

Knowledge Organiser - Year 4 - Science: Animals

including humans; Digestion, teeth and food chains



Digestion begins in the mouth with the mechanical movement of the teeth to break down the food. The digestive system then does the rest with chemicals provided by a variety of body organs.

Key Vocabulary

Canine	A pointed tooth between the incisors and premolars of a mammal.
Carnivore	An animal that feeds on other animals.
Consumer	An organism that generally obtains food by feeding on animals or plants. It can't make its own food.
Crown	The part of the tooth that's above the gum and covered in enamel.
Dentine	This is a layer of material that lies immediately underneath the enamel of the tooth.
Digestive System	The system of organs responsible for getting food into and out of the body and for making use of food to keep the body healthy.
Enamel	The hard glossy substance that covers the crown of a tooth. It's the hardest mineral substance in your body, even harder than bone.
Food chain	A series of organisms each dependent on the next as a source of food, starting with a producer.
Gum	The soft tissue surrounding the teeth and jaw bone.
Herbivore	An animal that feeds on plants.
Incisor	A narrow-edged tooth at the front of the mouth, adapted for cutting. In humans there are four incisors in each jaw.
Molar	A flat, grinding tooth at the back of a mammal's mouth.
Omnivore	An animal or person that eats a variety of food of both plant and animal origin.
Predator	Any animal that hunts and kills other organisms (their prey), primarily for food.
Premolar	A tooth situated between the canine and the molar teeth. An adult human normally has eight, two in each jaw on each side.
Prey	An animal that is hunted and killed by another for food.
Producer	Producers are plants that make their own food. They get energy from the sun, and with the help of water, convert that energy into useable energy in the form of sugar, or food.
Root (tooth)	The lower two-thirds of a tooth. The roots are normally buried in bone and gum, and they serve to anchor the tooth in position.

Working Scientifically

Pupils should talk about criteria for grouping, sorting and classifying. They should begin to set up simple practical enquiries, comparative and fair tests and decide what data to collect. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. Pupils should use relevant scientific language to discuss their ideas and communicate their findings.

Key Question: How do we process food in our body?

Children have 20 milk teeth or deciduous teeth which are replaced by 32 adult teeth gradually over time.

The different shapes of the teeth, help them to perform different jobs in the mouth.

The top part of the tooth is the crown and covered in white hard enamel. Under the gum is the root, holding the teeth in place.



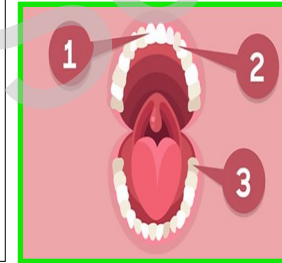
The gums are part of the soft tissue lining of the mouth. They surround the teeth and provide a seal around them. The gums are tightly bound to the jaw bone which helps resist the friction of food passing over them, so the teeth don't wobble.

Nerves and blood vessels are also necessary for each tooth.

What different types of teeth do we have?

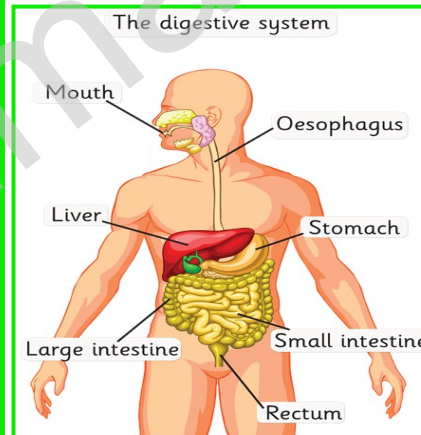
Humans have three main types of teeth:

- 1) Incisors – help you bite off and chew pieces of food.
- 2) Canines – used for tearing and ripping food
- 3) Molars – help you crush and grind



In addition to these as adults we have: Premolars; teeth situated between the canine and the molars. An adult human normally has eight, two in each jaw on each side.

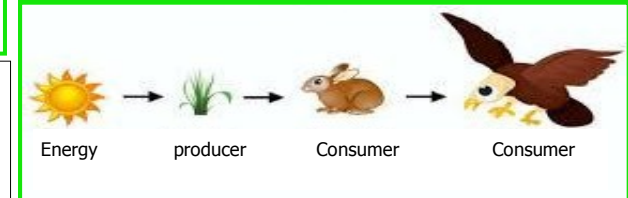
Wisdom teeth are the last to erupt. They are the third back molar on each side, top and bottom.



The human digestive system consists of the gastrointestinal tract (the oesophagus, stomach, small and large intestine) plus other accessory organs of digestion (the tongue, salivary glands, pancreas, liver, and gallbladder). Digestion involves the breakdown of food into smaller components, until they can be absorbed and used by the body. Excess food is expelled from the body or stored as fat in the tissue under the skin or around your body organs.



Herbivores or plant eaters (like zebras) and carnivores or meat eaters (like the big cats) have different specialized teeth depending on the food that they eat. Incisors and molars are important for eating plants and meat eaters need large strong canines for ripping meat. If an animal eats meat and plant food, it is called an omnivore.



Food chains show the links between different organisms, relying on each other for food. If one animal or plant disappears, it has an effect on all the others in the chain. Each chain starts with a producer (a plant) and chains can be linked together into food webs. All animals are consumers because they don't make their own food.