outline the nature of the link reaction Explain what happens during the Krebs cycle					
Describe the nature of hydorgen carrier molecules and explain their role int he Krebs cycle					
Describe where oxidative phosphorylation takes place					
Explain how ATP is synthesised during oxidative phosphorylation					
Explain the role of oxygen in aerobic respiration					
Explain how energy is released by respiration in the absence of oxygen					
Explain how lactate is produced by anaerobic respiration					
Energy and Ecosystems Explain how energy enters an ecosystem					
Explain how energy is transferred between the organisms in the ecosystem					
Define the terms: trophic level, food chain, food web, producer, consumer and decomposer					
Define biomass and explain how it measured					
Calculate the percentage of energy that is transferred from one trophic level to the next					
Explain how energy is lost along a food chain					
Explain what is meant by gross primary productivity and net primary productivity					
Summarise the common features of all nutrient cycles Describe the features of the phosphorus cycle					
Describe the features of the phosphorus cycle Describe the features of the nitrogen cycle					
Define the terms ammonification, nitrification, nitogen fixation and denitrification					
Explain the roles of saprobiotic organisms in nutrient recycling					
Explain why fertilisers are needed in agricultreual ecosystems					
Distinguish between natural and artificial fertilisers					
Explain how fertilisers increase productivity					
Describe the main environmental effects of using nitrogen-containing fertilisers	-		1		
State the meanins of leaching and eutrophication Explain how leaching and eutrophication affect the environment	1		-		
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Subject: Biology	
Examination Board: AQA	
Specification Code: 7402	

Section: 6 Organisms respond to changes in their environment

	Section: 6 Organisms respond to changes in their environment				
	Date you have reviewed			ved	
Key: Secure at					
Target Grade Insecure at Target					
Grade No Knowledge at Target					
Grade E					
Students' Target ALPS + 1 Fine Levelled Grades	3				
Response to stimuli					
Define a stimulus and a response Examine the advantage to organisms of being able to respond to a stimulus					
Describe taxes, kineses and tropisms					
Explain how each type of response increases an orgamism's chances of survival					
Describe the stimuli that plants respond to Describe plant growth factors such as IAA	+				
Explain phototropism in flowering plants					
Explain gravitropism in flowering plants					
Explain how a simple reflex arc works					
Explain the roles sensory, intermediate and motor neurones plat in a reflex arc Outline the importance of relex arcs	 				
Describe the main features of a sensory receptor					
Describe the structure of a Pacinian corpuscle and explain how it works					
Explain how receptors work together in the eye					
Describe the autonomic nervous system Explain how the autonomic nervous system controls heart rate	+				
Explain the role chemical and pressure receptors play in the processes controlling the heart rate					
Nervous coordination and muscles					
Distinguish between nervous and hormonal coordination					
Describe the structure of a myelinated motor neurone Describe the different types of neurone	+				
Describe the nature of the resting potential					
Explain how the resting potential is established in a neurone					
Explain what an action potential is Explain how an action potential passes along an unmyelinated axon	+				
Explain how an action potential passes along an myelinated axon					
Describe the factors that affect the speed of conductance of an action potential					
Explain what is meant by the refractory period					
Explain the role of the refractory period in separating one impulse from the next Explain the meaning of the all-or-nothing principle					
Describe the structure of a synapse					
Describe the functions that a synapse performs					
Explain how information is transmitted across a synapse Describe the gross and microscopic structure of skeletal muscle					
Describe the ultrastructure of a myofibril					
Explain how actin and myosin are arranged within a myofibril					
Explain what is meant by antagonisic muscles and how they operate					
Summarise the evidence that supports the sliding filament mechanisms of muscle contraction Explain how the sliding filament mechanism causes a muscle to contract and relax					
State where the energy for muscle contraction comes from					
Homeostasis					
Describe the nature of homeostasis Explain the importance of homeostasis					
Explain the importance of nomeostasis Explain how control mechanisms work					
Explain how control mechanisms are coordinated					
Explain what negative feedback is					
Explain how negative feedback helps to control homeostatic processes Distinguish between negative and positive feedback	-				
Explain how hormones work					
Explain the roles of the pancreas and liver in regulating blood glucose					
Outline the factors which influence blood glucose concentratiojn	-		<u> </u>	-	
Explain the roles of insulin, glucagon and adrenaline in regulating blood glucose Describe the two main types of diabetes and how they differ	+		 		
Explain how each type of diabetes can be controlled					
Describe the structure of the mammalian kidney					
Describe the structure of a nephron	1				
Describe ultrafiltration and the production of glomerular filtrate Explain reabsorption of water by the proximal convoluted tubule	+				
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Explain how a gradient of sodium ions in the medulla of the loop of Henle is maintained Explain the role of the distal convoluted tubule and collecting duct in the reabsorption of water					
Explain how a gradient of sodium ions in the medulla of the loop of Henle is maintained					

Subject: Biology
Examination Board: AQA
Specification Code: 7402
Section: 7 Genetics, populations, evolution and ecosystems

Students' Target ALPS + 1 Fine Levelled Grades Inherited change Define the menting of the terms growtype and phenotype Define the menting of the terms growtype and phenotype Bodine the neturn of multiple alleles Bodine how ye was the alled genetic designams Explain how ye allele genetic crosses often differ from predicted results Bodine why revuel to genetic crosses often differ from predicted results Bodine why revuel to genetic crosses often differ from predicted results Bodine how ye as fore genetic crosses often differ from predicted results Bodine how was alle genetic the inheritance Bodine how was forten and genetic Bodine how was forten and genetic Bodine how yes as good and allele frequency Bodine how the discounted how yes and phenotype frequencies Bodine how yes as good yes and phenotype frequencies Bodine how yes as good yes as a good yes and phenotype frequencies Bodine how yes as a good yes as a good yes and phenotype frequencies Bodine how yes as good yes as yes yes ye	Section: 7 Genetics, populations, evolution and ecosystems				
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Explain how managing succession can help to conserve habitats	Describe changes that occur in the variety of species that occupy an area over time				
	Define the terms succession and climax community				
Describe what is meant by conservation	Describe what is meant by conservation	+			

Subject: Biology
Examination Board: AQA
Specification Code: 7402
Section: 8 The control of gene expression

	Date you have reviewed				
Key: Secure at					
Target Grade Insecure at Target Grade					
No Knowledge at Target Grade					
Students' Target ALPS + 1 Fine Levelled Grades					
Gene expression					
Describe the types of gene mutation					
Explain how the different types of gene mutation result in different amino acid sequences in polypeptides					
Explain why some mutations do not result in a changed amino acid sequence					
Dicuss the causes of gene mutations					
State what totipotent cells are					
Explain how cells lose their totipotency and become specialised					
Describe cell differentiation and cell specialisation					<u> </u>
Describe the origins and types of stem cells					
Explain how pluripotent stem cells can be used to treat human disorders					
Explain how oestrogen affects gene transcription State what small interfering RNA is					
Exaplin how small interfering RNA affects gene expression					
State what is meant by epigenetics					
Describe the nature of epigenetics					
Explain the effect of epigenetic factors on DNA and histones					
Explain the effects of decreased acetylation of histones					
Explain the effects of increased methylation of DNA					
Distinguish between benign and malignant tumours					
Explain the role of oncogenes and tumour suppressor genes in the development of tumours					-
Explain the effects of abnormal methylation of tumour suppressor genes and oncogenes					
Explain how increased oestrogen levels can cause breast cancer Outline the importance of genome sequencing projects					
Describe the nature of the proteome					
Describe how to determine the genome and proteome of simple organisms					
Describe how to determin the genome and proteome of complex organisms					
Recominant DNA technology					
Explain how complementary DNA is made using reverse transcriptase					
Explain how restriction endonucleases are used to cut DNA fragments					
Explain the importance of sticky ends					
Explain how a DNA fragment can be inserted into a vector					
Explain how the DNA of a vector is introduced into host cells Describe the nature of gene markers and explain how they work					
Describe the nature of gene markers and explain now they work Describe the polymerase chain reaction (PCR)					
Explain how the PCR is carried out					
Summarise the advantages and disadvantages of in vitro and in vivo cloning					
Describe what DNA probes are and explain how they work					
Exaplain how DNA hubridisation is used to locate specific alleles of genes					
Describe the use of labelled DNA probes to screen for heritable conditions or health risks					<u> </u>
Consider the use of genetic screening in genetic counselling					ļ
Describe what genetic fingerprinting is Explain the technique of gel electrophoresis					-
Explain the technique of get electrophoresis Explain how genetic fingerprinting is carried out					-
Explain how the results of genetif fingerprinting are interpreted					
Consider the uses of genetic fingerprinting					

Subject: Biology						
Examination Board: AQA						
Specification Code: 7402						
Section: 9 Skills in A level Biology						
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		Date	your	lave	EVIEV	veu
_						
Key:	Secure at					
	e at Target Grade					
	c at raiget Grade					
No Knowledge at Target Grade						
Students' Target ALPS + 1 Fine	Levelled Grades					
Mathematical skills						
I know when I am using the correct units						
I understand how to use and convert to standard form						
I can convert to significant figures						
I can calculate a mean						
I can work out the median						
I can work out the mode						
I can calculate percentages						
I can substitute into equations						
I can rearrange equations						
I can estimate results						
I can calculate standard deviations						
I can calculate percentage error						
I know when to use a certain type of graph						
I know how to draw graphs correctly						
I can add error bars to plotted points						
I can calculate rates from a graph					ļ	
I can interpret scatter diagrams					 	
I can calculate probability I am confident I can chose the correct statistical test for my data						
I cam calculate the circumference of a circle						
I can calcualte the surface area of a sphere, a cylinder, a cube						
I can calculate the volume of a sphere, cylinder and a cube						
I can calculate pH						
I can calculate magnification						
I can calculate pulmonary ventilation rate						
I can calculate cardiac output	·					
I can calculate the species diversity index						
I can calculate the efficiency of energy transfer						
I can calculate Net Primary Production (NPP)						
I can calculate Net production by consumers, N					ļ	1
I can use the chi squared test					<u> </u>	
I can use the t test		<u> </u>	<u> </u>			

I can calculate variance

I can calculate the correlation coefficient
I can use the Hardy-Weinberg formula