GCSE Biology Higher Tier revision checklist

	Revised on carousel	Practiced exam questions
Cell Biology		
Cell Structure: Differences between prokaryotic and eukaryotic cells; functions of cell components.		
Cell Division: Mitosis and the cell cycle, the role of stem cells in humans and plants.		
Transport in Cells: Diffusion, osmosis, active transport in living organisms.		
Organisation		
Digestive System: Structure and function; enzymes and their roles in digestion.		
The Circulatory System: The heart, blood vessels, and blood composition; transport of substances.		
Health Issues: Links between health and disease; risk factors for non-communicable diseases.		
Plant Tissues, Organs, and Systems: Functions of xylem, phloem, and transpiration processes.		
Infection and Response		
Communicable Diseases: Types of pathogens and how they cause disease (bacteria, viruses, fungi, protists).		
Immune System: How the body fights infections, the role of white blood cells, vaccination.		
Monoclonal Antibodies: How they are made and their medical uses.		
Drug Development: Stages of drug development and testing, including preclinical and clinical trials.		
Bioenergetics		
Photosynthesis: Equation, factors affecting photosynthesis (light, carbon dioxide, temperature), and use of glucose.		
Respiration: Aerobic vs anaerobic respiration; uses of energy from respiration, including metabolism.		
Biology Paper 2		
Homeostasis and Response		
Nervous System: Reflex actions, structure of neurons, synapses, and how nerve impulses work.		
Hormonal Coordination: Endocrine glands, role of hormones (e.g., insulin, adrenaline), and feedback loops.		
Control of Blood Glucose: Diabetes (Type 1 and Type 2); control of blood glucose using insulin and glucagon.		
Human Reproduction: The menstrual cycle, fertility, and contraception (including IVF and hormonal methods).		
Plant Hormones: Role of auxins and gibberellins in plant growth and development.		
Inheritance, Variation, and Evolution		
DNA and the Genome: Structure of DNA; how genes code for proteins; importance of the Human Genome Project.		
Inheritance Patterns: Punnett squares, genetic cross diagrams, dominant/recessive alleles, genetic disorders.		
Evolution and Natural Selection: How species evolve over time, evidence for evolution (e.g., fossils).		
Selective Breeding: Advantages and disadvantages, and genetic engineering (GM crops, insulin production).		
Cloning: Cloning in plants and animals, and its ethical implications.		

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Ecology		
Ecosystems: Levels of organisation (producers, consumers, decomposers), food chains, and webs.		
Adaptations: How organisms are adapted to their environments (structural, behavioural, functional).		
Competition and Interdependence: Relationships between species and how they compete for resources.		
Biodiversity: Importance of biodiversity, human impacts (deforestation, pollution, global warming).		
Trophic Levels and Biomass: Pyramids of biomass and energy transfer in ecosystems.		
Food Security: Factors affecting food production; sustainable farming methods.		