****

**Knowledge Rich Curriculum Plan**

SCIENCE- Classification



| **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** |
| --- | --- | --- | --- | --- | --- | --- |
| **01 Classification basics** | *Students will know how to classify organisms into groups according to similarities and differences in their features. Examples of groupings could include; vertebrates and invertebrates, animals and plants, habitats etc. Students will know how to distinguish between and identify organism in the lab and in the field using a key. A key is a set of questions that can help us to classify an organism into a group. For example, animals can be classified into amphibians, birds, fish, mammals and reptiles. Students will know that organisms can be classified hierarchically into groups within groups to be not all animals are vertebrates, all reptiles are vertebrates, all insects are invertebrates, jellyfish are invertebrates but fish are vertebrates, birds and mammals are separate groups of vertebrates.*  | *A classification key is* a series of questions that determine an organism's physical characteristics. When you answer one question, it either branches off to another question or identifies the organism.*The classes of vertebrates are Mammals, fish, amphibians, reptiles and birds* | *Communication: Students were able to construct explanations about classifications of organisms* | ***Organism*** *– A living thing****Vertebrate*** *– An animal with a backbone****Invertebrate*** *– An animal without a backbone****Hierarchy -*** *A system in which people or things are put at various levels or ranks according to their importance****Classify –*** *Arrange a group of people or things based on shared traits.* | *Retrieval questions**Simple exam questions**Homework quizzes* *End of topic assessment**Summative assessment 2* | *Knowledge organiser (provided on Teams and in class)*[*https://www.bbc.co.uk/bitesize/topics/zxhhvcw/articles/zdj3vwx*](https://www.bbc.co.uk/bitesize/topics/zxhhvcw/articles/zdj3vwx) |
| **03 Classification: Cellular level** | *Students will know how to distinguish between everyday names and scientific classifications of animals. The Carl Linnaeus classification system is; kingdom, phylum, class, order, family, genius and species. The Carl Woese classification system is three domains, bacteria, archaea and eukaryotes. Students will know that organisms can be classified into groups according to similarities and differences at the cellular level to be eukaryotic to contain a nucleus with DNA, prokaryotic cells do not have a nucleus so the DNA is found in the cytoplasm and have a flagellum.*  | *Eukaryotes have membrane bound organelles (nucleus and mitochondria)**Prokaryotes have free floating DNA not held in a nucleus.* |  | ***Flagellum:*** *a hair-like appendage that protrudes from certain plant and animal sperm cells****Distinguish:*** *Recognise or treat someone as different****Domains:*** *the highest order of life classification* | *Retrieval questions**Simple exam questions**Homework quizzes* *End of topic assessment**Summative assessment 2* | *Knowledge organiser (provided on Teams and in class)*[*https://www.bbc.co.uk/bitesize/topics/zxhhvcw/articles/zdj3vwx*](https://www.bbc.co.uk/bitesize/topics/zxhhvcw/articles/zdj3vwx) |