

Science Progression in 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

Year Group	Key Skills	Key Vocabulary
EYFS	• Explore the natural world around them, making observations and drawing pictures of animals and plants • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	
Year 1/2	• 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
Year 1/2	• Notice that animals, including humans, have offspring which grow into adults • 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

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		• fluids
Year 3/4	• 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 • 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 forearms, lower back, gluteals, hamstrings and calves • soft tissue • contract
Year 3/4	• 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	• 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
Year 5/6	• Describe the changes as humans develop to old age	• fertilised egg • foetus • old age • death • life expectancy • puberty • periods • testicles • sperm
Year 5/6	• 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	• circulatory system - heart, blood vessels, blood • oxygen • arteries, capillaries, veins • health risks - smoking, drugs, alcohol, obesity • addictive

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	Describe the ways in which nutrients and water are transported within animals, including humans	
KS 3	- 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 - 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	