

### Year 10 COMBINED SCIENCE (BIOLOGY) Curriculum Map

Term	Topic/Unit title	Essential knowledge & skills (what students should <i>know, understand and be able to do</i> by the end of the unit/topic)
Autumn 1+2	4.1 Cell biology	<p>Specification  <a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.1 Cell biology  including:  4.1.1 Cell structure  4.1.2 Cell division  4.1.3 Transport in cells</p> <p>Required practical activity 1: use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.</p> <p>Required practical activity 2: investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.</p>
Autumn 2 + Spring 1	4.2 Organisation	<p>Specification  <a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p>

## 4.2 Organisation

including:

### 4.2.1 Principles of organisation

#### 4.2.2.1 The human digestive system

#### 4.2.2.2 The heart and blood vessels

#### 4.2.2.3 Blood

#### 4.2.2.4 Coronary heart disease: a non-communicable disease

#### 4.2.2.5 Health issues

#### 4.2.2.6 The effect of lifestyle on some non-communicable diseases

#### 4.2.2.7 Cancer

Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.

To include: Benedict's test for sugars; iodine test for starch; and Biuret reagent for protein.

Required practical activity 4: investigate the effect of pH on the rate of reaction of amylase enzyme.

<p><b>Spring 2 + Summer 1</b></p>	<p>4.3 Infection and response</p>	<p>Specification</p> <p><a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.3 Infection and response</p> <p>including:</p> <p>4.3.1.1 Communicable (infectious) diseases</p> <p>4.3.1.2 Viral diseases (measles and HIV only)</p> <p>4.3.1.3 Bacterial diseases</p> <p>4.3.1.5 Protist diseases (malaria)</p> <p>4.3.1.6 Human defence systems</p> <p>4.3.1.7 Vaccination</p> <p>4.3.1.8 Antibiotics and painkillers</p> <p>4.3.1.9 Discovery and development of drugs</p>
<p><b>Summer 2</b></p>	<p>Plant biology</p> <p>4.2 plant tissues and organs</p> <p>4.3 plant disease</p> <p>4.4. bioenergetics</p>	<p>Specification</p> <p><a href="https://filestore.aqa.org.uk/resources/biology/specifications/AQA-8461-SP-2016.PDF">https://filestore.aqa.org.uk/resources/biology/specifications/AQA-8461-SP-2016.PDF</a></p> <p>Plant biology</p> <p>including:</p>

		<p>4.2.3.1 Plant tissues</p> <p>4.2.3.2 Plant organ system</p> <p>4.4.1 Photosynthesis</p> <p>4.3.1.2 Viral diseases (tobacco mosaic virus only)</p> <p>4.3.1.4 Fungal diseases (rose black spot)</p> <p>Required practical activity 5: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.</p> <p>4.4.2.1 Aerobic and anaerobic respiration</p> <p>4.4.2.2 Response to exercise</p>
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**Year 11 COMBINED SCIENCE (BIOLOGY) Curriculum Map**

Term	Topic/Unit title	
<b>Autumn 1</b>	4.5 Homeostasis & Response	<p>Specification</p> <p><a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.5 Homeostasis &amp; Response</p> <p>including:</p> <p>4.5.1 Homeostasis</p> <p>4.5.2 The human nervous system</p> <p>4.5.3.1 Human endocrine system</p> <p>4.5.3.2 Control of blood glucose concentration</p> <p>4.5.3.3 Hormones in human reproduction</p> <p>4.5.3.4 Contraception</p> <p>Infertility and IVF taught here although not on the specification for combined science</p> <p>Required practical activity 6: plan and carry out an investigation into the effect of a factor on human reaction time.</p>
<b>Autumn 2</b>	Complete 4.5. Homeostasis & Response	Specification

	<p>PPE fortnight</p> <p>4.6 Inheritance, variation and evolution</p>	<p><a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.6 Inheritance, variation and evolution including:</p> <p>4.6.1.1 Sexual and asexual reproduction</p> <p>4.6.1.2 Meiosis</p>
<p><b>Spring 1</b></p>	<p>4.6 Inheritance, variation and evolution</p>	<p>Specification</p> <p><a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.6 Inheritance, variation and evolution including:</p> <p>4.6.1.3 DNA and the genome</p> <p>4.6.1.4 Genetic inheritance</p> <p>4.6.1.5 Inherited disorders</p>

		<p>4.6.1.6 Sex determination</p> <p>4.6.2.1 Variation</p> <p>4.6.2.2 Evolution</p> <p>4.6.2.3 Selective breeding</p> <p>4.6.2.4 Genetic engineering</p> <p>4.6.3.1 Evidence for evolution</p> <p>4.6.3.2 Fossils</p> <p>4.6.3.3 Extinction</p> <p>4.6.3.4 Resistant bacteria</p> <p>4.6.4 Classification of living organisms</p>
<p><b>Spring 2</b></p>	<p>4.7 Ecology</p>	<p>Specification</p> <p><a href="https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF">https://filestore.aqa.org.uk/resources/science/specifications/AQA-8464-SP-2016.PDF</a></p> <p>4.7.2.2 How materials are cycled</p> <p>4.7.3.1 Biodiversity</p> <p>4.7.3.2 Waste management</p> <p>4.7.3.3 Land use</p>

		4.7.3.4 Deforestation 4.7.3.5 Global warming 4.7.3.6 Maintaining biodiversity
<b>Summer 1</b>	<b>Targeted revision</b> <b>Past paper exam practice &amp; exam technique</b>	