Science Progression
To understand animals and humans

Essential characteristics of scientists	•The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings. •Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations. •Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings. •High levels of originality, imagination or innovation in the application of skills. •The ability to undertake practical work in a variety of contexts, including fieldwork. •A passion for science and its application in past, present and future technologies.	
	Key knowledge	**Key vocabulary**
EYFS	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.	
Y1/2	**Y1 learning challenge - Why are humans not like tigers?** **Science Bug - Y1 Parts of animals** **Focus text links - Aaarrgghh! Spider! The Bog Baby Footprints In The Snow** • Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. • Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets). • Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.	• human • **Body parts** - hair, head, ears, eyebrows, eyes, nose, mouth, chin, neck, shoulder, chest, elbow, arm, wrist, hand, tummy, knee, leg, ankle and foot • **Senses** - touch, taste, smell, sight and hearing • **Animal groups** - invertebrates, fish, amphibians, reptiles, birds, mammals, pets • carnivore, herbivore, omnivore
Y1/2	**Y2 learning challenge - How will 5 a day help me to be healthy?** **Science Bug - Y2 Feeding and exercise (including humans)** • Notice that animals, including humans, have offspring which grow into adults.***(covered again in Y5/6 investigate living things)*** • Investigate and describe the basic needs of animals, including humans, for survival (water, food and air). • ***Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.***	• growth • offspring • survive - water, food, air, shelter • healthy • balanced diet • regular exercise • hygiene • pupa • baby, toddler, child, teenager, adult • fluids

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Y3/4	**Y3 learning challenge - How can Usain Bolt move so quickly?** **Science Bug - Y3 Movement and feeding** • ***Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.*** • ***things)*** • Identify that humans and some animals have skeletons and muscles for support, protection and movement.	• nutrition • **skeleton** - skull, clavicle, scapula, rib cage, humerus, spinal column, pelvis, ulna, radius, femur, tibia, fibula • **muscle** - deltoids, pectoralis major, bi-ceps, anterior forearms, obliques, rectus abdominals, liopsoas, quadriceps, adductors and dorsi flexors • trapezius, deltoids, latissimus dorsi, triceps, posterior fore-arms, lower back, gluteals, hamstrings and calves • soft tissue • contract
Y3/4	**Y4 learning challenge - What happens to the food we eat?** **Science Bug - Y4 Human nutrition** • Describe the simple functions of the basic parts of the digestive system in humans. • Identify the different types of teeth in humans and their simple functions. • Construct and interpret a variety of food chains, identifying producers, predators and prey.***(covered in Y1/2 living***	• digest, digestion • **parts of the digestive system** - mouth, tongue, pharynx, oesophagus, liver, stomach, gallbladder, pancreas, large intestine, small intestine • chewed, swallowed • **types of teeth** - incisors, canines, pre-molars, molars • consumer • producer
Y5/6	**Y5 learning challenge - How different will you be when you are as old as your grandparents?** **Science Bug - Y5 Life cycles (including changes in humans)** • Describe the changes as humans develop to old age.	• fertilised egg • foetus • old age • death • life expectancy • puberty • periods • testicles • sperm
Y5/6	**Y6 learning challenge - What would a journey through your body be like?** **Science Bug - Y6 Our bodies** • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • ***Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.*** • Describe the ways in which nutrients and water are transported within animals, including humans.	• circulatory system - heart, blood vessels, blood • oxygen • arteries, capillaries, veins • **health risks** - smoking, drugs, alcohol, obesity • addictive
KS3	• Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta.	

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	• The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. • The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. • The structure and functions of the gas exchange system in humans, including adaptations to function. • The mechanism of breathing to move air in and out of the lungs. • The impact of exercise, asthma and smoking on the human gas exchange system