BIOLOGY
YEAR 5 and 6: SUMMER 1
What is evolution and inheritance?

COVERAGE: What is evolution and inheritance?

Pupils who are secure will be able to:

- Define and identify variation in organisms and recall that it is caused by inherited and environmental factors.
- Recall that living things produce offspring of the same kind but are not normally identical to their parents.
- Describe patterns of inheritance from parent to offspring in a given example or family tree.
- Describe what an adaptation is; it cannot be chosen and is usually inherited.
- Describe key characteristics that would help an organism to survive and explain how an adaptation helps the organism to survive.
- Explain how variation may affect survival within a population and recall what natural selection means.
- Recall what evolution is, identify differences between a living thing and its ancestor and describe key steps in the evolution of a species.
- Recall different types of evidence that can be used to explain evolution and describe methods that make scientists' results or conclusions more trustworthy.

When working scientifically, pupils who are secure will be able to:

- Sort variation as environmental, inherited or a mixture of both.
- Evaluate a method by recalling variables that were effectively kept the same and those that were harder to control.
- Comment on the reliability of the results and the degree of trust.
- Consider how evidence is used to form theories and the degree of trust the evidence offers.

KEY LANGUAGE AND VOCABULARY:

adaptation

anomaly

competition

control variable (LKS2)

environment

environmental

evaluate

evidence

evolution

extinct

fossil

gene

inherit

inheritance

mean average

model

natural selection

parent

population

reliable

selective breeding

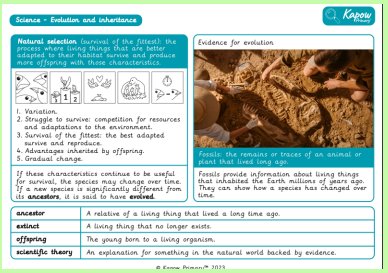
survival of the fittest

theory

variable (LKS2)

variation

KNOWLEDGE AND FACT SHEET



KEY QUESTION

1. **What are species and how can you have differences between them?**
2. **How do plants and animals inherit characteristics?**
3. **What is adaption and how does it work?**
4. **How does natural selection alter populations?**
5. **Can you explain the theory of evolution?**
6. **What evidence have you got about evolution?**

KEY SKILLS AND KNOWLEDGE

<u>Knowledge</u>

- Living things have changed over time.
- Fossils provide information about living things that inhabited the Earth millions of years ago.
- Characteristics are passed from parents to their offspring but all offspring vary from their parents.
- Over time, variation in offspring can affect animals' chances of survival in particular environments.

- Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution.

Science in action

- Famous scientists throughout history.
- A range of jobs and careers use scientific knowledge and methods.
- The work of modern-day scientists.
- There are spiritual, moral, social and cultural links with science.
- Methods and equipment used by scientists throughout history and how these have led to modern methods.
- Scientific knowledge has changed over time, leading to the current understanding of science.
- Collaboration and peer reviewing are essential for effective scientific progress.
- Scientific evidence is used to support or refute ideas or arguments.

Skills

Posing questions

- Raising questions throughout the enquiry process. Selecting the most appropriate enquiry method to answer questions and give justification.

Planning

- Suggesting which variables will be changed, measured and controlled.

Observing

- Using senses to describe, in detail and with a broader range of scientific vocabulary, what is noticed or what has changed.

Recording

- Using tables with columns that allow for repeat readings. Calculating the mean average.

Grouping and classifying

- Grouping in a broader range of contexts.
- Analysing and drawing conclusions
- Suggesting with increasing independence how one variable may have affected another.
- Quoting relevant data as evidence of relationships.
- Identifying anomalies in repeat data and excluding results where appropriate.
- Comparing individual, class and/or model data to the prediction and recognising when they do not match.

Evaluating

- Identifying steps in the method that need changing and suggesting improvements.

- Identifying which variables were difficult to control and suggesting how to control them better. - Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results).	
ENRICHMENT: ● **Visit to Oxford for Natural History Museum**	**Previous Learning:** **The children will have looked at the how you can change the properties of materials.** **Future Learning:** **The children in Year 5 will be looking at Light and Reflection.**
School Drivers to Examine **Children will look at:** - **Culture and Diversity = how has evolution and inheritance led to the society we have now?**	