Learners Cloud
Education, Anywhere, Anytime

Edexcel iGCSE Biology examination board COVERAGE

TOPIC	SUB-HEADING	keywords
The nature and variety of living organisms	Classification and the variety of life	Characteristics of living organisms, classification, the Five Kingdoms, viruses
Structure and functions in living organisms	Cells, tissues, organs and organ systems	Cells, tissues and organs, organ systems
Structure and functions in living organisms	Cells	Plant cell, animal cell, bacterial cell, chloroplast, vacuole, cell wall, membrane, mitochondria, cytoplasm, nucleus, specialised cells
Structure and functions in living organisms	Stem cells	Stem cells, specialised cells, stem cells in medicine
Structure and functions in living organisms	Diet	Nutrients, carbohydrates, fats, proteins Food tests Balanced diet
Structure and functions in living organisms	Enzymes	Biological catalyst, enzymes in DNA replication, protein synthesis and digestion, factors influencing enzymes (temp, substrate conc., pH), specificity, lock and key hypothesis, denaturation, enzyme experiments
Structure and functions in living organisms	Diffusion, osmosis and active transport	Diffusion, osmosis, partially permeable membrane, active transport in roots
Structure and functions in living organisms	The leaf and photosynthesis	Structure of the leaf, chlorophyll, chloroplast, stomata. Photosynthesis, word equation, limiting factors (light, CO_2, temp), stomata, gas exchange, use of glasshouses
Structure and functions in living organisms	Transpiration and plant transport	Xylem, phloem, root hair cells, transpiration, rate of transpiration
Structure and functions in living organisms	Digestive system and digestive enzymes	Ingestion, egestion, parts (mouth oesophagus, stomach, small and large intestines, pancreas, liver, gall bladder), peristalsis, carbohydrases, proteases, lipases, role of bile, villi
Structure and functions in living organisms	Aerobic and anaerobic respiration	Aerobic respiration, role of circulatory system, capillaries, diffusion of oxygen, carbon dioxide and glucose, word equation, anaerobic respiration and word equation, lactic acid, oxygen debt

TOPIC	SUB-HEADING	keywords
Structure and functions in living organisms	Gas exchange and the lungs	Parts of human respiratory system, inspired and expired air composition Breathing mechanism Effects of smoking
Structure and functions in living organisms	Effects of exercise on the body	Heart rate and breathing rate during exercise
Structure and functions in living organisms	Blood and circulatory system	Blood (red, white cells, plasma, platelets) Structure of the heart and function (named blood vessels and pumping chambers), valves and blood flow Circulatory system (arteries, veins, capillaries)
Structure and functions in living organisms	Harmful microbes, vaccination and immunity	Immune system, phagocytes, lymphocytes, vaccination
Structure and functions in living organisms	Hormones in our bodies	Hormones, endocrine gland, adrenaline, comparison with nervous control systems
Structure and functions in living organisms	Coronary heart disease	Coronary heart disease and causes
Structure and functions in living organisms	The kidney and water balance	Waste products, urea, urinary system (renal artery, vein, kidney, ureters, bladder, urethra), dialysis, organ donation, nephron (glomerulus, Bowman's capsule, convoluted tubules, loop of Henle, collecting duct, urine formation and osmoregulation, ADH, pituitary gland, negative feedback
Structure and functions in living organisms	Homeostasis- balancing the internal environment	Homeostasis, thermoregulation, osmoregulation, blood glucose
Structure and functions in living organisms	Tropisms - hormone control of plant growth	Plant hormones, phototropism, geotropism, auxin, cell elongation, interpret experiments, gibberellins
Structure and functions in living organisms	The nervous system	Nervous system, brain, spinal cord, sense organs, nerves, neurons, receptors Antagonistic muscles
Structure and functions in living organisms	The Synapse	Synapse, neurotransmitters
Structure and functions in living organisms	The Reflex arc	Sensory, relay, motor neurone, synapse, myelin, neurotransmitter, reflex arc

TOPIC	SUB-HEADING	keywords
Structure and functions in living organisms	The eye and vision	Structure and function of the eye, accommodation, pupil reflex
Structure and functions in living organisms	Thermoregulation - balancing heat gain and loss	Thermoregulation, skin, sweat, blood vessels, hair. Vasoconstriction, vasodilation, negative feedback
Structure and functions in living organisms	Hormone control of the menstrual cycle	FSH, LH, oestrogen, progesterone, menstrual cycle
Reproduction and inheritance	Human reproduction	Fertilisation, zygote, embryo, reproductive systems, placenta, amniotic fluid, secondary sexual characteristics
Reproduction and inheritance	Plant reproduction	Asexual reproduction, pollination, pollen, seed, fruit, germination
Reproduction and inheritance	Variation and inherited characteristics	DNA, chromosomes, genes, alleles, inherited characteristics, environmental variation, mutation
Reproduction and inheritance	How proteins are made	RNA, transcription, translation, mRNA, tRNA, ribosomes, codon, anticodon
Reproduction and inheritance	Genes and inheritance	Dominant, recessive, homozygous, heterozygous, phenotype, genotype, monohybrid cross, genetic diagram, Punnett square, sex inheritance, codominance
Reproduction and inheritance	Genetic disorders and genetic diagrams	Cystic fibrosis, sickle cell, monohybrid cross, genetic diagram, Punnett square, pedigree, analyse outcomes
Reproduction and inheritance	Cell division - mitosis	Mitosis, genetically identical body cells, growth, repair, asexual reproduction, cloning
Reproduction and inheritance	Cell division- meiosis	Meiosis and fertilisation - genetically different haploid gametes, fertilisation, diploid zygote
Reproduction and inheritance	Evolution by natural selection	Darwin, evolution, natural selection, antibiotic resistance

TOPIC	SUB-HEADING	keywords
Ecology and the environment	Fieldwork techniques	Population, community, quadrats
Ecology and the environment	Pollution and environmental change	Pollution, greenhouses gases, sulfur dioxide, eutrophication, deforestation
Ecology and the environment	Energy and biomass in food chains	Interdependence, food chain, trophic levels, pyramid of biomass, energy losses
Ecology and the environment	The carbon cycle	Carbon cycle, photosynthesis, respiration, decomposer, combustion, fossil fuel
Ecology and the environment	The nitrogen cycle	Nitrogen fixation, root nodules, lightening, decomposers, protein, urea, ammonia, nitrifying bacteria, nitrates, denitrifying bacteria
Use of biological resources	Farming	Fertilisers, pesticides, biological control, fish farming
Use of biological resources	Making use of microbes	Advantages of microbes, mycoprotein production with Fusarium, yoghurt production, brewing
Use of biological resources	Food security	Food security, famine, genetic modification, chemical fertilisers, pesticides, selective breeding
Use of biological resources	Genetic engineering	Recombinant DNA technology (insulin, restriction enzymes, ligase, sticky ends)
Use of biological resources	Cloning	Micropropagation, cloning mammals