**L.O. To understand how humans have evolved over time, and how human behaviour can affect change in species over time.**

First read through the slides **Evolution and Inheritance Slide 6**. Then read the extra information below.

Additional information on selective breeding

Humans can change the characteristics of different species of plants and animals by selective pollinating and breeding. Selective breeding is when humans choose which characteristics are important. For example humans choose two animals that show specific characteristics, they then breed the animals to create offspring. Humans again choose the best offspring and repeat the process again until they have the offspring with the correct characteristics. This can take many generations of breeding. All dogs have a common ancestor, the wolf and so dogs are examples of selective breeding.

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Human evolution

How many candles were on your last birthday cake? If you were going to bake a cake to celebrate the birthday of modern humans, you would need 200,000 candles! Modern humans, like you and me, have been walking the Earth for 200,000 years, but our ancestors were around for millions of years before that. Our ancestors were similar to us but not quite the same. We are the result of **human evolution**, the process of change by which modern humans (you and me) evolved from our early human ancestors over the past 6 million years.

Apes and Humans

So who were our ancestors? You may have heard that humans are related to apes, and that is true. Humans and chimpanzees, a type of ape, have very similar genes. In fact, humans and chimps share 98.5% of their genes.

However humans didn't evolve from apes. Rather, humans and apes share a common ancestor that scientists think lived in Africa about 8 million years ago. Scientists have not yet discovered fossils of this common ancestor, so some people call it the missing link. But they do know that two different species, or types of organisms, evolved from this common ancestor: apes and **hominids**, the general name for all early human ancestors.

Our Ancestors

There were several species that came before humans as we are today. They can be divided into three main groups: Australopithecines, *Homos*, and *Homo sapiens*.

Evidence of human evolution

Last week we looked at how fossils have helped us to understand how life on Earth has developed. The places where fossils are found have added to our understanding. Layers of rock were formed at different times and we can work out how old each layer is. We can judge when the different human ancestors lived on Earth because they are the same age as the layer they were found in, even when they have been found in different parts of the world. Over the course of the last century many fossils have been found that demonstrate the evolution of humans (homo sapiens), however there are still gaps in our understanding due to the lack of evidence.

Initially, fossils were compared to the human skeleton to indicate the degree of similarity or difference. However, modern scientists have been able to map DNA in great detail and this gives them another way to compare how closely related we are to different living things.

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Please add this L.O. and date to all your pieces of work.

**Task 1**

Using the **Human Evolution Sorting Activity** sheet, read the descriptions and then match them to the pictures, place the matched picture and description in order from the oldest fossil record to modern day. I will give you a clue to help you get started, the oldest fossil record is Australopithecus Afarensis. I have included the answers to the timeline order so try not to look until the end.

**Task 2**

I would like you to create a poster to demonstrate the ways in which human behaviour can cause changes in the characteristics of plants and animals. In your poster, show different arguments on how these changes can be helpful and harmful. For example discuss how selective breeding can be helpful in creating new species that are useful to humans such as larger chickens or disease resistant wheat. Alternatively from a negative view, discuss how hunting and deforestation can change a species or even make them extinct. Use the information from the **Evolution and Inheritance Slide 6** and I have included some video links that you may find useful, please also complete your own research. You can present your poster on paper or create it on the computer using a package that you are confident with.

BBC Teach Science KS1/KS2: What is selective breeding?[**https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-what-is-selective-breeding/z6cs382**](https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-what-is-selective-breeding/z6cs382)

Six animals you didn't know are at risk [**https://www.bbc.co.uk/bitesize/articles/zkxjnrd**](https://www.bbc.co.uk/bitesize/articles/zkxjnrd)

Science KS1 / KS2: The impact deforestation has on plants and nature [**https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-the-impact-deforestation-has-on-plants/zd34hbk**](https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-the-impact-deforestation-has-on-plants/zd34hbk)