PENTECOST TERM 1
SCIENCE – Year 6 - Medium Term Planning – BIOLOGY: EVOLUTION AND INHERITANCE

LESSON 1	LESSON 2	LESSON 3
LEARNING INTENTION: To know that fossils provide information about living things that inhabited the Earth millions of years ago. (Y3 recap). **Disciplinary knowledge:** • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • Identify scientific evidence that has been used to support or refute ideas or arguments. **Aim:** Develop scientific knowledge and conceptual understanding through the specific disciplines of biology.	**LEARNING INTENTION:** To know that evolution is the way that living things change over time. **Disciplinary knowledge:** • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • Identify scientific evidence that has been used to support or refute ideas or arguments. **Aim:** Develop scientific knowledge and conceptual understanding through the specific disciplines of biology.	**LEARNING INTENTION:** To know that evolution relies on passing on a material called DNA from one generation to the next, known as inheritance. **Disciplinary knowledge:** • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. **Aim:** Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
Key Vocabulary: **species, fossil,** ancestor, **preserve, remains**, traces	**Key Vocabulary:** **evolution,** life form, **evolutionary tree,** DNA evidence, descended, **common ancestor**	**Key Vocabulary:** **inheritance, DNA**, common ancestor, gene, **genetic, sexual reproduction**, inherited, **characteristic,** variation, continuous, discontinuous
Recap & retrieval	**Recap & retrieval**	**Recap & retrieval**

	• Fossils are the remains or traces of once-living things preserved as rock and are over 10,000 years old.	• Fossils are the remains or traces of once-living things preserved as rock and are over 10,000 years old. • All life on Earth has evolved from simple life forms to more complex ones over time. • All life on Earth has common ancestors and is therefore related.
Key Knowledge: **Child:** • Fossils are the remains or traces of once-living things preserved as rock and are over 10,000 years old. • The fossil record is incomplete because soft-bodied animals decayed too quickly to be fossilised. • Some fossils are still buried in the ground. **Teacher:** • Scientists compare fossilised remains from the past to living species that exist today to hypothesise how living things have evolved over time. • Humans and apes share a common ancestry and evidence for this comes from fossil discoveries and genetic comparison.	**Key Knowledge:** **Child:** • All life on Earth has evolved from simple life forms to more complex ones over time. • All life on Earth has common ancestors and is therefore related. • Living things with characteristics most suited to their environment are more likely to survive and reproduce. **Teacher:** • The theory of evolution was developed in the 19th century by the naturalists Charles Darwin and Alfred Russel Wallace. • The fossil record and the DNA of living and extinct things provide evidence of evolution. • An evolutionary tree diagram shows the hypothetical evolutionary relationship between different living things over time.	**Key Knowledge:** **Child:** • Inheritance is when living things pass on characteristics following sexual reproduction, such as height, skin colour and eye colour. • Animals that sexually reproduce generate new offspring of the same kind by combining the genetic material of two individuals. • Each offspring inherits two of every gene, one from the female parent and one from the male parent. **Teacher:** • Variation is the natural differences in characteristics between individuals of the same species. • There are two types of variation: continuous and discontinuous variation. • Continuous variation contains a range of values, such as the height or mass of different individuals of the same species. • Discontinuous variation has a certain number of outcomes, such as eye colour and blood groups.

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LESSON 4	**LESSON 5**	**LESSON 6**
LEARNING INTENTION: To know that natural selection is the process through which populations of living organisms adapt and change. **Disciplinary knowledge:** • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. **Aim:** Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.	**LEARNING INTENTION:** To know that an adaptation is a physical or behavioural trait that allows a living thing to survive and fill an ecological niche. **Disciplinary knowledge:** • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Aim:** Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.	**LEARNING INTENTION:** To know that artificial selection is when people (instead of nature) select which organisms they get to reproduce. **Disciplinary knowledge:** • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • Identify scientific evidence that has been used to support or refute ideas or arguments. **Aim:** Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
Key Vocabulary: **natural selection, negative, positive characteristic, evolution,** process, species, generation	**Key Vocabulary:** **adaptation**, physical, **behavioural, structural, chemical,** characteristic	**Key Vocabulary:** **desirable, characteristic, selection,** undesirable**, selective, breeding, artificial,** controversial
Recap & retrieval	**Recap & retrieval**	**Recap & retrieval**

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Key Knowledge: **Child:** • Natural selection is the process behind the theory of evolution. • Natural selection is also known as 'survival of the fittest'. **Teacher:** • Natural variation within a species may confer a positive, negative or negligible effect on the animal's ability to survive. • If the variation has a positive effect, that individual is more likely to survive and pass the positive attribute to subsequent generations. • Individuals with a negative characteristic are less likely to survive and reproduce.	**Key Knowledge:** **Child:** • Adaptations evolve by natural selection. • There are three different types of plant adaptations: structural, behavioural and chemical. **Teacher:** • Favourable traits help an organism survive and pass on their genes to subsequent generations. • Structural adaptations include modified leaves, roots and trunks. • Behavioural adaptations include movement towards the Sun and regulated growth. • Chemical adaptations include the presence of stings and poisons.	**Key Knowledge:** **Child:** • Artificial selection is also called 'selective breeding' because humans select the desirable characteristics they want the offspring to have. **Teacher:** • Animals and plants can be bred to produce offspring with specific and desired characteristics. • This is called selective breeding. • Examples include cows that produce large quantities of milk or crops that are disease-resistant.
Assessment Cumulative quiz. Retrieval practice.		