Year: 1 Topic: Animals

Summit Point Question: How are animals different?

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)

Prior Learning:

In Early Years children should:

• Be able to identify different parts of their body. • Have some understanding of healthy food and the need for variety in their diets. • Be able to show care and concern for living things. • Know the effects exercise has on their bodies. • Have some understanding of growth and change. • Can talk about things they have observed including animals

Future Learning:

In Year 2 children will:

• Know that animals, including humans, have offspring which grow into adults. • Know the basic stages in a life cycle for animals, including humans. • Find out 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.

Substantive Knowledge & key questions:

How are animals different?

Identify the features of a fish

Identify the features of a bird

Know the similarities and differences of birds

Observe a range of birds

Identify features of reptiles

Identify features of mammals

Know that humans are mammals

Know the features of an amphibian

What do animals eat?

Know animals that are herbivores, carnivores and omnivores

Classify animals according to their teeth

Summit point: how are animals different?

Enquiry Type:

Comparative/Fair Testing Research Observation over Time Pattern Seeking Identifying, Grouping and Classifying

Key Vocabulary:

fish, amphibians, reptiles, birds, mammals, omnivores, carnivores, herbivores.

Local Links:

Mrs Rahman Budgies, Miss Coates Dog

Disciplinary Knowledge- Working Scientifically:

Ask simple questions and

recognise that they can be

answered in different ways

Observe closely using simple

equipment

Perform simple tests

Identify and classify

Use observations and ideas to

suggest answers to questions

Gather and record data to help in answering questions

Linked Texts:

Rangtan in my bedroom, The Journey home

Key Scientists:

Jane Goodall (Primatologist) Joan Beauchamp Procter (Zoologist)

Year: 2 Topic: Animals including Humans

Summit Point Question: What do animals need to grow and change?

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

Prior Learning:

In Year 1 Children should: • 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.

Future Learning:

In Year 3 Children will: • Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat. • Know how nutrients, water and oxygen are transported within animals and humans. • Know about the importance of a nutritious, balanced diet. • Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Substantive Knowledge & key questions:

Recap: Retrieval sheet/Sorting animals using animal groups

1. Do all animals look like their babies?

Chn will be able to describe that animals have babies and not all animals look like their parents.

Chn will know the names of at least 5 baby animals.

2. How do animals change over time?

Chn will know the lifecycle of various animals groups. (mammal, bird, amphibian, insect)

3. How have you changed since you were born?

Chn will create a timeline of their growth and observe change and understand their needs change as they grow.

4. What do living things need to survive?

Chn will know that humans and animals need water, food and air to survive. Why is it important that we stay active?

Chn will understand that having an active lifestyle is vital for humans to stay healthy.

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5. How do we have a healthy diet?

Chn will about the different food types and the importance of eating the correct amounts.

6. Why do we need to wash out hands?

Chn will learn about hygiene.

Chn will know how to stay fit, healthy and clean.

Enquiry Type:

Comparative/Fair Testing Research Observation over Time

Pattern Seeking Identifying, Grouping and Classifying

Key Vocabulary:

life cycle, baby, toddler, child, teenager, adult, water, food, exercise, hygiene, offspring

Local Links:

Disciplinary Knowledge- Working Scientifically:

Ask simple questions and recognise that they can be answered in different ways

Observe closely using simple equipment

Identify and classify

Use observations and ideas to suggest answers to questions

Gather and record data to help in answering questions

Linked Texts:

The disgusting Sandwich, Fussy Freda, Tad

Key Scientists:

Maria Sibylla Merian (Scientific Illustrator & Entomologist) Louis Pasteur (Biologist & Chemist)

Year: 3 Topic: Animals including Humans

Summit Point Question:

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

Prior Learning:

In Year 2 children should: • Know that animals, including humans, have offspring which grow into adults. • Know the basic stages in a life cycle for animals, including humans. • Find out 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.

Future Learning:

In Year 4 children will: • 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.

Substantive Knowledge & key questions:

What nutrition is needed for a healthy human?

- Children discuss own food choices and organise into food groups using eatwell plate.
- Applying knowledge to self-assess own habits and then assessing the school's menu.

What types of nutrition do different animals need?

- Dissect fake animal scat as evidence for classifying into herbivores, carnivores and omnivores.
- Children learn that different animal groups need different nutrition and different portion sizes depending on habits and nutritional value.
- Look at evidence using animal skeletons to classify into herbivores, carnivores and omnivores.

Why are skeletons so important?

- Naming bones in a human body (skull, spine, ribcage, pelvis, femur, humerus among others)
- Children to know that a human skeleton is for support, protection and movement.
- Children learn to classify animals including humans into vertebrates and invertebrates.
- Children recognise endoskeletons, exoskeletons and hydrostatic skeletons.

Why are muscles so important?

- Children recognise muscles on their own body and the movement they create. Children create a diagram of the main muscle groups in the body.
- Children investigate if longer legs or bigger muscles matter.

Enquiry Type:

Comparative/Fair Testing Research Observation over Time Pattern Seeking Identifying, Grouping and Classifying

Key Vocabulary:

carbohydrates, diet, eat, endoskeleton, exoskeleton, fats, fibre, food, food groups, functions, healthy, humans, invertebrates, joints, meals, minerals, movement, muscles, nutrition, protection, protein, skeletons, support, types, vertebrates, vitamins

Local Links:

Local animals and animal scat from UK animals, used Greenmount menu to categorise nutritional value, bird-watching, using recognisable packaging for nutritional value

Disciplinary Knowledge- Working Scientifically:

ask relevant questions and using different types of scientific enquiries to answer them.

Set up simple practical enquiries,

comparative and fairs tests.

Make systematic and careful observations

Take accurate measurements using

standard units.

Use a range of equipment to take accurate measurements

Record findings using simple scientific language, drawing, labelled diagrams, bar charts, tables

Report on findings from enquiries

Use results to draw simple conclusions, make predictions for new values, suggest improvements, raise further questions

identify differences, similarities or changes related to simple scientific ideas and processes

Use straightforward scientific evidence to answer questions or support their findings

Linked Texts:

Bone by bone, Human body, dragons love tacos

Key Scientists:

Wilhelm Rontgen (Mechanical Engineer & Physicist) Ibn Sina "Avicenna" (Physician)

Year: 6 Topic: Animals including Humans

Summit Point Question: What does our circulatory system do?

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

Prior Learning:

In Year 5 children should: • Describe the changes as humans develop to old age. In Year 4 children should: • 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.

Future Learning:

In KS3 children will learn: • The hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms. • The tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes). • Calculations of energy requirements in a healthy daily diet. • The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. • The structure and functions of the gas exchange system in humans, including adaptations to function. • The effects of recreational drugs (including substance misuse) on behaviour, health and life processes.

Substantive Knowledge & key questions:

Lesson 1: What do we know about the circulatory system?

Knowledge harvest - Children to complete life size drawing of the circulatory system – can children label the parts?

Lesson 2: What does our blood do?

To understand what blood is and the roles it has within the body. What are the components of blood? What are their functions?

Lesson 3: What is the role of the heart in the circulatory system?

Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. What is the heart? What is the role of the heart?

Lesson 4: How does exercise affect our circulatory system?

Investigation: Impact of exercise on the function of our circulatory system. What happens to your pulse when you do exercise? Why might this be?

Lesson 5/6 – How do our diet, drugs and lifestyle affect our circulatory system?

To understand the impact of different lifestyle choices on the health of our bodies. (PSHE link)

Enquiry Type:

Comparative/Fair Testing Research Observation over Time Pattern Seeking Identifying, Grouping and Classifying

Key Vocabulary:

animals, artery, blood, blood vessels, circulatory system, damaged, deoxygenated, diet, digestive system, drugs, exercise, functions, harm, health, heart, human, impact, internal organs, lifestyle, muscular system, nutrients, oxygenated, respiration, skeletal system, substances, transported, valve, veins, water

Local Links:

Disciplinary Knowledge- Working Scientifically:

Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • take precise measurements, using a range of scientific equipment, increasingly accurately • take repeated readings • record increasingly complex data and results using scientific diagrams • record increasingly complex data and results using diagrams and labels • record increasingly complex data and results using tables • record increasingly complex data and results using scatter graphs • record increasingly complex data and results using line graphs • use test results to make predictions • use test results to set up further comparative and fair tests • report and present findings from enquiries (including conclusions, causal relationships and explanations of and a degree of trust in results) • identify scientific evidence that has been used to support or refute results.

Linked Texts:

Marie Curie, Illumanatomy

Key Scientists:

Marie Curie (Physicist & Chemist) Alexander Fleming (Physician & Microbiologist)