



## Biology Unit: Animals including humans

### What does progression of knowledge look like?

Year	Progression of knowledge..
1	<ul style="list-style-type: none"><li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li><li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</li><li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</li><li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</li></ul>
2	<ul style="list-style-type: none"><li>Notice that animals, including humans, have offspring which grow into adults</li><li>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li><li>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li></ul>
3	<ul style="list-style-type: none"><li>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</li><li>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</li></ul>
4	<ul style="list-style-type: none"><li>Describe the simple functions of the basic parts of the digestive system in humans</li><li>Identify the different types of teeth in humans and their simple functions</li><li>Construct and interpret a variety of food chains, identifying producers, predators and prey</li></ul>
5	<ul style="list-style-type: none"><li>Describe the changes as humans develop to old age</li><li>Describe the key stages in the growth and development of humans.</li><li>Recall some of the changes experienced in puberty.</li><li>Investigate the gestation periods of other animals in comparison to humans including the length and mass</li></ul>
6	<ul style="list-style-type: none"><li>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li><li>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li><li>Describe the ways in which nutrients and water are transported within animals, including humans</li></ul>
Key Stage 3 (7-9)	<p><b>Ecosystems</b></p> <ul style="list-style-type: none"><li>the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops</li><li>the importance of plant reproduction through insect pollination in human food security</li><li>how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.</li></ul> <p><b>Cells and Systems</b></p> <ul style="list-style-type: none"><li>Recall that cells are the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope</li><li>Describe the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts</li><li>Identify the similarities and differences between plant and animal cells</li><li>Explain the role of diffusion in the movement of materials in and between cells</li><li>Describe the structural adaptations of some unicellular organisms</li><li>Describe the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.</li></ul> <p><b>Muscles and bones</b></p> <ul style="list-style-type: none"><li>the structure and functions of the human skeleton, to include support, protection, movement and making blood cells</li><li>biomechanics – the interaction between skeleton and muscles, including the measurement of force exerted by different muscles</li><li>the function of muscles and examples of antagonistic muscles.</li></ul> <p><b>Food and nutrition</b></p> <ul style="list-style-type: none"><li>content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed</li><li>calculations of energy requirements in a healthy daily diet</li><li>the consequences of imbalances in the diet, including obesity, starvation and deficiency diseases</li><li>the tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes simply as biological catalysts)</li><li>the importance of bacteria in the human digestive system</li><li>the effects of recreational drugs (including substance misuse) on behaviour, health and life processes.</li></ul>