**Colton Hills Community School medium term planning**

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| **Topic title:**  .. B6 Inheritance | **Year:** … 11 **Term:** …Autumn | **Why we teach this:** … To understand why we are the way we are and how we use this information in medicine, agriculture and other arenas | **Why we teach this here:** … This builds on our understanding of the building blocks of life and how organisms work so that we can start to look at the level of a species. | |
| **Big questions:**   1. Do all organisms reproduce in the same way? 2. How do we get new cells? 3. What is DNA and what does it do? 4. What is DNA technology? 5. What if something goes wrong? 6. How are new species made? 7. What is fossilisation? 8. What is extinction? | | **Builds on previous topics:** …  B1 Cells, B2 Organisation, B3 Disease, B4 Bioenergetics, B5 Homeostasis, Chemistry polymers and atoms | **Links to future topics:**  …  B7 Ecology | |
| **Key knowledge Triple**   * Sexual and asexual reproduction * Meiosis * Advantages and disadvantages * Genetics * DNA structure and Protein synthesis HT ONLY * Mutation * Inheritance and disorders * Genetics through history * Genetic engineering * Cloning in plants and animals * Variation * Selective breeding * Evolution and the theory of evolution * Speciation * Evolution evidence * Extinction * Classification | **Key knowledge continued:**   * Sexual and asexual reproduction * Meiosis * DNA and Sex determination * Inheritance and disorders * Genetic engineering * Variation * Selective breeding * Evolution * Evolution evidence * Extinction | |
| **Skills developed:**  Researching information, make predictions using scientific knowledge and understanding, analyse observations and data using tables and graphs, identify independent, dependent, and control variables where appropriate.  Application of knowledge, making links, ethical debate, critical evaluation | |
| **Mini/Interim assessments:**   * Multiple choice questions * Retrieval questions   **Termly summative assessment:**   * End of topic test | | **Independent study tasks/resources:**   * Oak Triple <https://teachers.thenational.academy/units/homeostasis-and-response-1a15> * Oak Combined F <https://teachers.thenational.academy/units/inheritance-variation-and-evolution-ft-ceb0> * Oak Combined H <https://teachers.thenational.academy/units/inheritance-variation-and-evolution-ht-e8aa> * Triple F <https://app.senecalearning.com/classroom/course/9cc79e80-0731-11e8-91ec-b17b7b8a21b8/section/127d9460-0753-11e8-b6f3-3fc7c9478223/session> * Triple H <https://app.senecalearning.com/classroom/course/6b76a6e0-cf79-11e7-83a9-29a486db2c9f/section/b6e8cee0-d993-11e7-9bd5-53995c3110f0/session> * Combined F <https://app.senecalearning.com/classroom/course/88066eb0-1d8c-11e8-a6da-15f18bba751c/section/3d21f530-1d8d-11e8-a6da-15f18bba751c/session> * Combined H <https://app.senecalearning.com/classroom/course/891f0540-1d79-11e8-a6da-15f18bba751c/section/7cdcc960-1d7a-11e8-a6da-15f18bba751c/session> | **Key vocabulary 1:** Gene  DNA  Recessive  Dominant  Heterozygous  Homozygous  Genetic cross  Meiosis  Gene therapy  Cloning | **Key vocabulary 2:**  Mutations  Asexual  Evolution  Natural selection  Extinction  Fossil  Genetic engineering  Selective breeding  Ethics  Variation |
| **Cultural capital opportunities:** …  Many films and books use the ideas of genetic engineering and cloning. The ethics of cloning, genetic engineering, selective breeding and cloning. The repercussions and causes of extinction. Careers. | | **Whole school Curricular Concept links:** … Healthy living, precious planet and civic responsibility |

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| **Week/ Phase** | **Key Features** | |
| 1 | **Small Questions:** … | |
| **Key Activities/Resources:** … | **Retrieval focus:**  …  **Independent study:**  … |
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| 2 | **Small Questions:** … | |
| **Key Activities/Resources:**  … | **Retrieval focus:**  …  **Independent study:**  … |
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| 3 | **Small Questions:** … | |
| **Key Activities/Resources:**  … | **Retrieval focus:**  …  **Independent study:**  … |
| **Week/ Phase** | **Key Features** | |
| 4 | **Small Questions:** … | |
| **Key Activities/Resources:**  … | **Retrieval focus:**  …  **Independent study:**  … |
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| 5 | **Small Questions:** … | |
| **Key Activities/Resources:**  … | **Retrieval focus:**  …  **Independent study:**  … |
|  | | |
| 6 | **Small Questions:** … | |
| **Key Activities/Resources:**  … | **Retrieval focus:**  …  **Independent study:**  … |