

Ashwell Primary School

Science Curriculum

Animals, including humans Knowledge Organiser



EYFS

Core Knowledge / skills to be acquired:

- identify something as an animal
- name some places animals live
- identify and locate parts of their body
- identify and locate parts of animals bodies
- use their observations to describe humans and other animals
- name a very limited range of food
- can identify types of exercise
- name baby, child, adult and the young of some other animals

Key Vocabulary:

Animal, head, legs, arms, knee, elbow, neck, face, feet, hands, bread, potatoes, apples, cereals, rice, meat, fish, milk, running, jumping, swimming, walking, chicken, hen, kitten, cat, puppy, dog, duckling, duck

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on:

What comes next: (Year 1 – Different Animals)

- identify and name a selection of animals / identify and sort animals into different groups
- name the different groups of animals
- **identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**
- make observations of animals
- know that animals eat different types of food / identify the food of some common animals
- recall and use the words: carnivore, herbivore and omnivore
- **identify and name a variety of common animals that are carnivores, herbivores and omnivores**
- *group animals that belong to: carnivores, herbivores and omnivores*
- use their observations to point out differences between humans and other animals and between animals and non-living things
- **describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)**
- identify and locate the sense organs / use senses to describe textures, sounds and smells
- compare differences in texture, sounds and smells
- name and locate the basic parts of the human body
- draw and label a simple body outline
- *describe differences between the different animal groups (e.g. birds have feathers but mammals have fur)*
- *identify animals which are more likely to be seen in different seasons*
- *explain why some animals are only seen at night*

Year 1 – Different Animal

Core Knowledge / skills to be acquired:

- identify and name a selection of animals
- identify and sort animals into different groups
- name the different groups of animals
- **identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**
- make observations of animals
- know that animals eat different types of food
- identify the food of some common animals
- recall and use the words: carnivore, herbivore and omnivore
- **identify and name a variety of common animals that are carnivores, herbivores and omnivores**
- *group animals that belong to: carnivores, herbivores and omnivores*
- use their observations to point out differences between humans and other animals and between animals and non-living things
- **describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)**
- identify and locate the sense organs
- use senses to describe textures, sounds and smells
- compare differences in texture, sounds and smells
- name and locate the basic parts of the human body
- draw and label a simple body outline
- *describe differences between the different animal groups (e.g. birds have feathers but mammals have fur)*
- *identify animals which are more likely to be seen in different seasons*
- *explain why some animals are only seen at night*

Key Vocabulary:

Body parts: eyes, ears, elbows, hair, mouth, nose, teeth, paw, hoof, tail, fin, shell, skin, wings, beak, fur, scales, feathers

Fish: goldfish, tuna, salmon

Birds: blackbird, magpie, robin, sparrow, crow, swan.

Reptiles: snake, lizard, tortoise

Mammals: mouse, horse, cow, sheep, hamster, rabbit

Amphibians: frog, toad, newt

Senses: feel, hear, smell, see, taste, touch

Carnivore, omnivore, herbivore

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (EYFS)

- identify something as an animal
- name some places animals live
- identify and locate parts of their body
- identify and locate parts of animals bodies
- use their observations to describe humans and other animals
- name a very limited range of food
- can identify types of exercise
- name baby, child, adult and the young of some other animals

What comes next: (Year 2 Growth & survival)

- recognise that animals produce young
- **notice that animals, including humans, have offspring which grow into adults**
- recognise changes that take place as animals get older
- explain that adult animals no longer grow
- describe some differences they observe between babies and toddler
- make comparisons of the differences they observe between babies and toddlers
- identify the offspring of a selection of different animals

- *use evidence to show that adult animals no longer grow*
- *use evidence to show that children of the same age are not all the same size*
- *use evidence to show that older children are generally taller than younger children*
- **find out about and describe the basic needs of animals, including humans, for survival (water, food and air)**
- *explain how to look after a pet describing what it needs to survive*
- **describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene**
- recognise that exercise is important
- name some types of food
- identify some types of food that make up their diet and name some examples of each
- recognise that an adequate diet and exercise are necessary for them to grow and stay healthy
- describe some of the types of food that they eat

Year 2 - Year 2 Growth & survival

Core Knowledge / skills to be acquired:

- recognise that animals produce young
- **notice that animals, including humans, have offspring which grow into adults**
- recognise changes that take place as animals get older
- explain that adult animals no longer grow
- describe some differences they observe between babies and toddler
- make comparisons of the differences they observe between babies and toddlers
- identify the offspring of a selection of different animals
- *use evidence to show that adult animals no longer grow*
- *use evidence to show that children of the same age are not all the same size*
- *use evidence to show that older children are generally taller than younger children*
- **find out about and describe the basic needs of animals, including humans, for survival (water, food and air)**
- *explain how to look after a pet describing what it needs to survive*
- **describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene**
- recognise that exercise is important
- name some types of food
- identify some types of food that make up their diet and name some examples of each

Key Vocabulary:

Baby, toddler, adult, eggs, fruit, vegetables, water, fibre, meat, fish, cheese, beans
 washing, exercise, diet
 offspring

- recognise that an adequate diet and exercise are necessary for them to grow and stay healthy
- describe some of the types of food that they eat

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (Year 1 – Different Animals)

- identify and name a selection of animals
- identify and sort animals into different groups
- name the different groups of animals
- **identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**
- make observations of animals
- know that animals eat different types of food
- identify the food of some common animals
- recall and use the words: carnivore, herbivore and omnivore
- **identify and name a variety of common animals that are carnivores, herbivores and omnivores**
- *group animals that belong to: carnivores, herbivores and omnivores*
- use their observations to point out differences between humans and other animals and between animals and non-living things
- **describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)**
- identify and locate the sense organs
- use senses to describe textures, sounds and smells
- compare differences in texture, sounds and smells
- name and locate the basic parts of the human body
- draw and label a simple body outline
- *describe differences between the different animal groups (e.g. birds have feathers but mammals have fur)*
- *identify animals which are more likely to be seen in different seasons*
- *explain why some animals are only seen at night*

What comes next: (Year 3 – Health Eating and Healthy Bodies)

- identify some foods needed for a healthy and varied diet
- name the components of a healthy and varied diet
- describe how their diet is balanced
- **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**
- *describe the role of different food groups*
- *compare and contrast diets of animals including pets*
- *describe an adequate and varied diet for humans, recognising that there are many ways of achieving this*
- know they have bones and muscles in their body
- state that they and other animals have skeletons
- identify animals that do not have an internal skeleton (invertebrates)
- group animals with and without an internal skeleton
- *describe some advantages of having an internal skeleton over no skeleton or an exoskeleton*
- describe some observable characteristics of bones
- describe the main functions of their skeletons
- state that movement depends on both skeleton and muscles
- state that when one muscle contracts another relaxes
- **identify that humans and some other animals have skeletons and muscles for support, protection and movement**
- recognise that their skeletons grow as they grow
- *describe problems associated with broken bones or bones diseases*

Year 3 – Healthy Eating and Healthy Bodies

Core Knowledge / skills to be acquired:

- identify some foods needed for a healthy and varied diet
- name the components of a healthy and varied diet
- describe how their diet is balanced
- **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**
- *describe the role of different food groups*
- *compare and contrast diets of animals including pets*
- *describe an adequate and varied diet for humans, recognising that there are many ways of achieving this*
- know they have bones and muscles in their body
- state that they and other animals have skeletons
- identify animals that do not have an internal skeleton (invertebrates)
- group animals with and without an internal skeleton
- *describe some advantages of having an internal skeleton over no skeleton or an exoskeleton*
- describe some observable characteristics of bones
- describe the main functions of their skeletons
- state that movement depends on both skeleton and muscles
- state that when one muscle contracts another relaxes
- **identify that humans and some other animals have skeletons and muscles for support, protection and movement**
- recognise that their skeletons grow as they grow
- *describe problems associated with broken bones or bones diseases*

Key Vocabulary:

Balanced diet, carbohydrates, protein, fats, fibre, fruit and vegetables, bones, muscles, femur, ribs, spine, tibia, shoulder blade, hollow, relax and contract, protect, support, internal skeleton, exoskeleton

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (Year 2 – Growth & survival)

- recognise that animals produce young
- **notice that animals, including humans, have offspring which grow into adults**
- recognise changes that take place as animals get older
- explain that adult animals no longer grow
- describe some differences they observe between babies and toddler
- make comparisons of the differences they observe between babies and toddlers
- identify the offspring of a selection of different animals
- *use evidence to show that adult animals no longer grow*

What comes next: (Year 4 Teeth and digestion)

- identify a wider range of body parts, including some internal organs (large intestine, small intestine, brain, lungs, heart, stomach, oesophagus)
- locate and name the different organs in the digestive system
- describe the role of each organ in the digestive system
- **describe the simple functions of the basic parts of the digestive system in humans**
- *explain why food needs to be broken down*
- recognise they need to take care of their teeth
- name the different types of teeth
- describe the role of each type of teeth in digestion

- *use evidence to show that children of the same age are not all the same size*
- *use evidence to show that older children are generally taller than younger children*
- **find out about and describe the basic needs of animals, including humans, for survival (water, food and air)**
- *explain how to look after a pet describing what it needs to survive*
- **describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene**
- recognise that exercise is important
- name some types of food
- identify some types of food that make up their diet and name some examples of each
- recognise that an adequate diet and exercise are necessary for them to grow and stay healthy
- describe some of the types of food that they eat

- **identify the different types of teeth in humans and their simple functions**
- explain how they should look after their teeth and recognise why they need to do so
- *explain why dentists are concerned about the amount of sugar children have*
- state that animals have different diets and may have different kinds of teeth
- *explain how fossilised teeth give us clues about an animals' diet*
- *explain why the teeth of certain types of animals need to be different*
- *explain why humans do not have a full set of adult teeth at birth*

Year 4 – Teeth and digestion

Core Knowledge / skills to be acquired:

- identify a wider range of body parts, including some internal organs (large intestine, small intestine, brain, lungs, heart, stomach, oesophagus)
- locate and name the different organs in the digestive system
- describe the role of each organ in the digestive system
- **describe the simple functions of the basic parts of the digestive system in humans**
- *explain why food needs to be broken down*
- recognise they need to take care of their teeth
- name the different types of teeth
- describe the role of each type of teeth in digestion
- **identify the different types of teeth in humans and their simple functions**
- explain how they should look after their teeth and recognise why they need to do so
- *explain why dentists are concerned about the amount of sugar children have*
- state that animals have different diets and may have different kinds of teeth
- *explain how fossilised teeth give us clues about an animals' diet*
- *explain why the teeth of certain types of animals need to be different*
- *explain why humans do not have a full set of adult teeth at birth*

Key Vocabulary:

Teeth and eating: incisor, molar, canine, diet, decay, healthy, teeth, acids, sugars, mouth, rip, tear, chew, grind

Digestive system: saliva, tongue, toilet waste, nutrients, energy, stomach, large/small intestine, brain, lungs, movement, acids, urine, faeces, oesophagus

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (Year 3 – Healthy Eating and Healthy Bodies)

- identify some foods needed for a healthy and varied diet
- name the components of a healthy and varied diet
- describe how their diet is balanced
- **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**
- *describe the role of different food groups*
- *compare and contrast diets of animals including pets*
- *describe an adequate and varied diet for humans, recognising that there are many ways of achieving this*
- know they have bones and muscles in their body
- state that they and other animals have skeletons
- identify animals that do not have an internal skeleton (invertebrates)
- group animals with and without an internal skeleton
- *describe some advantages of having an internal skeleton over no skeleton or an exoskeleton*
- describe some observable characteristics of bones
- describe the main functions of their skeletons
- state that movement depends on both skeleton and muscles
- state that when one muscle contracts another relaxes
- **identify that humans and some other animals have skeletons and muscles for support, protection and movement**
- recognise that their skeletons grow as they grow
- *describe problems associated with broken bones or bones diseases*

What comes next: (Year 5 – Life Cycles)

- **describe the changes as humans develop to old age**
- identify ways in which the appearance of humans changes as they get older
- identify some characteristics that will not change with age
- recognise stages in growth and development of humans including puberty

Year 5 – Life Cycles

Core Knowledge / skills to be acquired:

- **describe the changes as humans develop to old age**
- identify ways in which the appearance of humans changes as they get older
- identify some characteristics that will not change with age
- recognise stages in growth and development of humans including puberty

Key Vocabulary:

New born, infant, child, teenager, puberty, adult, wrinkles, grey hair, height, weight

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (Year 4 – Teeth and digestion)

- identify a wider range of body parts, including some internal organs (large intestine, small intestine, brain, lungs, heart, stomach, oesophagus)
- locate and name the different organs in the digestive system
- describe the role of each organ in the digestive system
- **describe the simple functions of the basic parts of the digestive system in humans**
- *explain why food needs to be broken down*
- recognise they need to take care of their teeth
- name the different types of teeth
- describe the role of each type of teeth in digestion
- **identify the different types of teeth in humans and their simple functions**
- explain how they should look after their teeth and recognise why they need to do so
- *explain why dentists are concerned about the amount of sugar children have*
- state that animals have different diets and may have different kinds of teeth
- *explain how fossilised teeth give us clues about an animals' diet*
- *explain why the teeth of certain types of animals need to be different*
- *explain why humans do not have a full set of adult teeth at birth*

What comes next: (Year 6 – Humans and Health)

- identify and name the parts of the circulatory system
- know that the heart is made of muscle
- describe what the heart and blood vessels do
- **identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood**
- state how to measure pulse rate
- recognise that pulse rate is a measure of how fast the heart is beating
- discover that during exercise the heart beats faster to take blood more rapidly to the muscles
- make careful measurements of pulse rate
- describe the different functions of the blood (e.g. transporting and protecting)
- know that the blood comes from the heart in arteries and returns to the heart in veins
- know that blood carries oxygen and other essential materials around the body
- *explain how ideas about the circulatory system have changed over time*
- identify some of the harmful effects of smoking
- **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**
- recognise that care needs to be taken with medicines and that they can be dangerous
- give several reasons why it is sometimes necessary to take medicines
- identify some harmful effects of drugs
- identify food as a fuel for the body
- name the major groups into which food is categorised and identify sources for each group
- describe the main function of organs of the human body
- *explain the effect of diet on particular organs of the body/aspects of health*
- *explain the effect of exercise on particular organs of the body/aspects of health*
- *explain how ideas about smoking have changed over time*
- *explain why advice on diet changes*
(e.g. butter vs margarine, five a day, tax on sugary drinks)

Year 6 – Humans and Health

Core Knowledge / skills to be acquired:

- identify and name the parts of the circulatory system
- know that the heart is made of muscle
- describe what the heart and blood vessels do
- **identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood**
- state how to measure pulse rate
- recognise that pulse rate is a measure of how fast the heart is beating
- discover that during exercise the heart beats faster to take blood more rapidly to the muscles
- make careful measurements of pulse rate
- describe the different functions of the blood (e.g. transporting and protecting)
- know that the blood comes from the heart in arteries and returns to the heart in veins
- know that blood carries oxygen and other essential materials around the body
- *explain how ideas about the circulatory system have changed over time*
- identify some of the harmful effects of smoking
- **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**
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- identify food as a fuel for the body
- name the major groups into which food is categorised and identify sources for each group
- describe the main function of organs of the human body
- *explain the effect of diet on particular organs of the body/aspects of health*
- *explain the effect of exercise on particular organs of the body/aspects of health*
- *explain how ideas about smoking have changed over time*
- *explain why advice on diet changes*
- *(e.g. butter vs margarine, five a day, tax on sugary drinks)*

Key Vocabulary:

Heart, veins, arteries, capillaries, blood, pulse, beats, oxygen, carbon dioxide nutrients, organs, drugs, medicines, minerals, vitamins, lungs, caffeine, medical, legal, illegal

Curriculum Enrichment / Cultural Capital Opportunities

- Feeling Good Week
- Walk to School Week

Prior knowledge / skills this builds on: (Year 5 – Life cycles)

- **describe the changes as humans develop to old age**
- identify ways in which the appearance of humans changes as they get older
- identify some characteristics that will not change with age
- recognise stages in growth and development of humans including puberty

What comes next: