



# Big Question:

## How have humans changed over time?

### **Key Vocabulary:**

#### **Characteristic:**

Typical of a person, place or thing.

#### **Organism:**

An animal, plant or single-celled life form.

#### **Offspring:**

The children of a living thing

#### **Reproduce:**

Producing offspring

#### **Gene:**

Something that is passed down from a parent to their offspring and determines some characteristics of the offspring.

#### **Adaptation:**

The process of change by which an organism or species becomes better suited to its environment.

#### **Trait:**

A genetically determined characteristic.

#### **Evolve:**

Develop over generations as a result of natural selection.

#### **Fossil:**

The remains or impression of a prehistoric plant or animal embedded in rock and preserved in petrified form.

### **Knowledge from previous years that will help me answer the big question:**

#### **In Y2, we learned:**

- All living things live in a habitat to which they are suited and it must provide everything they need to survive.

#### **In Y3, we learned:**

- Fossils are formed over millions of years. Scientists can use fossils to find out what life was like on Earth in prehistoric times.

#### **In Y5, we learned:**

- Sexual reproduction involves two parents (one male and one female) and produces offspring that are different from the parents.

### **New knowledge that will help me answer the big question:**

- Animals and plants can be bred to produce offspring with specific and desired characteristics. This is called selective breeding.
- Breeding cows that produce lots of milk is one example of selective breeding.



- Breeding crops that are disease resistant is another example of selective breeding.

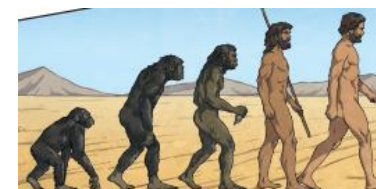


### **New knowledge that will help me answer the big question:**

- An adaptation is a physical or behavioural trait that allows a living thing to survive.
- Living things are adapted to survive in their habitat.

Living Things	Habitat	Adaptive Traits
polar bear	arctic	Its white fur enables it to camouflage in the snow.
camel	desert	It has wide feet to make it easier to walk in the sand.
cactus	desert	It stores water in its stem.
toucan	rainforest	Its narrow tongue allows it to eat small fruit and insects.

- Natural selection is the process where living things that are better adapted to their environment tend to survive and produce more offspring. They pass on their genes to subsequent generations.
- Evolution is adaptation over a very long time.



- Giraffes have gradually evolved through natural selection to have longer necks so that they can reach the top leaves of taller trees.
- Fossils let scientists know how plants and animals used to look millions of years ago. This is proof that living things have evolved over time.

<b>As a scientist, by the end of our topic, I will know that:</b>	<b>Date</b>
Animals that sexually reproduce generate new offspring of the same kind by combining the genetic material of two individuals. Each offspring inherits two of every gene, one from the female parent and one from the male parent.	
An adaptation is a physical or behavioural trait that allows a living thing to survive and fill an ecological niche. Adaptations evolve by natural selection. Favourable traits help an organism survive and pass on their genes to subsequent generations.	
Scientists compare fossilised remains from the past to living species that exist today to hypothesise how living things have evolved over time. Humans and apes share a common ancestry and evidence for this comes from fossil discoveries and genetic comparison.	
Animals and plants can be bred to produce offspring with specific and desired characteristics. This is called selective breeding. Examples include cows that produce large quantities of milk or crops that are disease-resistant.	