

TMS Science Launchpad - Year 2023/2024

Year 4 - Biology : Animals, including humans

Substantive knowledge:

Teeth & functions

Incisor: Found at the front, flat side for cutting. Humans have 8.

Canines: Sharp pointed teeth used for eating. Humans have 4.

Premolar: Humans have 8.

Molar: Rounded with a flat surface, used for grinding food into smaller parts. Humans have 12.



Caring for teeth:

- Regular dentist
- Cleaning regularly
- Diet



Food chains - energy is transferred from the sun to animals through consumption



Digestive system (7 parts of the body)

Organs that break down food so that it can be absorbed by the body. It also gets rid of waste from the body.

Teeth: Cut and chew food and saliva is added.

The food is soft and easier to swallow.

The **tongue** moves food around the mouth

Oesophagus: Transport food from the mouth to the stomach.

Stomach: Contains enzymes to help break down food and kill any microorganisms that may have been swallowed with the food.

Small intestines: Digested food is absorbed through the walls of the small intestine. The blood then carries the nutrients around the body. The wall of the small intestine is covered in villi, which helps the efficiency of transference of nutrients.

Large intestines: Now that all the goodness has been absorbed, waste is left which cannot be absorbed or the body doesn't need. This is called faeces. This comes out of the body via the rectum.

Gallbladder: stores bile, which is made in the liver.

This breaks down fatty food.



Sun gives energy

Green plants are producers - convert the sun's energy into food

Primary consumers (prey)

Secondary consumers. If animals eat other animals, these are called predators.



Vocabulary:

herbivore, carnivore, digestive system, tongue, mouth, saliva, teeth, oesophagus, stomach, gallbladder, small intestine, villi, nutrients, pancreas, large intestine, liver, rectum, anus, tooth, canine, incisor, molar, premolar, producer, consumer.

Disciplinary knowledge

Identify and classify



Pattern seeking



Observation over time



Comparative tests



Identify and classify



Comparative tests



Can you **identify** the names for all the organs involved in the digestive system? (to observe closely)

Are foods that are high in energy always high in sugar? (interpret results and draw conclusions)

How does an egg shell **change** when it is left in cola? (to observe closely)

Which toothpaste takes the shortest amount of time to remove plaque? (to plan an enquiry)

How can we **organise** teeth into groups? (to observe closely)

In our class, are omnivores **taller** than vegetarians? (to take measurements and record results)

Research



How do dentists fix broken teeth?
What are the differences between the teeth of herbivores and carnivores?