

# VOCABULARY

**Adaptation:** any change in the structure or behaviour of a species which helps it to become better fitted to survive and reproduce in its environment.

**Ancestors:** a person from who one is descended.

**Chromosomes:** DNA molecules that contain the set of instructions required to build and maintain cells

**Endangered:** species at risk of extinction because of human activity and other changes such as environmental changes

**Evolution:** change in the gene pool of a population from generation to generation by such processes as mutation, natural selection, and genetic drift

**Extinct:** no longer in existence; that has ended or died out

**Fossils:** any remains, impression, or trace of a living thing of a former geologic age, as a skeleton or footprint

**Genes:** a portion of a DNA molecule that control the characteristics that an offspring will have

**Inheritance:** the genetic characters transmitted from parent to offspring

**Natural selection:** the process by which forms of life having traits that better enable them to adapt to specific environmental pressures

**Offspring:** a descendent from ancestors

# SCIENCE KNOWLEDGE MAT

## Evolution & Inheritance

### MAIN IDEA

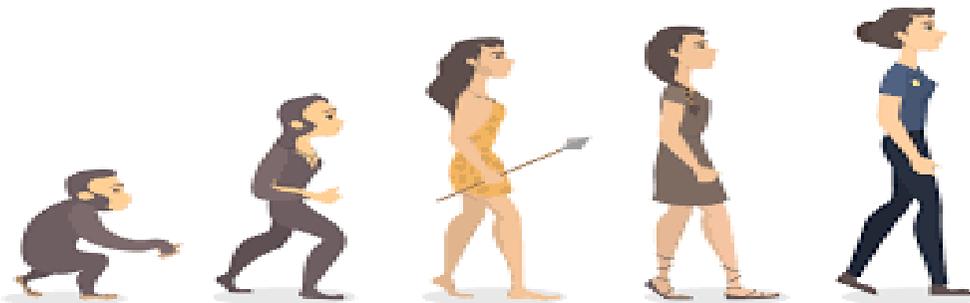
Building on what they learned about fossils in the topic on rocks in year 3, pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles.

### WHAT CAME BEFORE

Year 3: fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter and tell us about plants and animals of the past.

### WHAT COMES NEXT

KS3 Biology: Structure and function of living organisms, Cells and organisation, Skeletal and muscular systems, Nutrition and digestion, Gas exchange systems, Reproduction and Health



### WHAT YOU SHOULD ALREADY KNOW

There are variations in animals and plants, even within the same species. The features of these living things help them to survive in varying conditions and protect against predators as well as help them in catching their prey. Fossils inform us as to how animals and plants have changed over time.

# KEY LEARNING

Pupils will learn about how humans and animals have adapted over time to their environment in order to survive. They will learn that variation in offspring over time can make animals more or less able to survive in particular environments. Pupils will explore the work of palaeontologists such as Mary Anning, and discover how Charles Darwin and Alfred Wallace developed their ideas on evolution. Pupils might work scientifically by: observing and raising questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels.

## INVESTIGATE / QUESTIONS

Explore the work of Mary Anning, prominent palaeontologist. What did she discover, and how is still significant today?

Think about the animals that live in different environments, such as the Artic or the Sahara Desert. How have they adapted in order to optimise their survival in the harsh conditions?

Research some fossils of the same species of plant or animal. How do you think they have adapted over time? Why?