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**Knowledge Rich Curriculum Plan**

SCIENCE- Variation, Adaptation and Evolution



| **Lesson/Learning Sequence** | **Intended Knowledge:**  *Students will know that…* | **Prior Knowledge:**  *In order to know this, students need to already know that…* | **Working Scientifically** | **Tiered Vocabulary and Reading Activity** | **Assessment** | **Support** |
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| ***01***  ***What is variation?*** | *Students will be able to recognise that there are differences between individuals is called variation. Students will be able to apply the idea that only genetic variation can be inherited. Students will be able to distinguish between continuous and discontinuous variation.* | *Students will know that animals can be grouped based on their characteristics (Amphibians, fish, birds, mammals, reptiles)* | *Represent tabulated data in graphical form* | *Species- A group of organisms that can reproduce together to form fertile offspring*  *Variation- the differences between individuals of a species*  *Genetic- the study of DNA*  *Continuous- A characteristic that can have many different values*  *Discontinuous – Variation with a limit number of values* | *Retrieval questions*  *Simple exam questions*  *Homework quiz 1*  *End of topic test*  *Summative assessment 2* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z6s26yc*](https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z6s26yc)  [*https://www.youtube.com/watch?v=DjGZp\_lU5EY*](https://www.youtube.com/watch?v=DjGZp_lU5EY) |
| ***02***  ***What causes variation?*** | *Students will know that variation can be due to environment and/or DNA.*  *Students will know that eye colour, blood group, natural hair colour, ear lobes are inherited characteristics.*  *Students will know that scars, tattoos, language/accent, hair length, sporting ability*  *Students will know that mass, height and skin colour can be caused by both.*  *Students will know how twin students impact on our knowledge about variation.* | *Students will know that twins can be identical or non identical* | *Interpreting data from a table of information* |  | *Retrieval questions*  *Simple exam questions*  *Homework quiz 1*  *End of topic test*  *Summative assessment 2* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z6s26yc*](https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z6s26yc)  [*https://www.youtube.com/watch?v=DjGZp\_lU5EY*](https://www.youtube.com/watch?v=DjGZp_lU5EY) |
| ***03***  ***Fossils- Evidence of History*** | *Students will be able to recognise that all fossils are the mineralised remains of once-living organisms or of traces left behind by once-living organisms. Explain how the fossil record provides evidence that species change over time.* *Explain why there are limitations to the conclusions and explanations that can be made from fossil evidence.* | *Students will know that fossils provide evidence about organisms from long ago and their habitat. Fossils are ten thousand and billions of years ago.* |  | *Fossilisation- the process of an animal or plant becoming preserved in a hard, petrified form.* | *Retrieval questions*  *Simple exam questions*  *Homework quiz 1*  *End of topic test*  *Summative assessment 2* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z2ym2p3*](https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z2ym2p3)  [*https://www.nhm.ac.uk/discover/how-are-fossils-formed.html*](https://www.nhm.ac.uk/discover/how-are-fossils-formed.html) |