
AS AND A LEVEL BIOLOGY

Switching from AQA to Edexcel B

This document is designed to help you compare the existing 2008 AQA Biology specification (2410) with the new 2015 Edexcel Biology B specification.

The document gives an overview, at the topic level, of where the material covered in the existing AQA Biology specification can be found in the new Edexcel Biology B specification. The following tables then give a more detailed breakdown of the Edexcel specification, and highlight areas of difference. These will help you see where material that you currently teach in the AQA specification is not present in the Edexcel specification; or where the Edexcel specification incorporates material that is new to you.

As a general overview, the 2015 Edexcel Biology B specification is split into ten topics. At AS, these topics are: Biological Molecules; Cells, Viruses & Reproduction of Living Things; Classification & Biodiversity; and Exchange & Transport. In the second year of the A level, the topics are: Energy for Biological Processes; Microbiology & Pathogens; Modern Genetics; Origins of Genetic Variation; Control Systems; and Ecosystems.

Our new Edexcel Biology B is a brand-new course, built around a combination of traditional and modern topics. As with all our A levels, we've considered issues of progression from GCSE when putting the specification together; and we've worked with universities to ensure that the content provides a good platform for further study in biology, or related disciplines.

As well as great biology within the specification, there are other ways in which we can help support your teaching on our new A level Biology B specification. Our free support includes:

- additional sets of question papers
- Results Plus, now with Mock Analysis service
- Exam Wizard, our online bank of past paper questions
- Getting Started Guides, with course planners
- "Getting Ready to Teach" events
- documents to help deliver the mathematics and practical aspects of the specification
- worksheets for each "core practical" in the specification

Overview of content

This mapping provides a very broad overview of how the content of the two courses compare.

AQA (2008)	Edexcel B (2015)
Unit 1: Biology and disease	Topic 1: Biological Molecules
	Topic 2: Cells, Viruses and Reproduction of Living Things
	Topic 6: Microbiology and Pathogens
Unit 2: The variety of living organisms	Topic 3: Classification and Biodiversity
	Topic 4: Exchange and Transport
Unit 4: Populations and environment	Topic 5: Energy for Biological Processes
	Topic 8: Origins of Genetic Variation
	Topic 10: Ecosystems
Unit 5: Control in cells and in organisms	Topic 7: Modern Genetics
	Topic 9: Control Systems

In-depth comparison

Edexcel B (2015)	AQA (2008)	What's new for you	What do you no longer teach
Topic 1 Biological Molecules	This topic covers material from the AQA specification topics: 3.1.2, 3.1.3, 3.2.2, 3.2.4 and 3.5.6	<ul style="list-style-type: none"> ✓ how the structure of lipids relates to their role in energy storage, waterproofing and insulation ✓ how the structure of collagen is related to its function ✓ role of anti-sense DNA ✓ sickle cell anaemia in humans ✓ role of inorganic ions and water in plants 	<ul style="list-style-type: none"> ✓ digestive system ✓ absorption of the products of digestion
Topic 2 Cells, Viruses and Reproduction of Living Things	This topic covers material from the AQA specification topics: 3.1.3, 3.2.2, 3.2.4, 3.2.5 and 3.2.6	<ul style="list-style-type: none"> ✓ classification of viruses ✓ different stages of meiosis ✓ chromosomal mutations illustrated by translocations ✓ non-disjunction, polysomy and monosomy ✓ sexual reproduction in mammals ✓ sexual reproduction in plants 	<ul style="list-style-type: none"> ✓ cholera ✓ control of mammalian oestrus
Topic 3 Classification and Biodiversity	This topic covers material from the AQA specification topics: 3.2.8, 3.2.9, 3.2.10, 3.2.11, 3.4.1 and 3.4.8	<ul style="list-style-type: none"> ✓ three domain model of classification 	<ul style="list-style-type: none"> ✓ comparison of amino acid sequence to elucidate relatedness ✓ courtship behaviour and human populations studies
Topic 4 Exchange and Transport	This topic covers material from the AQA specification topics: 3.1.3, 3.1.4, 3.1.5, 3.2.4, 3.2.7 and 3.4.2	<ul style="list-style-type: none"> ✓ investigation of the effect of temperature on beetroot membrane permeability ✓ interpretation of ECG traces ✓ lymph and tissues fluid ✓ blood clotting ✓ myoglobin and foetal haemoglobin ✓ transfer of materials between the circulatory system and cells ✓ mass flow of sugars through phloem 	<ul style="list-style-type: none"> ✓ gross structure of the human gas exchange system ✓ interpretation of data relating to smoking

Topic 5 Energy for Biological Processes	This topic covers material from the AQA specification topics: 3.4.2, 3.4.3, 3.4.4	<ul style="list-style-type: none"> ✓ photosynthetic pigments ✓ absorption spectra ✓ separation by chromatography 	
Topic 6 Microbiology and Pathogens	This topic covers material from the AQA specification topics: 3.1.1, 3.1.3, 3.1.6 and 3.2.10	<ul style="list-style-type: none"> ✓ microbial techniques ✓ exotoxins and endotoxins ✓ stem rust fungus and the malaria parasite ✓ the role of macrophages, neutrophils and lymphocytes 	<ul style="list-style-type: none"> ✓ cholera ✓ monoclonal antibodies as therapeutics
Topic 7 Modern Genetics	This topic covers material from the AQA specification topics: 3.2.2, 3.5.6, 3.5.7 and 3.5.8	<ul style="list-style-type: none"> ✓ epigenetics ✓ production and use of induced pluripotent stem cells ✓ antibiotic markers and replica plating of organisms ✓ use of knockout mice ✓ genetic modification of soya beans 	<ul style="list-style-type: none"> ✓ effect of oestrogen on gene transcription ✓ small interfering RNA ✓ oncogenes and tumour suppressors in cancer treatment ✓ cDNA and reverse transcriptase ✓ gene therapy and medical diagnosis using DNA probes
Topic 8 Origins of Genetic Variation	This topic covers material from the AQA specification topics: 3.2.2, 3.2.3 and 3.4.8	<ul style="list-style-type: none"> ✓ autosomal linkage from alleles on the same gene 	<ul style="list-style-type: none"> ✓ selection for high yielding breeds of domesticated animals and strains of plants ✓ ethical issues with selection of domesticated animals
Topic 9 Control systems	This topic covers material from the AQA specification topics: 3.1.5, 3.5.2 and 3.5.4	<ul style="list-style-type: none"> ✓ auxins, giberellins and cytokinins ✓ control of flowering by phytochrome ✓ location and function of the medulla oblongata, cerebellum and cerebrum ✓ autonomic nervous system ✓ influence of cobra venom on synapses ✓ detection of light by mammals ✓ structure and function of the kidney 	<ul style="list-style-type: none"> ✓ histamines and prostaglandins ✓ control of blood glucose concentration ✓ Pacinian corpuscles (replaced by rods) ✓ sliding filament theory ✓ muscles as effectors
Topic 10 Ecosystems	This topic covers material from the AQA specification topics: 3.2.11, 3.4.1, 3.4.5 and 3.4.6	<ul style="list-style-type: none"> ✓ t-test for statistical analysis 	<ul style="list-style-type: none"> ✓ human populations ✓ nutrient cycles ✓ roles of carbon and nitrogen in the environment