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**Knowledge Rich Curriculum Plan**

SCIENCE- Adaptations 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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| ***Lesson 1- fossils*** | *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 a plant or animal becoming preserved in a hard or petrified form*  ***Mineralised***  *To transform a metal into an ore*  ***Limitation***  *A restriction* | *Retrieval questions*  *Simple exam questions*  *Homework quizzes*  *Summative assessment 3* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/guides/z2fqcj6/revision/2*](https://www.bbc.co.uk/bitesize/guides/z2fqcj6/revision/2) |
| ***Lesson 2***  ***Variation recap*** | *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 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 animals can be grouped based on their characteristics (Amphibians, fish, birds, mammals, reptiles)*  *Students will know that twins can be identical or non-identical* |  | ***Variation***  *Differences between individuals of the same species.*  ***Environmental***  *Relating to the surroundings*  ***Genetic***  *Relating to how qualities or traits are passed from parent to child.*  ***Inheritance***  *The process in which genetic information is passed from parent to child* | *Retrieval questions*  *Simple exam questions*  *Homework quizzes*  *Summative assessment 3* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/guides/z86gpbk/revision/1*](https://www.bbc.co.uk/bitesize/guides/z86gpbk/revision/1) |
| ***Lesson 3***  ***Resource competition*** | *Organisms compete for limited resources and that some individuals have traits that help them compete more successfully than other individuals in the same population.*  *Animals compete for, food, shelter, mates*  *Plants compete for, sunlight, water, minerals and root space* | * *Plants need water, animals need food.* |  | ***Trait***  *A feature of an organism.*  ***Competition***  *Interactions between individuals seeking the same, limited resource*  ***Population***  *A group of individuals of a species living in the same area.* |  | [*https://www.bbc.co.uk/bitesize/guides/z86gpbk/revision/1*](https://www.bbc.co.uk/bitesize/guides/z86gpbk/revision/1)  *Knowledge organiser (provided on Teams and in class)* |
| ***Lesson 4***  ***Natural selection*** | *Natural selection is a theory that explains how species evolve and why extinction occurs.*  *The members of the species with the most desirable characteristics are able to produce the best-adapted offspring. If a species is unable to adapt then it is at risk of becoming extinct.*  *Use evidence to explain why a species has become extinct or adapted to changing condition* | * *That extinction means non of that specific species exists* * *The reasons for extinction New predators* * *New diseases* * *Destruction of habitats* * *Changes to the environment* |  | ***Species***  *A group of organisms that are able to reproduce and produce fertile offspring*  ***Extinction***  *When a species dies out completely.*  ***Habitat***  *The location where an organism lives.*  ***Predator***  *An organism that hunts other organisms.*  ***Disease***  *An illness or sickness with specific signs and symptoms.*  *Risk*  ***Desirable***  *Something that is wanted* |  | [*https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z7hj2nb*](https://www.bbc.co.uk/bitesize/topics/zpffr82/articles/z7hj2nb)  *Knowledge organiser (provided on Teams and in class)* |