Fossils

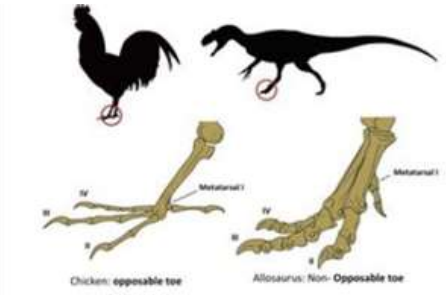
Something to get you thinking…

What's the same and what is different?

The three images are an Archaeopteryx, a Tyrannosaurus, and a chicken.

All of these are examples of Therapods, of which birds are the only living descendants. Scientists believe Therapods have **evolved** over 200 million years **in order to survive** harsh climates, food shortages, escape from predators, mass extinction and competition for mates and food to become modern day birds.

We don't have a time lapse camera to track how Theropods changed over time. Instead, scientists and palaeontologists use evidence from **fossils** and **DNA**. Advances in technology have allowed scientists to discover that hidden within the DNA of modern chickens are the instructions that date back to the time of the dinosaurs.



This has enabled them to fill in the gaps which cannot be explained by fossilised remains and gain greater understanding of how dinosaurs have evolved (changed over time).

Fossil evidence has shown that Therapods had feathers, laid eggs and may have been warm blooded. Fossils have also been able to demonstrate many of the stages of evolution of dinosaurs into birds. When proteins isolated from a T-Rex were compared with modern day creatures, its closest relative was found to be a chicken!

Who came first…the chicken or the dinosaur?!

Watch the following film clip to understand more about how fossils can tell us more about evolution: https://www.nhm.ac.uk/discover/why-are-birds-the-only-surviving-dinosaurs.html.

Follow this up by watching this short BBC clip to check your understanding of what fossils tell us - https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z22g7p3

Alternatively, the Oak National Academy has lessons on this which you can access from here: https://www.thenational.academy/year-6/foundation/how-do-fossils-provide-evidence-for-evolution-year-6-wk2-3#slide-1

And further information about identifying animals that were around in each era from their fossils here: https://www.thenational.academy/year-6/foundation/which-organisms-lived-during-each-era-of-time-year-6-wk4-3

SUPER IMPORTANT STUFF!

From the fossils and creatures that he saw, Darwin developed with his theory of Evolution – that organisms – like man – change gradually over time, in response to the demands of their environment, and thus, all species have developed from earlier forms of life on earth.

Modern Fossil Formation

Try **coding** your own fossil animation to show how a fossil is formed.

Access **Scratch** (computer programming software) online (you don't need to sign up for an account – just access for free).

Launch it from here: https://scratch.mit.edu/

Go to CREATE at the top of the screen. A blank project will launch. From our class web page, SAVE the Dinosaur Fossil animation on your computer. Back in Scratch, go to FILE and LOAD the animation project that you just saved to your computer. Use the help sheets on our class web page to guide you through the process of turning the dinosaur on screen into a fossil.