

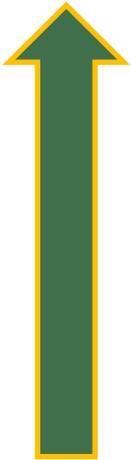


# Key Stage 3 progress grid

Subject Science Year 9

Topic / skill area Inheritance and evolution

| Trajectory | I am able to.....   |
|------------|---|
| T9, T8     | <ul style="list-style-type: none"> <li><input type="checkbox"/> Design a new mutation for an organism of my own choice that enables it to evolve after a sudden environmental change. Describe the environmental change and why it causes many individuals in the population to die out and how the new mutation helps some individuals to survive and eventually after a number of generations develop into a new species</li> <li><input type="checkbox"/> Assess at least two additional sources of evidence for evolution and identified any limitations of the evidence</li> <li><input type="checkbox"/> Work independently to use all the keywords provided in the correct context</li> </ul>        |
| T7         | <ul style="list-style-type: none"> <li><input type="checkbox"/> Justify why Darwin's theory of evolution is now the most widely accepted theory compared to others (eg Lamarck),</li> <li><input type="checkbox"/> Choose an area of modern biological development that has been influenced by the theory of evolution</li> <li><input type="checkbox"/> Link in detail how variation between individuals of the same species leads to competition which can drive natural selection <b>using a range of named examples as evidence</b></li> <li><input type="checkbox"/> Use most of the keywords provided in the correct context</li> </ul>   |
| T6         | <ul style="list-style-type: none"> <li><input type="checkbox"/> Explain why Darwin's ideas were not accepted at the time.</li> <li><input type="checkbox"/> Explain using diagrams how the structure of DNA provides the codes for characteristics (include the 4 types of nucleotides)</li> <li><input type="checkbox"/> Discuss, <b>using a range of examples</b>, how beneficial mutations increased the likelihood of these mutations being passed on to the next generation leading to evolution.</li> <li><input type="checkbox"/> Describe the limitations of the fossil record.</li> </ul>  |
| T5, T4     | <ul style="list-style-type: none"> <li><input type="checkbox"/> Explain how individuals within a species who are better adapted to the environment lead to natural selection (<b>giving at least one named example</b>)</li> <li><input type="checkbox"/> Describe what the consequences are if individuals are less well adapted to changes in the environment</li> <li><input type="checkbox"/> Use a simple model of chromosomes, genes and DNA to explain how mutations occur</li> <li><input type="checkbox"/> Describe another theory for changes in a species that was given in the past</li> <li><input type="checkbox"/> Explain how the fossil record provides evidence for evolution.</li> </ul> |
| T3         | <ul style="list-style-type: none"> <li><input type="checkbox"/> Described simply Darwin's theory of evolution using Natural Selection.</li> <li><input type="checkbox"/> Stated at least one piece of evidence that Darwin used for his theory.</li> <li><input type="checkbox"/> Used a simple cartoon or diagram to describe how we inherit characteristics.</li> <li><input type="checkbox"/> Understand how fossils are a piece of evidence that provides information about how living things that inhabited the Earth millions of years ago have changed over time</li> </ul>  |



# Progress

T2, T1

- State simply how characteristics are passed on to the next generation
- Identify at least one characteristic that can help an organism to survive
- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.