

**Science - Biology Target Related Expectation (TReE) Year 7**

Pathway 1 (Target Grade 1-3)									
	8.1.1 Levels of organisation	8.1.2 The skeleton	8.1.3 Movement: joints	8.1.4 Movement: muscles	8.2.1 Observing cells	8.2.2 Plant and animal cells	8.2.3 Specialised cells	8.2.4 Movement of substances	8.2.5 Uni-cellular organisms
<b>8 Organisms</b>	<ul style="list-style-type: none"> <li>State what is meant by a tissue, an organ, and an organ system</li> </ul>	<ul style="list-style-type: none"> <li>Name the main parts in the skeleton and the function of the skeleton</li> </ul>	<ul style="list-style-type: none"> <li>State where joints are found in the body</li> </ul>	<ul style="list-style-type: none"> <li>State the function of major muscle groups</li> </ul>	<ul style="list-style-type: none"> <li>State what a cell is and use a microscope to view it</li> </ul>	<ul style="list-style-type: none"> <li>Match some components of a plant and animal cell to their functions</li> </ul>	<ul style="list-style-type: none"> <li>State structural adaptations of plant and animal cells, summarising this in a table or as a model</li> </ul>	<ul style="list-style-type: none"> <li>State simply what diffusion is</li> </ul>	<ul style="list-style-type: none"> <li>Name an example of a uni-cellular organism.</li> </ul>
	9.1.1 Food chains and webs	9.1.2 Disruptions to food chains and webs	9.1.3 Ecosystems	9.1.4 Competition	9.2.1 Flowers and pollination	9.2.2 Fertilisation and germination	9.2.3 Seed dispersal		
<b>9 Ecosystems</b>	<ul style="list-style-type: none"> <li>State the definition of a food web</li> </ul>	<ul style="list-style-type: none"> <li>State that toxic material can get into food chains</li> </ul>	<ul style="list-style-type: none"> <li>State that different organisms can co-exist</li> </ul>	<ul style="list-style-type: none"> <li>State some resources that plants and animals compete for</li> </ul>	<ul style="list-style-type: none"> <li>Follow instructions to dissect a flower and name the parts. Identify if the flower is wind or insect pollinated.</li> </ul>	<ul style="list-style-type: none"> <li>State what is meant by fertilisation in plants</li> </ul>	<ul style="list-style-type: none"> <li>Name the methods of seed dispersal</li> </ul>		
	10.1.1 Variation	10.1.2 Continuous / discontinuous	10.1.3 Adapting to change	10.2.1 Adolescence	10.2.2 Reproductive systems	10.2.3 Fertilisation and implantation	10.2.4 Development of a fetus	10.2.5 The menstrual cycle	
<b>10 Genes</b>	<ul style="list-style-type: none"> <li>State the meaning of variation and that variation is caused by the environment or inheritance</li> </ul>	<ul style="list-style-type: none"> <li>State the two types of graphs that can be drawn when representing the two types of variation</li> </ul>	<ul style="list-style-type: none"> <li>Give a possible reason for adaptation or extinction eg environmental change</li> </ul>	<ul style="list-style-type: none"> <li>State changes to the bodies of boys and girls during puberty</li> </ul>	<ul style="list-style-type: none"> <li>Name and state a function of the main structures of the male and female reproductive system</li> </ul>	<ul style="list-style-type: none"> <li>State what is meant by fertilisation</li> </ul>	<ul style="list-style-type: none"> <li>State how long a pregnancy lasts</li> </ul>	<ul style="list-style-type: none"> <li>State the main stages in the menstrual cycle</li> </ul>	

Pathway 2 (Target Grade 4-6)									
	8.1.1 Levels of organisation	8.1.2 The skeleton	8.1.3 Movement: joints	8.1.4 Movement: muscles	8.2.1 Observing cells	8.2.2 Plant and animal cells	8.2.3 Specialised cells	8.2.4 Movement of substances	8.2.5 Uni-cellular organisms
<b>8 Organisms</b>	<ul style="list-style-type: none"> <li>Define and state examples of tissues, organs, and organ systems</li> </ul>	<ul style="list-style-type: none"> <li>Describe the functions of the muscular skeletal system</li> </ul>	<ul style="list-style-type: none"> <li>Describe the structure and function of joints</li> </ul>	<ul style="list-style-type: none"> <li>Use a diagram to predict the result of a muscle contraction or relaxation of an antagonistic muscle pair</li> </ul>	<ul style="list-style-type: none"> <li>Explain how to use a microscope to observe a cell</li> </ul>	<ul style="list-style-type: none"> <li>Identify and compare the similarities and differences between plant and animal cells</li> </ul>	<ul style="list-style-type: none"> <li>Describe structural adaptations of plant and animal cells</li> </ul>	<ul style="list-style-type: none"> <li>Describe the process of diffusion</li> </ul>	<ul style="list-style-type: none"> <li>Describe the structure of an amoeba and a euglena</li> </ul>
	9.1.1 Food chains and webs	9.1.2 Disruptions to food chains and webs	9.1.3 Ecosystems	9.1.4 Competition	9.2.1 Flowers and pollination	9.2.2 Fertilisation and germination	9.2.3 Seed dispersal		
<b>9 Ecosystems</b>	<ul style="list-style-type: none"> <li>Combine food chains to form a food web</li> </ul>	<ul style="list-style-type: none"> <li>Describe the interdependence of organisms</li> </ul>	<ul style="list-style-type: none"> <li>Describe how different organisms co-exist within an ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>Describe some resources that plants and animals compete for</li> </ul>	<ul style="list-style-type: none"> <li>Use appropriate techniques to dissect a flower into its main parts</li> </ul>	<ul style="list-style-type: none"> <li>Describe the process of fertilisation in plants</li> </ul>	<ul style="list-style-type: none"> <li>Describe methods seed dispersal, and use the features of seeds and fruit to explain how they are adapted to their method</li> </ul>		
	10.1.1 Variation	10.1.2 Continuous/discontinuous	10.1.3 Adapting to change	10.2.1 Adolescence	10.2.2 Reproductive systems	10.2.3 Fertilisation and implantation	10.2.4 Development of a fetus	10.2.5 The menstrual cycle	
<b>10 Genes</b>	<ul style="list-style-type: none"> <li>Describe how variation in species occurs</li> </ul>	<ul style="list-style-type: none"> <li>Use knowledge of continuous and discontinuous variation to explain whether characteristics are inherited, environmental, or both</li> </ul>	<ul style="list-style-type: none"> <li>Explain how variation helps a particular species in a changing environment</li> </ul>	<ul style="list-style-type: none"> <li>Describe the main changes that take place during puberty</li> </ul>	<ul style="list-style-type: none"> <li>Describe the function of the main structures in the male and female reproductive systems</li> </ul>	<ul style="list-style-type: none"> <li>Describe the main steps that take place from the production of sex cells to the formation of an embryo</li> </ul>	<ul style="list-style-type: none"> <li>Describe what happens during gestation and birth</li> </ul>	<ul style="list-style-type: none"> <li>Identify key events of the menstrual cycle</li> </ul>	

Pathway 3 (Target Grade 7-8)									
	8.1.1 Levels of organisation	8.1.2 The skeleton	8.1.3 Movement: joints	8.1.4 Movement: muscles	8.2.1 Observing cells	8.2.2 Plant and animal cells	8.2.3 Specialised cells	8.2.4 Movement of substances	8.2.5 Uni-cellular organisms
<b>8 Organisms</b>	<ul style="list-style-type: none"> <li>Explain how the different tissues in an organ, and the different organs in an organ system function together</li> </ul>	<ul style="list-style-type: none"> <li>Explain the link between structure and functions in the muscular skeletal system</li> </ul>	<ul style="list-style-type: none"> <li>Explain how the parts of a joint allow it to function</li> </ul>	<ul style="list-style-type: none"> <li>Explain why it is necessary to have both muscles in an antagonistic pair to cause movement</li> </ul>	<ul style="list-style-type: none"> <li>Use a microscope to observe a prepared slide calculating a range of magnifications</li> </ul>	<ul style="list-style-type: none"> <li>Explain the similarities and differences between plant and animal cells</li> </ul>	<ul style="list-style-type: none"> <li>Describe examples of specialised animal cells, linking structure and function</li> </ul>	<ul style="list-style-type: none"> <li>Explain which substances move into and out of cells</li> </ul>	<ul style="list-style-type: none"> <li>Explain what a uni-cellular organism is and give detailed examples</li> </ul>
	9.1.1 Food chains and webs	9.1.2 Disruptions to food chains and webs	9.1.3 Ecosystems	9.1.4 Competition	9.2.1 Flowers and pollination	9.2.2 Fertilisation and germination	9.2.3 Seed dispersal		
<b>9 Ecosystems</b>	<ul style="list-style-type: none"> <li>Explain why a food web gives a more accurate representation of feeding relationships than a food chain</li> </ul>	<ul style="list-style-type: none"> <li>Explain how toxic materials can accumulate in human food sources</li> </ul>	<ul style="list-style-type: none"> <li>Explain why different organisms are needed in an ecosystem in terms of biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>Explain the effect of competition on the individual or the population</li> </ul>	<ul style="list-style-type: none"> <li>Explain how the structures of the flower are adapted to their function</li> </ul>	<ul style="list-style-type: none"> <li>Explain the process of fertilisation in plants, explaining the role of each of the parts involved in the process</li> </ul>	<ul style="list-style-type: none"> <li>Develop an argument why a particular plant structure increases the likelihood of successful production of offspring</li> </ul>		
	10.1.1 Variation	10.1.2 Continuous/discontinuous	10.1.3 Adapting to change	10.2.1 Adolescence	10.2.2 Reproductive systems	10.2.3 Fertilisation and implantation	10.2.4 Development of a fetus	10.2.5 The menstrual cycle	
<b>10 Genes</b>	<ul style="list-style-type: none"> <li>Explain how variation gives rise to different species</li> </ul>	<ul style="list-style-type: none"> <li>Explain the causes of continuous and discontinuous variation</li> </ul>	<ul style="list-style-type: none"> <li>Explain how competition or long-term environmental change can lead to evolutionary adaptation or extinction and the role variation plays in a species success</li> </ul>	<ul style="list-style-type: none"> <li>Explain the main changes that take place during puberty</li> </ul>	<ul style="list-style-type: none"> <li>Explain how different parts of the male and female reproductive systems work together to achieve certain functions</li> </ul>	<ul style="list-style-type: none"> <li>Explain the sequence of fertilisation and implantation</li> </ul>	<ul style="list-style-type: none"> <li>Describe accurately the sequence of events during gestation and birth. Predict the effect of cigarettes, alcohol, or drugs on the developing fetus</li> </ul>	<ul style="list-style-type: none"> <li>Make deductions about how hormonal and barrier contraception methods work</li> </ul>	