



**Class: Natterers
Cycle A1
Terms 5 and 6**

**Title: What does it mean to be human? Evolution and Inheritance
Main subject focus: Science**

Learning Theme Big Question: What does it mean to be human? Evolution and inheritance

Why is this so important?

Pupils should be able to:

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans
- describe the changes as humans develop to old age

Other questions worth asking:

Who is Charles Darwin and why is he important?

Who was Alfred Wallace? Did Wallace have the same ideas as Darwin?

What did Darwin study on the Galapagos Islands?

Why was Darwin's study about the finches on the Islands important?

How does inheritance of characteristics work?

What is variation?

Why do some species adapt to their environment and how?

What does 'survival of the fittest' mean?

What does the story of the peppered moth tell us about evolution?

What do fossils tell us about living things millions of years ago?

What is the function of our blood and our circulatory system?

How does the heart work?

Why is diet and exercise important to our health?

How do nutrients and water travel around our body?

What are the changes as humans develop from newborn babies to old age?



What do we want the children to know? (Knowledge)

- the life and work of Charles Darwin
- the theory of evolution (Origin of Species)
- inheritance and variation of characteristics by offspring
- adaptation of animals to their environment
- survival of the fittest
- the life and work of Mary Anning
- the use of fossils as evidence
- human circulatory system – functions of the heart and blood vessels
- understand the impact of diet, healthy eating, exercise drugs and lifestyle on the way our bodies function
- how nutrients and water are transported within animals (including humans)
- describe the changes as humans develop to old age

What will be your real life project?

Build a model of the components of blood. Model the circulatory system.

Trips and visits: N/A due to Covid restrictions at the moment

Key vocab: evolution (theory of), inheritance, fossils, rocks, evidence, genetics, adaptation, environment, habitat, characteristics, variation, offspring, survival, natural selection, extinction, palaeontologist, circulatory system, function, blood vessels, heart, blood, diet, exercise, drugs, lifestyle, nutrients, puberty, growth and development

Key knowledge (from NC)	Key knowledge and vocabulary (in bold)	Key skills progression
<p><u>As scientists we will:</u> <u>Main topic:</u></p> <ul style="list-style-type: none"> • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in 	<p><u>Main topic:</u></p> <ul style="list-style-type: none"> • the life and work of Charles Darwin and Alfred Wallace • the theory of evolution/Origin of Species • inheritance and variation of characteristics by offspring • adaptation of animals to their environment • survival of the fittest • natural selection (e.g. peppered moths) • the life and work of Mary Anning • the use of fossils as evidence for evolution 	<p><u>Main topic:</u></p> <p>Darwin Detectives – compile information about his life and important works</p> <p>Darwin and Wallace’s ideas about evolution</p> <p>Study inheritance and variation (using own family to illustrate the differing characteristics) link with art lesson</p> <p>Discuss difference between inherited and environmental characteristics</p> <p>Look at characteristics and their advantages and disadvantages – variation; survival of the fittest; extinction; adaptation</p>



<p>different ways and that adaptation may lead to evolution</p> <p>Topics 2: Animals, including humans:</p> <ul style="list-style-type: none">• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function• describe the ways in which nutrients and water are transported within animals, including humans <p>Topic 3:</p> <ul style="list-style-type: none">• describe the changes as humans develop to old age	<p>Topic 2:</p> <ul style="list-style-type: none">• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood• understand the impact of diet, healthy eating, exercise drugs and lifestyle on the way our bodies function• how nutrients and water are transported within animals (including humans) <p>Topic 3:</p> <ul style="list-style-type: none">• describe the changes as humans develop to old age	<p>Study adaptations animals have made to help them survive in their habitat (sharp claws; camouflage; thick fur; streamlined bodies; neck length in giraffes; polar bears etc) Human evolution (Natural History Museum)</p> <p>Topic 2:</p> <ol style="list-style-type: none">1. Build on their learning from years 3 and 4 about the main body parts and internal organs (skeletal, muscular and digestive system) to explore and answer questions that help them to understand how the circulatory system enables the body to function.2. Learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body (links to PSHE)3. Work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health. <p>Topic 3:</p> <ol style="list-style-type: none">1. Draw a timeline to indicate stages in the growth and development of humans.2. Learn about the changes experienced in puberty (links with PSHE)3. Work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.
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<p><u>As geographers we will:</u></p> <ul style="list-style-type: none"> • Study the Galapagos Islands and look at the route Darwin took to get there in 1835 • Study rocks and fossils in particular the Jurassic coastline in Dorset • Study fossils and how they provide evidence of evolution 	<ul style="list-style-type: none"> • Study the Galapagos Islands (volcanic archipelago in Pacific Ocean, Ecuador) • Look at the route Darwin took to get there in 1835 • Study rocks and fossils in particular the Jurassic coastline and Mary Anning's story • Study fossils and learn how they provide evidence of evolution 	<ul style="list-style-type: none"> • use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied • locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
<p><u>As artists and designers we will:</u> Be using different techniques to create art inspired by evolution and inheritance. Including self-portraits and animal and plant sketches and paintings.</p>	<p><u>Art</u> Inheritance art – self-portraits using half and half family member and child's face Evolution artwork – based on evolution of man and one other species such as the horse. Darwin's finches in the style of Georgia O'Keefe Galapagos islands landscapes in the style of Monet Botanical sketches and sketches of animals</p> <p><u>DT</u> Animal/bird sculptures Fossil 'making' and/or printing</p>	<p>Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.</p> <p>Pupils should be taught:</p> <ul style="list-style-type: none"> • to create sketch books to record their observations and use them to review and revisit ideas • to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] • about great artists, architects and designers in history
<p><u>As a theologian we will:</u> How do we make moral choices? AMV KS2 Unit 6</p>	<ul style="list-style-type: none"> • describe what a Hindu believer might learn from thinking about the Hindu Deities and beliefs about the Navratri festival. • link things that are important to them, e.g. the role of mothers, and Hindus, e.g. the role of the Divine Mother, with the way they think and behave towards mothers and also towards those with less power than them. 	<ul style="list-style-type: none"> • developing and encouraging pupils to consider relevant moral issues in their own lives and possible consequences of certain actions. • explore Hindu and Christian codes of behaviour and compare and contrast, then make this relevant to their own experiences.



<p><u>As historians we will:</u> develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources. a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066</p>	<p>Learn about the life and works of Charles Darwin. His Theory of Evolution and work on inheritance. Darwin's study of the Galapagos islands</p> <p>Study the life and works of Mary Anning (palaeontologist)</p>	<ul style="list-style-type: none"> • develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. • construct informed responses that involve thoughtful selection and organisation of relevant historical information. • understand how our knowledge of the past is constructed from a range of sources. • a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066
<p><u>As information technologists we will:</u> 1. Be digital musicians and will create a piece of digital music. 2. Be bloggers and will create a blog for an historical person.</p>	<p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Understand computer networks, including the internet; ... and the opportunities they offer for communication and collaboration. Be discerning in evaluating digital content. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour Identify a range of ways to report concerns about content and contact.... be discerning in evaluating digital content.</p>	<ul style="list-style-type: none"> • use one or more programs to edit music • create and develop a musical composition, refining their ideas through reflection and discussion • develop collaboration skills • develop an awareness of how their composition can enhance work in other media. • become familiar with blogs as a medium and a genre of writing • create a sequence of blog posts on a theme incorporate additional media • comment on the posts of others • develop a critical, reflective view of a range of media, including text.
<p><u>As linguists we will:</u></p>	<ul style="list-style-type: none"> • making simple statements about activities and diet • expressing opinions about likes and dislikes • Give a simple description (of an animal) 	<ul style="list-style-type: none"> • listen attentively to spoken language and show understanding by joining in and responding



<p>be using Light Bulb Languages KS2 scheme Units 6,7,8,9,10,11, and 12</p>	<ul style="list-style-type: none"> • Making simple statements about movement • Give a simple description (of an animals and habitats) • Alphabet • Places in the locality • Journey to school • Directions • Celebrations • Lunch 	<ul style="list-style-type: none"> • explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words • engage in conversations; ask and answer questions; express opinions and respond to those of others; • speak in sentences, using familiar vocabulary, phrases and basic language structures • develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases • read carefully and show understanding of words, phrases and simple writing • appreciate stories, songs, poems and rhymes in the language • broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary • write phrases from memory, and adapt these to create new sentences, to express ideas clearly
<p><u>In PSHE we will:</u> Puzzle 4: Healthy Me (HM) linked to Science topic 2 Puzzle 5: Relationships (RL) Puzzle 6: Changing Me (CM) linked to science topic 3</p>	<ul style="list-style-type: none"> • See Jigsaw Scheme for details 	<ul style="list-style-type: none"> •
<p><u>In PE/Games we will:</u> Be focusing on striking and fielding and Athletics</p>	<ul style="list-style-type: none"> • develop the basic skills of sending, receiving, batting and bowling in different contexts. • Introduce the concepts of small-sided and simplified competitive striking/fielding games to develop the range and consistency of techniques when under pressure. 	<ul style="list-style-type: none"> • Will throw and catch accurately whilst on the move. • Will be able replicate an underarm bowling action towards a set target. • Will hit a ball accurately into space and anticipate opposition effectively.



	<ul style="list-style-type: none">• understand the effect of exercise and develop teamwork and cooperation skills.• accurately replicate skills in a range of challenges and competitions that require precision, speed and endurance.• develop the ability to throw, using a range of objects, over an increasing height and distance and with greater accuracy.• measure and record own and others' performances over time.• develop independence and resilience as part of character development	<ul style="list-style-type: none">• Will take part in conditioned games while understanding simple tactics relating to placement of an object in a set are.• Will accelerate and sustain speed for race duration.• Will complete jumping events with the use of speed/power.• Will throw objects further with the use of a run up, correct trajectory and timing of release.• Will offer advice to others on how to improve technique.
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