Jeavons Wood Primary School – Science Knowledge Organiser

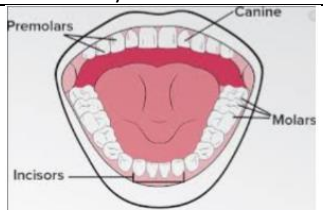
Topic: Animals including Humans	Year:4	Strand: Biology

Big Question: What happens to the food I have eaten and how do my teeth help?

What should I already know?

*The parts of the human body and what they do.
*All animals need water, air and food to survive.
*The different ways in which humans are healthy.
*Animals get nutrition from what they eat.
*Humans and some animals have skeletons and muscles for support, protection and movement.
*What carnivores, omnivores and herbivores are.
*Excretion is one of the seven living processes.

What will I know by the end of the unit?

What is the role of our teeth and how do we look after them?	*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.
What are the different names and functions of human teeth?	 *Canines are pointed for tearing and ripping food - these are usually used when chewing meat. *Incisors are shovel shaped and help bite lumps out of and cutting food. Premolars and molars are flat and they grind and crush food.

Where will my learning go next?

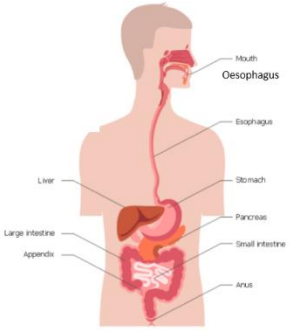
In Year 5: To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.

In Year 6: To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. give reasons for classifying plants and animals based on specific characteristics.

Vocabulary

absorb	soak up or take in
canine	pointed teeth near the front of the mouth of humans and of some animals
carnivore	an animal that eats meat
decay	gradually destroyed by a natural process
digestion	breaking down ingested food material
enamel	the hard white substance that forms the outer part of a tooth
excretion	the process of eliminating faeces, urine, or sweat from the body
faeces	the solid waste substance that people and animals get rid of from their body by passing it through the anus
herbivore	an animal that only eats plants
incisor	the teeth at the front of your mouth which you use for biting into food
ingested	When animals or plants ingest a substance, they take it into themselves, for example by eating or absorbing it
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
muscles	something inside your body which connects two bones and which you use when you make a movement
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	person or animal eats all kinds of food, including both meat and plants
organ	a part of your body that has a particular purpose
plaque	a substance containing bacteria that forms on the surface of your teeth
premolar	two situated on each side of both jaws between the first molar and the canine
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

The Digestive System



*The smell of food triggers saliva to be produced.
*The digestive system begins with the mouth and teeth where food is ingested and chewed.
*Saliva is mixed with the food which helps to break it up.
*When the food is small enough to be swallowed, it is pushed down the oesophagus by muscles to the stomach.
*In the stomach, food is mixed further.
*The mixed food is then sent to the small intestine which absorbs nutrients from the food.
*Any leftover broken down food then moves on to the large intestine.
*The food minus the nutrients arrives in the rectum where muscles turn it into faeces. It is stored here until it is pushed out by the anus. This is called excretion.

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Big Question: What happens to the food I have eaten and how do my teeth help?

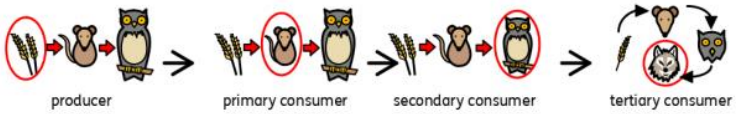
What should I already know?

- Animals can be grouped into carnivores, herbivores and omnivores and other ways in which to classify animals.
- The differences between the teeth (incisors, molars, canines) of carnivores and herbivores.
- Examples of habitats (including microhabitats) and the animals and plants that can be found there.
- Plants need sunlight to grow.
- Living things depend on each other to survive.
- The seven life processes and that nutrition is one of them.
- Nutrition is the life process by which animals get energy.
- How environments are changing.

What will I know by the end of the unit?

What is a food chain?

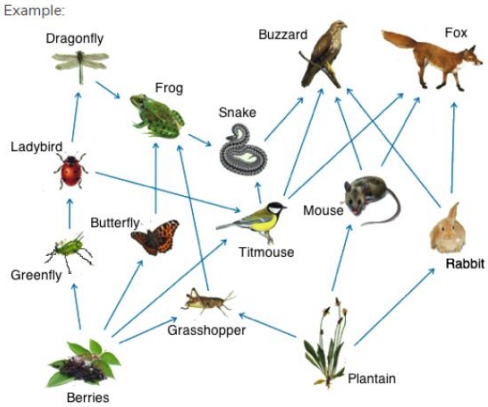
- A food chain is a simple way to show the direction in which energy moves from the producer to the various consumers to the top or tertiary consumer.
- The producer (a plant) gets its energy from the Sun.



- In this example, the producer is the wheat, which gets its energy from the Sun.
- The mouse eats the wheat and gets its energy from it. The mouse is the primary consumer.
- The mouse is then eaten by the owl, which is the secondary consumer. The owl gets its energy from the mouse. The owl is the predator and the mouse is the prey.
- The owl is then eaten by the wolf, which is the tertiary consumer. The wolf gets its energy from the owl.
- The arrows show the direction in which the energy travels

What is a Food Web?

- A food web shows the direction in which energy travels when animals and producers (plants) are eaten by more than one thing.
- A food web shows multiple food chains where there are multiple feeding relationships



- When part of the food chain is removed, this has an impact on the other parts of the food chain. The number of some species will increase, while the population of others will decrease.
- This can have a direct impact on the survival of the species.
- The population of tertiary consumers depends on healthy populations of producers, primary and secondary consumers

Vocabulary

canine	pointed teeth near the front of the mouth of humans and of some animals
carnivore	an animal that eats meat
classification key	a system which divides things into groups or types
energy	the ability and strength to do physical things
environment	all the circumstances, people, things, and events around them that influence their life
food chain	a series of living things which are linked to each other because each thing feeds on the one next to it in the series
food web	a combination of food chains that integrate to form a network
habitat	the natural environment in which an animal or plant normally lives or grows
herbivore	an animal that only eats plants
life processes	There are seven processes that tell us that living things are alive
microhabitat	a small part of the environment that supports a habitat, such as a fallen log in a forest
nutrition	the process of taking food into the body and absorbing the nutrients in those foods
omnivore	person or animal eats all kinds of food, including both meat and plants
organism	a living thing
predator	an animal that kills and eats other animals
prey	an animal hunted or captured by another for food
primary consumer	an organism that feeds on producers . They are always herbivores.
producer	organisms that make their own food using energy from the Sun.
secondary consumer	organisms that eat primary consumers for energy
tertiary consumer	tertiary consumers eat primary and secondary consumers as their main source of food

Investigate!

- Match predators and their prey depending on their habitats.
- Create food chains for different habitats and compare them. How do the producers, predators and prey compare? What are their teeth like?
- Compare animal populations and explain why some populations (e.g. insects) might be higher than others (e.g. wolves)
- Dissect owl pellets and investigate and identify the contents
- Explore what happens when part of a food chain is removed.
- Create food webs.
- Explore how the changing environment is having an impact on feeding relationships and food chains/webs.

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Topic: Living things	Year:4	Strand: Biology

Big Question: What happens to the food I have eaten and how do my teeth help?

Question 1: Place these in order of what happens in the digestive system.	Start of unit:	End of unit:
teeth chew food and saliva helps the food to break down.		
any final nutrients are absorbed before waste is pushed out by the anus.		
in the stomach the food is mixed further and then sent to the intestines		
the food is pushed down the oesophagus to the stomach.		

Question 2: Which of these life processes takes place when waste is pushed out?	Start of unit:	End of unit:
respiration		
reproduction		
excretion		
growth		

Question 3: The substance that contains bacteria on the surface of your teeth is called...	Start of unit:	End of unit:
plaque		
canines		
molars		
incisors		

Question 4: The substance that helps break down food in the mouth is...	Start of unit:	End of unit:
oesophagus		
saliva		
nutrients		
stomach		

Question 5: What carries food from the mouth to the stomach?	Start of unit:	End of unit:
blood		
oesophagus		
tongue		
teeth		

Question 6: Tooth decay is when..	Start of unit:	End of unit:
teeth are used to chew		
teeth are kept healthy		
teeth are destroyed and damaged		
teeth are brushed twice a day		

Question 1: Look at this food chain. Draw arrows to show the direction in which the energy travels.


grass


grasshopper


frog


fox

These questions are based on the food chain above.	Start of unit:	End of unit:
Question 2: What is the producer in the food chain?		
Question 3: What is the primary consumer?		
Question 4: Give an example of a predator from the food chain.		
Question 5: Give an example of prey from the food chain.		
Question 6: Which habitat would you find this food chain in?		