



Knowledge and Skills Mind Map (Science)

Year 6 Spring Term

Knowledge -



High
Performance
Learning
World Class School

Evolution and Inheritance

1. Can I recognise that living things have changed over time and explain what fossils tell us about the past?

- **Prior Learning—Year 3 Summer (Rocks):** learnt how fossils form
- **Vocab:** Evolution, Inheritance, fossil, (scientific) evidence,
- Know that living things have changed over time and that species today are different from those that lived in the past.
- Know that fossils provide evidence of living things that lived millions of years ago.
- Know that fossils can be used to identify similarities and differences between past and present living things.
- Know that evidence from fossils helps scientists understand how living things have changed over time.

(note for teachers – suggested task: provide images of fossils and modern-day animals. Ask children to compare them, identifying similarities and differences, then discuss what fossils tell us about how living things have changed over time.)

- **Identifying scientific evidence that has been used to support or refute ideas or arguments**

2. Can I explain how offspring inherit characteristics and why they are not identical to parents?

- **Prior Learning:** Looked at fossils to understand how living things changed
- **Vocab:** offspring, inherit, characteristics, variation, identical
- Know that living things reproduce and produce offspring of the same kind.
- Know that offspring inherit characteristics from their parents, (e.g. eye colour, fur type, height).
- Know that offspring are not identical to their parents and show variation.
- Know that variation helps explain why individuals of the same species can be different.

(note for teachers – suggested task: use examples such as family features or different breeds of dogs (e.g. Labrador, poodle, labradoodle) and ask children to identify inherited characteristics and differences, then explain why offspring are similar but not identical.)

- **Identifying scientific evidence that has been used to support or refute ideas or arguments**

5. Can I use scientific evidence to explain how our understanding of evolution has developed over time?

- **Prior Learning:** Explained how adaptation can lead to evolution
 - **Vocab:** scientific evidence, evolution, fossil
 - Know that scientists use evidence such as fossils to understand how living things have changed over time.
 - Know that Mary Anning discovered important fossils that helped scientists understand prehistoric life.
 - Know that scientists such as Charles Darwin and Alfred Wallace developed ideas about evolution based on evidence from observations and research.
 - Know that scientific ideas develop over time as new evidence is discovered and interpreted.
- (note for teachers – suggested task:** provide information about Mary Anning's fossil discoveries and Darwin's observations. Ask children to explain (in writing) how this evidence helped develop scientific understanding of evolution)
- **Identifying scientific evidence that has been used to support or refute ideas or arguments**
 - **Reporting and presenting findings from enquiries, including conclusions and explanations of causal relationships**

4. Can I explain how adaptation may lead to evolution using evidence?

- **Prior Learning:** identified how animals and planet adapt to suit their environment
 - **Vocab:** adaptation, evolution, scientific evidence
 - Know that individuals within a species show variation and some of these variations may help them survive better in their environment.
 - Know animals and plants with helpful adaptations are more likely to survive and reproduce.
 - Know that over many generations, these advantageous adaptations become more common, leading to changes in the species.
 - Know that this process is called evolution and is supported by scientific evidence.
- (note for teachers – suggested task:** use examples e.g. giraffe's neck or Arctic fox's fur. Ask children to explain how specific adaptations improve survival. Discuss how these changes could become more common over time. Children explain using evidence and reasoning.)
- **Identifying scientific evidence that has been used to support or refute ideas or arguments**
 - **Reporting and presenting findings from enquiries, including conclusions and explanations of causal relationship**

3. Can I identify how animals and plants are adapted to suit their environment?

- **Prior Learning:** explained how offspring inherit characteristics and why they are not identical to parents
- **Vocab:** adaptation, environment, survival, observations
- Know that adaptation is when a living thing has features that help it survive in its environment.
- Know that different animals and plants are adapted in different ways depending on where they live, (e.g. camels have humps for desert survival, penguins have thick feathers for cold environments).
- Know that adaptations can be physical (body features) or behavioural (ways of acting).
- Know that evidence from observations helps us identify how a living thing is suited to its environment.

(note for teachers – suggested task: provide images of animals and plants from different environments (e.g. desert, rainforest, Arctic) and ask children to identify specific adaptations (e.g. cactus storing water, polar bear thick fur), then explain how these help survival using evidence.)

- **Identifying scientific evidence that has been used to support or refute ideas or arguments**