Hose Church of England Primary School

'Respect, Bravery, Success, Pride'

KS2 Science Curriculum – Autumn 2

Theme: Animals including humans
Key Question: From eating to excreting what happens in between?

What do we already know?

- Animals can be classified into herbivores, omnivores and carnivores based on their diet
- Foods can be categorised into different groups
- Humans need to eat the right types and amount of food to survive and grow as they cannot make their own food.
- Know the basic parts of the human body and their associated senses

Curriculum objectives

1. Identify the different types of teeth in humans and their functions.
2. Understand that different animals have different numbers of each type of teeth depending on their diet. Recognise that the teeth help us identify if animals are omnivores, herbivores and carnivores.
3. Importance of hygiene on keeping the teeth healthy. Understand the basic structure of the tooth and the effect of different types of food on the enamel.
4. Sequence the complete process of digestion and how food travels through the body.
5. Understand the function of different parts of the digestive system. Recognise how the nutrients are removed from the food.
6. Construct food chains to show how energy can move through living things.

Vocabulary

Key Figures

Key Vocabulary

Incisors	*Incisors are large flat teeth found at the front of human mouths which are used for biting.*	**Predator**	*An animal that hunts and eats another animal to eat them for food and, ultimately, energy.*
Canines	*Canines are the sharp pointy teeth which tear and rip apart food when chewing.*	**Prey**	*An animal that is hunted by another for food.*
Premolars	*Premolars are flat cusped teeth which are responsible for tearing and grinding food into smaller pieces when chewing.*	**Producer**	*A living thing that produces its own food.*
Molars	*Molars are the teeth at the back of your mouth which are used for grinding up food*	**Digestion**	*Breakdown of food into other substances that our bodies can use, and any waste removed*
Omnivores	*Omnivores are animals that eat plants, meat, algae, fungi and bacteria*	**Oesophagus**	*The tube through which food passes from the mouth to the stomach.*
Herbivores	*Herbivores are animals that only eat plant-based foods.*		
Carnivores	*A carnivore is an animal that mostly eats meat.*	**Stomach**	A muscular organ that digests food.
Tooth decay	*Tooth decay is the breakdown of tooth enamel which can lead to holes in the teeth called cavities.*	**Large Intestine**	*A large muscular tube which removes excess water and squeezes waste products to the anus*
Enamel	*Outer hard white layer protecting the tooth from wear and tear.*	**Small Intestine**	*A muscular tube where digestion takes place and nutrients from the broken down food get absorbed into your body.*

Curriculum Links

Potential Misconceptions

- Arrows in a food chains mean 'eats'
- The death of one of the parts of a food chain or web has no, or limited, consequences on the rest of the chain
- There is always plenty of food for wild animals
- Your stomach is where your belly button is
- The food you eat becomes "poo" and the drink becomes "wee"
- Food is digested only in the stomach
  when you have a meal, your food goes down one tube and your drink down another

Lesson Sequence	Key Knowledge & Skills
1. Can I recognise different teeth in humans?	• Name the different types of teeth which humans have and use observations to help them identify them within their own mouths. • Understand that the number of teeth change as we become adults • Classifying the different teeth and recognising how their differences defines their roles in the mouth.
2. Can I identify different carnivores, herbivores and omnivores?	• Classifying animals according to their diet • Observe the differences between different animals based on their skulls and teeth. • Comparing the teeth of carnivores and herbivores and suggesting reasons for differences

3. Can I explain how tooth decay occurs?	• Investigate the effect of different food types on the enamel of teeth • Understand the structure of the tooth and how enamel protects the teeth from decay • Recognise how hygiene can help protect the teeth from decay
4. Can I explain the sequence of digestion in human?	• Observe how digestion occurs in the human body • Sequence the different processes of the digestive system
5. Can I explain the function of different parts of the body in digestion	• Recognise the role of each part in the digestive system • Label the parts within the human body
6. Can I construct a food chain?	• Construct a food chain which shows the flow of energy through a system • Classify living things into predators, prey, producers and that they can have more than one role in different chains.

Working Scientifically

Classifying, identifying and grouping – identifying and classifying teeth into different groups, classifying animals based on their teeth.
Comparative and fair testing – Develop fair tests to investigate the effect of different foods on teeth.

Themes and links

Scientific Threads	Where these are covered:	Links across the Science curriculum	
Diversity	•	**EYFS**	• know similarities and differences in relation to places, objects, materials and living things. • Discuss features of their own immediate environment • Recognise how environments might vary from one another. • Make observations of animals and plants explaining why some things occur and changes
Health	•	**Year 1**	• Identify and name common animals including fish, amphibians, reptiles, birds and mammals. • Identify common animals that are carnivores, herbivores and omnivores. • Describe and compare the structure of a variety of common animals • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Animals, including humans, have offspring which grow into adults. • Understand the basic needs of animals, including humans, for survival • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
Environmental Impact	•	**Year 2**	
Innovation	•	**Year 3**	• Humans, need the right types and amount of nutrition, and that they cannot make their own food. • Humans and some other animals have skeletons and muscles for support, protection and movement.
Hinterland Knowledge		**Year 4**	
		Year 5	• The changes as humans develop to old age. • Differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Living things and their habitats)

	Year 6	• The life process of reproduction in some plants and animals. (Y5 - Living things and their habitats) • The main parts of the human circulatory system, and the functions of the heart, blood vessels and blood. • Impact of diet, exercise, drugs and lifestyle on the way their bodies function. • The ways in which nutrients and water are transported within animals, including humans. • Classifying living things into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. (Y6 - Living things and their habitats) • Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)