

# Knowledge and Understanding – Living Things and the Processes of Life

Strand	Level C	Level D	Level E	Level F
<p><b>Variety and characteristic features</b> Developing an understanding of the characteristic features of the main groups of plants and animals, including humans and microorganisms.</p> <p>The principles of genetics are also considered.</p>	<ul style="list-style-type: none"> <li>• give some of the more obvious distinguishing features of the five vertebrate groups</li> <li>• name some common members of the vertebrate groups</li> <li>• name some common animals and plants using simple keys</li> </ul>	<ul style="list-style-type: none"> <li>• give the main distinguishing features of the major groups of flowering and non-flowering plants</li> </ul>	<ul style="list-style-type: none"> <li>• create and use keys to identify living things. <i>This could recapitulate on work done in primary, and expand to cover the main 'Kingdoms'. This then progresses logically to the two items shown below.</i></li> </ul>	
			<ul style="list-style-type: none"> <li>• give the main distinguishing features of microorganisms</li> </ul>	<ul style="list-style-type: none"> <li>• describe the harmful and beneficial effect of microorganisms</li> <li>• outline the principles of modern biotechnology and explain its significance now and for the future</li> <li>• explain the role of chromosomes and genes in inheritance</li> </ul>
<p><b>The processes of life</b> Developing an understanding of growth and development and life cycles, including cells and cell processes. The main organs of the human body and their functions are also considered.</p>	<ul style="list-style-type: none"> <li>• name the life processes common to humans and other animals</li> <li>• identify the main organs of the human body</li> <li>• describe the broad functions of the organs of the human body</li> <li>• describe the broad functions of the main parts of flowering plants</li> </ul>	<ul style="list-style-type: none"> <li>• describe the role of lungs in breathing <i>The mechanics of breathing, e.g. movement of ribs, diaphragm, lung expansion should be dealt with in primary school. Detailed description of the inner structure of the lungs, and the process of gaseous exchange would be covered in secondary.</i></li> </ul>	<ul style="list-style-type: none"> <li>• give examples of inherited and environmental causes of variation</li> </ul>	<ul style="list-style-type: none"> <li>• describe how different cells are adapted to their functions</li> </ul>
		<ul style="list-style-type: none"> <li>• outline the process of digestion <i>The structure, function, and care of teeth should be dealt with in primary school. The chemical process of digestion, and the detailed function of the digestive organs, should be part of the secondary course.</i></li> </ul>	<ul style="list-style-type: none"> <li>• identify and give the functions of the main structures found in plant and animal cells</li> </ul>	<ul style="list-style-type: none"> <li>• describe the process of respiration</li> <li>• describe the function of enzymes in the control of cellular reactions</li> <li>• describe the effect of pH and temperature on enzyme activity</li> </ul>
		<ul style="list-style-type: none"> <li>• describe the main changes that occur during puberty</li> </ul>	<ul style="list-style-type: none"> <li>• identify, name and give the functions of the main organs of the human reproductive system</li> </ul>	

# Knowledge and Understanding – Living Things and the Processes of Life (Continued)

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<p><b>Interaction of living things with their environment</b> Developing an understanding of the interdependence of living things with the environment. The conservation and care of living things are also considered.</p>	<ul style="list-style-type: none"> <li>• give examples of living things that are rare or extinct; explain how living things and the environment can be protected and give examples.</li> </ul>	<ul style="list-style-type: none"> <li>• describe the main stages in human reproduction</li> <li>• describe the main stages in flowering-plant reproduction</li> </ul>	<ul style="list-style-type: none"> <li>• identify the raw materials, conditions and products of photosynthesis</li> </ul>	
		<ul style="list-style-type: none"> <li>• describe examples of human impact on the environment that have brought about beneficial changes, and examples that have detrimental effects</li> <li>• give examples of how plants and animals are suited to their environment</li> </ul>	<ul style="list-style-type: none"> <li>• construct and interpret simple food webs and make predictions of the consequences of change</li> </ul>	<ul style="list-style-type: none"> <li>• construct and explain food pyramids</li> </ul>
		<ul style="list-style-type: none"> <li>• explain how responses to changes in the environment might increase the chances of survival.</li> </ul>	<ul style="list-style-type: none"> <li>• describe examples of competition between plants and between animals</li> </ul>	<ul style="list-style-type: none"> <li>• give a simple description of the theory of evolution and explain how species survive or become extinct</li> </ul>
			<ul style="list-style-type: none"> <li>• give examples of physical factors that affect the distribution of living things.</li> </ul>	<ul style="list-style-type: none"> <li>• describe what is meant by an abiotic factor and give some examples of how these can be measured.</li> </ul>

	P6/7
	S1/S2
	S1/S2 – to be developed