

9A Genetics and Evolution	Knowledge, Skills and Understanding
Higher	<p>Recall that some animal behaviour is learned (environmental) and some is innate (inherited)</p> <p>Describe how a learned behaviour is beneficial to an organism</p> <p>Describe the work of Mendel in discovering the basis of genetics</p> <p>Describe the structure of a DNA molecule</p> <p>Evaluate the evidence for suggested physical and behavioural adaptations of extinct species</p> <p>Explain how evidence from fossils supports Darwin's theory</p>
Intermediate	<p>Explain why environmental variation can confuse the idea of a species and make classification and identification difficult</p> <p>Identify normal distribution</p> <p>Interpret information on continuous genetic variation using normal distribution curves</p> <p>Use a model to illustrate the relationship between DNA, chromosomes, genetic information and genes</p> <p>Explain how particular adaptations limit an organism's distribution and abundance</p> <p>Make predictions about how changes in physical and biological factors will interact with adaptations and affect survival</p> <p>Explain how biodiversity can be preserved using gene banks, seed banks, tissue banks, cryopreservation and pollen banks</p> <p>Explain how natural selection can lead to evolution</p>
Foundation	<p>Identify and give examples of environmental variation</p> <p>Explain how environmental variation is caused</p> <p>Tell the difference between and identify examples of continuous and discontinuous variation</p> <p>Correctly use the term: species</p> <p>Identify and give examples of inherited variation</p>

Explain how inherited variation is caused (by parents)  
Describe how genetic information is stored in the nucleus of a cell  
Describe what genetic information does  
State what chromosomes are made of  
State the number of pairs of chromosomes in most human cells  
Describe where genes are found  
Describe how genes control characteristics (in terms of containing instructions)  
Describe the roles played by Watson, Crick, Franklin and Wilkins in the discovery of the structure of DNA  
Explain how changes in a physical environmental factor in a habitat affect populations and communities  
Explain how changes in an ecosystem can lead to endangerment and extinction  
Suggest methods of conservation that can be used to ensure the survival of organisms and habitats  
Explain how particular adaptations increase the chances of survival  
Explain why preserving biodiversity is important  
State that the individuals in a population are likely to vary from one another genetically  
Explain how natural selection determines the survival of certain variations of adaptations within a population