

# Subject Knowledge Organiser - Animals Including Humans - Year 4

## What I have already learnt (Year 3)

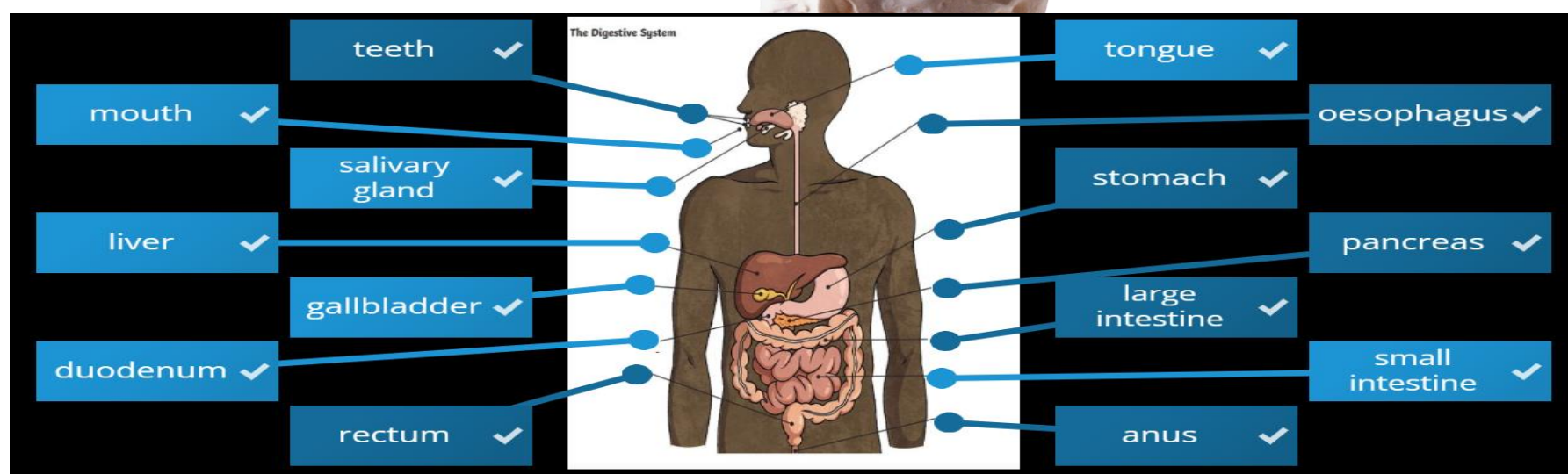
- Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

## Key Concepts/Strands

- Biology
- Chemistry
- Physics
- Scientific Enquiry
- Science for the future

## What I will have learnt by the end of the unit

- 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



## What I will have learnt by the end of my Key Stage

- describe the changes as humans develop to old age
- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- 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

## Key Skills I Will Learn/Use

- 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

## Key Knowledge

Digestion is how the body breaks down food so it can be taken in and used. There are many organs in the digestive system each with a particular job. The digestive system is made up of key parts, each of which has a different function. Food passes through most of these parts in a journey from mouth to the anus.

Teeth are used for cutting and chewing food. They start the digestive process which gives us the energy we need to live. Humans look after their teeth by brushing and flossing and ensuring that they do not eat foods high in sugar. Not looking after teeth can lead to an increase in plaque and tooth decay.

All living things need to consume something like food for energy. Because of this, all living things are part of a food chain. All living things need energy from food to grow, repair themselves and reproduce. Plants get their energy from sunlight in **photosynthesis**. Animals need to eat plants or other animals to get their energy. The flow of energy from one living thing to another is shown in the arrows in a **food chain**. Plants are at the beginning of most food chains. They are called **producers** because they make their own food. Any animal which eats a producer is called a **primary consumer**. The rabbits in the food chains below are primary consumers. All primary consumers are **herbivores** because they only eat plants.

**Secondary consumers** eat primary consumers. All secondary consumers are **predators** because they kill and eat other animals. The fox is the secondary consumer and also a predator. The rabbits are their **prey**. The animal at the top of the food chain is called the **top predator**. Changes in food chains affect all the living things in them, so if the rabbits became sick and started to die, the foxes would have less to eat and may die as well, but more grass could grow, as less rabbits are eating it. All living things in a food chain depend on each other.



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## KEY VOCABULARY

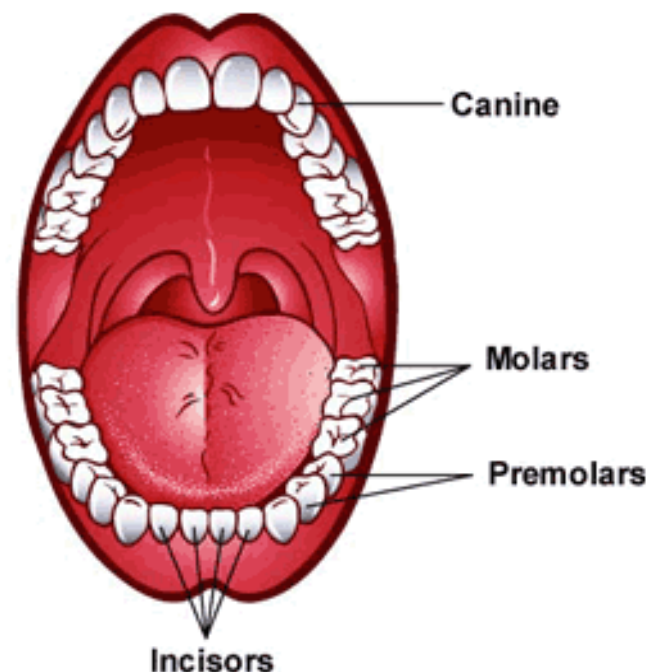
Word	Definition
canine	pointed teeth near the front of the mouth in humans and some animals
carnivore	an animal that eats meat
decay	natural process of slowly losing health or strength
digestion	the breaking down of food that is eaten
enamel	The hard white substance that forms the outer layer of the tooth
excretion	Process of getting rid of faeces, urine or sweat through the body
faeces	the solid waste substance that people and animals get rid of from their body by passing it through the anus
food chain	the order in which living things depend on each other for food
incisor	the teeth at the front of your mouth which you use for biting into food
intestines	the tubes in your body through which food passes when it has left your stomach
molar	the large, flat teeth towards the back of your mouth that you use for chewing food
nutrition	the process of taking food into the body and absorbing the nutrients in those foods
oesophagus	the part of your body that carries the food from the throat to the stomach
omnivore	an animal that eats plants and animals
predator	an animal that hunts, catches and eats other living things
prey	An animal that is hunted, caught and eaten by other living things
producer	a plant that produces its own food
rectum	part of the digestive system where stools are stored before leaving the body through the anus.
saliva	the watery liquid that forms in your mouth and helps you to chew and digest food
stomach	the organ inside your body where food is digested before it moves into the intestines

## My Skills and Knowledge that I may use from other subjects

Literacy- I can use my literacy knowledge to write about my findings

Mathematics- I can use my measuring skills to carry out simple tests and record my findings using diagrams and graphs

Geography- I can use my knowledge about animals and their habitats in different countries around the world.



## Recall and remember

Explain in your own words what a digestive system is.

Where does digestion start and finish?

Circle the correct answer. The main job of the stomach is ...

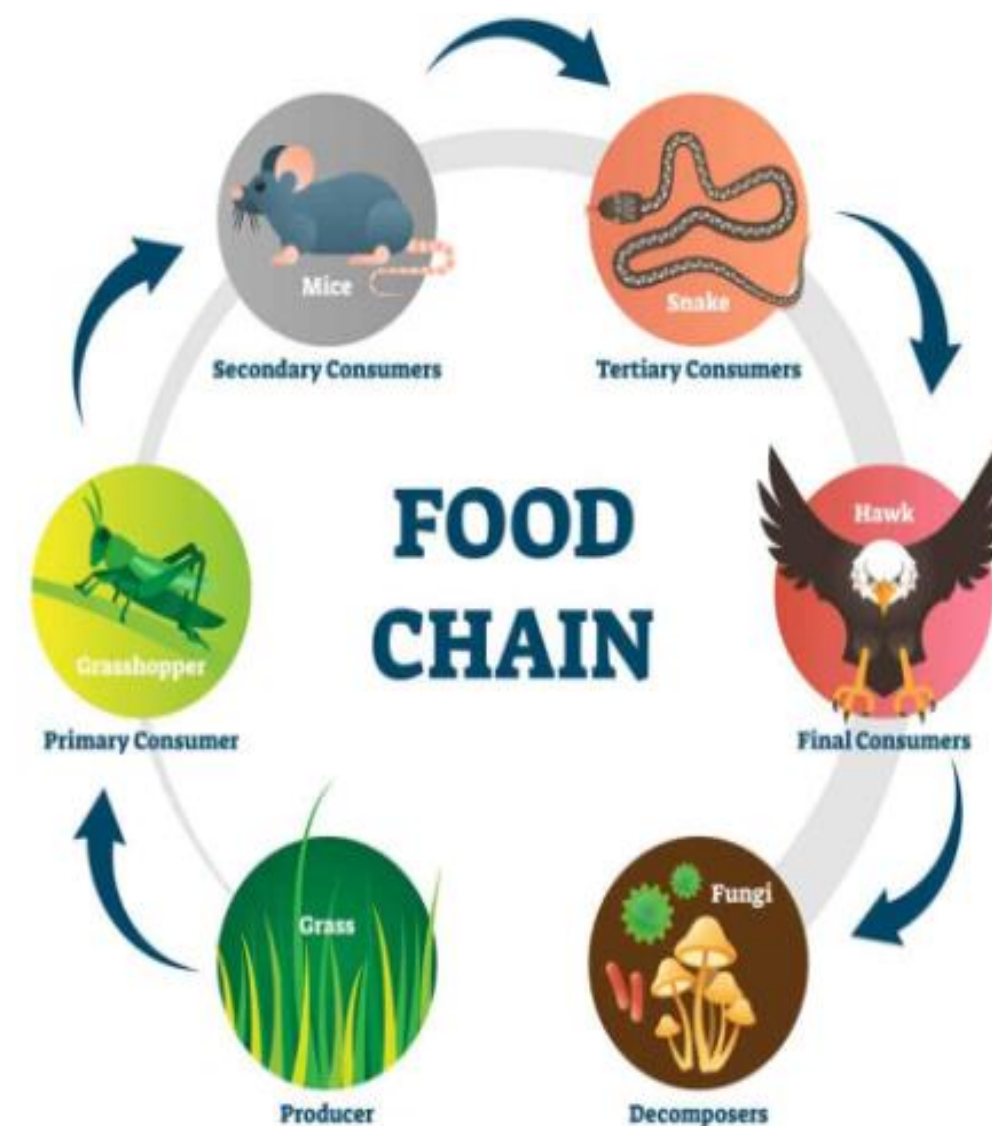
- A. To absorb the water.
- B. To absorb all the good things, like minerals and vitamins.
- C. To expel the undigested waste.
- D. To break down the food.

What is an omnivore? Give examples

How do carnivores' teeth differ from the teeth of the herbivores?

Put these animals in order to make a simple food chain: snail, human, cabbage, chicken.

Circle the producer in this food chain. 8b. Which animal is the predator? Which animal is the prey?



## Opportunities for teaching Diversity, Equality (including protected characteristics) and expanding Cultural Capital

Explore animals from different countries and watch live cameras from different zoo's

- Live Panda cam | Edinburgh Zoo
- Live Cameras | San Diego Zoo

Get to meet a scientist! Explore people who use science in their jobs.

- I'm a Scientist, Get me out of here! - A super-curricular science outreach education & engagement activity ([imascientist.org.uk](http://imascientist.org.uk))
- Science for Everyone ([science4everyone.org](http://science4everyone.org))