

KS3 Biology – Life Cycles, Growing and Reproduction.

Subject curriculum intent:	<p>To develop in our students:</p> <ul style="list-style-type: none"> • An enjoyment of Science by providing relevant, interesting and challenging experiences and activities. • Observational skills, by looking for patterns and contrasts. • An inquiring mind and a logical approach to problem solving. • The ability to draw conclusions from simple experiments and, where appropriate, to devise suitable experiments for further investigations. • Communication skills in speaking and listening, written, diagrammatic and symbolic forms. • Co-operation and a respect for others by being able to work as part of a team – the development of appropriate social skills. • Confidence in their own abilities. • A respect for the environment and a careful use of resources. • An interest in the world about them and a greater understanding of it. 		
End of KS3 intent/outcome	End of KS4 intent/outcome	End of KS5 intent/outcome	
Students will build on their knowledge of science through the different areas – biology chemistry and physics. Students will ‘work scientifically’ to achieve the goals of each topic area they encounter.	Students will continue to develop their scientific knowledge through the different areas – biology, chemistry and physics. Students will ‘work scientifically’ to achieve the goals of each topic area they encounter. Students will be able to relate their scientific experiences to everyday life and have an understanding that science is all around them.	N/A	
Intent for this topic:	Students will ‘work scientifically’ to achieve these goals, learning the key features of scientific enquiry; observing over time, pattern seeking, identifying, classifying, investigating (fair tests) and researching.		
Core vocabulary needed for this subject/topic:	<p><u>Subject:</u> Biology, Chemistry, Physics Observe, pattern, identifying, classifying, investigating, fair test, researching</p> <p><u>Topic:</u> Life cycle, changes, puberty, old age, adults, adolescent, child, babies</p>		

	Animal classes – birds, mammals, reptiles, amphibians, fish, insects.			
Vocabulary pupils will have accessed in other topics or subject areas:	Life cycle, changes, puberty, adults, babies Animal classes – birds, mammals, reptiles, amphibians, fish, insects.			
Key vocabulary taught within this topic:	Life cycle, changes, puberty, old age, adults, adolescent, child, babies Animal classes – birds, mammals, reptiles, amphibians, fish, insects.			
Prior knowledge: what pupils may already have studied				
Key stage	Subject	Topic title	Term/year taught	Content/What might pupils already know?
KS3	Science	Why are plants important?	Autumn 1/Year 3	Pupils may have learnt about the life cycle of a plant and have some understandings that a life cycle is the process of something growing.
KS3	Science	Living things and their Environment	Autumn 1/Year 1	Pupils will be aware of different animals and may be able to name their different animal classes – mammals, reptiles, amphibians, fish, birds, insects.
KS3	PSHCE	Relationship and Sex Education	Summer/Every year	Pupils may have some understanding of the stages of the human life cycle and how their bodies change during puberty.
Links to other subjects: PSHCE				
Equality, Diversity and Inclusion: Key Scientist – Alfred Russell Wallace (discovered the concept of evolution by natural selection and found new species of insects)				

	<u>OU P 5-6</u>	<u>OU P 7-8</u>	<u>OU Step 1</u>	<u>OU Step 2</u>	<u>OU Step 3</u>
<u>Subject specific knowledge</u>	Understands that animals change with age. Identify changes that happen to animals during life. Knows features of a human that change during a life	Begins to name stages of life cycles with prompting. Names 3 stages in the human life cycle (baby, child, adult). Can describe changes at each stage of the life cycle in humans.	Identifies 3 stages in the human life cycle (baby, child, adult). Names some things they can do that babies can't. Identify 2 changes their body makes during puberty according to their gender.	Describes how they have changed since they were born. Names some things they will be able to do as an adult. Can describe changes from baby to child.	Describe more than 3 stages e.g. newborn, toddler, teenager, middle-aged in the human life cycle. Describe changes at puberty. Describe changes at each stage of the human life cycle.

	<p>Knows 3 stages in the human life cycle (baby, child, adult).</p> <p>Understands the concept of age with some prompts.</p> <p>Understands that animals also have a life cycle.</p> <p>Can order the stages of 2 other animal life cycles e.g. a frog, a butterfly</p>	<p>Understands the concept of age.</p> <p>Understands that other animals have a life cycle.</p> <p>Can order the stages of 3 other animals life cycles e.g. frog, butterfly, bird</p> <p>Can sort animals into their animal classes e.g. bird, amphibian, insect, reptile, fish.</p>	<p>Describes changes that happen to animals during life.</p> <p>Give an approximate age of a person in a picture correctly (choices if needed)</p> <p>Can order the stage of animal life cycles from different animal classes e.g. bird, amphibian, insect, reptile, fish</p> <p>Knows the stages within a life cycle of at least one other animal e.g. bird or butterfly.</p>	<p>Describe changes at puberty for their gender.</p> <p>Give an approximate age of a person in a picture correctly.</p> <p>Can order the stage of animal life cycles from different animal classes e.g. bird, amphibian, insect, reptile, fish and can begin to explain the different stages.</p> <p>Knows the stages within a life cycle of at least 3 different animals.</p>	<p>Links age to part of a life cycle in humans.</p> <p>Can order the stage of animal life cycles from different animal classes e.g. bird, amphibian, insect, reptile, fish and explain the different stages.</p> <p>Knows the stages within a life cycle of at least 3 different animals.</p>
<p><u>Subject specific skills</u></p>	<p>Observes and handles "life cycle stages" (may be models or live examples) and begins to put them in order them.</p> <p>Matches obvious pairs of baby/adult animals e.g. cat, dog, hen with some staff help.</p> <p>Links features that would be common with certain ages e.g. nappy with baby, chick with nest.</p>	<p>Matches obvious pairs of baby/adult animals e.g. cat, dog, hen independently.</p> <p>Uses the pictures to record more fully e.g. puts all baby animals together.</p> <p>Begins to sequence a simple life cycle using pictures, with support.</p> <p>Names some stages of life cycle, without prompts.</p>	<p>Sequences photos of different age groups.</p> <p>Sorts objects by given criteria e.g. foods or drinks for different age groups,</p> <p>Sequence 5 stages i.e. birth, baby, child, adolescent, adult.</p> <p>Records development of an animal with pictures and simple descriptions.</p> <p>Sequences different animal life cycles.</p>	<p>Sequence 5 stages i.e. birth, baby, child, adolescent, adult.</p> <p>Records development of an animal with pictures and descriptions.</p> <p>Sequences life cycles for a range of known animals.</p> <p>Link age to a picture of a person.</p> <p>Sequences animal life cycles from different animal classes.</p>	<p>Sequence 10 stages i.e. fertilisation, development, birth, baby, toddler, child, teenager, young adult, middle age and old age.</p> <p>Match different 'stages' to a variety of 'ages'.</p> <p>Records development of an animal in a diary format by taking photos and writing descriptions.</p> <p>Sequences life cycles for an unknown animal using prior knowledge.</p>

	<p>Orders pictures of a 3 stage life cycle of humans (Baby, young adult, older adult)</p> <p>Orders pictures of different animal life cycles.</p> <p>Is able to follow a set of demonstrations to carry out a simple investigation.</p>	<p>Draws simple pictures of the animal as it develops and sticks them onto a chart drawn by the teacher.</p> <p>Orders pictures of a 4 stage life cycle of humans.</p> <p>Is able to make a prediction from a choice of 3 using symbols.</p> <p>Is able to follow a picture method to carry out a simple investigation.</p> <p>Is able to identify one thing that has changed when completing a fair test.</p> <p>Identifies the correct result in a table.</p>	<p>Match explanations to the stages of different animal life cycles.</p> <p>Is able to select an appropriate prediction from a given choice.</p> <p>Is able to follow a word and picture method to carry out a simple investigation.</p> <p>Is able to suggest what to change when completing a fair test.</p> <p>Is able to record results in a simple table.</p> <p>Analyses results in the form of tables, simple bar graphs and a brief descriptions using key words or sentence blanks.</p>	<p>Write changes for the different stages of different animal life cycles.</p> <p>Is able to make a prediction linked to their investigation.</p> <p>Is able to follow a written set of instructions to carry out a simple investigation.</p> <p>Is able to explain why their investigation included a fair test.</p> <p>Is able to record results in a suitable table.</p> <p>Is able to record results in the form of a simple bar graph.</p> <p>Analyses results in the form of tables, simple bar graphs and a brief description.</p>	<p>Sorts the changes that occur in boys and girls during puberty with staff prompts.</p> <p>Is able to make predictions.</p> <p>Is able to follow a written set of instructions to carry out a simple investigation.</p> <p>Is able to design an experiment to include a fair test.</p> <p>Is able to record results in a suitable table.</p> <p>Analyses results in the form of tables, simple bar graphs and a brief description.</p> <p>Is able to draw conclusions from their results.</p>
<p><u>Suggested Activities</u></p>	<ul style="list-style-type: none"> • Learn about the life cycle of a human. • Look at the changes for each stage of the human life cycle. • Look at changes to the body during puberty. • Look at what a human is able to do/eat at each stage of the human life cycle. • Look at clothing from each stage of the human life cycle. • Group baby animals, group adult animals. 				

	<ul style="list-style-type: none"> • Learn about different animal life cycles linked to animal classes – bird, amphibian (frog), insect (butterfly), reptile, fish, • Explain the different stage of each life cycle. • Create life cycle wheels.
<u>Possible Investigations/ Working Scientifically</u>	<ul style="list-style-type: none"> • Research different animals and their life cycles and what happens at each stage. • Observe the changes at each stage of different life cycles and describe what happens. • Classify animals into adults and babies. • Create investigations linked to the body. E.g. The taller you are the older you are, The taller you are the heavier you are - Look at height/weight charts.
<u>Personal development</u>	<p><u>Problem solving</u> Investigations and matching exercises</p> <p><u>Communication skills</u> Working as pairs in investigations, asking and answering questions</p> <p><u>Self-belief</u> Learning new skills, practising them and demonstrating them.</p> <p><u>Self-management</u> Working with new equipment</p> <p><u>Teamwork</u> Working as groups to solve problems or find out new information</p>
<u>Online resources</u>	
<p>Twinkl CLEAPPS for risk assessments BBC bitesize for video resources Youtube Resource folder on the school server</p>	
<u>Evidencing Work</u>	
All work / evidence sheets need to be printed off (where appropriate levelled in accordance with the rubric), students need to self-assess and work needs to be put in student folders.	

RRS Articles:

This unit of work is linked to Articles of the UN Convention on the Rights of the Child.

Article 13 (freedom of expression)

Article 24 (health and health services)

Article 29 (goals of education)