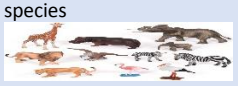
Everything Changes

What are the key biological facts that I need to know?

Scientific Fact 1	Scientific Fact 2	Scientific Fact 3	Scientific Fact 4	Scientific Fact 5	Scientific Fact 6
Adaptation is the evolutionary process where an organism becomes better suited to its habitat.	When people speak about adaptation, they often mean a 'feature' (a trait) which helps an animal or plant survive.	Adaptation occurs because the better-adapted animals are the most likely to survive, and to reproduce successfully.	This process is known as natural selection; it is the basic cause of evolutionary change.	Important adaptations do not come singly. They come in groups, which work together to make the animal or plant successful in its particular life-style.	Many adaptations serve more than one function. Man's large brain serves not only for language, but also for thinking and problem-solving.

Key Scientific Vocabulary - words that are related to the topic you are investigating and that must be used in your work

Word	Definition
adaptation 	The process of change by which an organism or species becomes better suited to its environment.
DNA 	Deoxyribonucleic acid; the main component of genetic carriers – chromosomes.
environment 	The habitat in which living organisms operate.
evolution 	The process by which different organisms are believed to have developed.
extinction 	A species that no longer has any living members.
fossils 	The remains or impression of prehistoric organisms embedded in rock and preserved.
inheritance 	Genetically derive characteristics from one's parents.
species 	A group of living organisms that share similar genes.

Sticky Knowledge- what we want you to know at the end of the unit
To know that our senses helps us explore the world around us.

To know how physical traits are passed on
- inheritance is when living organisms pass on their characteristics when they reproduce
- some physical traits that are passed on are hair and eye colour
- know that offspring are not identical to their parents

To know why plants are important in supporting life on earth
- plants absorb **carbon dioxide** and release **oxygen** from their leaves, which humans and other animals need to breathe
- plants help to clean water through the moisture (water) cycle: evaporation, condensation and precipitation

To know how animals survive in their habitats
- herbivores have broad, flat molars (back teeth) with rough surfaces, which are used for grinding up tough plant tissues
- carnivores have sharp back teeth to tear the flesh and swallow it whole
- omnivore have adaptations that allow them to consume both meat and vegetables

To know how environmental change leads to extinction
- main causes of extinction are: loss of habitat, pollution and over consumption
- when we change a habitat we can cause the extinction of a species

To know how fossils are formed
- after an animal dies, the soft parts of its body **decompose** leaving the hard skeleton
- the skeleton is buried by small particles of rock called **sediment**
- more sediment builds up and the skeleton begins to compact and turn to rock

To know how a new species forms
- happens when the offspring is very different from the parents
- could be due to geographical location
- could also be due to mutations

The scientific skills that you will be learning to use to answer the scientific questions

What is science?
Science is the exciting study of the nature and behaviour of natural things and the knowledge that we obtain about them. We ask questions that need answers. In order to answer these questions successfully, you will lean to use all these skills.

Grouping and classifying:
During this enquiry, you will learn to make observations and measurements to help you find similarities and differences.
How would you group small mammals?

Comparative and fair testing:
With this type of enquiry, you will learn what to explore and observe what happens when one variable is changed, another variable is measured, and other variables are controlled.
What is the most common eye colour?

Using secondary sources of information:
You will learn to develop your research enquiries help to develop your scientific literacy, since you will learn to compare and evaluate information from different sources.
What do different microorganisms do?

Identifying scientific evidence
Scientists ask questions that can be answered through scientific investigations. These questions must be testable questions, which are answered by collecting, and analysing evidence and developing explanations based on that evidence.
Is there a pattern between the size of a bird's beak and what it eats?