

B1A Human Biology

Checklist of outcomes you must be able to demonstrate for each topic:

Co-ordination and Control

	Not sure	I know this	I have revised this
Identify the sense organs involved in responding to light, sound, changes of position, chemicals, touch, pressure and temperature in humans.			
Describe how the nervous system works and the difference between the functions of a sensory and a motor neurone.			
Describe how hormones are involved in control and co-ordination.			
Explain the differences between hormonal and nervous control.			
Explain what is meant by the term 'reflex action' and why they are so important.			
Describe the role of sensory, relay and motor neurons, synapses and effectors in a reflex action.			
Analyse a specific reflex action in terms of stimulus – receptor – co-ordinator – effector – response.			
Explain how a synapse works.			
Name the hormones that control the menstrual cycle and state where each is produced.			
Describe the functions of each hormone and relate each hormone to the different phases of the cycle.			
Explain the relationships between the different hormones and how they interact in the cycle.			
Explain how oral contraceptives inhibit FSH production and pregnancy.			
Discuss issues arising from the use of hormones to control fertility artificially.			
Describe how the temperature, blood sugar levels and balance of water and ions are controlled.			
Explain why it is important to control the internal environment.			
Evaluate the claims of the manufacturers of sports drinks.			
HSW: Evaluate the benefits of, and the problems that may arise from, the use of hormones to control fertility, including IVF.			

Healthy Eating

	Not sure	I know this	I have revised this
Describe the constituents of a healthy diet.			
Define metabolic rate and explain how it can vary according to the amount of activity carried out and proportion of muscle to fat in the body.			
Explain the relationships between food intake, exercise, fitness, gender, genetic factors etc. which affect body mass.			
Describe the problems associated with excess food in the diet and how these may be overcome by diet and exercise.			
Describe the health problems linked to lack of food.			
Evaluate, when supplied with relevant information, the claims made by different slimming programmes.			
Explain what cholesterol is.			
Describe the effects of different types of fat on blood cholesterol levels.			
Describe the effects that too much salt in the diet may have on some people.			
Evaluate information on the effects of cholesterol and salt on our health.			
Explain the importance of the HDL/LDL balance in the blood and how this is affected by diet.			
HSW: Evaluate claims made by slimming programmes.			
HSW: Evaluate the effect of statins on cardio-vascular disease.			

Drug Abuse

	Not sure	I know this	I have revised this
Give a definition of the term 'drug'.			
Explain what is meant by addiction.			
Describe some of the problems caused by drug abuse.			
Understand that the impact of drug abuse varies from individual to individual.			
List some common legal and illegal drugs.			
Explain why people use illegal drugs for recreation.			
Explain why the use of legal drugs has a greater impact on health than the use of illegal drugs.			

Evaluate the different types of drugs and their effects.			
Evaluate the impact of different types of drugs on people.			
Describe how alcohol affects body organs such as the liver and brain.			
Explain what is meant by the term 'binge drinking'.			
Analyse data showing the impact of drink on behaviour.			
Evaluate the impact of alcohol as a legal drug on society.			
Describe how tobacco smoke affects the lungs and link the substance in tobacco with diseases of the lungs.			
Explain the effect of carbon monoxide on the oxygen-carrying capacity of the blood.			
Explain the risks of smoking during pregnancy.			
Analyse data on the health risks of smoking.			
Evaluate different methods of giving up smoking.			
HSW: Evaluate how the link between smoking tobacco and lung cancer became gradually accepted.			
HSW: Evaluate claims made about the effect of cannabis on health and the link between cannabis and addiction to hard drugs.			

Pathogens

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Define the term 'pathogen' and describe how bacteria and viruses differ from other organisms.			
Explain how pathogens cause disease.			
Describe the contribution made by Semmelweiss to the control of the spread of infection in hospitals and understand the process by which he came to his conclusions.			
Explain why Semmelweiss' ideas were not immediately adopted.			
Explain the ways in which infectious diseases are spread.			
Describe the ways in which the body prevents the entry of pathogens.			
Explain in detail the role of the white blood cells.			
Explain what is meant by the term 'medicine'.			
Describe how antibiotics can be used to treat bacterial infections.			
Explain why antibiotics are not used to treat diseases caused by viruses.			
Explain the difficulty of developing antiviral drugs.			
Explain in detail how antibiotic resistant strains of bacteria arise and how bacteria are becoming increasingly resistant to antibiotics.			
Describe how mutations of bacteria and viruses give rise to new strains of disease.			
Describe how new strains of disease can spread rapidly causing epidemics and pandemics.			
Evaluate the problems of preventing the spread of a new disease such as a mutated form of bird flu.			
Describe and explain the reasons for testing new drugs.			
Explain the main stages in testing drugs.			
Demonstrate understanding of the flaws in the original development of thalidomide.			
Evaluate the benefits and dangers of using thalidomide to treat diseases such as leprosy and cancer.			
Describe how the immune system responds to pathogens in the body.			
Explain how vaccines work.			
Evaluate the advantages and disadvantages of being vaccinated against a particular disease.			

