Year 1 Animals Including Humans

National Curriculum Objectives:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- 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 (fish, amphibians, reptiles, birds and mammals, including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.
Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.
Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

Killer Facts:

- There are many different types of animals.
- The different kind of animals have different characteristics.
- Carnivores eat meat, herbivores eat plants and omnivores eat plants and animals.
- Animals, including humans have senses to enable them to survive.

Prior EYFS Learning	What do animals need to survive?	How do we keep animals safe?	What do I know about myself?	Key Vocabulary
- To understand what it means to grow and change. - Understand the need to eat a healthy range of foods. - Understand the importance of physical exercise and hygiene. - Show care and concern for living things. - Talk about things that they have observed including animals and humans.	Mini-beast and local wildlife hunt in the school grounds and make observations about where they like to live and what they might need to survive. Set up a mini-beasts/woodlouse habitat within the classroom/outdoor area. Make predictions about where they prefer to live and observe over a number of days/weeks. Sort images of animals – legs/no legs. Underwater/on the land. Can they explain their choices?	Allow children to look at and discuss a range of birds, fish, amphibians, reptiles, mammals. Which would make good pets and which wouldn't – allowing children to discuss the reasons why. Can they create the idea pet and explain their choices? Show children images/videos of different animals hunting/being hunted. Discuss similarities and differences in the way they move. Link with PE/role-play. Make lists/posters of how to care for a pet.	Can children identify that humans are animals? Children keep a food log and compare this to what an animal would eat. Introducing vocabulary carnivore, herbivore and omnivore. Which of our senses is most accurate at identifying flavour of jelly. Make a range of flavoured jelly (ensuring the colour doesn't always match taste). Test each jelly with sight, touch, smell and finally taste. Make predictions as they go. Do we only get older on our birthdays? Do the taller people have bigger feet? Use photographs/measurements. Go on sensory walks, collecting different sounds Set up a stall with a range of colourful foods. How could the children sort them using all of their senses? E.g. by colour/ touch/ weight/ good or bad taste. Which parts of the body are best for feeling? Create a 'feely board' and use nose/embow/fingers/chin. Feely bags with lemon, lavender, sugar – can they explain how they know what is inside? What information do they gain from each sense? Label this on an image of the human body. Make sensory jars to stimulate all of the senses.	carnivore herbivore omnivore animal mammal bird fish amphibian reptile human sight hearing touch taste smell hands feet leg arm elbow feet head ear nose beak wings

In Year 2:

- notice that animals, including humans, have offspring which grow into adults
- find out about 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.

Year 2 Animals Including Humans

National Curriculum Objectives:

- notice that animals, including humans, have offspring which grow into adults
- find out about 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.

Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs.

Killer Facts:

- Animals reproduce to create new animals.
- Animals grow until maturity then they do not grow anymore.
- Animals need water food and air to survive.
- Animals need to move an exercise to survive.
- Humans need to eat the right things and exercise to keep healthy.
- Humans should keep themselves clean and hygienic in order to stay healthy.

Prior Year 1 Learning	Animal Lifecycles	Basic Survival	How do we stay healthy?	Key Vocabulary
- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals - 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 (fish, amphibians, reptiles, birds and mammals, including pets) - identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Match images of offspring with their parents. Make timelines of human life cycles, using images of babies, toddlers, children, teenagers, adults and the elderly. Do larger animals live longer? Give children a range of animals and their average lifespan. Plot these on a timeline from 0-100. Do they notice any patterns/trends? Make predictions about the lifespan of larger animals that they may not know e.g. whales, elephants.	Discuss the difference between what we need to be happy and what we need to survive. What would happen if we needed to live on Mars? Make a list of things to keep you happy and things that you would need to survive.	Sort a range of foods in different ways and discuss where they might fit into the 'eat well plate.' Exercise is vital to be healthy – what exercise could be done to improve our health? How many times can we complete the activity in a minute and how does it make our bodies feel? Which were the easiest/hardest exercises? Design and make a healthy picnic.	living* dead* non-living* water* air* adult* baby* offspring survival nutrition reproduce growth hygiene exercise prior learning*

In Year 3:

- 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
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Year 3 Animals Including Humans

National Curriculum Objectives:

- 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.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Pupils should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions.
Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.

Killer Facts:

- Many animals have skeletons to support their body and protect their vital organs.
- Muscles are connected to bones and help them to move.
- Joints connect bones together to help them move.
- Animals need to correct amount of nutrition to stay healthy.
- Animals, including humans, should eat a balanced diet in order to keep their bodies healthy.

Prior Year 2 Learning

- notice that animals, including humans, have offspring which grow into adults
- find out about 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.

What is a balanced diet?

Introduce the main food groups and sort a range of foods into these. Using this scientific language, children could create a healthy meal and identify why this is a balanced meal.

Compare a range of meals. Can they identify the odd one out? Can they explain which meal might be healthiest/least healthy?

Give children a range of packaging from different foods. Can they order them according to different food groups? How might be the best way to present their findings?

Create meals/cook healthy meals and discuss which food groups are covered. Can they evaluate and discuss how they could make the meal healthier?

Why do animals have skeletons and muscles?

Annotate diagrams of the human skeleton and explain the functions of different parts. E.g. ribs are for protecting the lungs and heart.

What would happen if we did not have a skeleton?

Create models of the muscles in our legs/arms using cardboard, elastic bands and split pins to show how the muscles and joints help to move the bones.

Odd ones out. Can they identify animals that do/do not have a skeleton?

Show children images of different bones from humans and animals – can they predict what they are/what their function is?

Investigate the effect of exercise on heart rate/breaths per minute. Collect and record data scientifically using tables, graphs and charts.

Key Vocabulary

living*
dead*
non-living*
water*
air*
offspring
survival
nutrition
growth
hygiene
exercise
carbohydrates
protein
fats
vitamins
minerals
muscular system
muscle
contract
relax
bones
skeleton
skeletal system

prior learning*

In Year 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.

Year 4 Animals Including Humans

National Curriculum Objectives:

- 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.

Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them to understand their special functions.
Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.

Killer Facts:

- Many animals have teeth which do different jobs.
- Canine teeth are for tearing and ripping, incisors help you bite and chew and molars help to crush and grind food.
- In the digestive system, food is broken down by the teeth; it travels down the oesophagus, into the stomach and the small intestine, where the nutrients enter the blood.
- Nutrients produced by plants move from primary consumers and secondary consumers through the food chain.

Prior Year 3 Learning

- 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.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Inside the Mouth

Give children to opportunity to eat an apple – can they identify which teeth they are using and discuss why?

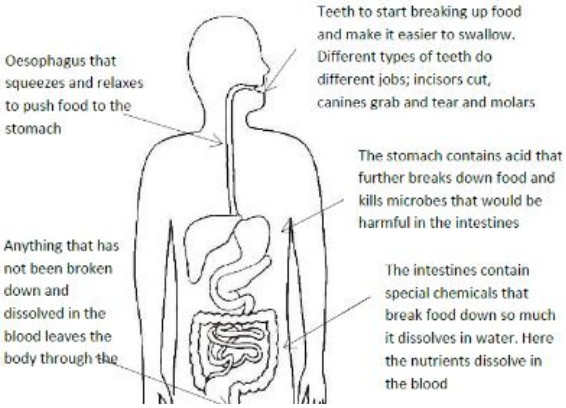
Children to have to opportunity to observe/use disclosing tablets to compare before/after brushing teeth. Discuss how to look after our teeth.

Set up a comparative fair tests: Investigate tooth decay using egg shell and a variety of liquids. Make careful observations over time. Compare different tooth pastes – taste, smell and time taken to clean permanent pen from an enamel tile. Record results in a table.

The Digestive Journey

Practically create the digestive system within the classroom using bread, plastic bag (mouth/stomach), saliva (water), orange juice (bile), tights (the intestines).

- Create story boards/describe the journey of a meal through the digestive system as a narrative.



What do animals eat?

Different animals require different foods to survive. Humans require a balanced diet to remain healthy but healthy diets vary depending upon the type of human activity/animal. Children could begin by building on their Year 3 knowledge by comparing the diets of different athletes. E.g. weightlifters vs sprinters – record data using tables/charts.

Look at a range of animal teeth – can the children predict what it may consume by their observations? Construct simple food chains for these animals.

Examine a range of food chains and discuss the impact of changes to the chain.
Microalgae → Krill→ Cod →Seal →Shark
Consider: What would be the impact of over fishing Cod?

Key Vocabulary

carnivore*
herbivore*
omnivore*
muscle*
bones*
skeleton*
canine
incisor
molar
premolar
digestive system
oesophagus
stomach
small intestine
large intestine
liver
pancreas
producer
consumer
primary consumer
secondary consumer

prior learning*

In Year 5:

- describe the changes as humans develop to old age.

Year 5 Animals Including Humans

National Curriculum Objectives:

- describe the changes as humans develop to old age.

Killer Facts:

- Different animals mature at different rates.
- Humans go through puberty before reaching adulthood.

Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty.
Pupils could 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.

Prior Year 4 Learning

- 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.

Prior Year 2 Learning:

- notice that animals, including humans, have offspring which grow into adults

Human Development/RSE

Follow school's RSE curriculum.

Children to look at images of themselves as babies – how have they changed over time? What is similar/different?

Consider developmental milestones throughout childhood – Hamilton Resources

Consider which changes during puberty are gender specific and which are unique to each gender.

Create a human time line, including the 7 stages of life (foetus, baby, toddler, child, adolescent, adult, old age) adding in ages and discussing the differences at each stage of life.

Working Scientifically

Repeated from Living Things and their Habitats – taught with whichever it best fits.

Match a range of animals and their offspring by name. E.g. hedgehog – hoglet, mole – pup, rabbit – kitten, deer – fawn. Give children the opportunity the record data using bar charts/scatter graphs – compare periods of gestation for a range of animals – give children the data which they then have to plot. Compare these periods of gestation with a human.

Key Vocabulary

living*
dead*
non-living*
offspring*
survival*
nutrition*
growth*
hygiene*
foetus
embryo
womb
toddler
teenager
elderly
development
puberty

prior learning*

In Year 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 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.

Year 6 Animals Including Humans

National Curriculum Objectives:

- 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.

Pupils should 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.
Pupils should 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.
Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.

Killer Facts:

- The heart pumps blood in the blood vessels around to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body.
- Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed.
- Different types of blood vessels carry blood around the body.
- Blood has four main components: red blood cells, white blood cells, plasma and platelets.
- Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well out heart and lungs work.

Prior Year 5 Learning

- describe the changes as humans develop to old age.

Prior Year 4 Learning:

- 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.

Prior Year 3 Learning:

- 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.
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

What is blood?

Blood cocktails – using cranberry juice (plasma), marshmallows (white blood cells), cheerios' (red blood cells) and raisins (platelets) to show children what blood is made of.

Look at the different blood vessels in the body and create fine art sketches/prints based around any observations.

What is the circulatory system?

Recreate the circulatory system using drama/PE. Children to move around different areas to collect oxygen and move it around the rest of the body organs, before returning to the heart as deoxygenated blood.

Onto large paper, draw around children. In groups, allow them to use red and blue felt tips to show the movement and direction of blood around the body.

Begin to investigate how water and nutrients are transported through the body using osmosis experiment. Placing gummy bears in glasses of water over night, making predictions about what will occur. Gummy bear is like the cell walls that allow water to pass through.

How do we stay healthy?

Carry out a range of pulse related investigations:
Fair tests – the effect of different activities on pulse rate.
Pattern seeking – which groups of people have higher/lower pulse rates?
Observations over time – how long does pulse rate take to return to resting?

➔ Plot using a range of graphs/charts.

What type of exercise has the greatest effect on our heart rate? How does our heart rate change over the day?

Compare the heart rate of humans with the heart rate of other animals. What is the best way of recording the results?

Follow school's PSHE policy in regards to drug education: Research the impact of tobacco/alcohol/caffeine on the human body. Consider facts and myths about the effects of drugs and alcohol on the human body. Ensure that children are clear that not all drugs are bad for the human body.

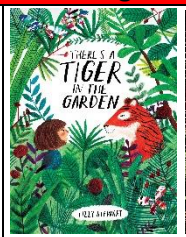
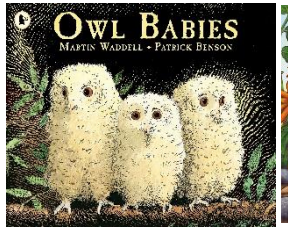
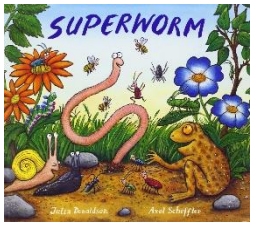
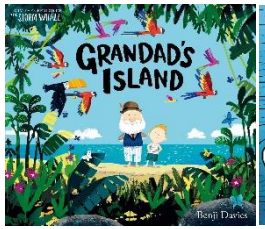
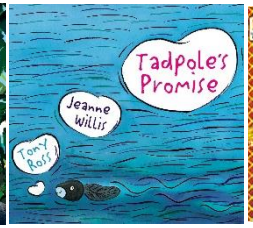
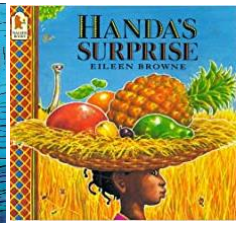
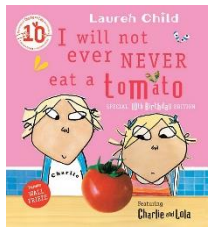
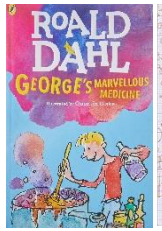
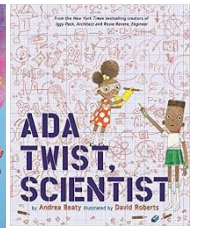
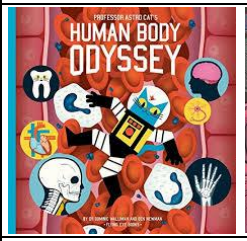
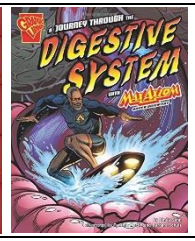
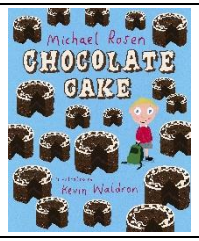
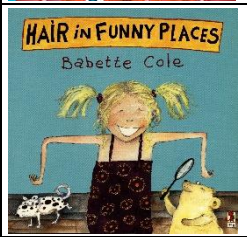
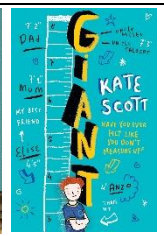
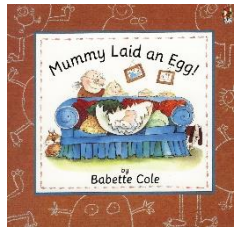
Key Vocabulary

living*
dead*
non-living*
survival*
nutrition*
growth*
hygiene*
circulatory system
heart
blood Vessels
veins
arteries,
capillaries
oxygenated
deoxygenated
valve
red blood cells
white blood cells
plasma
platelets
drugs
oxygen
carbon dioxide

prior learning*

In KS3:

- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335174/SECONDARY_national_curriculum_-_Science_220714.pdf

Year Group	Common Misconceptions	Recommended Linked Texts for Animals Including Humans	
Year 1	- only four-legged mammals, such as pets, are animals - humans are not animals - insects are not animals - all 'bugs' or 'creepy crawlies', such as spiders, are part of the insect group - amphibians and reptiles are the same	**There's a Tiger in the Garden** by Lizzy Stewart **Owl Babies** by Martin Waddell **Superworm** by Julia Donaldson	  
Year 2	- an animal's habitat is like its 'home' - all animals that live in the sea are fish - breathing is respiration	**Grandad's Island** by Benji Davies **Tadpole's Promise** by Jeanne Willis **Handa's Surprise** by Eileen Browne	  
Year 3	- certain whole food groups like fats are 'bad' for you - certain specific foods, like cheese are also 'bad' for you - diet and fruit drinks are 'good' for you - snakes are similar to worms, so they must also be invertebrates - invertebrates have no form of skeleton	**Funnybones** by Janet and Allan Ahlberg **I will not ever NEVER eat a tomato** by Lauren Child **George's Marvellous Medicine** by Roald Dahl **Ada Twist, Scientist** by Andrea Beaty	   
Year 4	- arrows in a food chains mean 'eats' - there is always plenty of food for wild animals - food is digested only in the stomach - when you have a meal, your food goes down one tube and your drink down another - the food you eat becomes "poo" and the drink becomes "wee"	**Human Body Odyssey** by Dominic Walliman **A Journey Through the Digestive System** by Emily Sohn **Chocolate Cake** by Michael Rosen (poem)	  
Year 5	- a baby grows in a mother's tummy - a baby is "made"	**Hair in Funny Places** by Babette Cole **Giant** by Kate Scott **Mummy Laid an Egg** by Babette Cole	  
Year 6	- your heart is on the left side of your chest - the heart makes blood - when we exercise, our heart beats faster to work the muscles more - some blood in our bodies is blue and some blood is red - all fat is bad for you - all drugs are bad for you	**Pig Heart Boy** by Malorie Blackman **A Heart Pumping Adventure** by Dr Heather Manley **Skellig** by David Almond