

**Lesson 1** The same and different

**Learning outcomes:**

- recall some key language about genetics nucleus, chromosomes, genes, DNA
- explain where genes are found and their function

Spec.	Suggested programme	Resources	Notes
		Textbook: Section A	
B1.1.1 B1.1.2 B1.1.3 B1.1.4 B1.1.5	<p><b>Start</b> (25 minutes)</p> <p>1 Use Activity AB1.1.1 <i>Inheritance traffic lights</i> to review some key language from KS3.</p> <p>2 Show Presentation IB1.1.4 <i>Introduction</i> to introduce the module.</p> <p>↳ Emphasise areas students were unsure of in the quiz. Reassure them that these will be explored in the module.</p>	<p><b>Activity AB1.1.1 (A G)</b> <b>Presentation 1B1.1.4</b></p>	
	<p><b>Main</b> (30 minutes)</p> <p>1 Show Video IB1.1.5 <i>Family tree</i>. Brainstorm similarities between family members on video and in students' own families. Ask students why family members may share some characteristics, and why offspring are not identical to parents.</p> <p>↳ Need to explain:</p> <ul style="list-style-type: none"> <li>• Instructions for how an organism develops are found in the form of genes found on chromosomes in the nucleus of the cell.</li> <li>• Chromosomes consist of very long DNA molecules; each gene is a short section of DNA.</li> <li>• Genes describe how to make proteins which might be structural, eg collagen, or functional, eg enzymes such as amylase.</li> <li>• That environment is also a source of variation.</li> </ul> <p>2 Students should use Animation IB1.1.6 <i>Genes</i> and/or Section A of the Textbook to complete Activity AB1.1.2 <i>Talking genes</i>.</p>	<p><b>Video 1B1.1.5</b> <b>Animation 1B1.1.6</b> <b>Activity AB1.1.2 (A)</b></p>	
	<p><b>End</b> (5 minutes)</p> <p>1 Check key language – heredity information is in genes, which are sections of long DNA molecules which make up chromosomes in the nucleus of cells.</p> <p>2 Collect earlobe data for next lesson (see Activity AB1.1.3 <i>Variation</i>).</p>	<p><b>Activity AB1.1.3 (A G)</b></p>	
	<p><b>Differentiation/Extension</b></p> <p><b>All students:</b> Some classes could be asked to view the Presentation IB1.14 <i>Introduction for homework</i> before the lesson.</p>	<p><b>Presentation 1B1.1.4</b></p>	
	<p><b>Homework</b></p> <ul style="list-style-type: none"> <li>• Questions from Section A of the Textbook</li> <li>• Students complete the relevant workbook exercise.</li> </ul>		