

Y4 – Animals including humans

Inspiration

Creativity (problem solving)

Partnership with parents

Community

Key Questions

- What does digest/digestive system mean?
- Why do humans need to digest food?
- What is the function of the mouth/oesophagus/stomach/duodenum/small intestine/large intestine?
- What are glands and enzymes?
- How do humans digest food?
- How does food travel through the body?
- What parts of the body are involved?
- How many teeth different types of teeth do adult humans have? What are their functions?
- What is tooth decay and what causes it?
- What is a food chain?
- Why are plants called producers?
- Which groups of animals are secondary consumers?

Working Scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- 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
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- 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.

Also covered in:

- Y1 – Animals including humans
- Y2 - Animals including humans
- Y3 – Animals including humans
- Y5 – Animals including humans
- Y6 – Animals including humans

At the end of this unit, children will be able to:

- explain the simple functions of the basic parts of the digestive system in humans
- name the different types of teeth in humans and discuss their simple functions
- make and interpret a variety of food chains, identifying producers, predators and prey

Knowledge

- Humans digest food. They have a digestive system that allows them to do this.
- Glands are organs that release fluids to be used in the body. Common examples are sweat glands and tear glands.
- Enzymes are special molecules in the body (molecules make up cells, which make up tissue, glands, organs, etc). They act to create a chemical reaction and in digestive system the reaction they produce breaks down food.
- The mouth is where food enters the body and mixes with saliva. It is the location of the tongue and teeth and the top part of the mouth (soft palate) which helps move food along to the oesophagus.
- The oesophagus is where saliva mixes with food. It is a muscular tube which forms the path from the mouth to the stomach. Muscles contract and relax to move food down the oesophagus to the stomach. This motion is called peristalsis
- Glands line the stomach and produce acid and enzymes which break the food down further and muscles in the stomach contract to churn/mix the food.
- The liver produces bile which is sent to the gall bladder to be stored – bile helps to absorb fats.
- When bile is needed, the gall bladder releases it into the first part of the small intestine which is called the duodenum.
- The pancreas produces enzymes to break down fats, proteins and carbohydrates and releases them into the duodenum.
- In the duodenum, bile from the gallbladder and enzymes from the pancreas break down food.
- The other two parts of the small intestine are called the jejunum and ileum and these absorb nutrients from the food and move any leftover broken down food to the large intestine.
- The large intestine connects the small intestine to the rectum. In the large intestine water from waste food is absorbed and stool is formed from the waste food.
- Stool moves from the large intestine to the rectum where it is stored. The rectum makes the brain aware of the need to go to the toilet.
- When we need the toilet, the anus releases the stool and this is the end of the digestive process.
- Milk teeth are temporary while adult teeth are permanent. There are 20 milk teeth altogether. There are between 28 and 32 adult teeth.
- Humans have eight shovel shaped incisors that are used to cut and bite food, four pointy canines to tear and rip food, 8 small flat premolars to hold and crush food, 8 large flat molars to grind food and some people may have up to four large flat wisdom teeth. Wisdom teeth do not have a function now but some believe that our human ancestors needed a third molar to help grind down plant tissue from thicker leaves when humans still ate them. Since the diet of humans has changed, we don't need them. As the human diet changed our mouths have become smaller. This is the reason why many people have their wisdom teeth extracted – taken out – as there is no real room for a wisdom tooth so it tends to grow inward and can become a problem.
- Poor oral hygiene and sugary diets can cause tooth decay.
- A food chain is a series of organisms each dependent on the next as a source of food. Producer – prey – predator.
- All energy comes from the sun. Plants are able to produce energy from the sun directly so in a food chain we call them producers. Many animals only eat plants (herbivores) and we call these animals primary (first) consumers. The next group are called the secondary consumers and they are carnivores or omnivores and eat the primary consumers.
- In a food chain feeding relationships are interconnected, and any changes may result in an over population or a decline in a particular species within the food chain.

Topic Specific Vocabulary

digestion, digest, digestive system, glands, enzymes, mouth, saliva, salivary glands, tongue, teeth, oesophagus, stomach, pancreas, liver, bile, absorb, gall bladder, duodenum, small intestine, jejunum, ileum, nutrients, large intestine, rectum, anus, stool, milk teeth, adult teeth, permanent, incisor, canine, premolar, molar, diastema, wisdom, extracted, oral hygiene, diet

NC Subject content

- 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

Subject Specific/Academic Vocabulary

This vocabulary should be explicitly taught in context. Other tier 2 words should also be explored as they are encountered.

Year 3	Year 4	Year 5	Year 6
Benefit, impact, issues, occur, process, sequence, source, variables	Appropriate, consequences, identified, procedure, range, relevant, significant, specific, theory, transfer	Factors, affect, analyse, contribute, demonstrate, outcome, react, volume,	Component, exclude, function, imply, initial, justify, sufficient.

We are scientists

