|  |  |  |
| --- | --- | --- |
| **What will we be learning?**  **GCSE Unit:** **Inheritance, Variation and Evolution Trilogy** | **Why this? Why now?**  **GCSE Course:**  AQA Trilogy  **What other GCSE Science units does this unit relate to?**  **Cells** – 4.1.1 cell structure, 4.1.2 cell division  **Infection and Response** – 4.3.1.8 resistant bacteria  **Ecology** – 4.7.1 adaptations | **Key Words:**  allele  asexual  binomial name  chromosome  classification  clone  cystic fibrosis  DNA  domain  dominant  evolution  fertilisation  fossil record  gametes  gene  genetic engineering  genome  genotype  genus  heterozygous  homozygous  meiosis  mitosis  mutation  natural selection  phenotype  polydactyly  recessive  restriction enzymes  selective breeding  species  taxonomic group  transgenic organism  zygote |
| **What will we learn?**  **Useful equations/formulae/maths skills for this unit:**  Probability  Ratios, fractions and percentages  Interpret tables and graphs  Plot graphs from given data  **Misconceptions in this topic**  Mutations are bad – not always, some mutations can be beneficial and bring about natural selection.  Natural selection and evolution are the same thing – no, natural selection is the process that over time brings about evolution which is a change in a species.  Genetic engineering and selective breeding are the same thing – no, selective breeding is choosing characteristics of individuals and allowing them to breed. Genetic engineering is inserting a gene from a different organism into the DNA of an organism you want to change. We have been selectively breeding for hundreds of years, but we have only been able to genetically engineer organisms recently. | |
| **What opportunities are there for wider study?**  **If you are interested in this unit, what careers does it relate to?**  geneticist, forensic scientist, food technology, farmer, horticulturalist, agronomist, doctor, nurse, midwife, genetic counsellor, academic researcher, immunologist, pharmacologist, plant breeder/geneticist  **Collins Revision guide relevant pages for this unit:**  Higher books P.64-73, 84-86, 106-107  Foundation books P.64-73, 84-86, 104-105 | |
| **How will I be assessed?**  **Deep Marking Task Title for this unit:** Genetic Engineering | |