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| **What will we be learning?**Genes – Variation | **Why this? Why now?**Previous Learning  CellsHuman reproductionFuture Learning  KS3GenesGCSEInheritanceA-LEVELCell divisionEvolutionBiodiversityPatterns of inheritanceEnquiry 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…)
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| **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 |