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| **What will we be learning?**  Genes – Variation | **Why this? Why now?**  Previous Learning  Cells  Human reproduction  Future Learning  KS3  Genes  GCSE  Inheritance  A-LEVEL  Cell division  Evolution  Biodiversity  Patterns of inheritance  Enquiry Processes  Draw conclusions, Justify opinions | **Keywords**  **Species: A group of living things that have more in common with each other than with other groups.**  **Variation: The differences within and between species.**  **Continuous variation: Where differences between living things can have any numerical value.**  **Discontinuous variation: Where differences between living things can only be grouped into categories.** |
| **What will we learn?**  • Predict implications of a change in the environment on a population  • Critique a claim that a particular characteristic is inherited or environmental.  • Use the ideas of variation to explain why one species may adapt better than another to an environmental change.  • Explain that variation can be continuous or discontinuous, including the use of data  • Explain how variation and environmental pressures can drive natural selection and lead to evolution  • Explain how characteristics of a species are adapted to particular environmental conditions.  • Describe how variation is caused by inherited and environmental factors  • Describe how more successful competition can result in extinction  • Plot bar charts or line graphs to show discontinuous or continuous variation data.  • State that all organisms show variation, both within a species and between species  • State that variation is important for the survival of a species in a constantly changing environment  **Misconceptions in this topic**   * Environmental effects on characteristics can be subtle – if it is a continuous characteristic there is an environmental effect somewhere! * Students sometimes have a hard time understanding that characteristics such as native language are entirely environmental * Be aware of the classic natural selection/evolution questions (we evolved from monkeys, we are more evolved than other organisms…) | |
| **What opportunities are there for wider study?**  teaching, medical, veterinary, hospital, research, genetics, zoology, biology,  STE(A)M  <https://highcliffe.sharepoint.com/sites/LearnSTEM> | |
| **How will I be assessed?**  End of Topic Assessment | |