**L.O. To recognise that living things have changed over time and that a number of factors can affect a species’ evolution.**

Today we are going to look at how and why species change over time. I have attached the **Evolution and Inheritance lesson 5 slide presentation** that we would use in class. You will need to read through the information and try to think about the answers to the questions on the slides before moving onto the next page.

These are the key points from the slide presentation (use the glossary below if you do not understand the meaning of some of these words).

1. Many **characteristics** are **inherited** from one parent or the other, and the same from one **generation** to the next. The dominant (main) characteristics are more likely to be inherited e.g. brown eyes.
2. Some **variations** are cause by **genetic** information from a parent being inherited by the offspring but many variations that happen from one generation to the next are **random.** These random variations are caused by something called **mutations**. Mutations happen naturally in all living things. Most of the time mutations are unnoticeable but sometimes they create a variation that is either an advantage or a disadvantage. For example, tongue rolling is a mutation, it is neither an advantage or a disadvantage.
3. There are a lot of factors other than inherited characteristics and mutations that can effect how species evolve e.g. a sudden change to a species’ environment over time.
4. Fossils provide the main evidence to show that living things have changed over time, **evolved**. Scientists have noticed similarities between fossilised remains of animals and plants that have become extinct millions of years ago and those that are alive today.

We are now going to focus our work on fossils, these ancient remains provide evidence of evolution.

If you can (with permission) watch the following videos:

BBC Bitesize How fossils are made <https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z2ym2p3>

What can we learn from fossils?

<https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z22g7p3>

<https://www.youtube.com/watch?v=3rkGu0BItKM>

**Task**

Read through **‘The Fossil Record’ information sheet**. Then answer the questions on the mind map using the information sheet. Remember to record full sentences using the correct vocabulary. I know some of you have an interest in fossils so please include any of your own research or photos of any fossils that you have collected.

**Key words and definitions**

**Adaptation** - How living things are specialised to suit their environment.

**Characteristic** – The special quality or trait that makes a living thing different from others.

**Evolution** - The process by which living things can gradually change over time.

**Fossil –** The preserved remains of plants and animals from more than ten thousand years ago.

**Generation** - Born and living at the same time.

**Gene** - A gene is a section of DNA that is responsible for a characteristic like eye colour or blood group

**Inheritance** - This is the name for the passing of *traits*, or *characteristics* from parents to offspring.

**Mutation** – A change in genetic material of a living organism.

**Random** – Made without aim, reason or pattern.

**Species** - A group of living things with very similar characteristics. They can breed together to make more living things of the same type.

**Variation** – This occurs in a species from generation to generation. Although an offspring will have some similar characteristics to its parents, it will also have many different characteristics. This is called variation.