

Year 4 Biological Science: Animals Including Humans (The Digestive System)

Unit 2

Scientific Model (KS2):

Energy Transfer Model

- Ensure the children understand the purpose and importance of the digestion system before you study the specific details of how the system works.
- Begin the unit with the web chain and how the energy is passed down from one organism to the next and then focus in on the digestive system and then the function of the teeth within this system.

Scientific Investigations:

- Observing Changes over Time
- Researching Using Secondary Sources
- Comparative and Fair Testing

Scientists:

- A local dentist
- Washington Sheffield was an American dentist, and he was famous for inventing the first modern toothpaste in a tube.

Scientific Skills Applied:

ASK

- To ask relevant questions
- To decide when to use secondary sources to find answers
- To make simple predictions based on knowledge of science

BREAKDOWN

- To set up simple tests
- To decide what equipment to use
- To learn how to use new equipment
- To make decisions about the type of enquiry
- To use different enquiry types to test questions

CAPTURE

- To observe carefully
- To measure accurately using standard units
- To measure using a range of equipment
- To gather data and record in different ways
- To make systematic observations
- To identify differences, similarities and changes

DESCRIBE

- To draw simple conclusions
- To present data in different ways
- To explain what they have found out using correct scientific language
- To record finding using correct language in varied ways
- To answer questions based on evidence orally and in writing
- To suggest improvements to tests

Prior Learning:

- Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans)
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans)
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)
- 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. (Y3 - Animals, including humans)

Curriculum

Learning Intention

Knowledge and Key Vocabulary

Making links to learning and discuss the model (if needed)

- Ensure the children understand the purpose and importance of the digestion

Recap of skeletal and muscular systems and why they are important to animals and humans.

Knowledge:

- Know energy is passed up the food chain from the Sun, up to the final consumer/predator.

<p>system before you study the specific details of how the system works.</p> <ul style="list-style-type: none"> - Begin the unit with the food chain and how the energy is passed down from one organism to the next and then focus in on the digestive system and then the function of the teeth within this system. 	<p>Why do animals need to eat?</p> <ul style="list-style-type: none"> - Explore food chains showing the transfer of energy from producer to final consumer. - Discuss local habitats - Explore interdependence using food webs 	<p>Vocabulary: Food chains: predator; prey; food chain; producer; consumer; food webs; ecosystem; habitat; apex predator; photosynthesis; decompose; scavenger</p>
<p>Knowledge and skills through investigations</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> - 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. <p>Notes and guidance (non-statutory)</p> <ul style="list-style-type: none"> - 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. 	<p>What are the digestive organs?</p> <ul style="list-style-type: none"> - Identify and name organs on a diagram <p>How does the digestive system work?</p> <ul style="list-style-type: none"> - Investigate how the digestive system works. - Explain the function of the main digestive organs. <p>Why do humans have different types of teeth?</p> <ul style="list-style-type: none"> - Explore the difference between milk teeth and permanent teeth - Investigate how the shape of each type of tooth links to their function. <p>How do animals' teeth differ?</p> <ul style="list-style-type: none"> - Investigate the difference between the teeth of carnivores, herbivores and omnivores. - Explore how the teeth of each impacts what they are able to eat. <p>How can we care for our teeth?</p> <ul style="list-style-type: none"> - Generate relevant scientific questions to answer - Suggest an appropriate type of scientific enquiry to answer a question. - Set up a simple enquiry with support. - Make predictions and suggest equipment. - Give clear instructions explaining how to perform a test. 	<p>Knowledge:</p> <ul style="list-style-type: none"> - Name four parts of the digestive system. - Explain how food is absorbed. - Name the three different types of teeth and their functions. - Explain how to maintain healthy teeth. <p>Vocabulary: Digestion: digestive system; food; nutrients; mouth; tongue; teeth; oesophagus; stomach; small intestine; large intestine; rectum; anus; mucus; peristalsis; acid; absorption</p> <p>Teeth: carnivore; herbivore; omnivore; tooth; incisor; molar; pre-molar; canine; biting; holding; tearing; grinding; root; gum; jaw bone; tooth decay; plaque; enamel; dentine; pulp</p>

Application and Assessment Activity

Qandale gijca	Qandale gijca	Qandale gijca
1.1	1.2	1.3
2.1	2.2	2.3
3.1	3.2	3.3
4.1	4.2	4.3
5.1	5.2	5.3

2. Join the right part of the digestive system to its job.

Part of the digestive system
Saliva
Gall bladder
Liver
Duodenum
Oesophagus

Jobs
Releases bile into the duodenum when needed.
First part of the small intestine.
Helps chew, taste or swallow.
A muscular tube which forms the path from the mouth to the stomach.
Produces bile which helps to absorb fats.

3. In the stomach, along with other parts of the body, you will find glands and enzymes:

a) What do glands do?

b) What do enzymes do?

Thinking Deeper:

- How do we keep our digestive system healthy?

Links to other subjects:

- Subject Specific links – PSHE – how a healthy diet can keep our teeth and digestive systems healthy
- Personal Development – leading a healthy lifestyle
- SMSC – Learning why a good diet is important and consider the school lunch menu and ‘Meat Free Monday’
- Cultural Capital – understand that other countries must pay for all of their healthcare and it is not readily available
- Careers – A visit from a local dentist and discuss the roles of doctors in keeping our digestive system healthy.
- British Values – our NHS developed to look after our health needs and dentists are free for children
- Equality – importance of healthy diets and an awareness of food poverty