

EYFS-Y6 Science Knowledge and Skills Organiser: Animals, including humans



Our Science Knowledge and Skills organisers are primarily a planning guide for the teachers. They include the statutory statements (**Subject Knowledge to be covered**) and the non statutory guidance (in blue). They offer suggestions (in red) for how these statements might be taught working scientifically – which is a requirement of the National Curriculum.

The Knowledge and Skills Organisers map out how and when these areas are taught and help to build a clear, progressive scientific statement of intent for our children as they progress through the school.

We have added additional ideas and guidance for the teachers, which they can choose to use and interpret i.e. how the local area might be used, key questions and ideas which might be pursued, outdoor learning opportunities and cross curricular links as these are features we recognise are important in terms of our holistic curriculum provision.

Parental/ carer support:

By mapping out our curriculum in this way we hope that these documents also help parents and carers support the learning of their child/ren by

- Showing the knowledge being covered
- Offering some suggestions which might also be investigated at home
- Sharing key vocabulary, which can be discussed to ensure your child's understanding
- Suggestions of places to visit

EYFS

Nursery

Development Matters Ages and Stages to be covered: 3-4 Year olds:

- Talk about what they see, using a wide vocabulary.
- Begin to make sense of their own life-story and family's history. Show interest in different occupations.
- Understand the key features of the life cycle of a plant and an animal.
- Begin to understand the need to respect and care for the natural environment and all living things.
- Continue developing positive attitudes about the differences between people.

Characteristics of Effective Learning to be covered

Creating and Thinking Critically thinking

Having their own ideas

- Thinking of ideas
- Finding ways to solve problems
- Finding new ways to do things

Making links

- Making links and noticing patterns in their experience
- Making predictions
- Testing their ideas
- Developing ideas of grouping, sequences, cause and effect

Choosing ways to do things

Planning, making decisions about how to approach a task, solve a problem and reach a goal

Checking how well their activities are going

Changing strategy as needed

Reviewing how well the approach worked

Reception

Development Matters Ages and Stages to be covered:

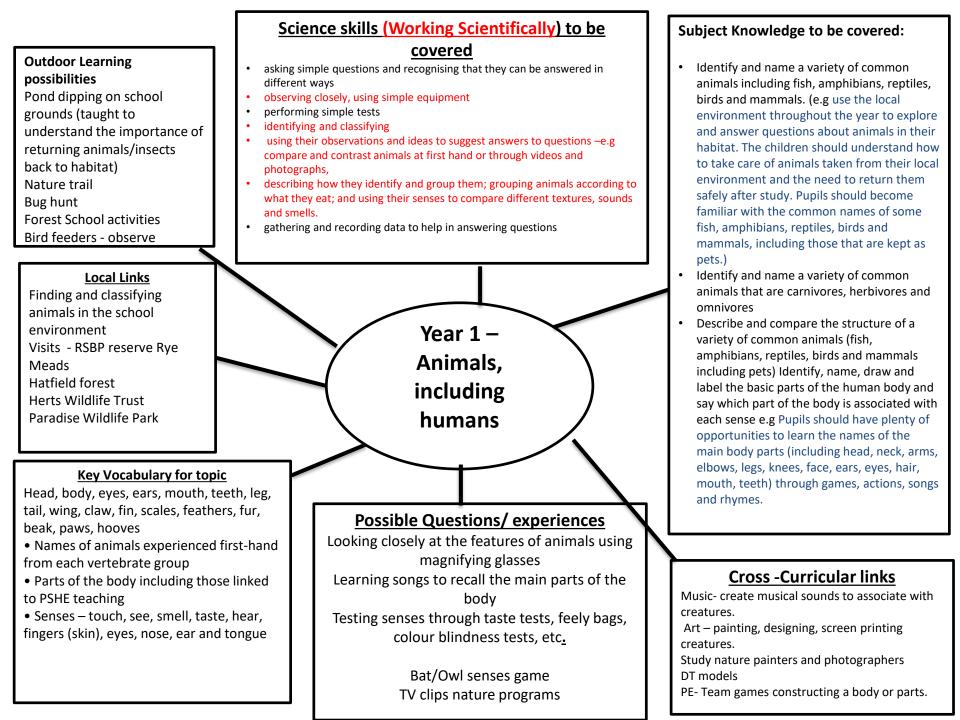
- Talk about members of their immediate family and community.
- Name and describe people who are familiar to them.
- Explore the natural world around them. Describe what they see, hear and feel whilst outside.
- Recognise some environments that are different from the one in which they live. Understand the effect of changing seasons on the natural world around them.

Early learning goals:

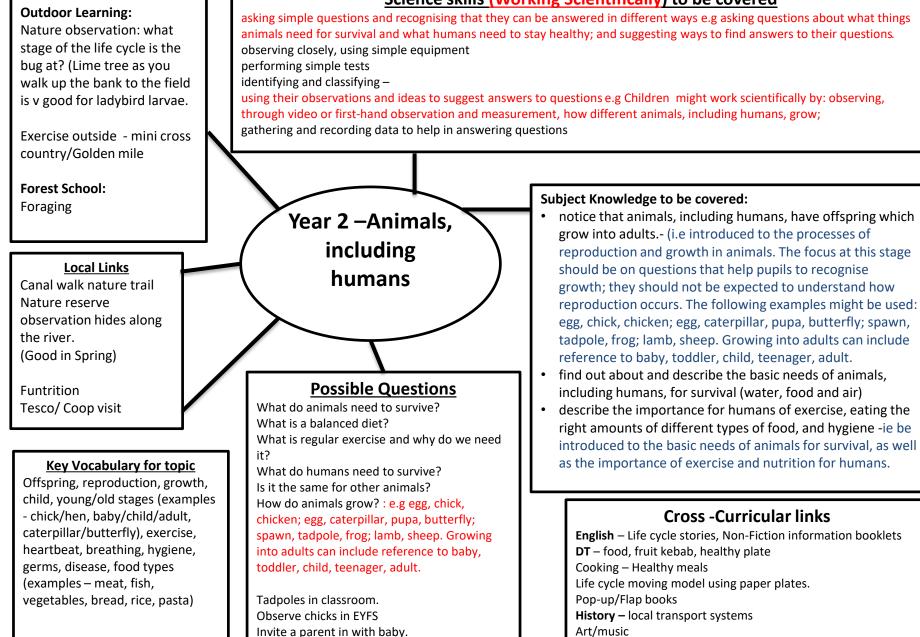
- Talk about the lives of the people around them and their roles in society.
- Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps.
- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- 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.
- Characteristics of Effective Learning to be covered
- Creating and Thinking Critically thinking
- Having their own ideas
- Thinking of ideas
- Finding ways to solve problems
- Finding new ways to do things
- Making links

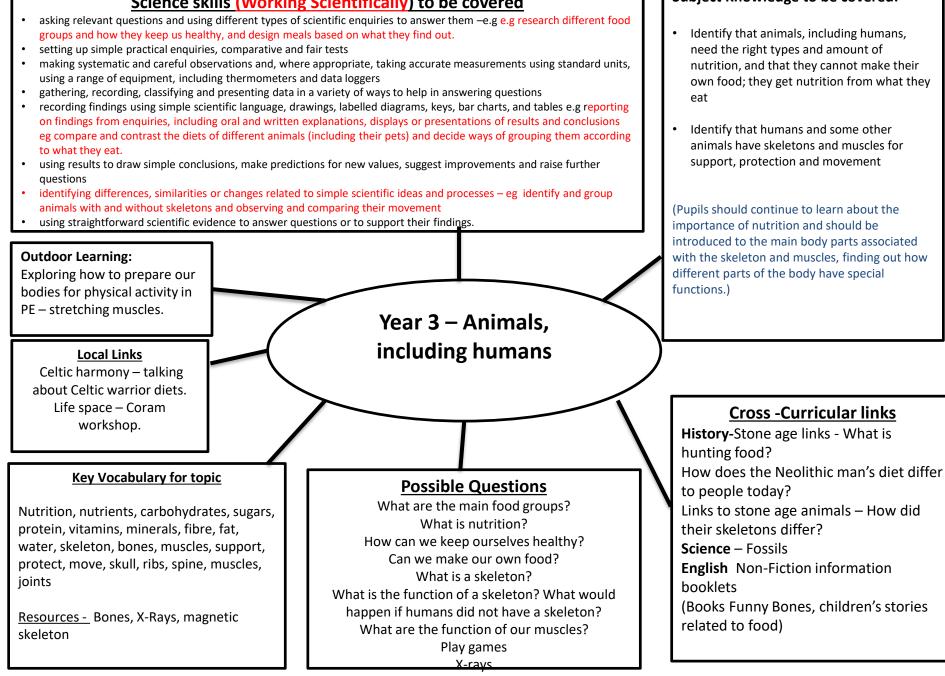
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- Making links and noticing patterns in their experience
- Making predictions
- Testing their ideas •Developing ideas of grouping, sequences, cause and effect
- Choosing ways to do things
- Planning, making decisions about how to approach a task, solve a problem and reach a goal
- Checking how well their activities are going
- Changing strategy as needed
- Reviewing how well the approach worked



SRE – Sex Education

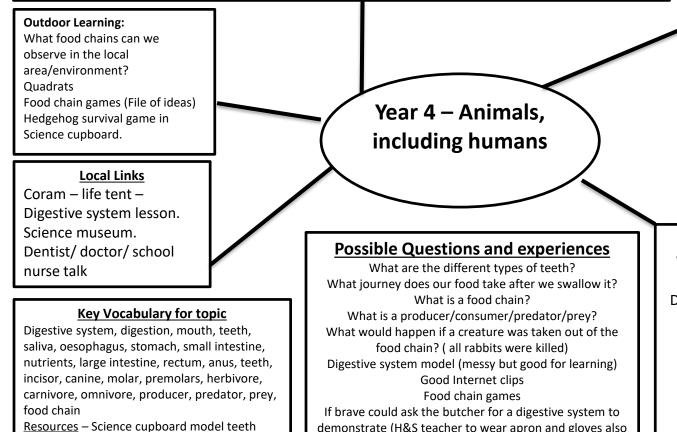




Subject Knowledge to be covered:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests eg finding out what damages teeth and how to look after them.-- investigation into the effect of different types of liquid on our teeth – egg shells.
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions e.g They might draw and discuss their ideas about the digestive system and compare them with models or images.
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables e.g comparing the teeth of carnivores and herbivores and suggesting reasons for differences;
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

Human body model



demonstrate (H&S teacher to wear apron and gloves also children if handling. Wash hands thoroughly after and

dispose of gloves in medi bin)

Subject Knowledge to be covered:

- 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

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.

Children will find out what damages teeth and how to look after them

Cross -Curricular links

What would an Ancient Egyptian diet have looked like? Did they have methods of looking after their teeth like we do? **DT**- Food chain mobile Model teeth Literacy – Non – Fiction report on investigations or information. PSHE – Heathy teeth and health diet

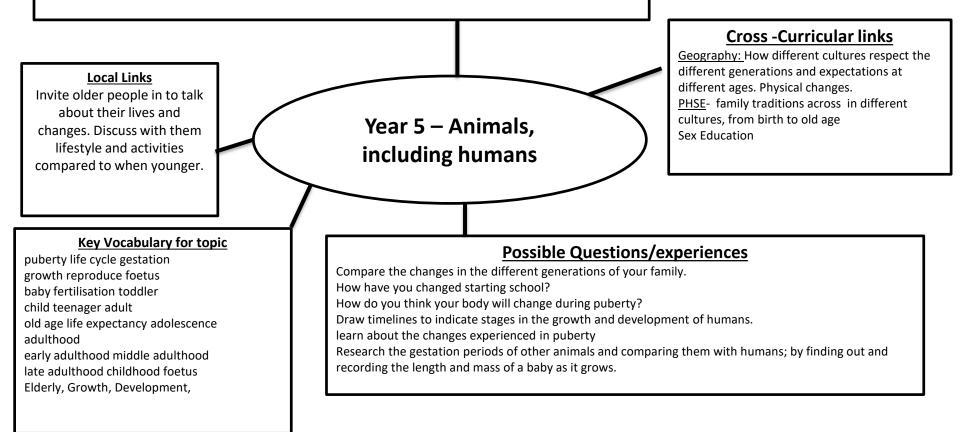
- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs e.g research the gestation periods of other animals and comparing them with humans

find out and record the length and mass of a baby as it grows.

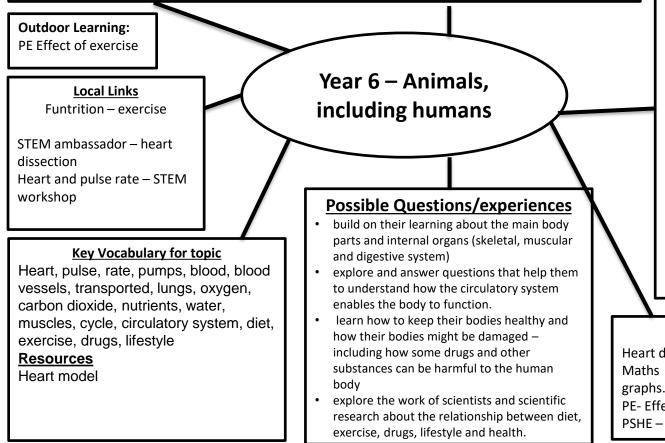
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- · identifying scientific evidence that has been used to support or refute ideas or arguments

Subject Knowledge to be covered:

- describe the changes as humans develop to old age
- learn about the changes experienced in puberty. -e.g should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty.



- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate what happens to our heart/ body temperature/ breathing etc during exercise?
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments -exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.



Subject Knowledge to be covered:

- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (i.e 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.)
- 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

i.e 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.

Cross -Curricular links

Heart dissection

Maths – Recordings, charts, comparisons and graphs.

PE- Effect of exercise on the body, pulse rate PSHE – Healthy lifestyles