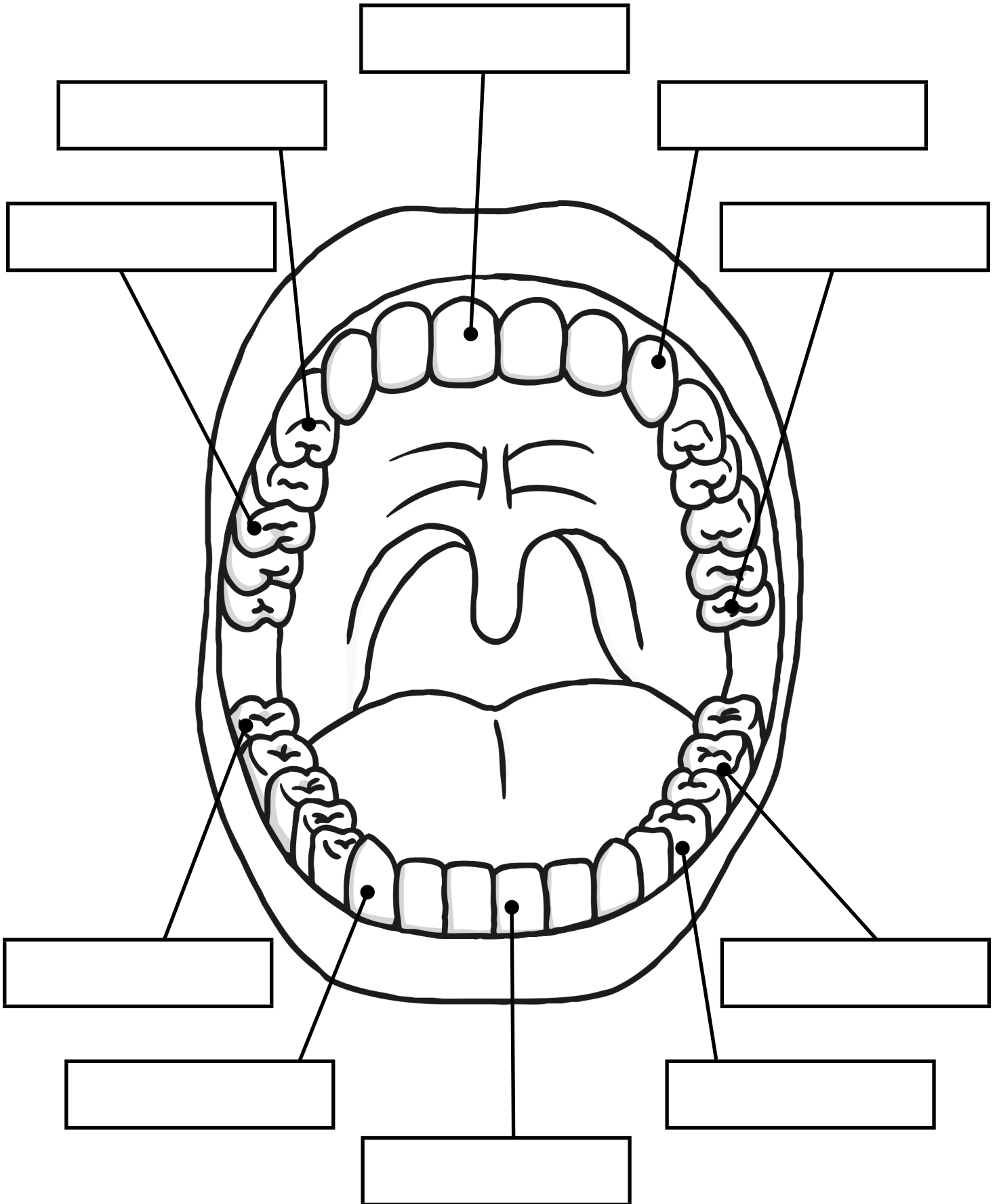


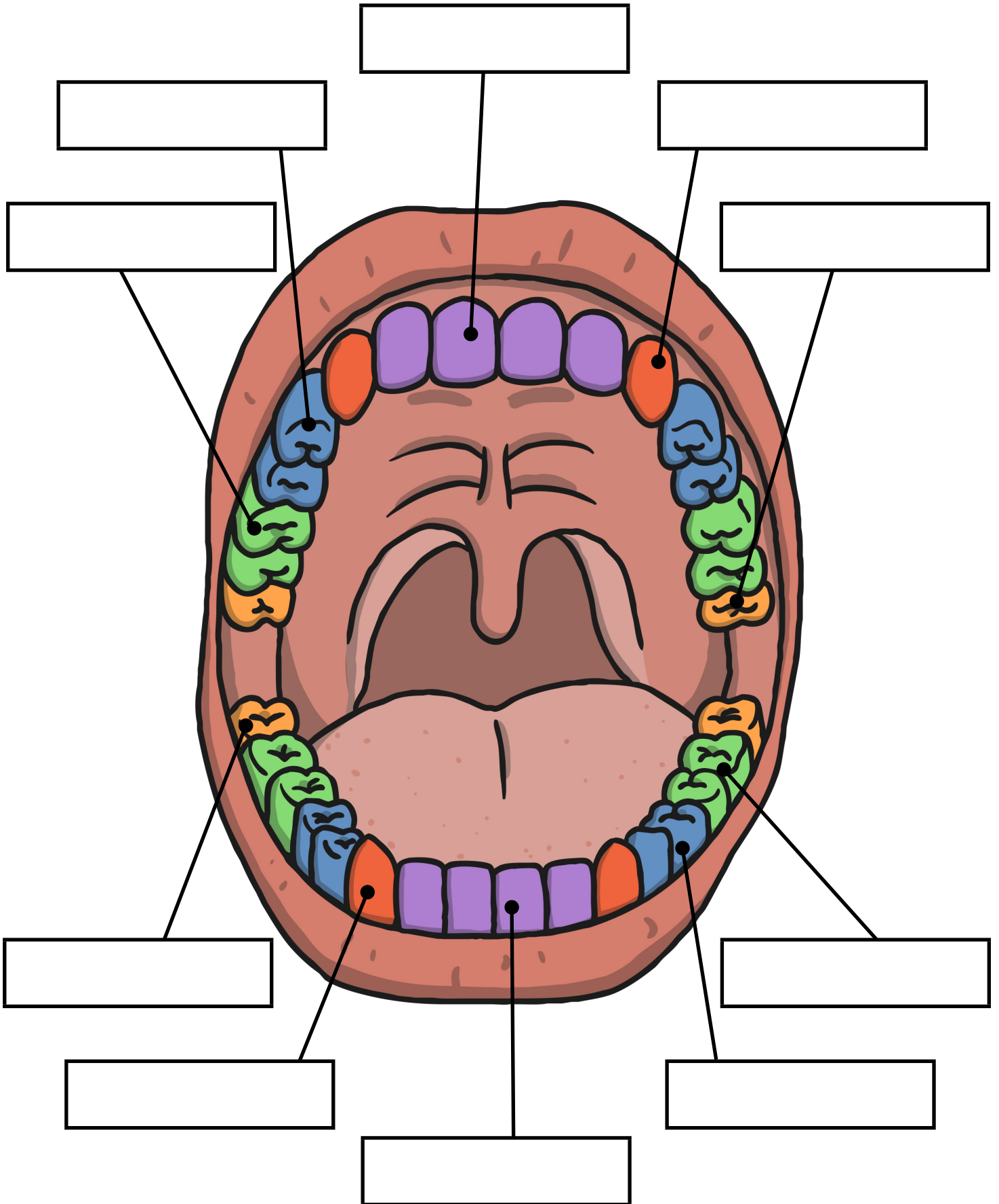
Teeth Labelling

Label the teeth on this diagram:



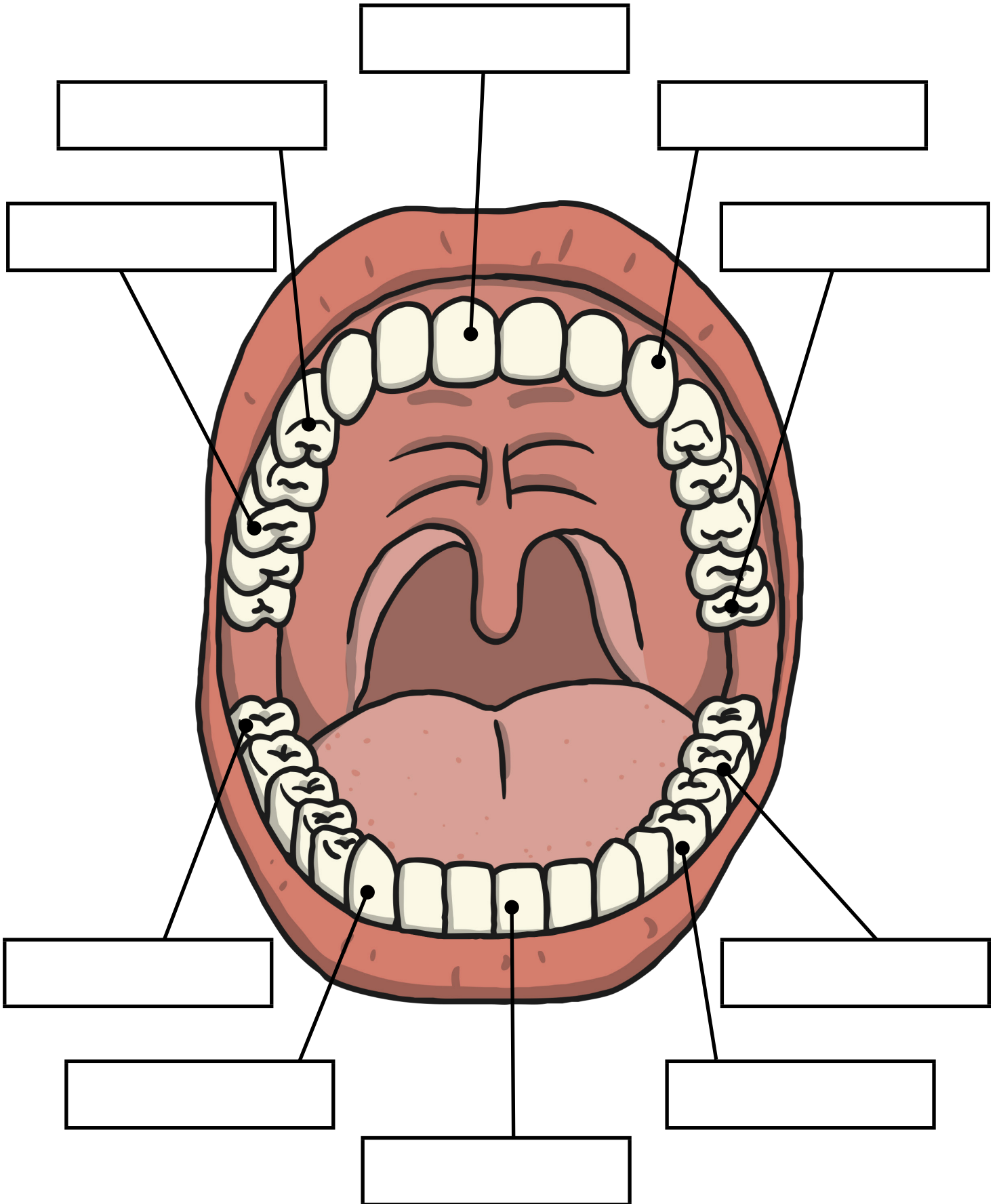
Teeth Labelling

Label the teeth on this diagram:



Teeth Labelling

Label the teeth on this diagram:



Adult Guidance

Digestive System Functions

Molecules Versus Cells

Everything is made up of molecules. The differences between molecules and cells for the purpose of this unit are that:

Molecules are a group of two or more atoms stuck together.

Cells can be alive or dead whereas molecules exist regardless.

Molecules can contain different elements but only join with other molecules that are the same whereas cells can contain different types of molecules.

Muscles

Although all are located in the same place they all perform separate functions and therefore need to be taught separately. Children may find the idea of saliva distasteful however without them they would not be able to taste food properly, chew or digest food – especially drier foods which would be difficult to break down and swallow.

Pharynx

The pharynx is the part of the throat which receives food from the mouth. It is here that the openings to the windpipe (trachea) and oesophagus reside. While the pharynx does not enable digestion per se (hence it's exclusion from the digestive system part and functions) it is the place where food can go down the 'wrong way' into the trachea. Eating is a complex process as the windpipe needs to be closed so that food enters the oesophagus. Choking occurs most often when food has not been chewed properly, too much food has been eaten at one time or from eating foods that are not easily broken down.

Oesophagus

The oesophagus is a muscular tube that leads to the stomach. The method by which food is moved is called peristalsis. This means that the muscles contract and relax in a wave formation along the tube to move the food down it.

Pancreas, Liver, Gallbladder

Food does not enter these organs, instead they produce and/or release digestive juices that break down the food in the duodenum where they are released. The liver produces bile which is necessary for the absorption of fats. However, the bile is stored in the gallbladder and released via bile ducts into the duodenum. The pancreas is responsible for producing enzymes that break down fats, proteins and carbohydrates.

Stool/Faeces/Poo!

It's the same in the end but I think that it is important to make children aware that there are different words for it. No doubt a mixture of reactions is to be expected from children however it is all part of their learning. Ultimately the digestive system is vital in ensuring that the body breaks down food into nutrients that can be absorbed. This knowledge and understanding will be built on in the Year 6 Animals Including Humans Science Unit.

Adult Guidance

Digestive System Parts

Digestive System

The children will already have learnt about the skeletal and muscular systems in Year 3. This unit is designed to build on their prior knowledge of the basic need for food, the parts of the body and what they are used for.

This unit will enable the children is the foundation for the Year 6 Animals Including Humans unit where they will bring together their understanding of the different systems in their body, nutrition and how the body transfers nutrients to different parts of the body.

Parts Versus Function

In this lesson children will be identifying the parts and naming them. The functions of the different parts of the digestive system will be the focus of Lesson 2 Digestive System Functions. While the children will be naturally curious and may speculate – ask them to jot down ideas on post-it notes or card and put on display for the next lesson.

Duodenum

The duodenum is the first part of the small intestine and is mentioned separately here as it is primarily responsible for breaking down food using enzymes. In this lesson the children need to understand that it is a special part of the small intestine but need to avoid seeing it as separate to it.

Adult Guidance

Food Chains

Food Chains

Children may already be able to:

- Explain the order of the plants/animals.
- Understand what the arrow means.
- Some may have come across a food web as an extension.

Possible Barriers Here Are:

1. Lack of understanding of herbivores/omnivores/carnivores – you could potentially do some pre-task learning by asking a group to sort animals into these groups.
2. Confusion over prey/predator and producer/consumer. These are different types of labels we give to plants and animals in the food chain. The food chain should be labelled with the latter rather than the former. However, when food chains and webs are discussed in the context of habitats, whether an animal is the prey or a predator makes a difference, especially when studying the impact of the decline of a particular population.

Do not confuse the different ways of labelling the animals – i.e. producer – consumer – predator as this is not correct. Producer – primary consumer – secondary consumer is correct.

Possible Misconceptions That May Need to Be Addressed

1. Plants such as the venus flytrap may be highlighted – they are both producers and consumers. They do photosynthesis to make food like all plants but obviously trap and kill insects. The children need to understand that while in general there are common food chains (producer – consumer) it is not always that simple and the way the food chain is labelled depends on the plants and animals that form it.
2. Decomposers, Detritivores and Scavengers. Decomposers are fungi or bacteria that break down decaying plants or animals. They do not eat as they have no mouths but instead turn decaying material into liquid and absorb this. Detritivores eat decaying plant and animals. Scavengers eat dead animals and so are a type of detritivore.
3. Some children may think that all food chains end with carnivores. They do on the whole but obviously many food chains end with humans who are omnivores. So long as the children understand that food chains are not rigid they will be able to appreciate food webs more because they will understand the interactions are complex. Therefore I would not recommend moving children onto food webs until they can understand slightly more complex and/or unusual food chains.

Adult Guidance

Tooth Decay Enquiry - Part 1

Scientific and Non-Scientific Questions

Children will come across many different types of questions in other subjects. Therefore it is important to ensure that they understand that scientific questions need to be testable. Questions such as "what do you want for dinner?" are personal and cannot be tested for an outcome! The point of scientific questions is to:

- Find new information
- Test ideas
- Confirm /reject ideas and previous tests.

If children are struggling with scientific questioning then scaffold the questions more e.g. Do drinks with _____ cause tooth decay? That way the children can add their ideas: sugar, water, milk, etc. It is fine for them to test with hot or cold drinks but not both as it then becomes two independent variables that they are changing (type of liquid and temperature).

Remember that scaffolding to support questioning should be done in a way that means children can create a scientific question and which enables them to define the dependent variable in some way.

Simple Practical Enquiries, Comparative and Fair Tests

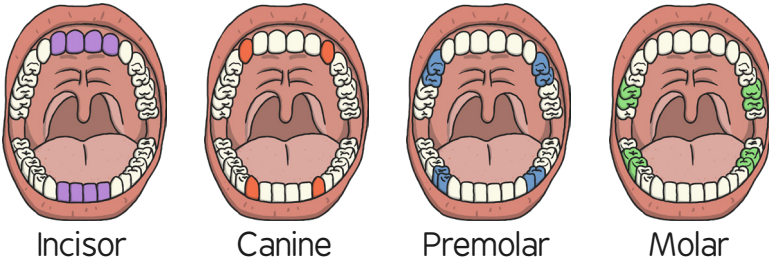
The expectation in Year 3 and 4 is that children will be able to set up and conduct these types of enquiries and tests. The creation of the enquiry /test can still be supported and scaffolded. This is essential for all children as they cannot be expected to create their own enquiries/tests if they have no experience of them and have not been given support to master each of the elements.

The focus is on understanding and applying. One of their conclusions in the end may be that they chose the wrong enquiry type and they could identify what they should have chosen instead. This does not take away from their experience but does enable them to gain a greater understanding of what scientists actually do and the changes, refinements and modifications that take place in the real world of investigating ideas.

Adult Guidance

Types and Functions of Teeth

Types of Teeth: Answers for IWB



Milk Teeth Versus Adult Teeth

While this lesson focuses on adult teeth you may be asked questions about milk teeth.

The key differences between them are:

1. Milk teeth are temporary while adult teeth are permanent.
2. There are 20 milk teeth altogether – in each quarter there is two incisors, one canine and two molars. There are between 28 and 32 adult teeth. In each quarter there are two incisors, one canine, two premolars and two molars and in some cases one wisdom tooth.
3. Milk teeth start to appear when a baby is around 6 months and fall out around 6 years old. Your permanent teeth start to emerge from the age of 6 and are generally all emerged by the age of 12. Wisdom teeth on the other hand tend to grow between the ages of 17 – 21 are called wisdom teeth simply because they emerge when you are older and supposedly wiser!

Herbivores, Carnivore and Omnivore Teeth

Herbivores

Most species of herbivores have incisors, premolars and/or molars but tend to lack canine teeth although there are notable exceptions to this including horses, hippos and giant panda to name a few. Herbivores who lack canines usually have a gap between their front teeth and cheek teeth called a diastema. Human diastema is usually what is referred to as gap tooth – where there is a gap between the front two incisors.

Carnivores

Carnivores have a mixture of the different types of teeth ranging from crocodiles who only have canine teeth to lions and dogs which have all the same types of teeth that humans. However, some species have a modified type of pre-molars called a carnassial teeth. This is the 4th pre-molar in the set of teeth and used to crush up hard materials such as bones.

Omnivores

Like carnivores, some omnivores use their teeth to help catch their prey. Rodents in particular are known for their long incisor teeth which grow continuously. They can use these to chew through difficult materials such as husks or wood to obtain well-protected or difficult to obtain food.

Diet affects the types of teeth an animal has and when/how they grow. It is important that children understand that while there are 'typical' types of teeth for herbivores, carnivores and omnivores, there is still great variation within these groupings.



**Animals
Including
Humans**

Challenge Cards



**Animals
Including
Humans**

Challenge Cards



**Animals
Including
Humans**

Challenge Cards



**Animals
Including
Humans**

Challenge Cards



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**Animals
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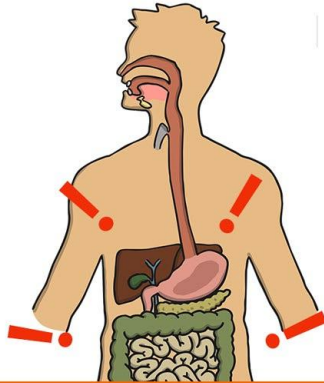


**Animals
Including
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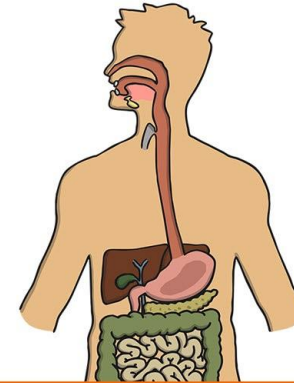
Challenge Cards



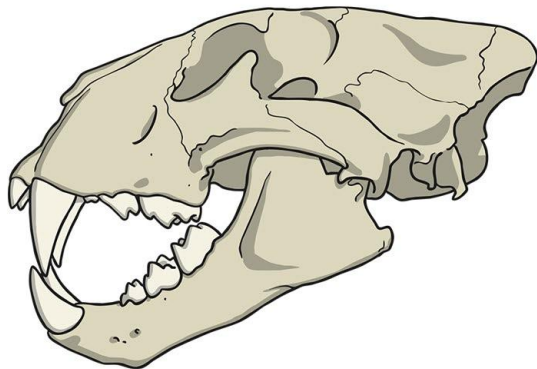
What are the consequences of the digestive system not working properly?



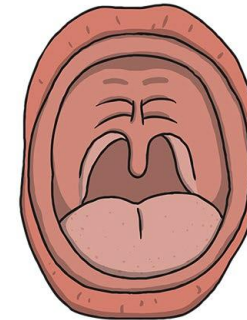
The digestive system is one of the systems in the body. What other systems are there?



Which animal has the most number of teeth? Which has the least?



Name 5 animals that do not have teeth. How do they feed instead? What do they use?

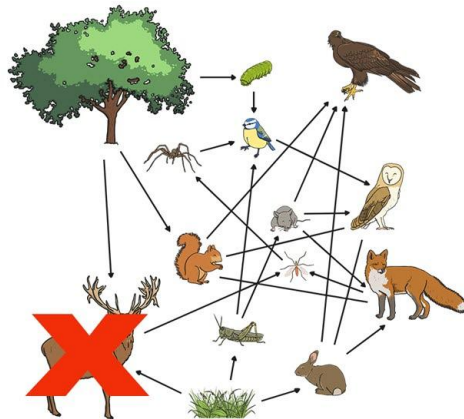


What food and drink help keep human teeth healthy? Is this the same for all animals?



What is the longest food chain in the animal kingdom? How many plants are in the food chain? How many animals are there in that food chain?

What happens to a food chain if one plant or animal dies out?



Choose one of the following:

Sunflower

Cow

Spider

Create a food web which includes the one you chose. How many links in your web?

An illustration featuring several animal skulls and teeth in shades of grey and tan. The skulls are shown in profile, with some showing prominent horns or tusks. The teeth are depicted as sharp, pointed structures. The background is a light beige color.

Animals

Including

Humans



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A stylized illustration of a prehistoric scene. In the foreground, a large, grey, textured rock formation is visible. In the background, a green dinosaur with a long neck and tail is shown. A human hand is reaching out from the right side, holding a small object. The word "Animals" is written in large, bold, white letters with an orange outline, centered over the scene.

Animals



Including

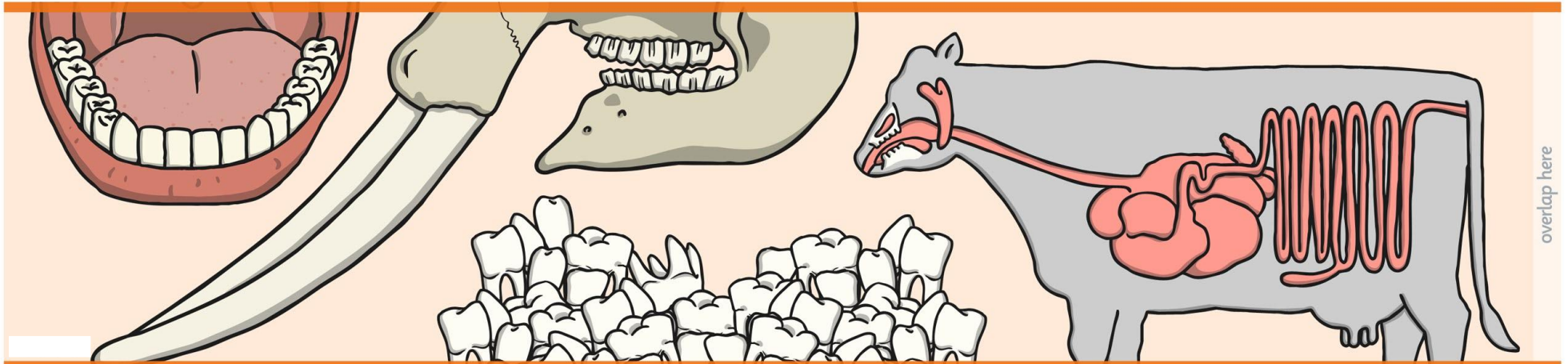
Humans



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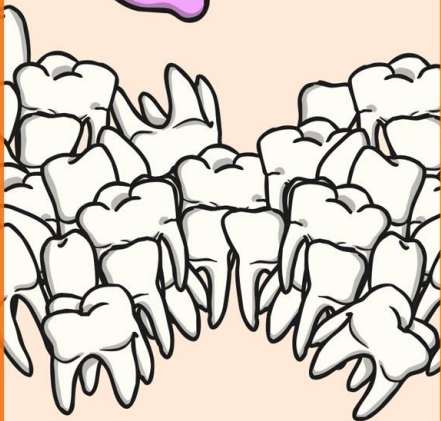
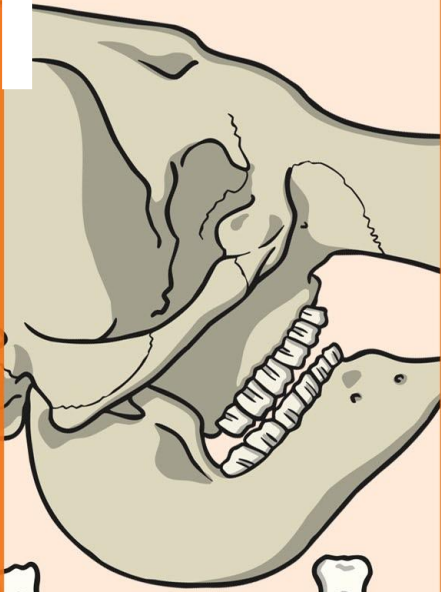
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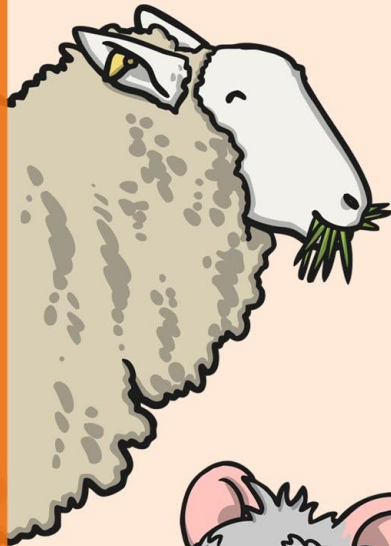
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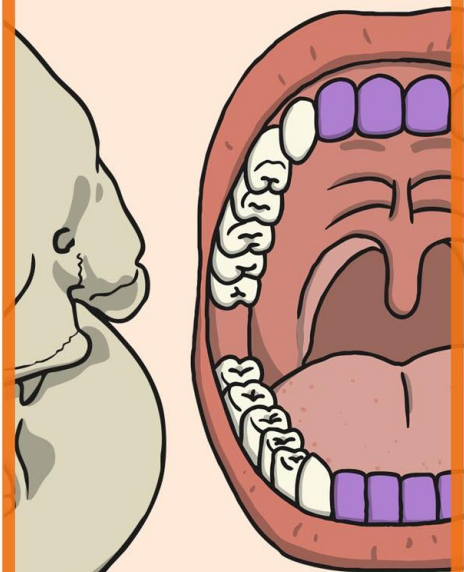
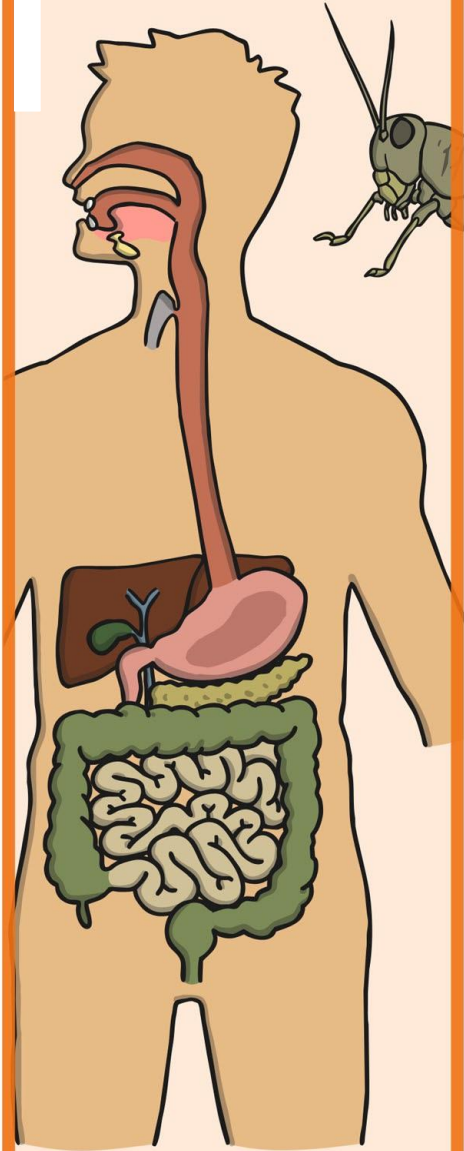
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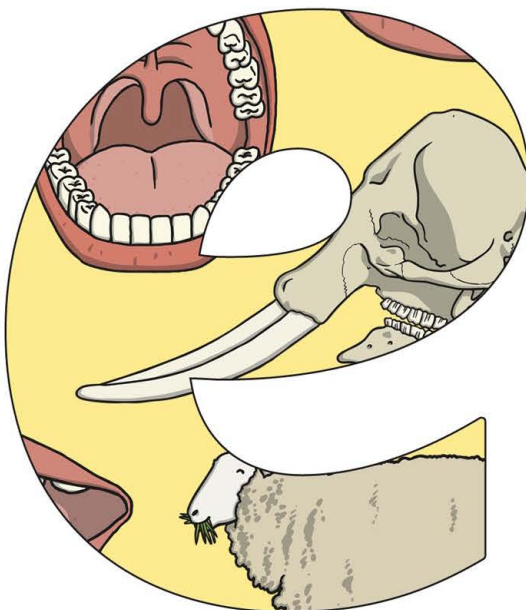
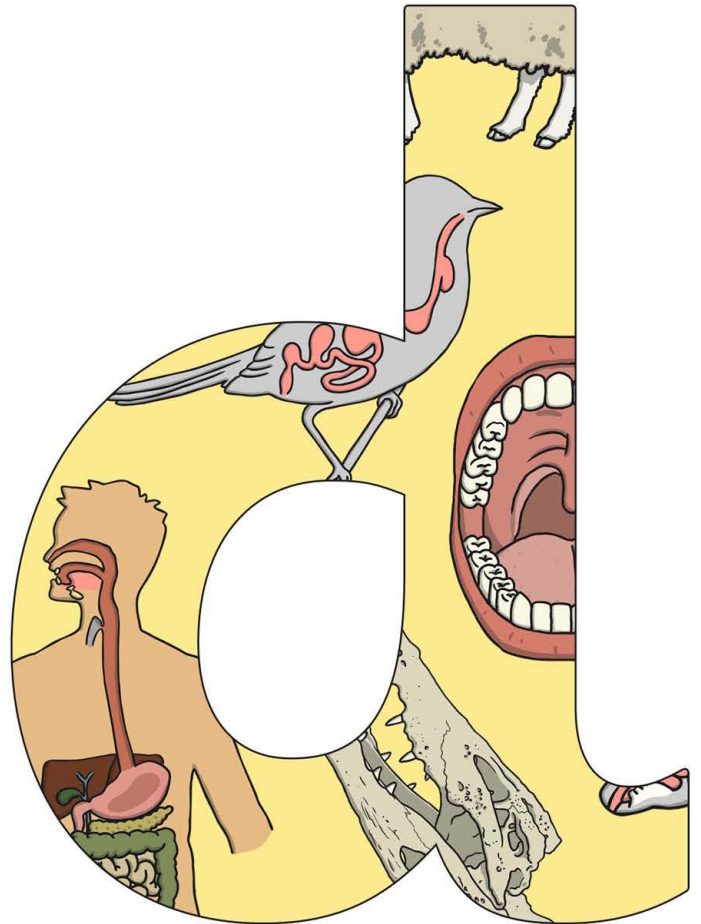
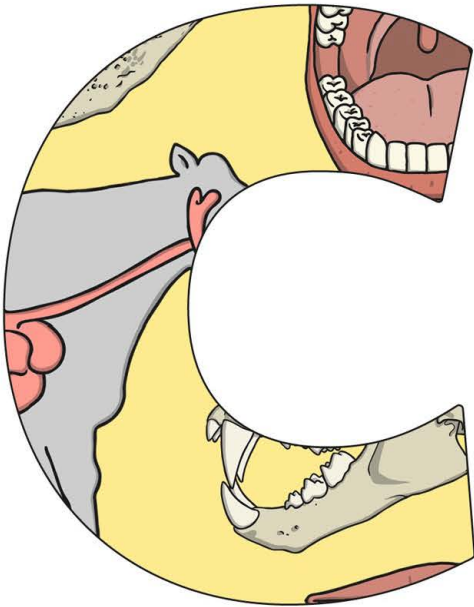
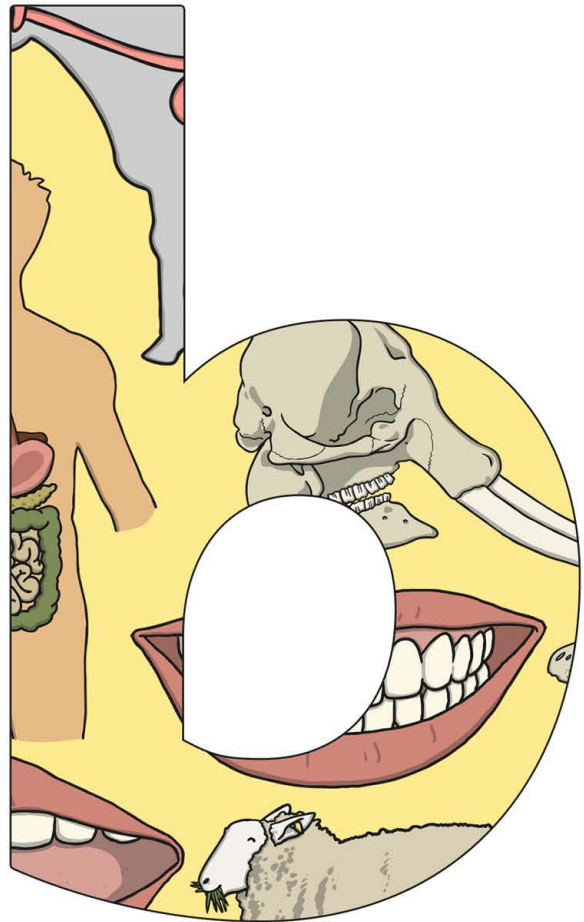
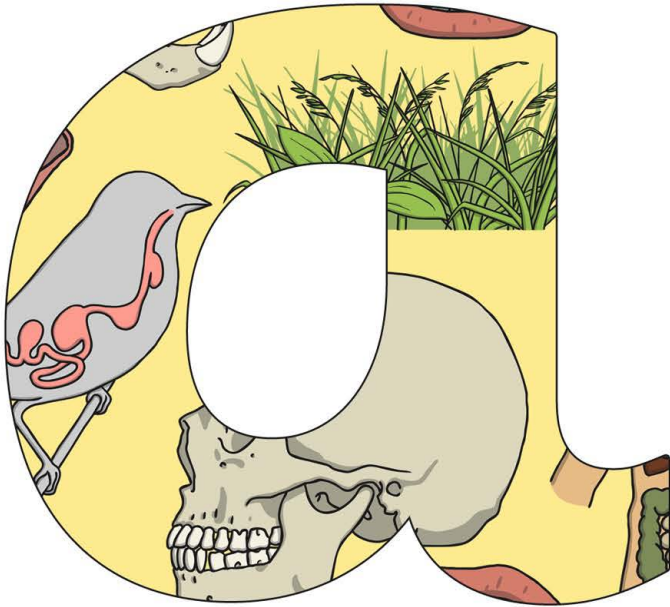
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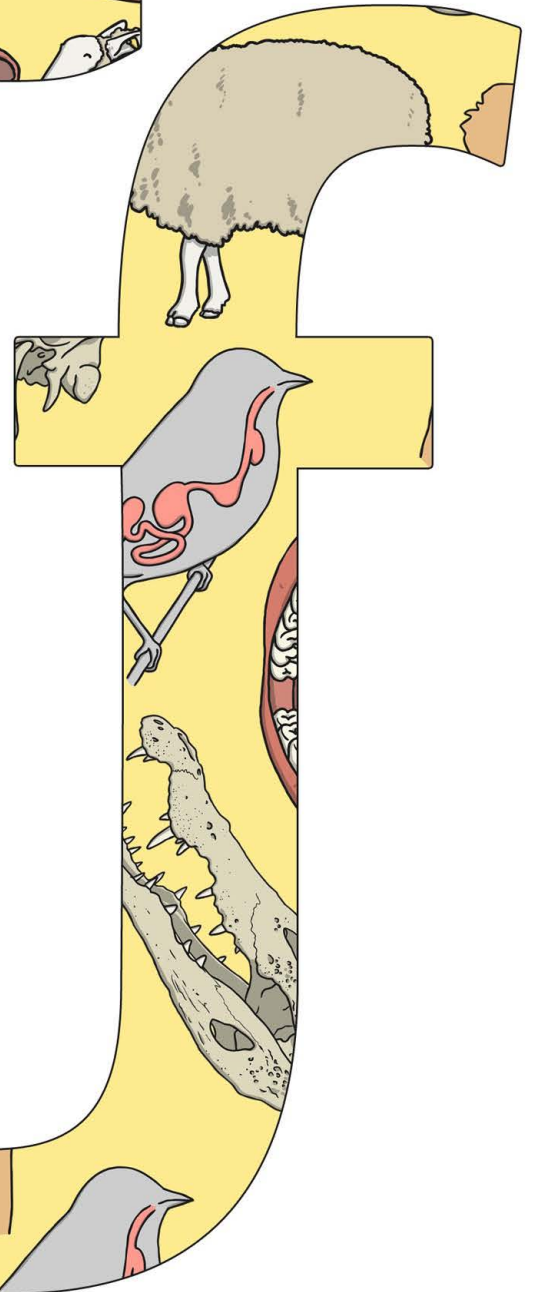
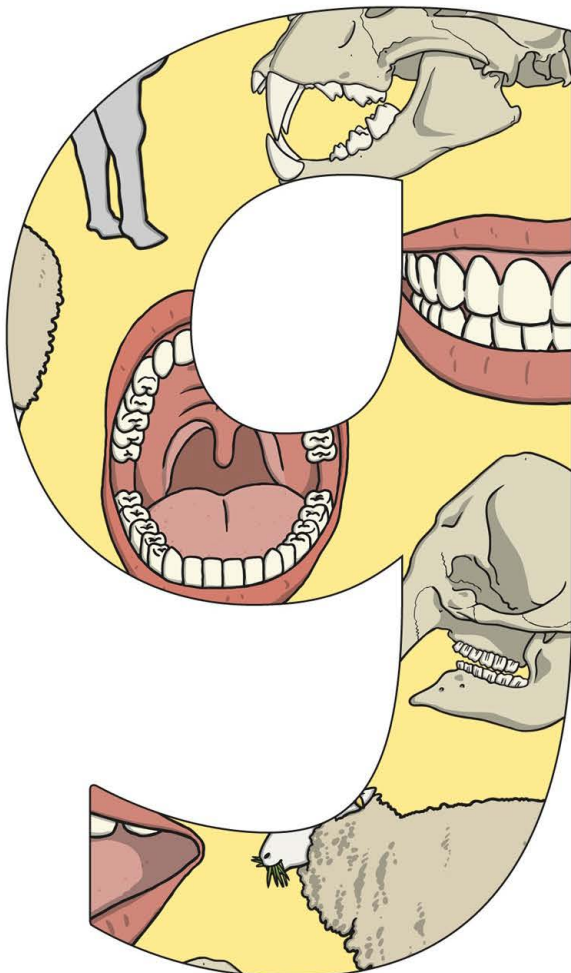
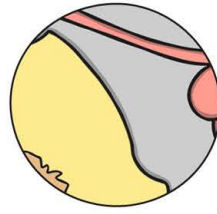
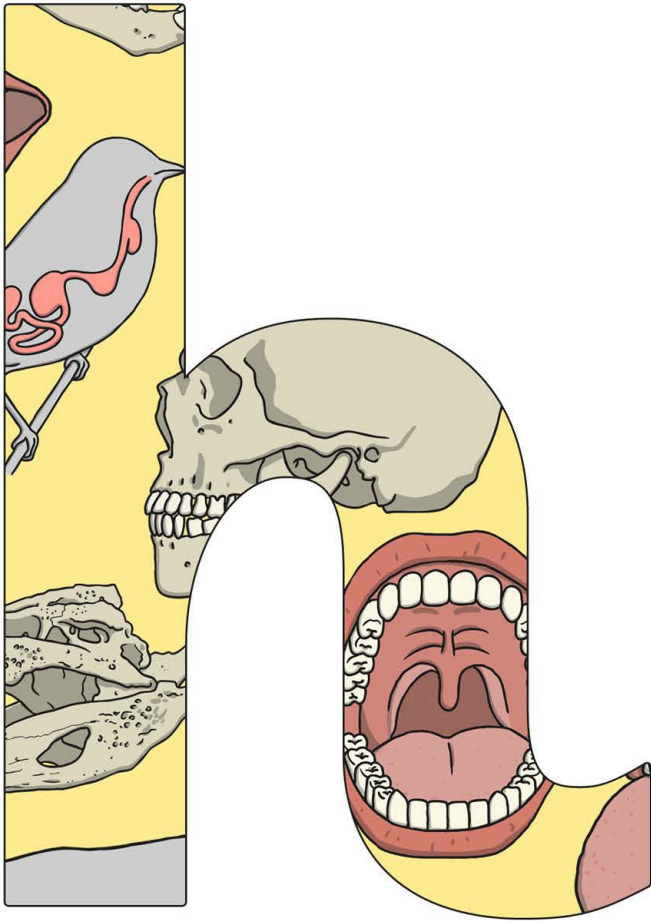


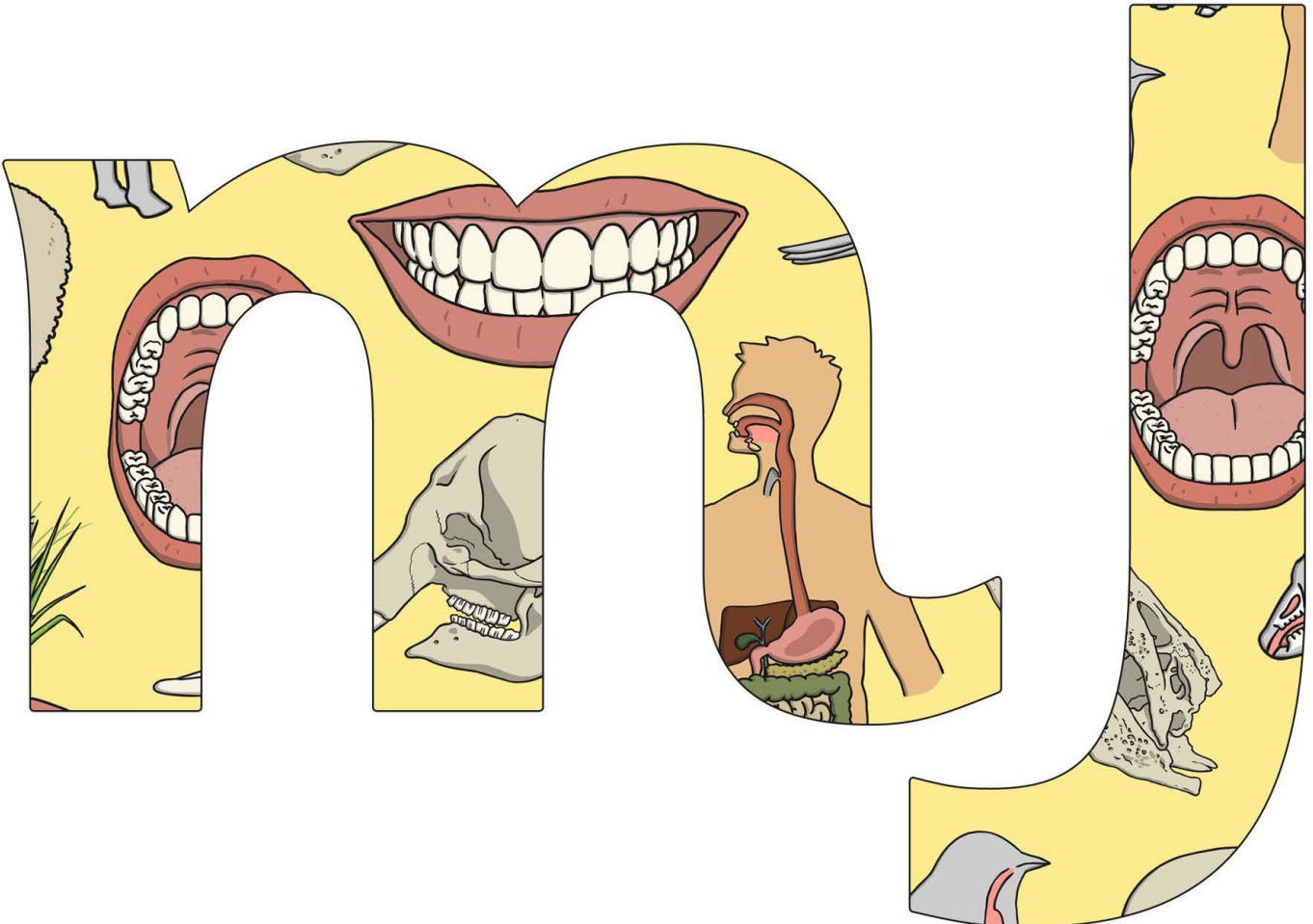
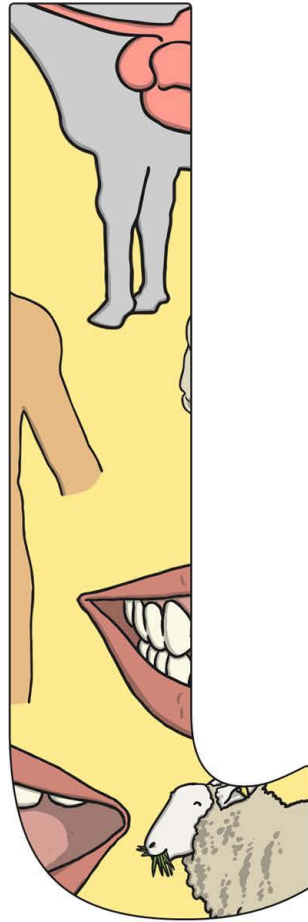
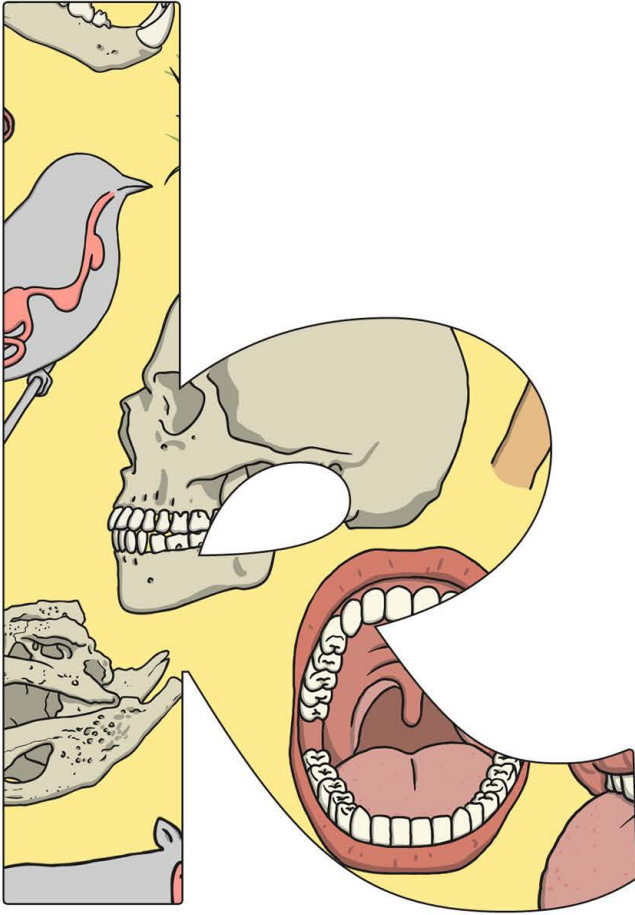
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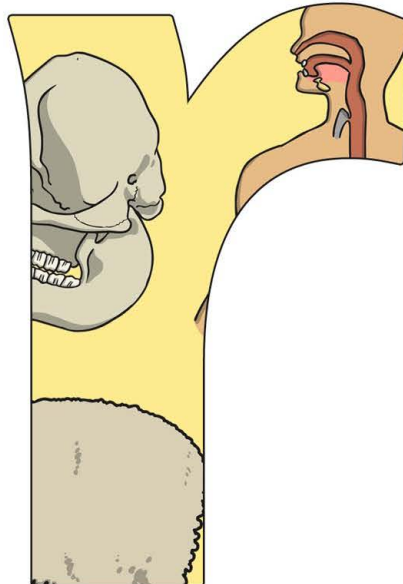
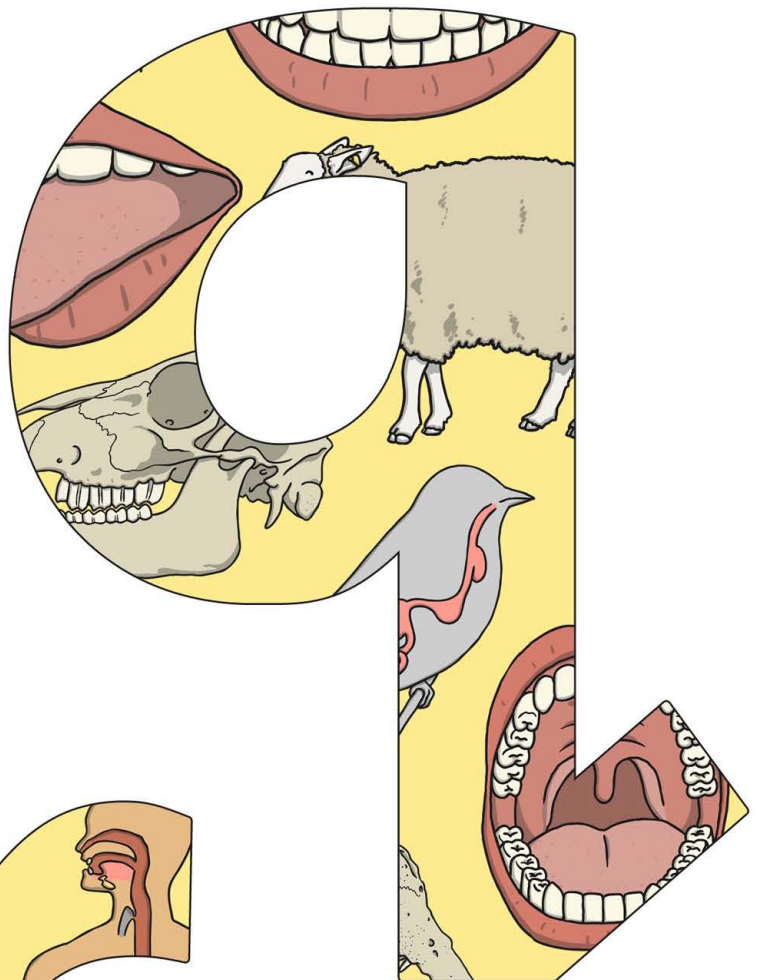
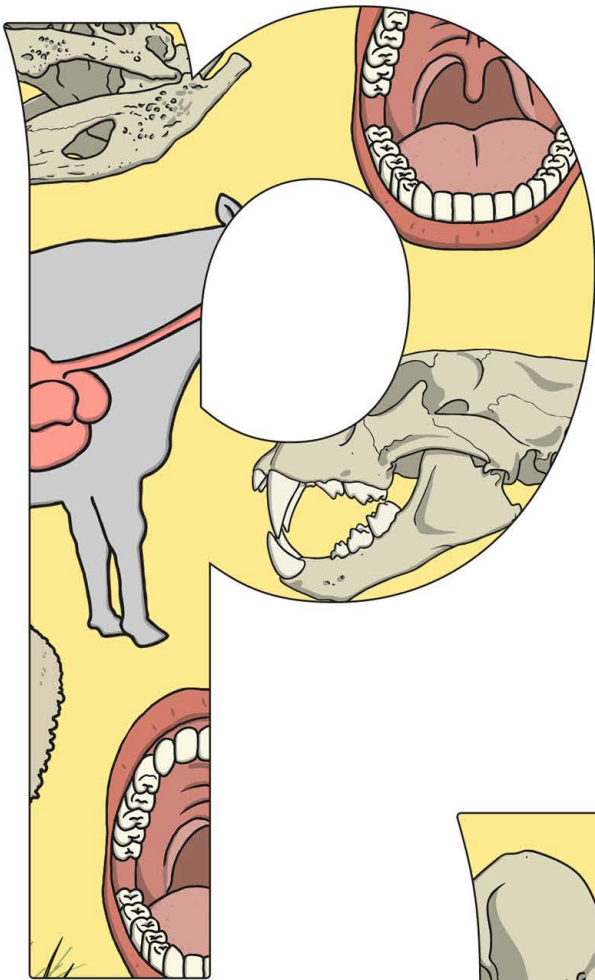
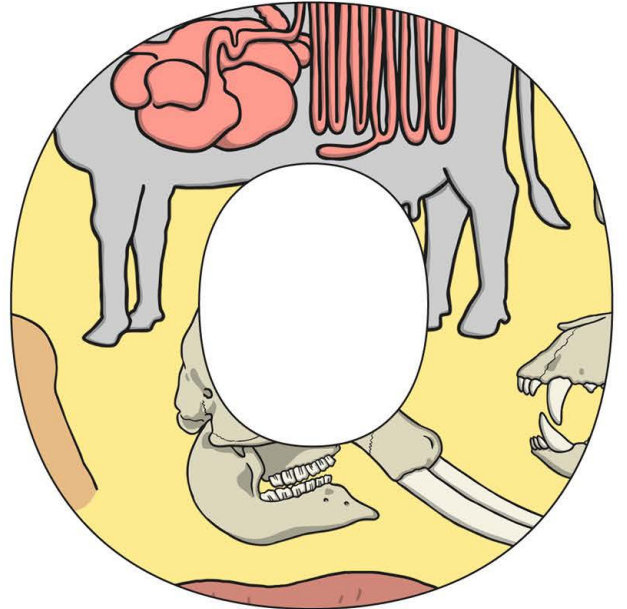
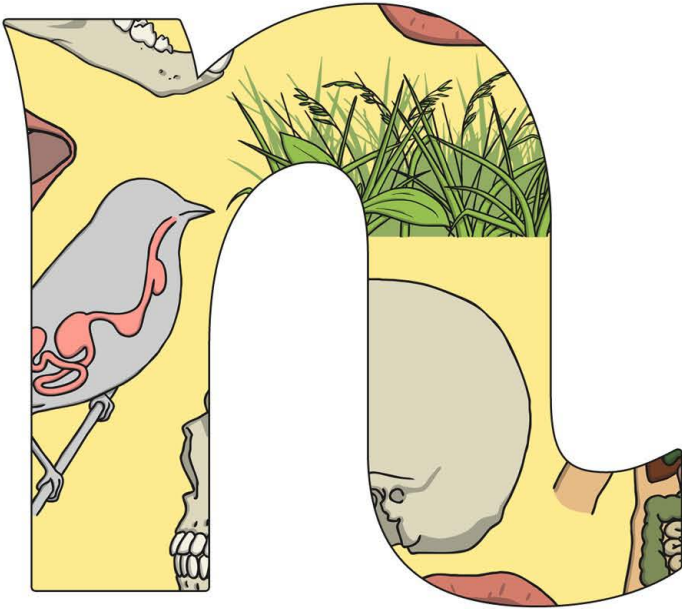


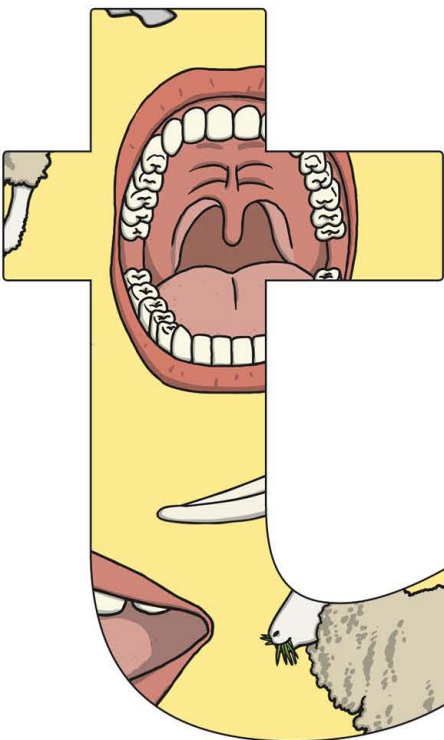
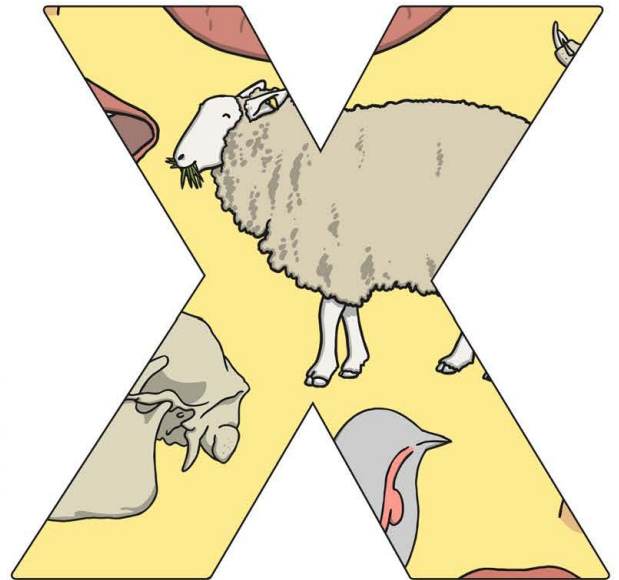
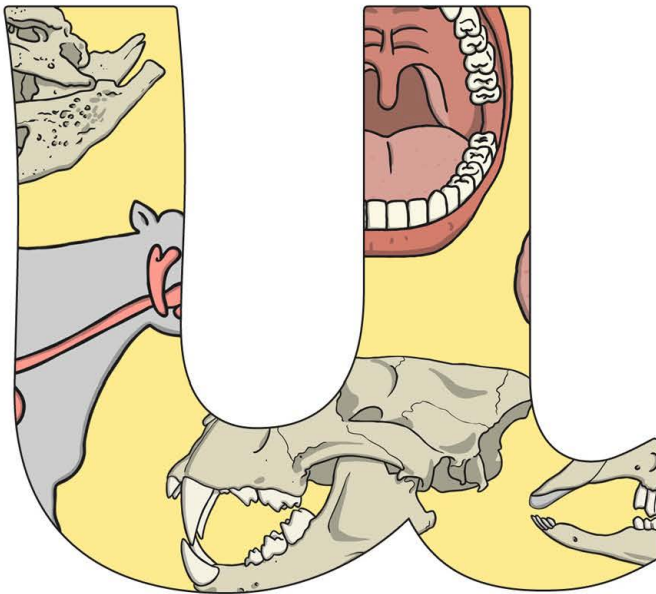
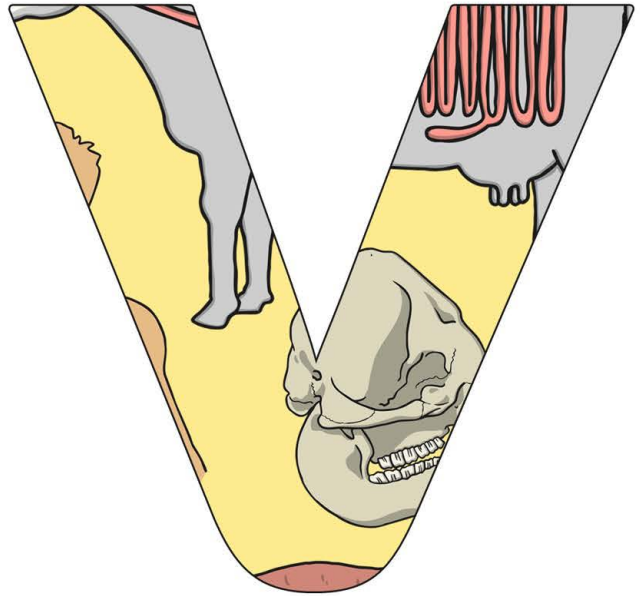
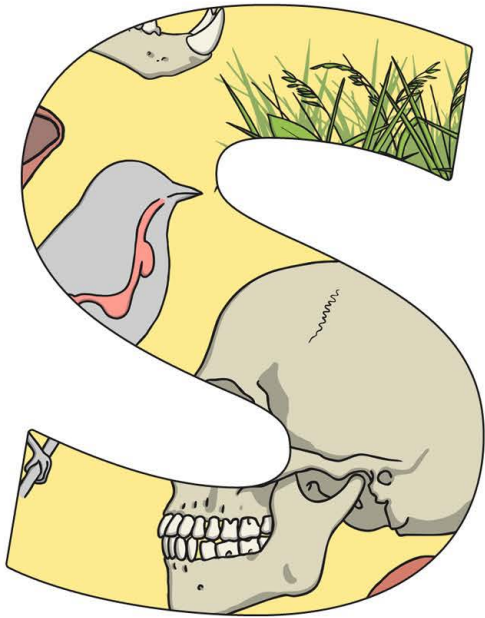
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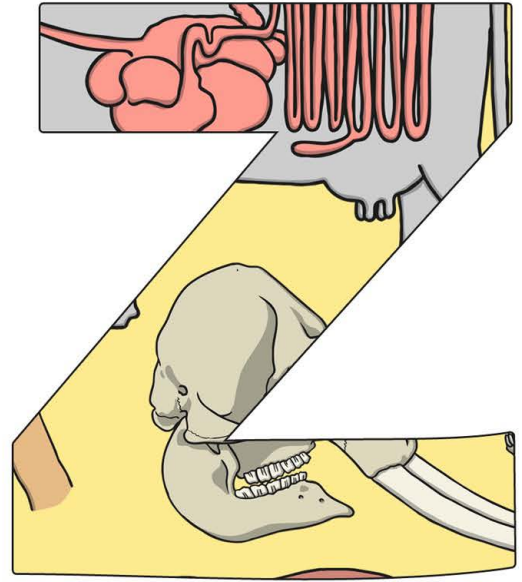
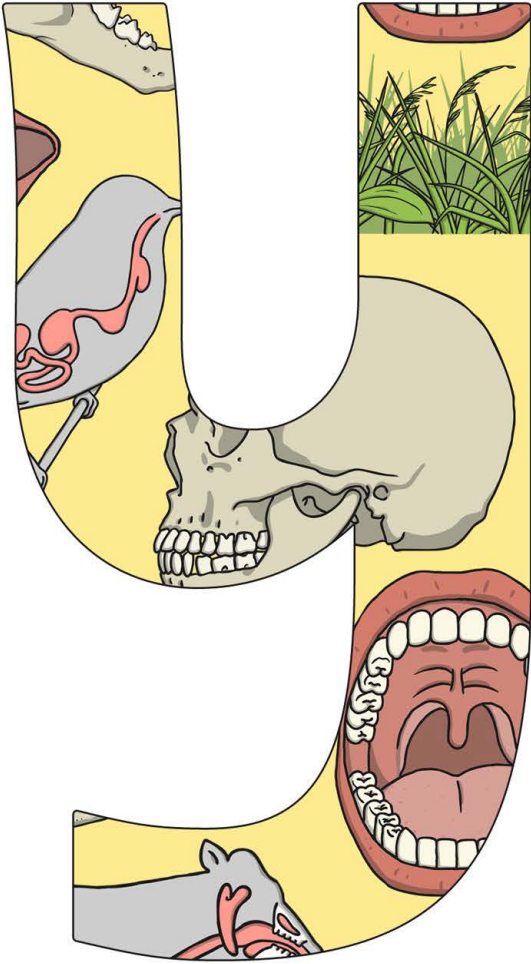


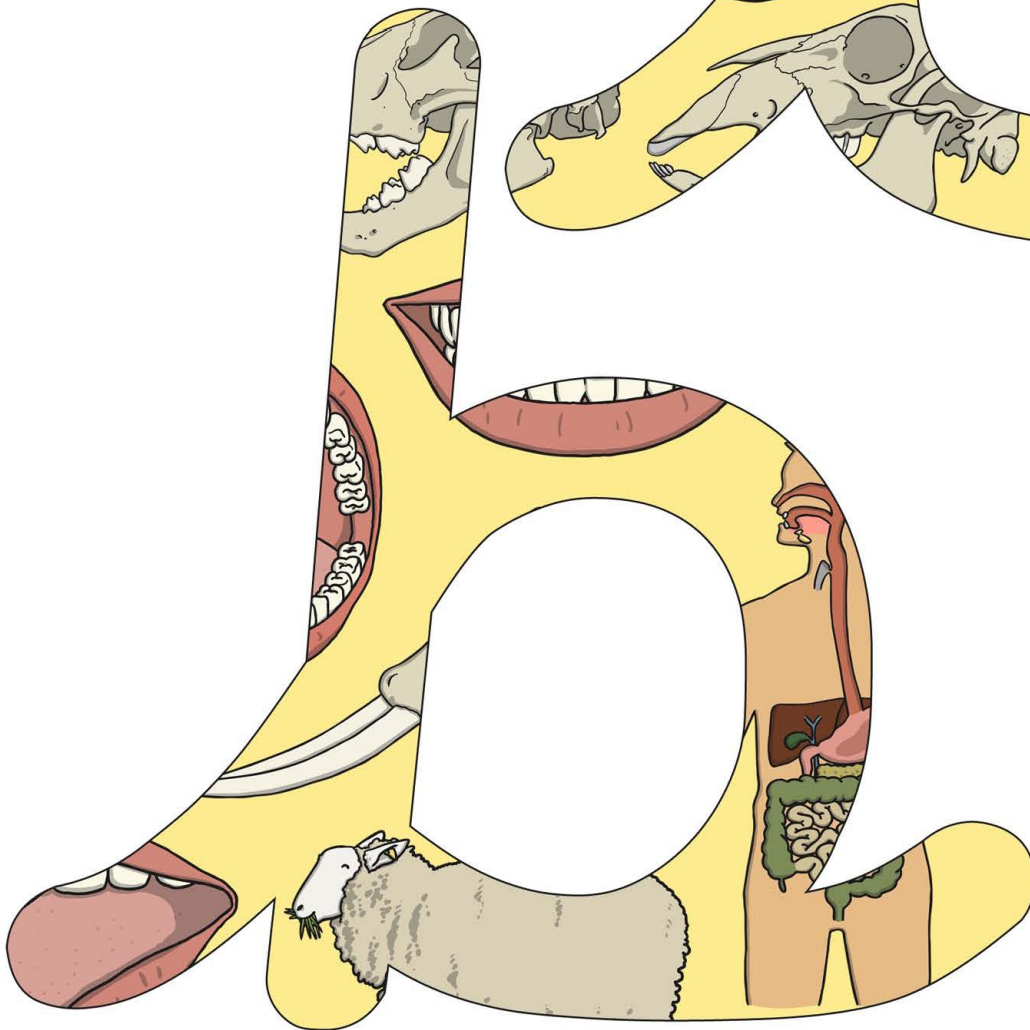


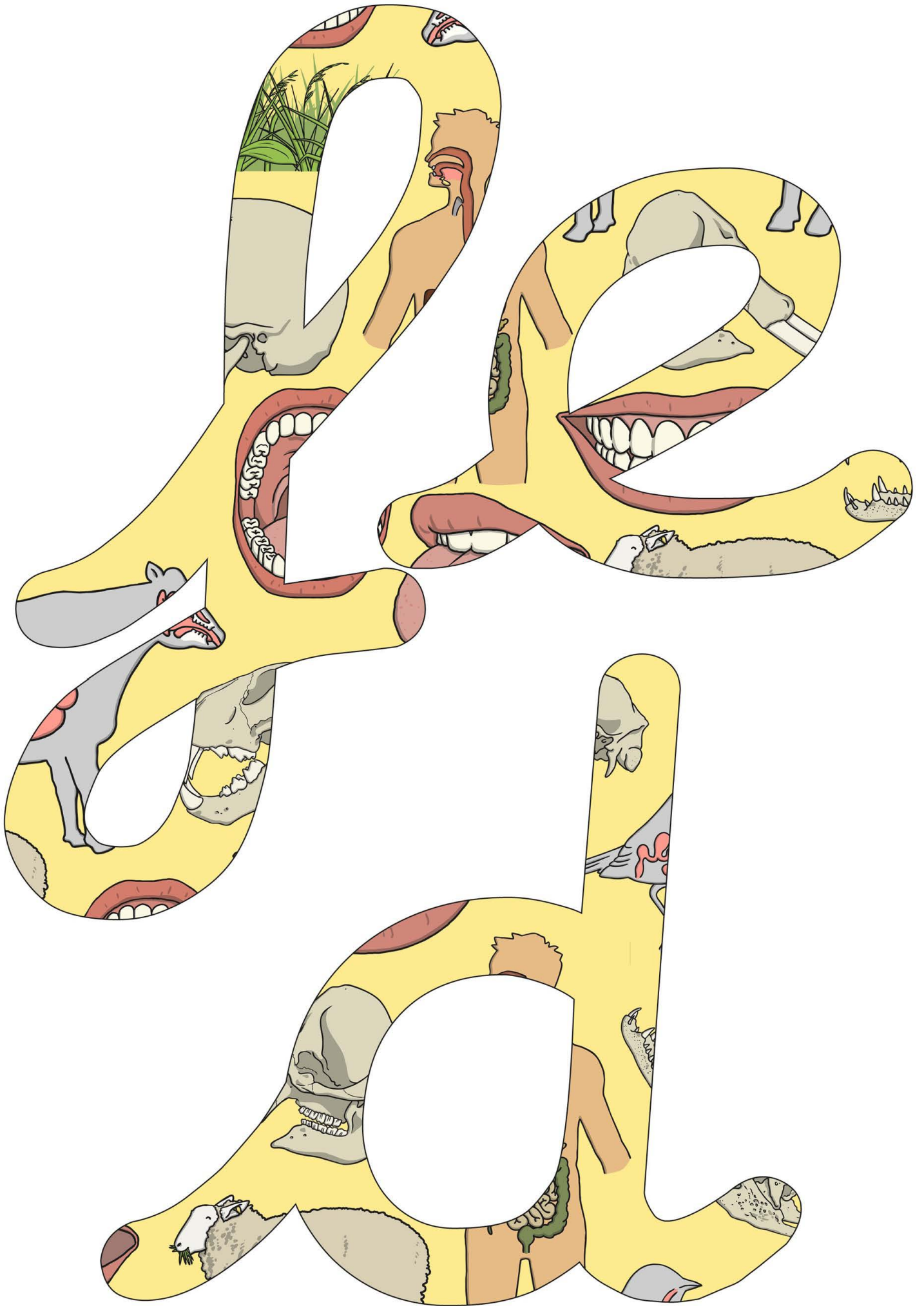


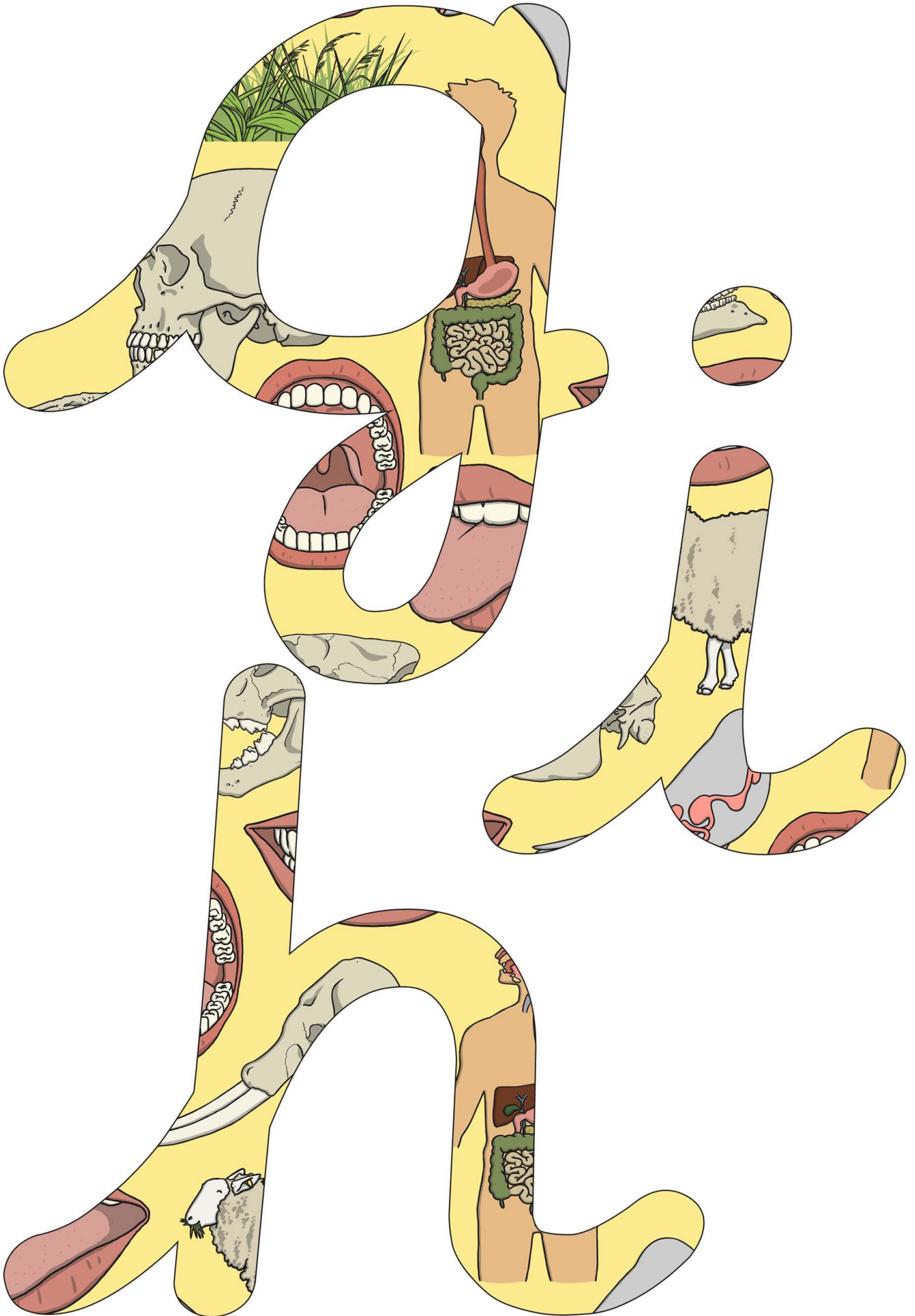


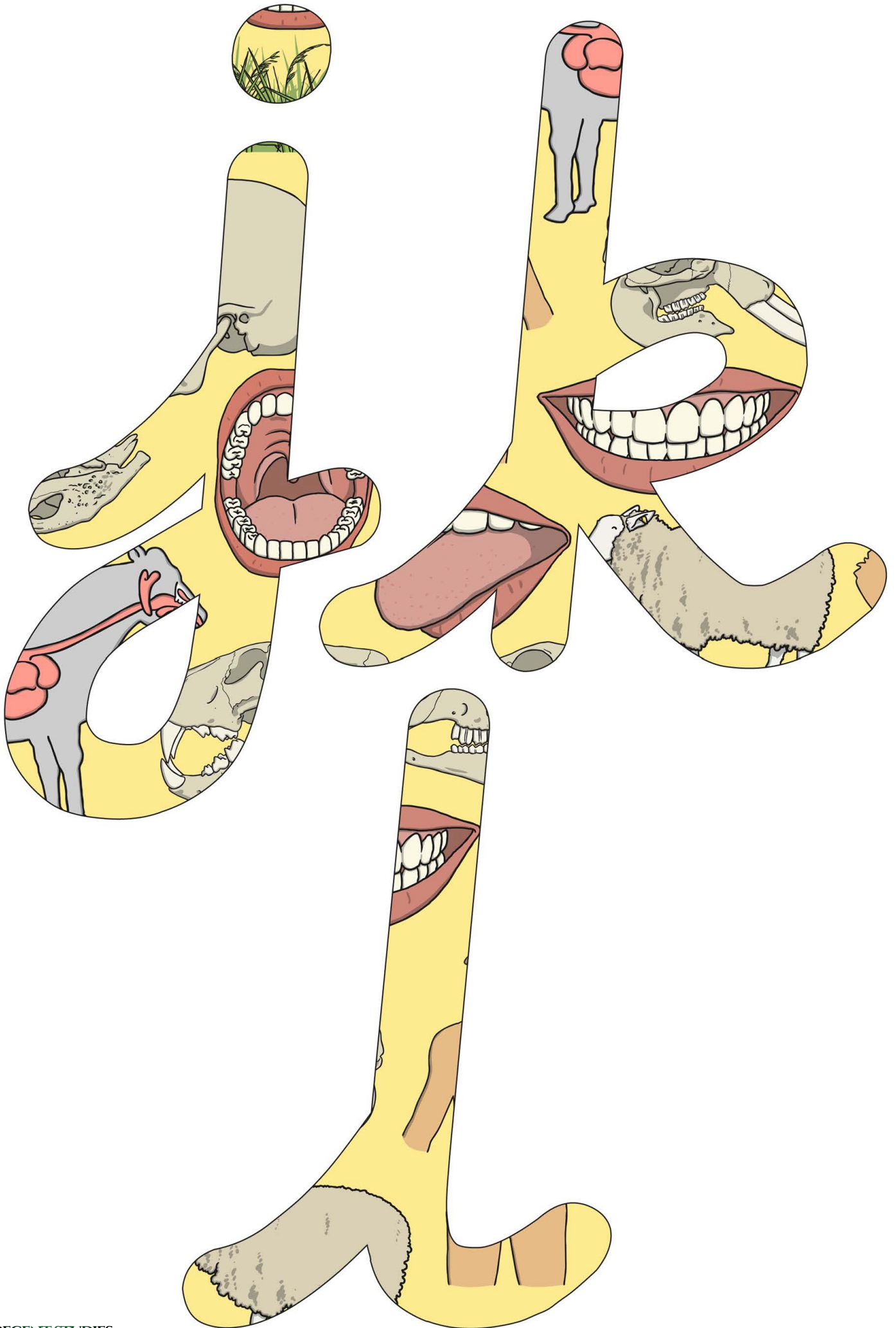


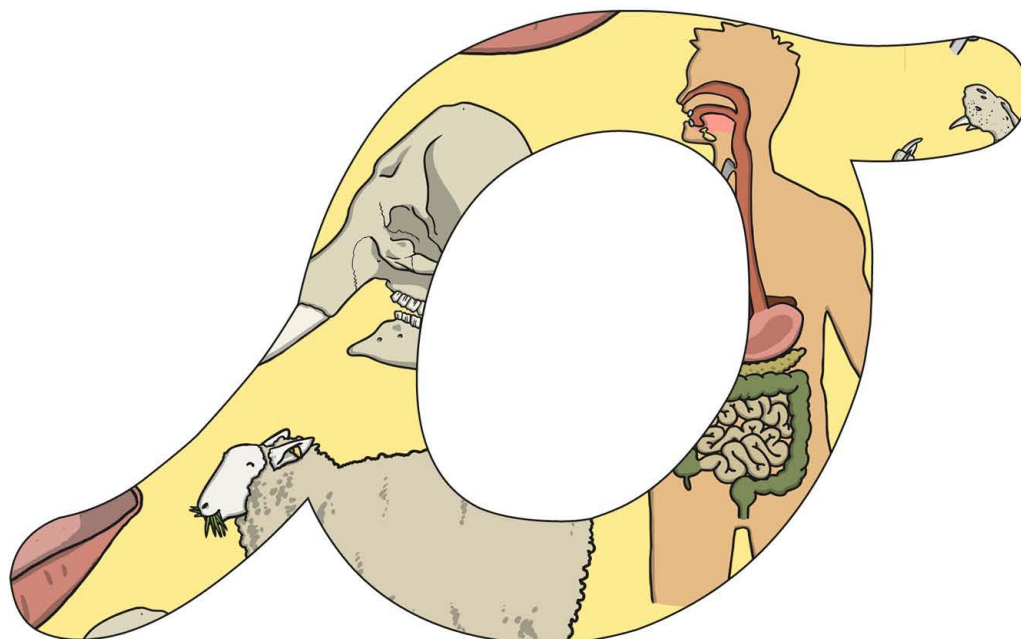
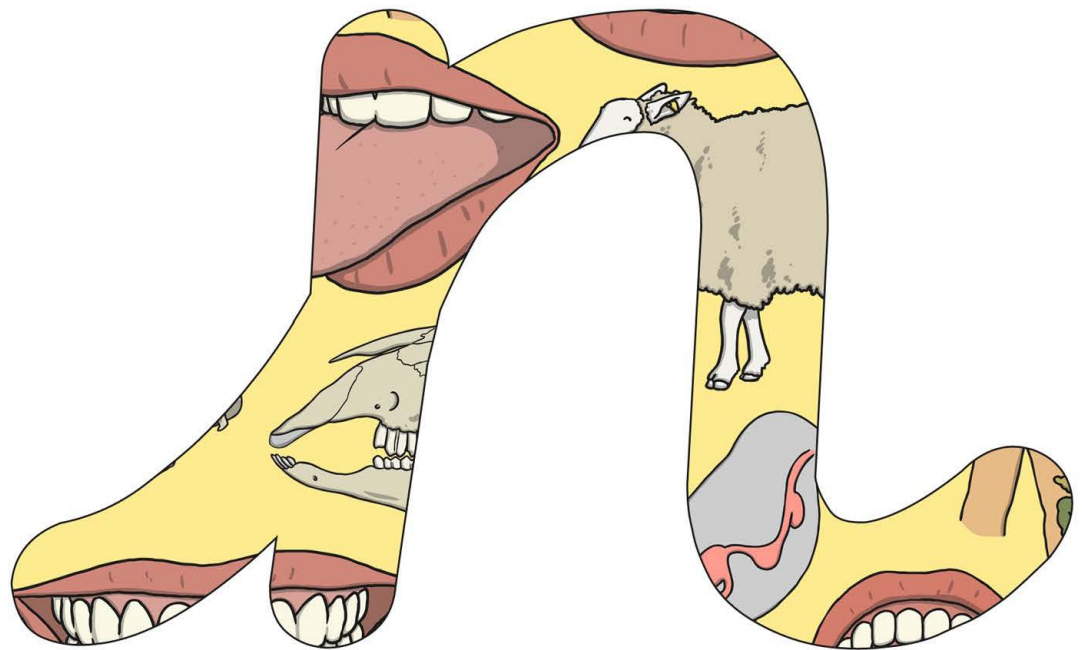
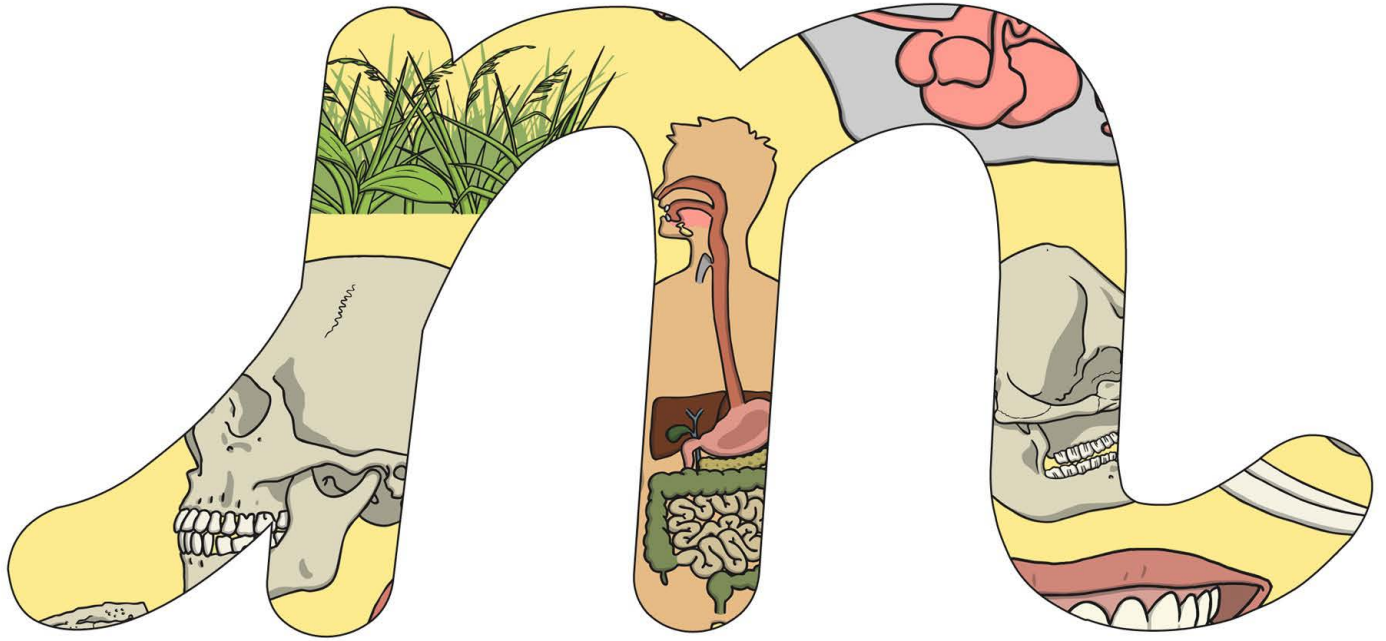


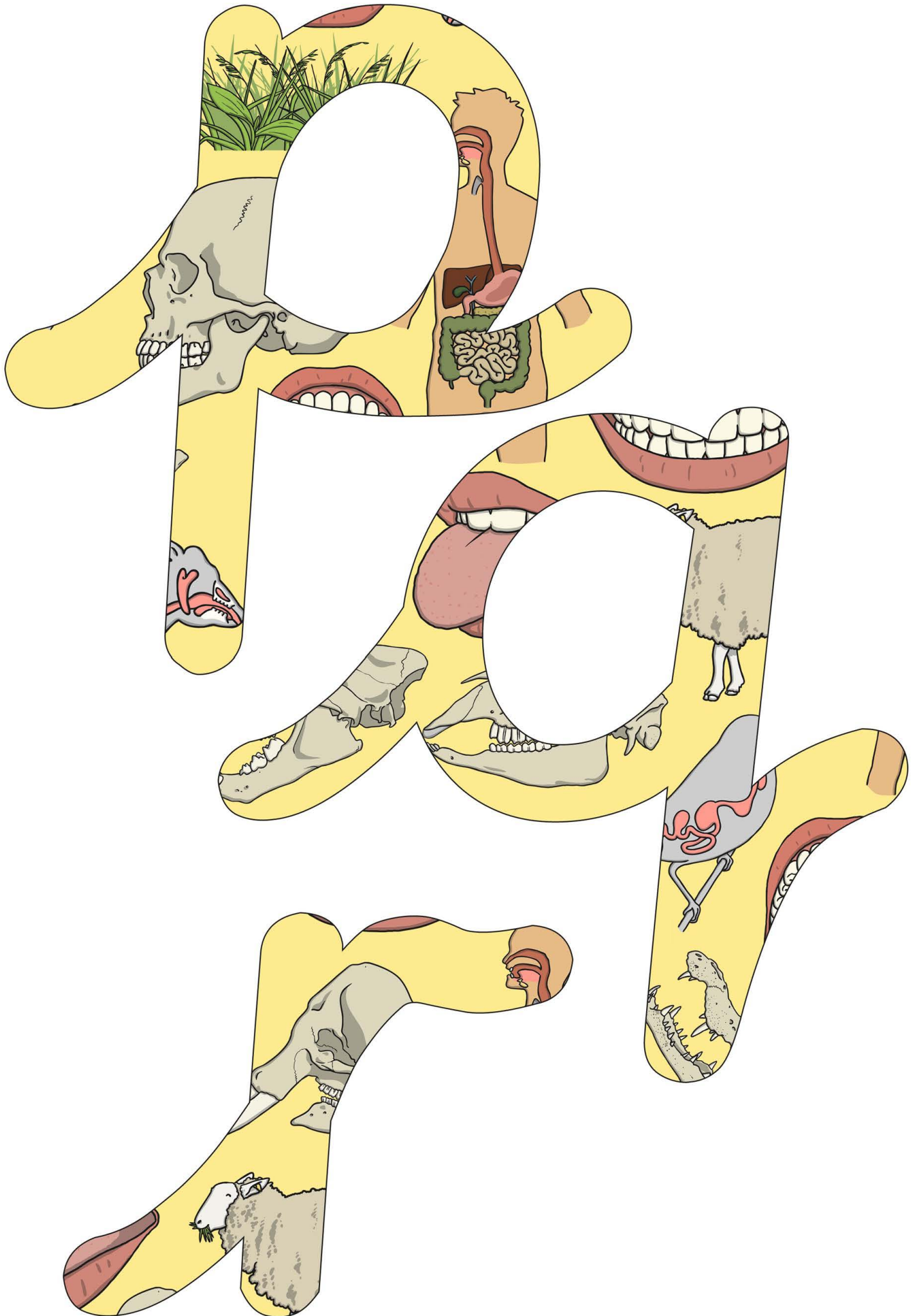


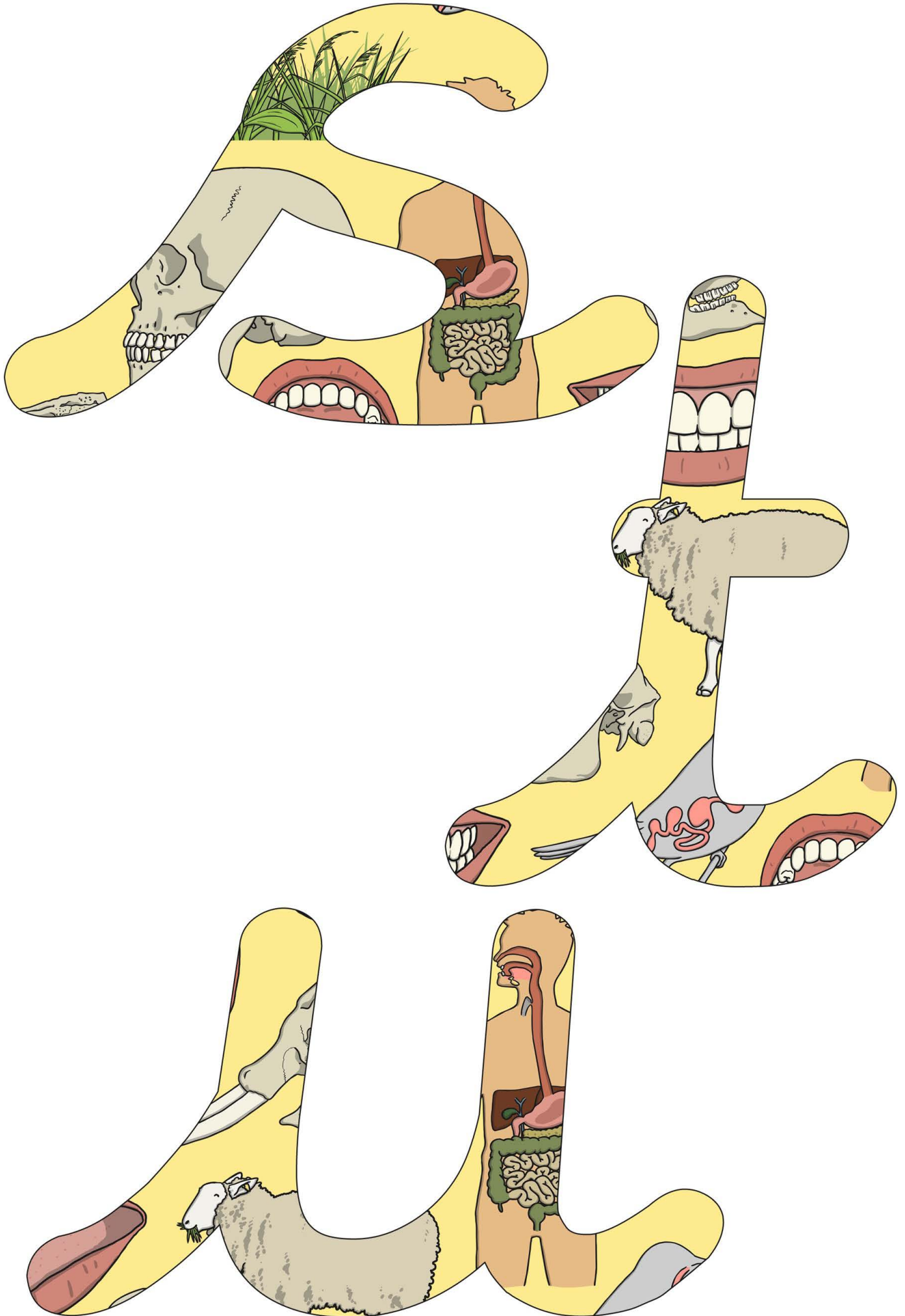


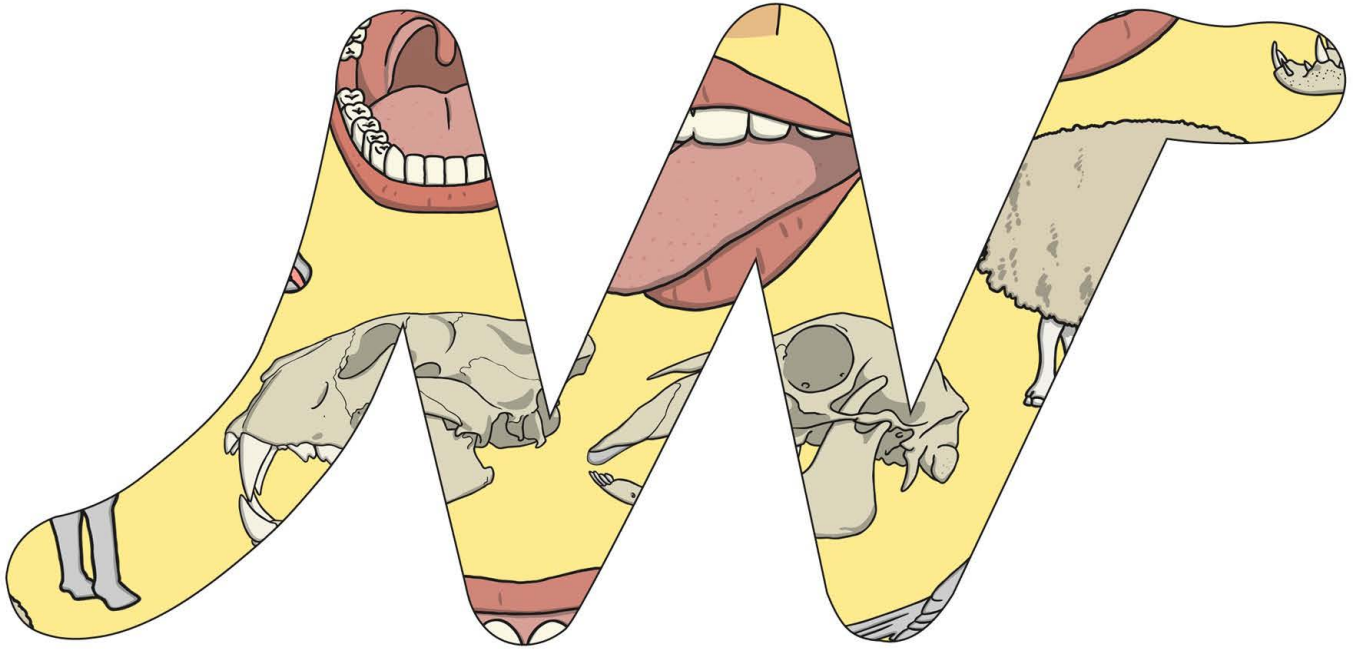


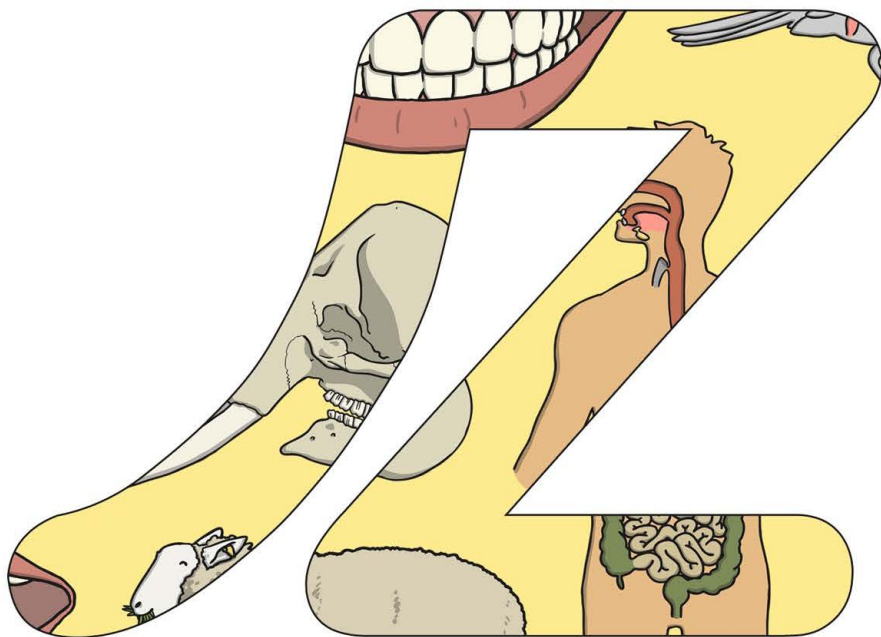
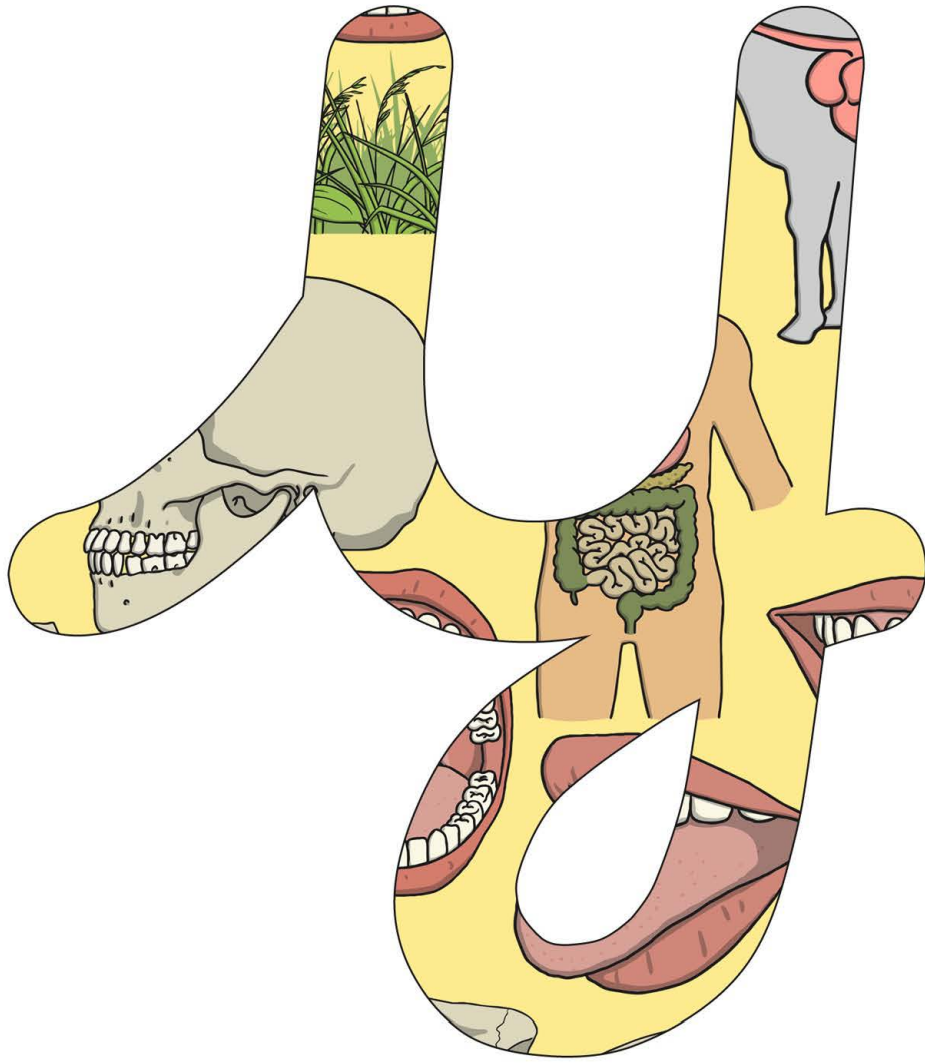


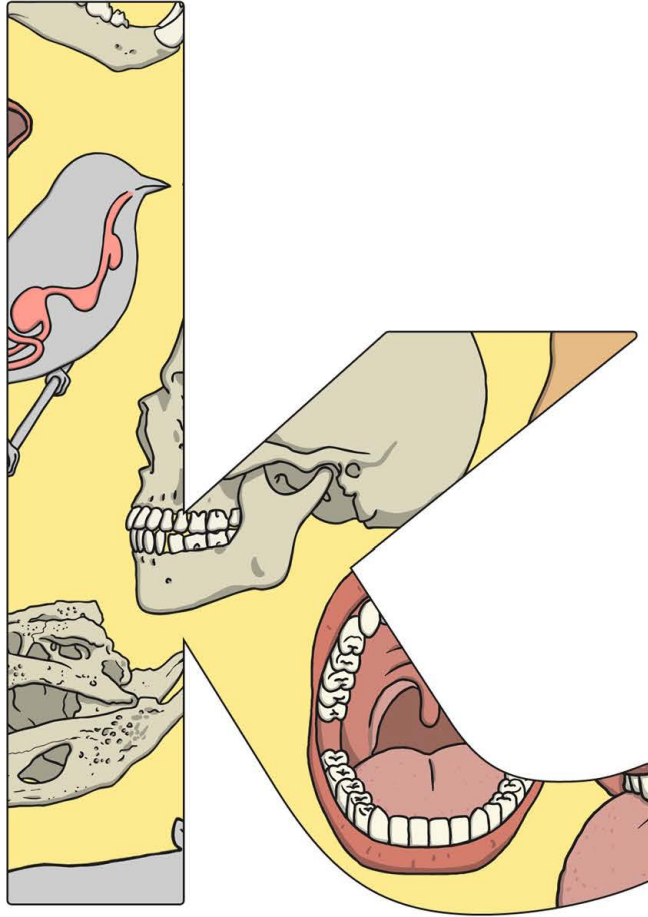


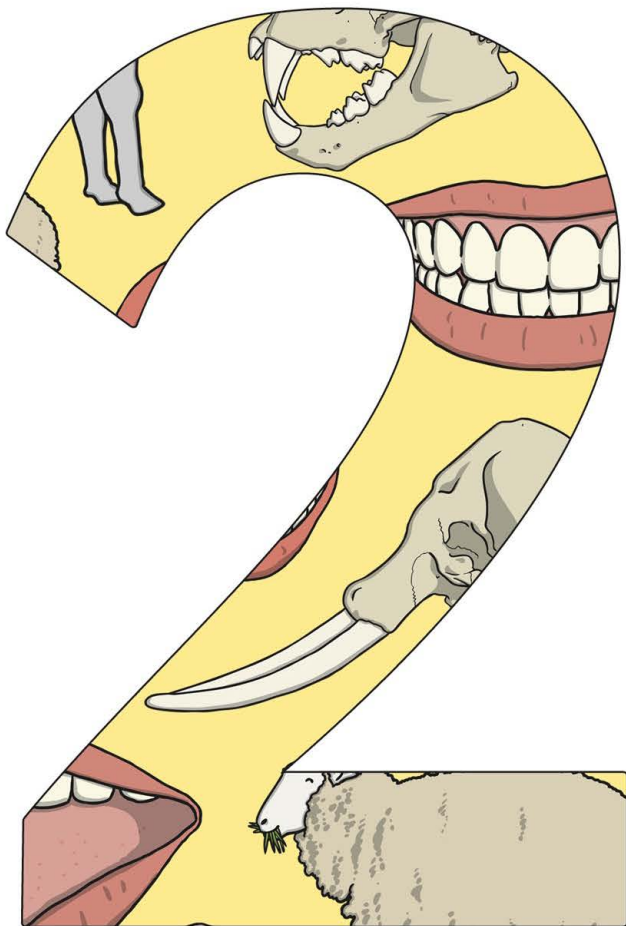
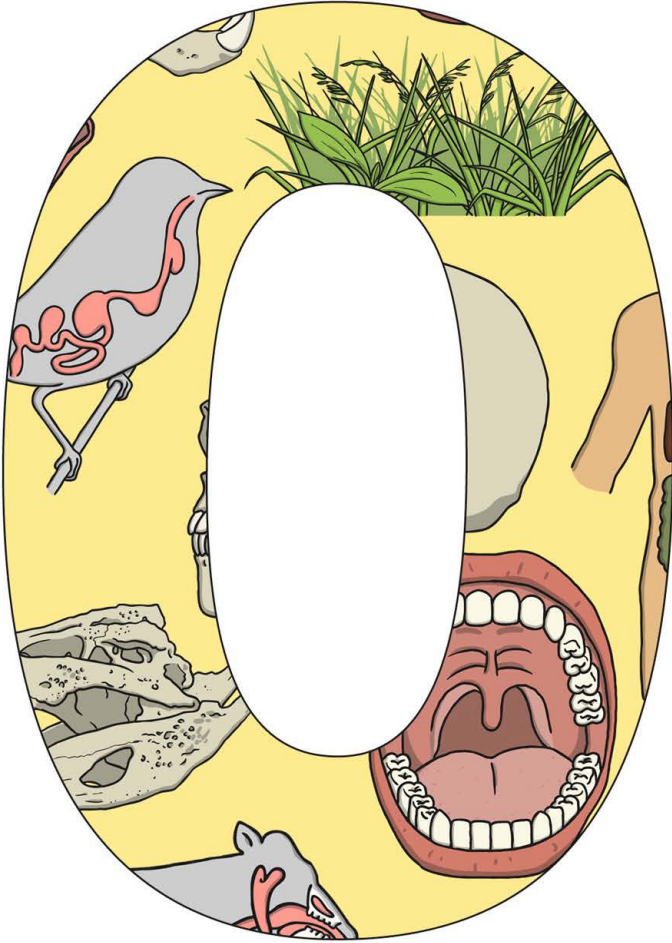


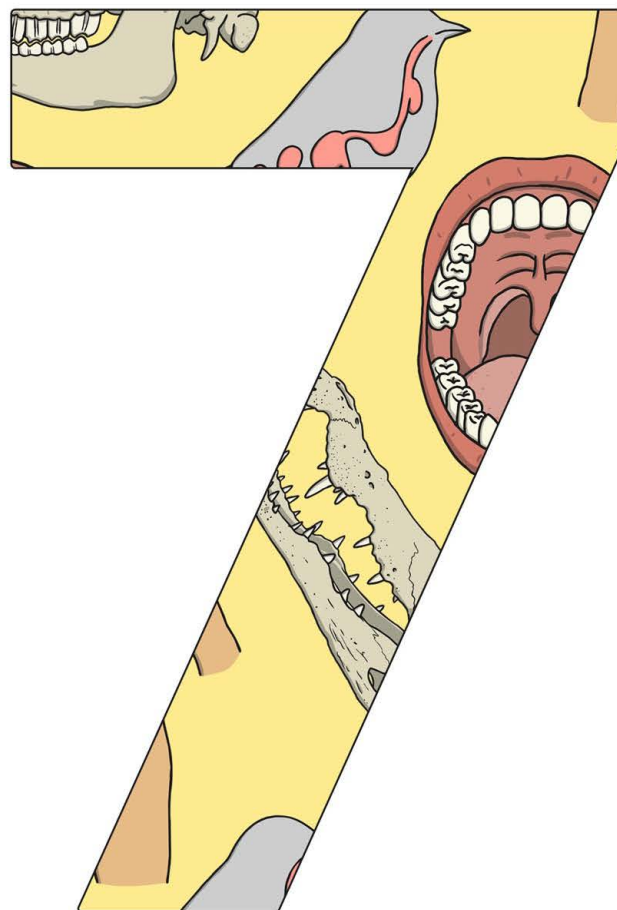
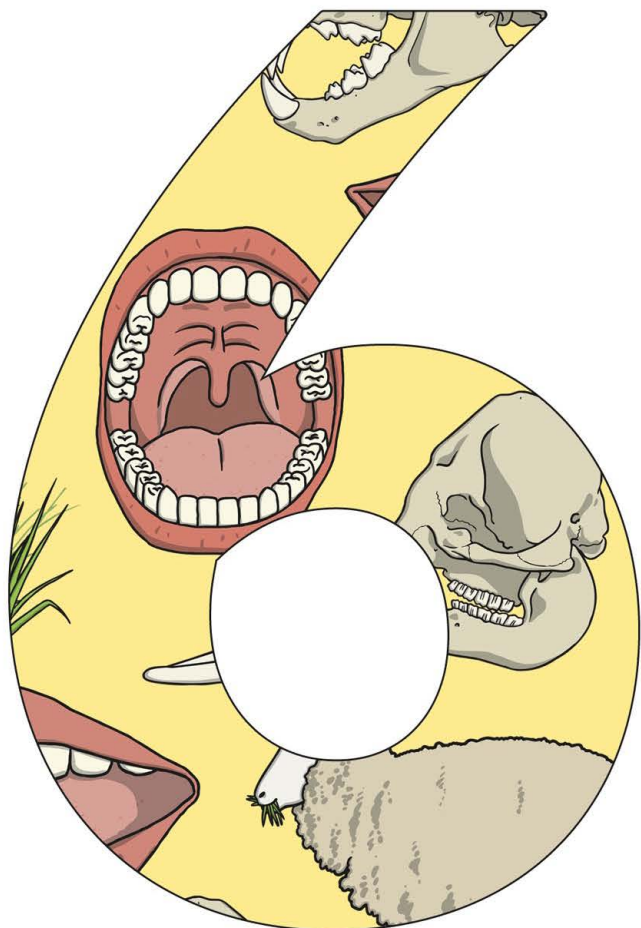
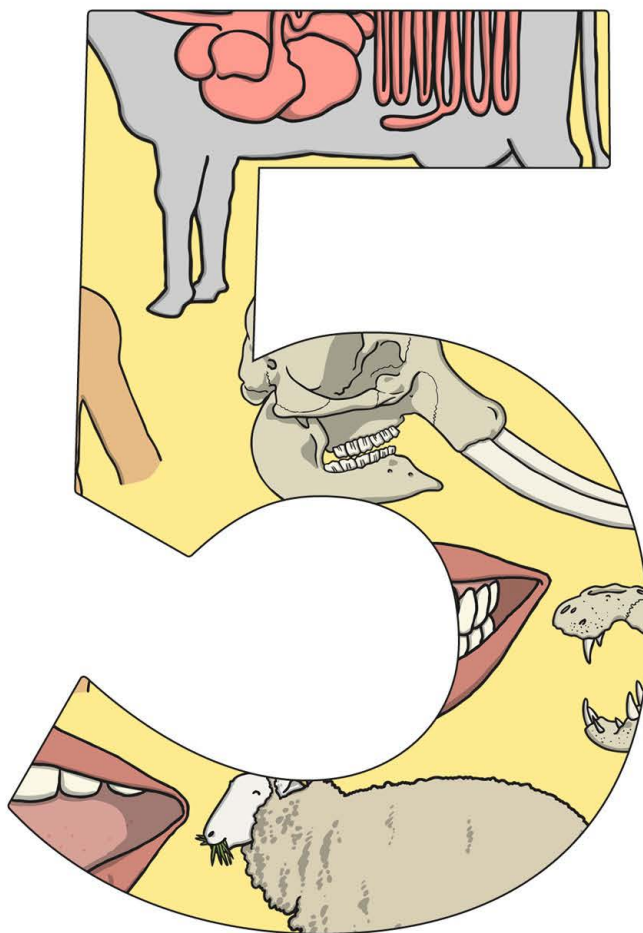


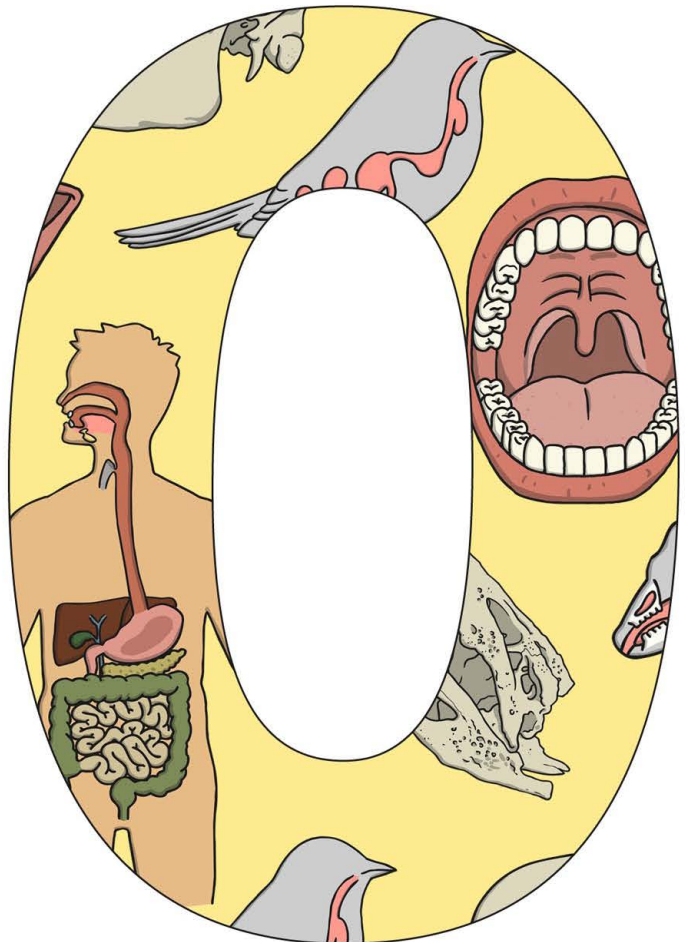
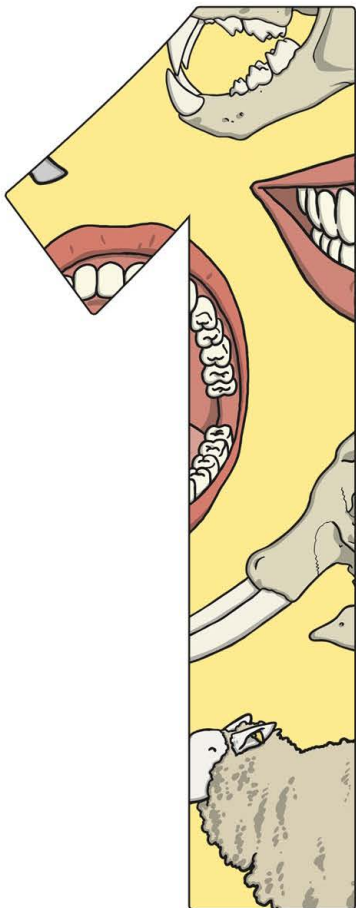
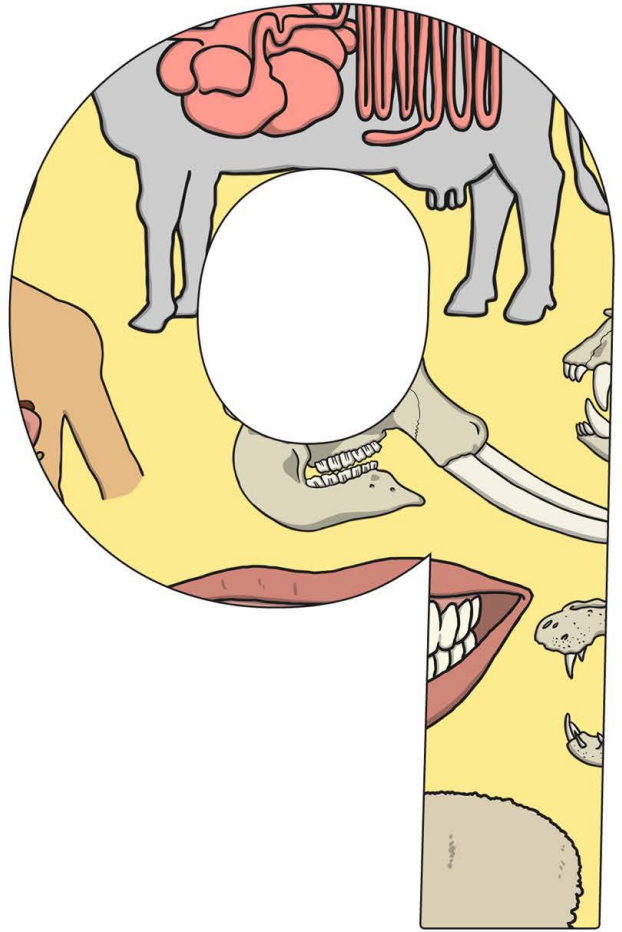


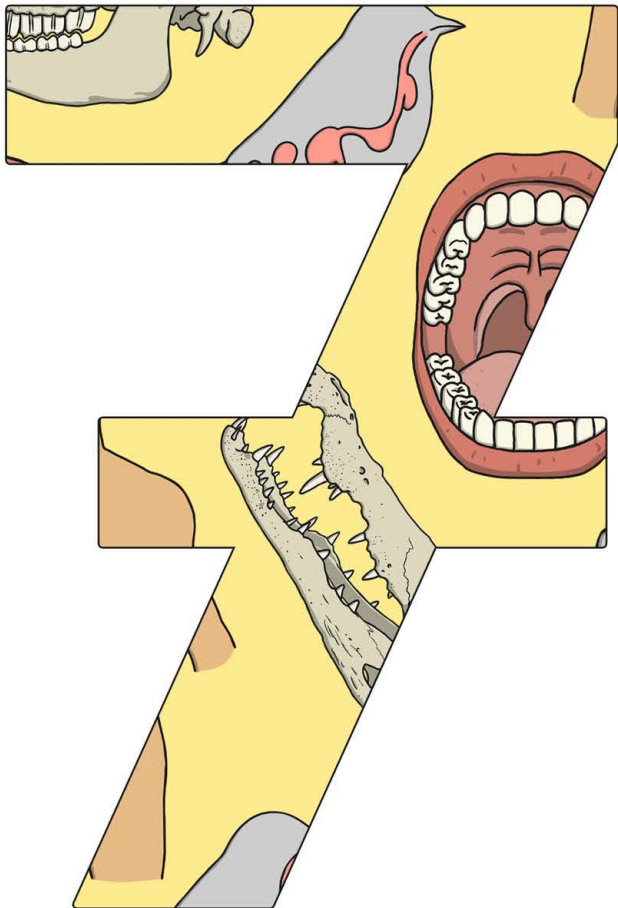
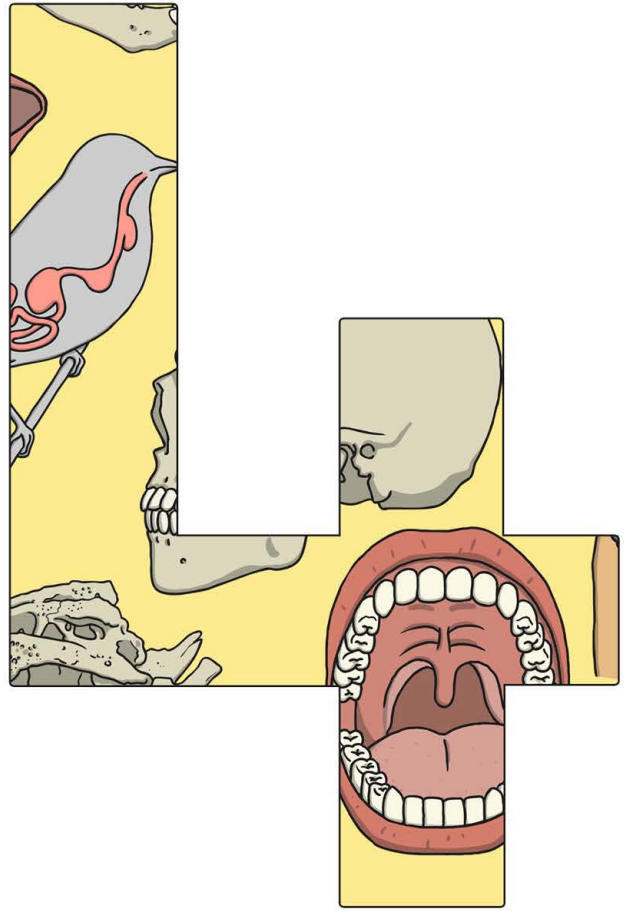


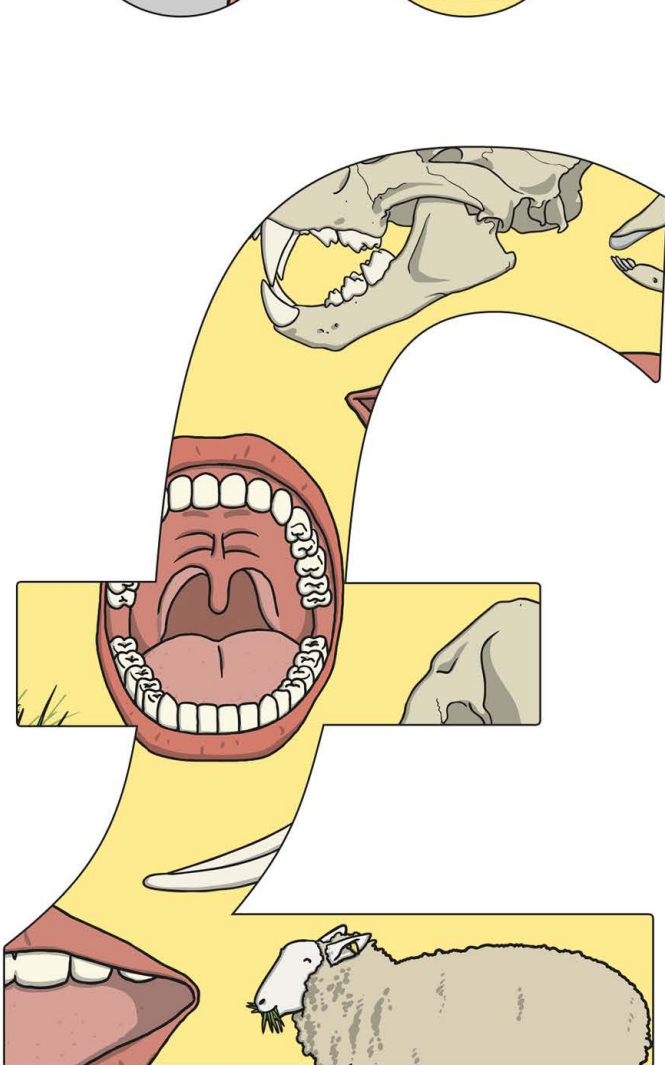
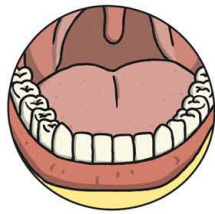
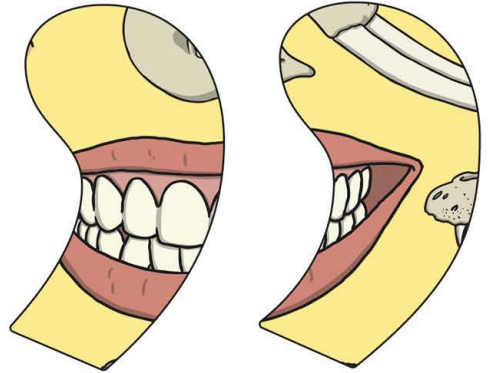
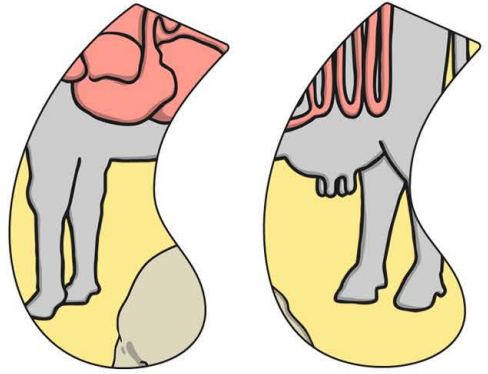


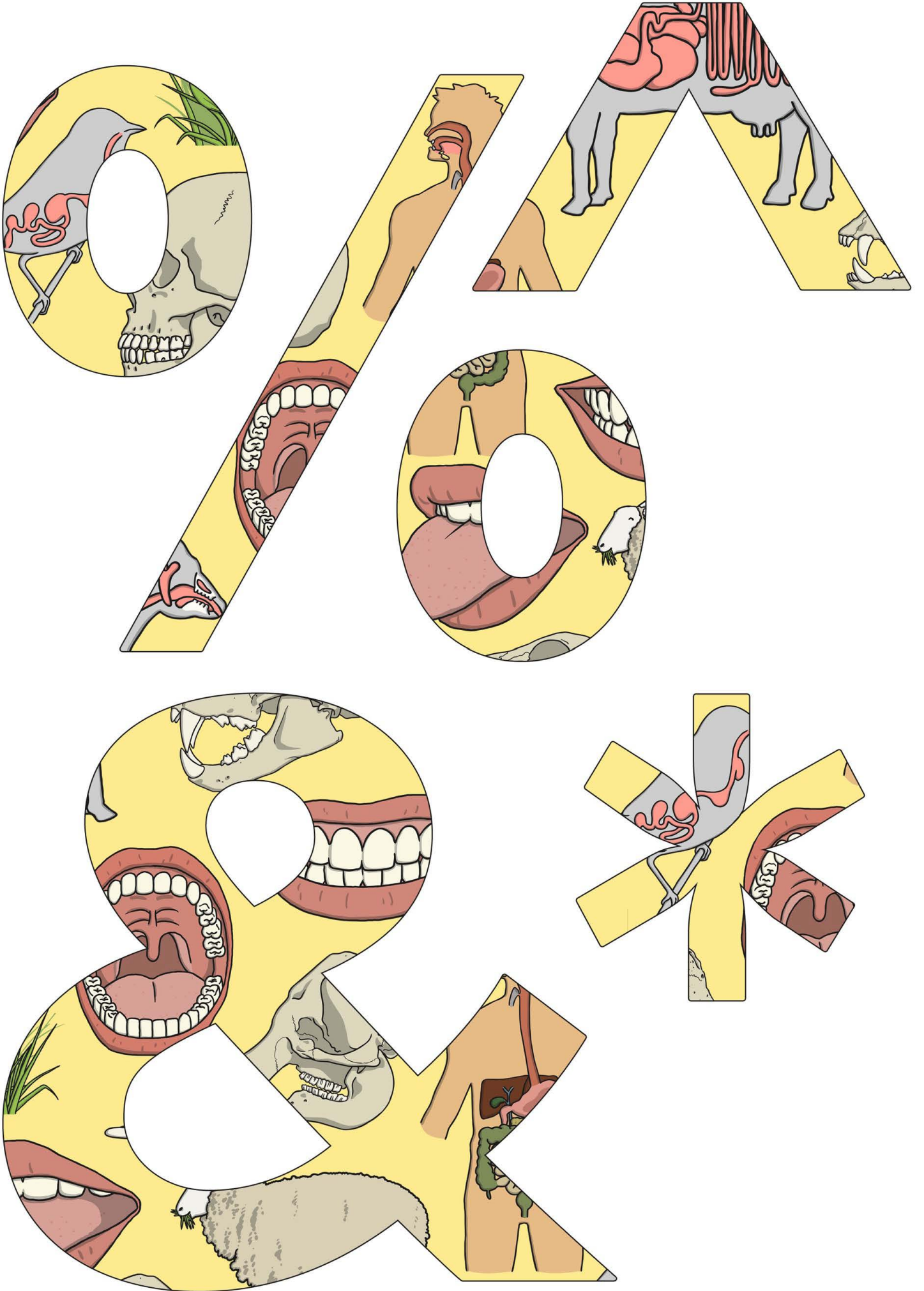


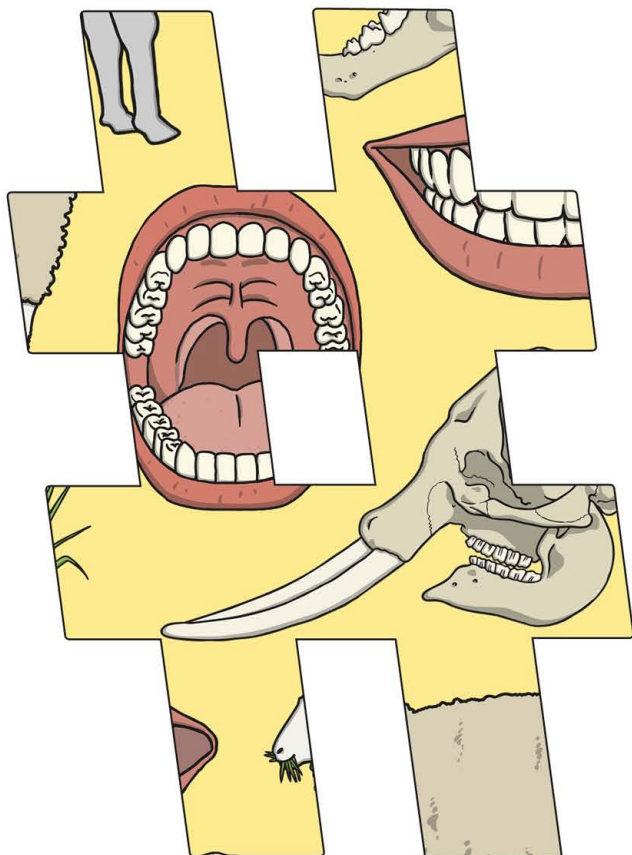
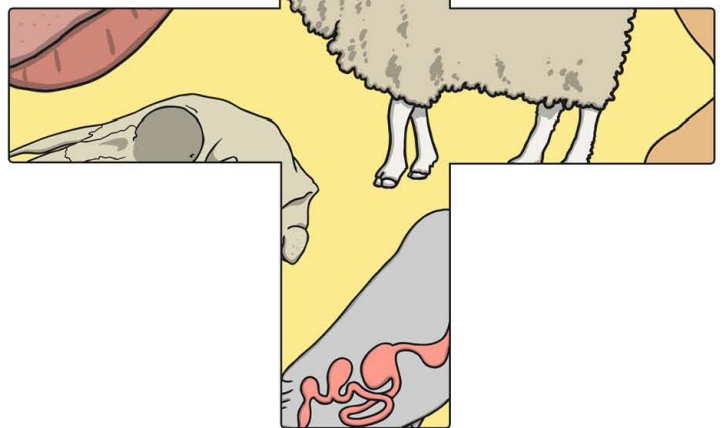
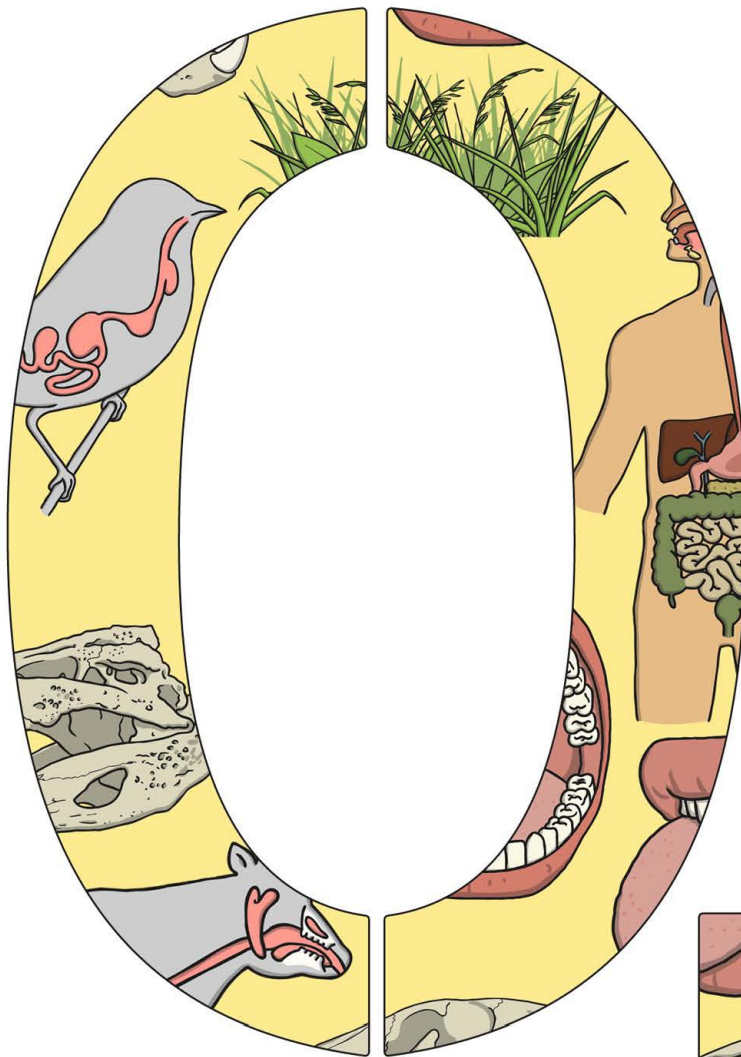


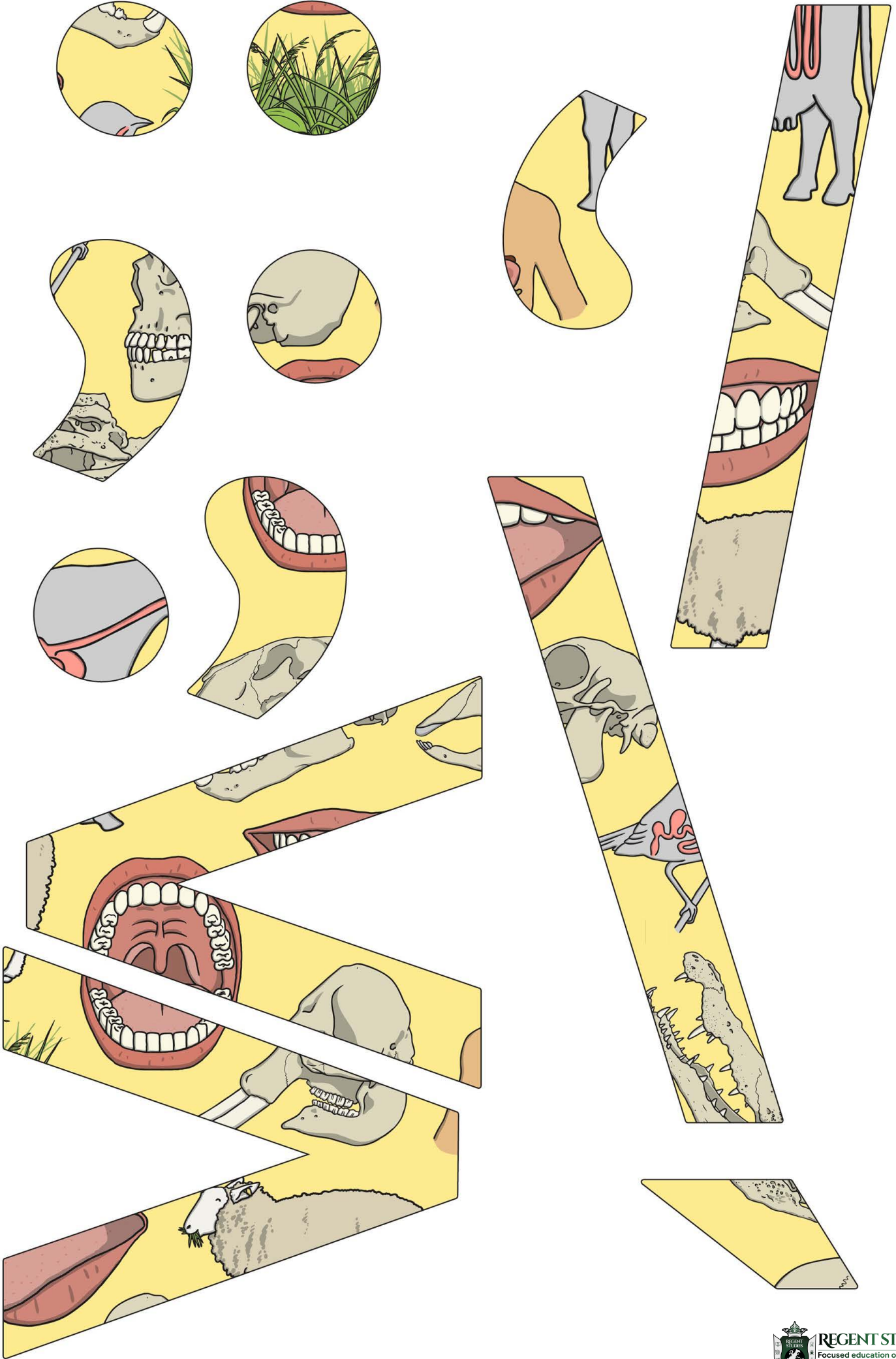


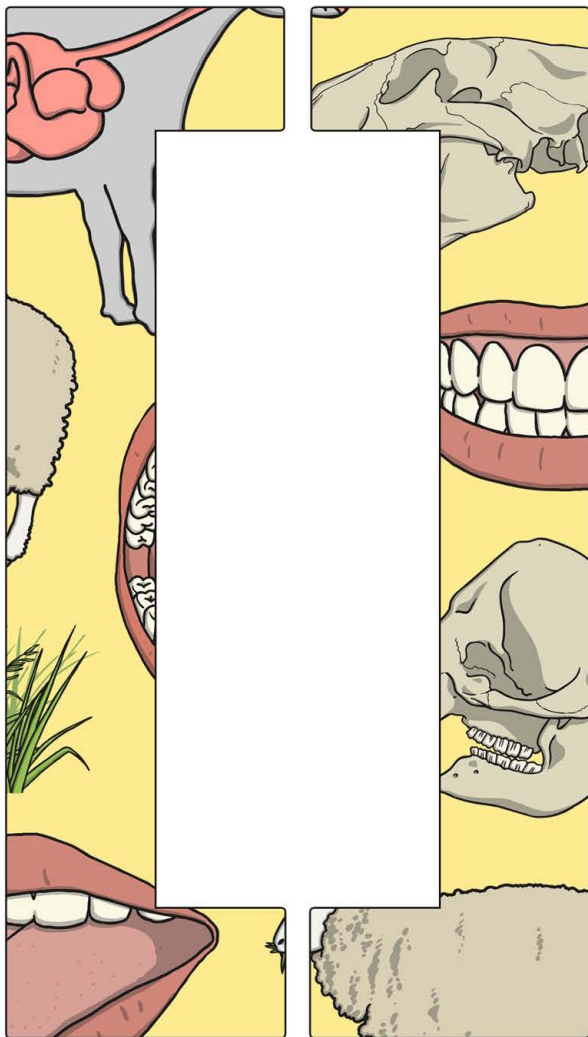
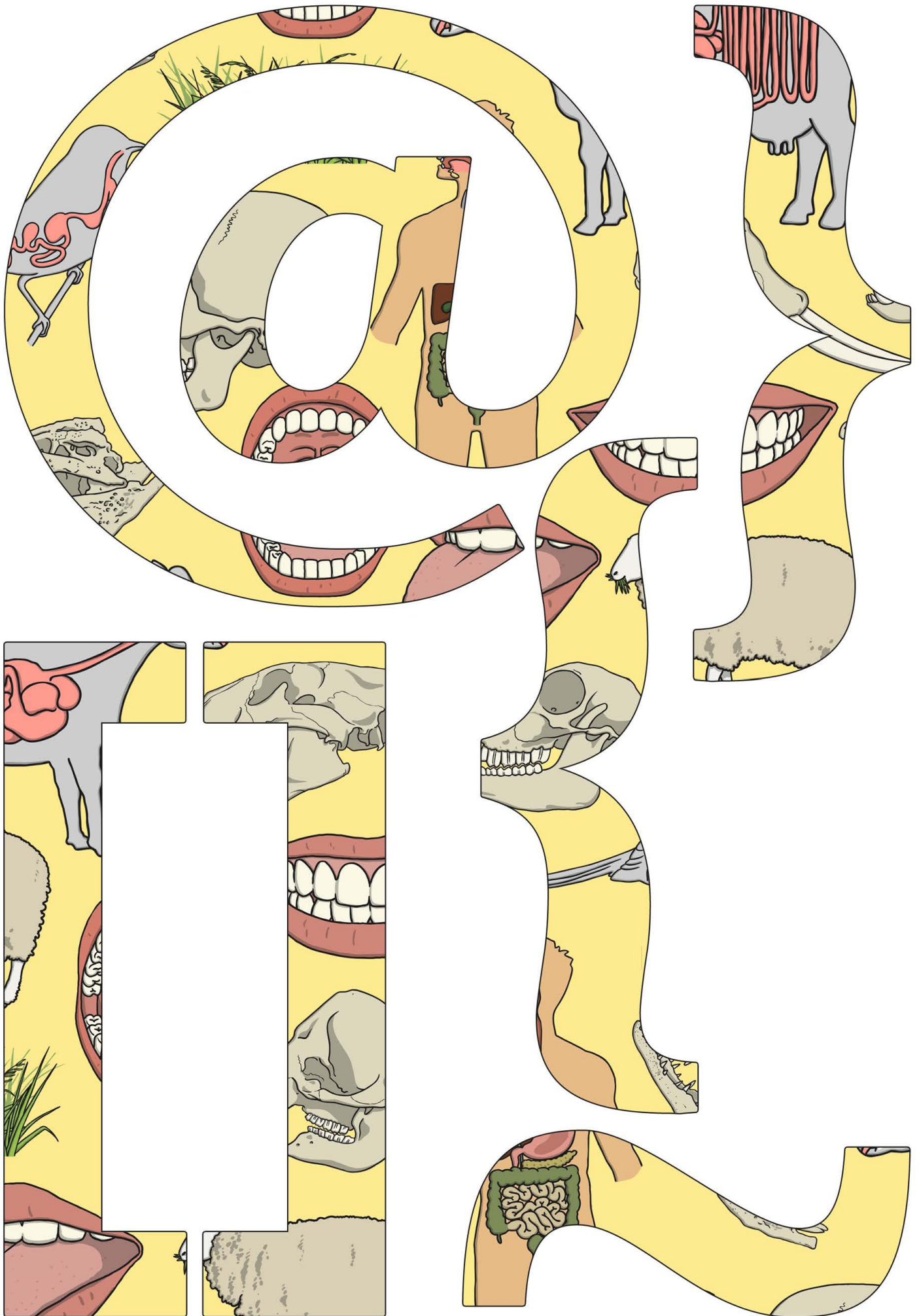


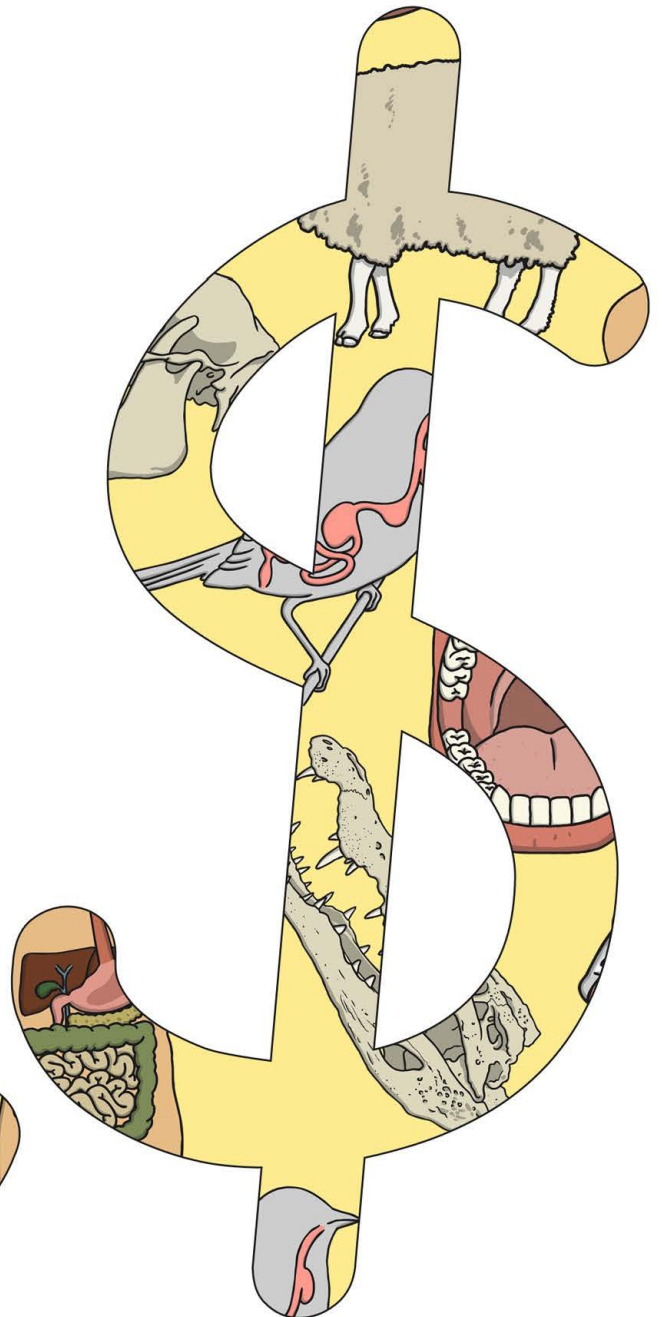
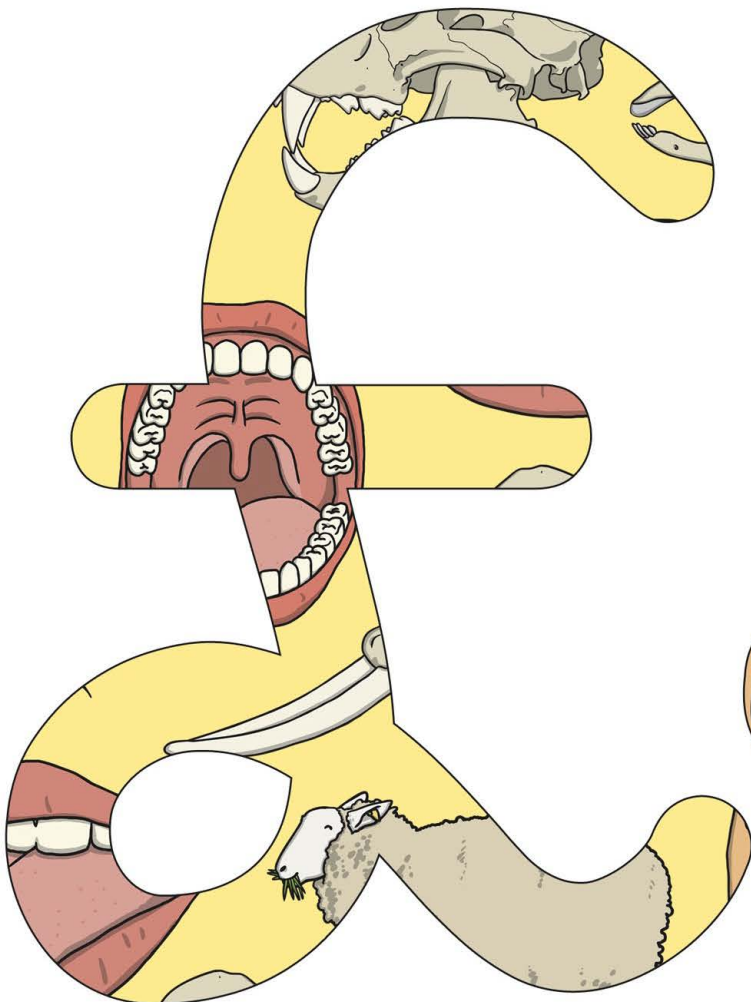


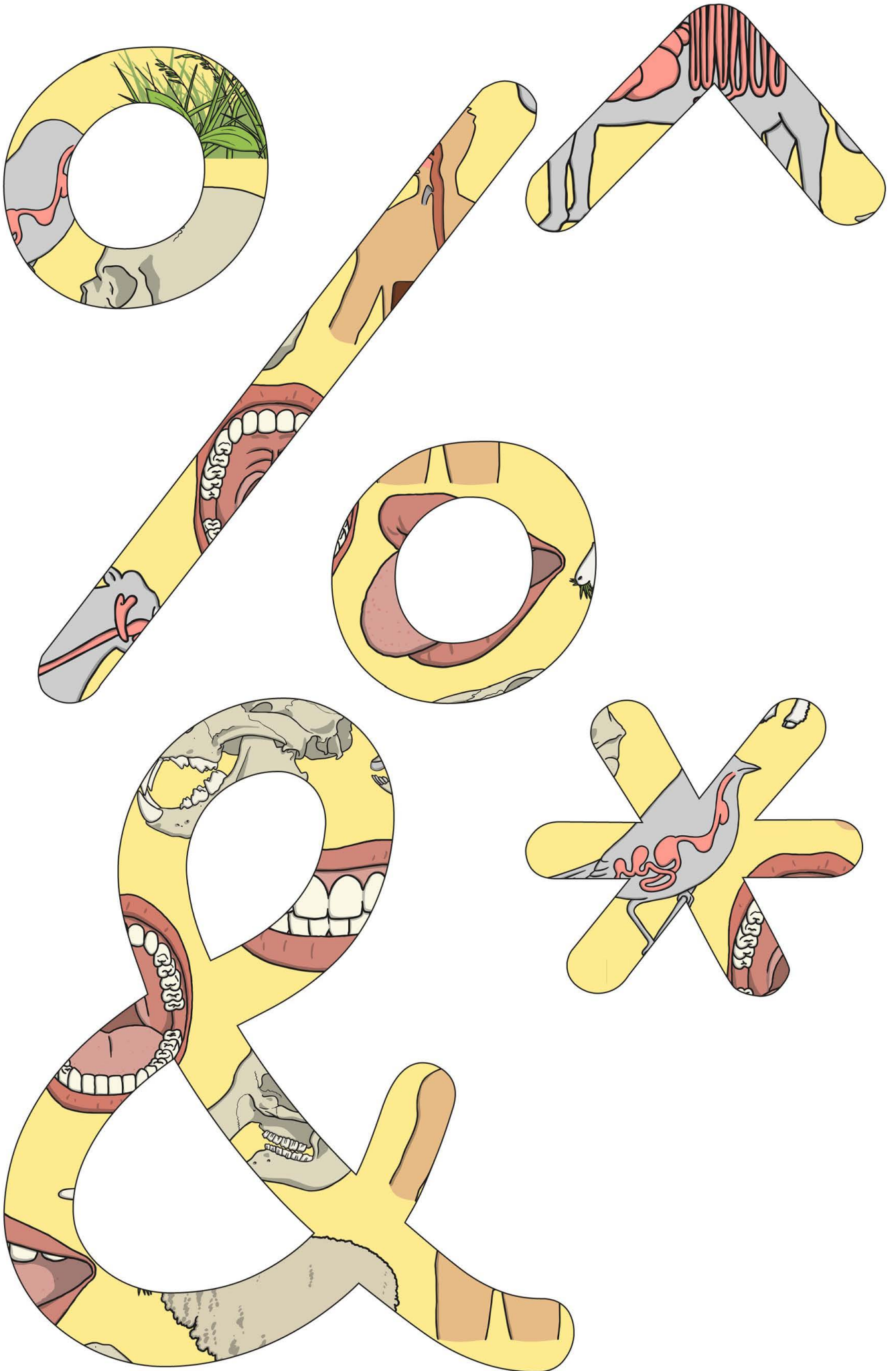


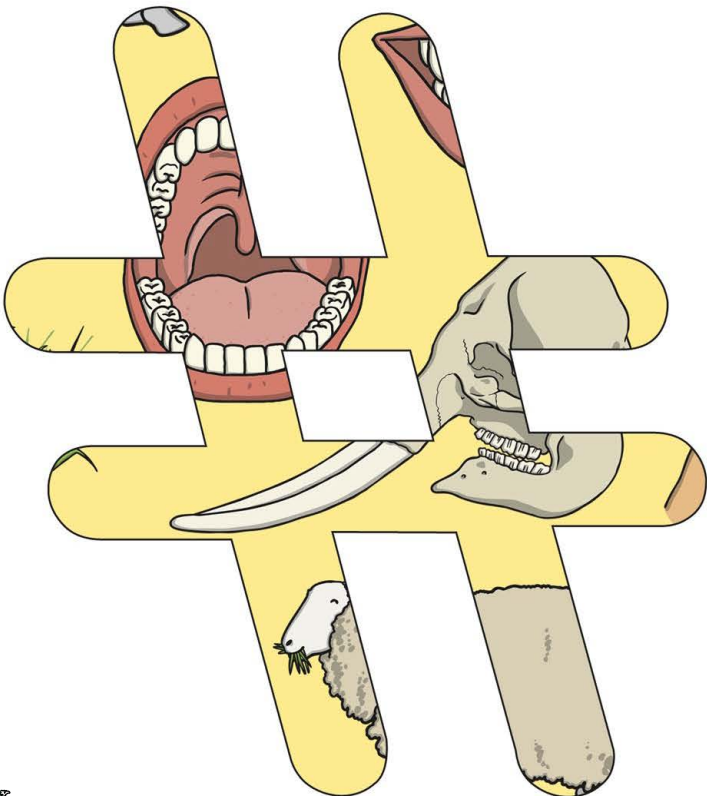
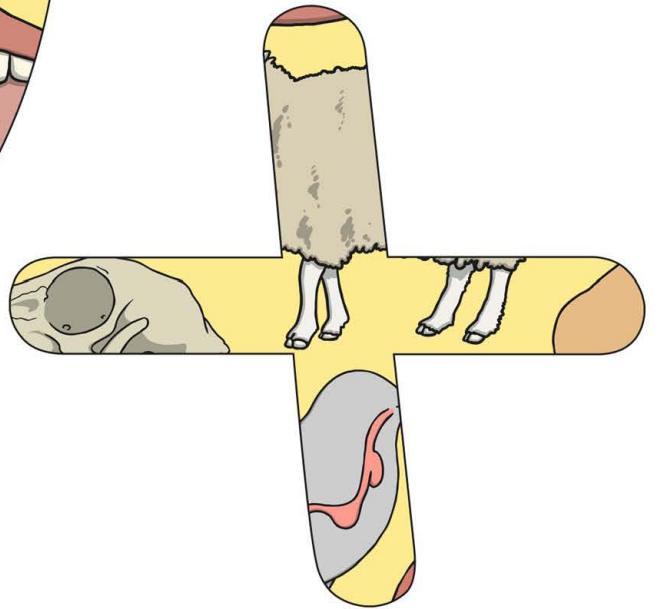
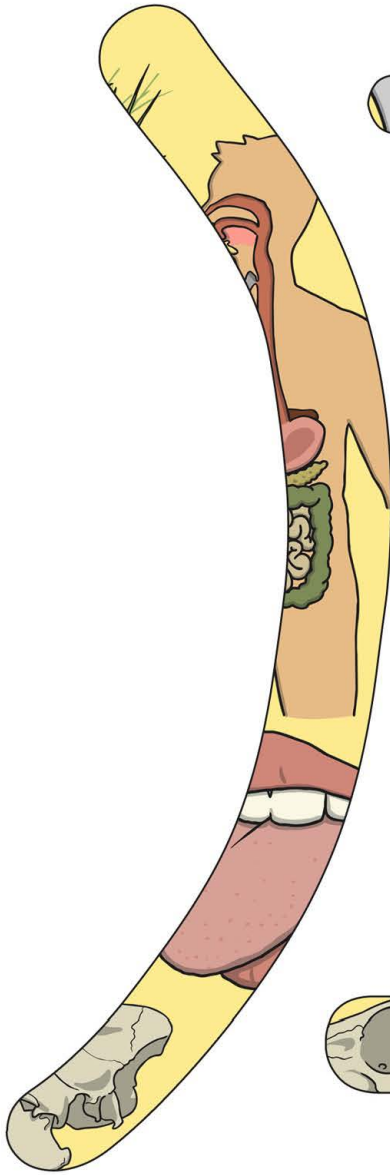


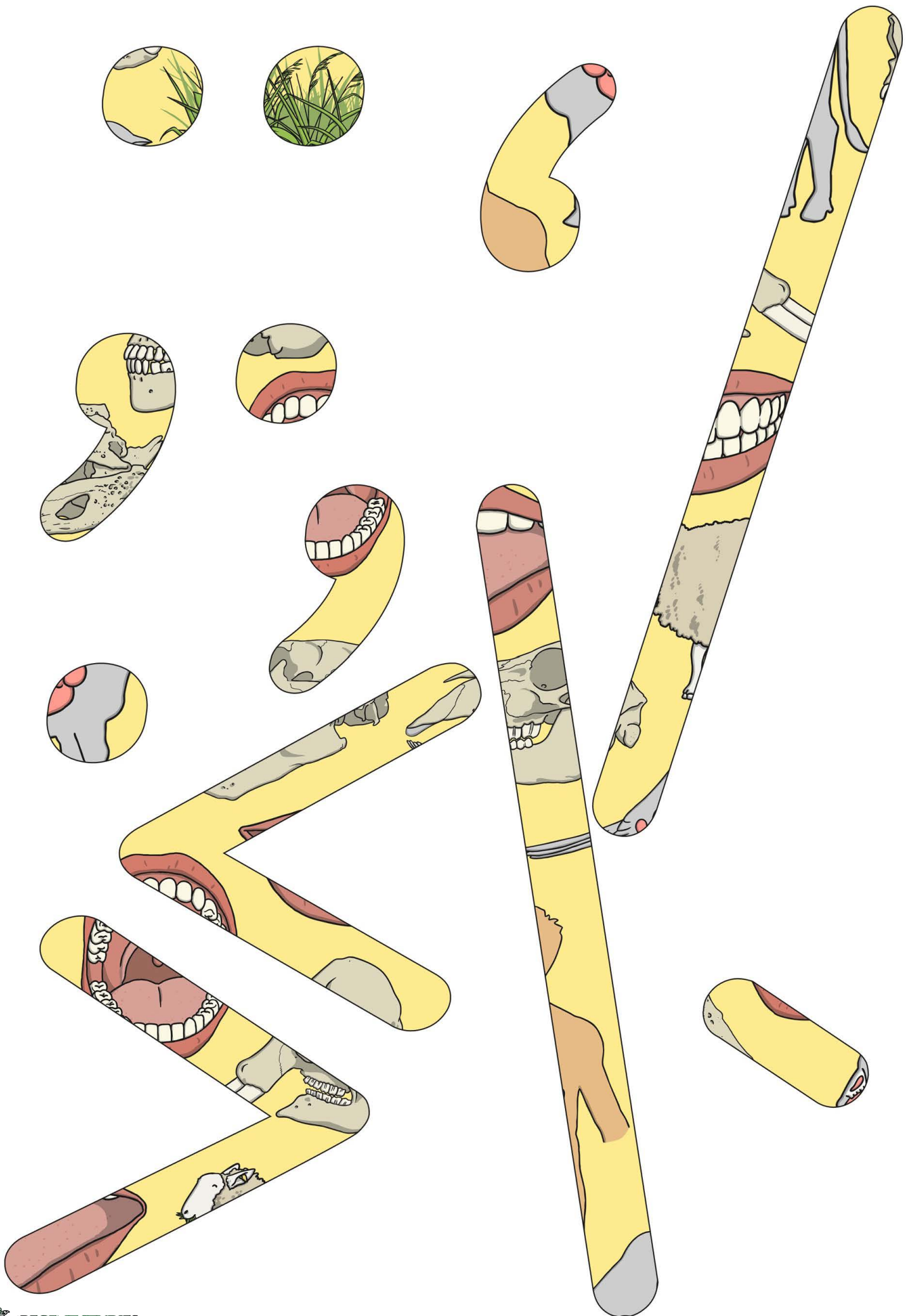


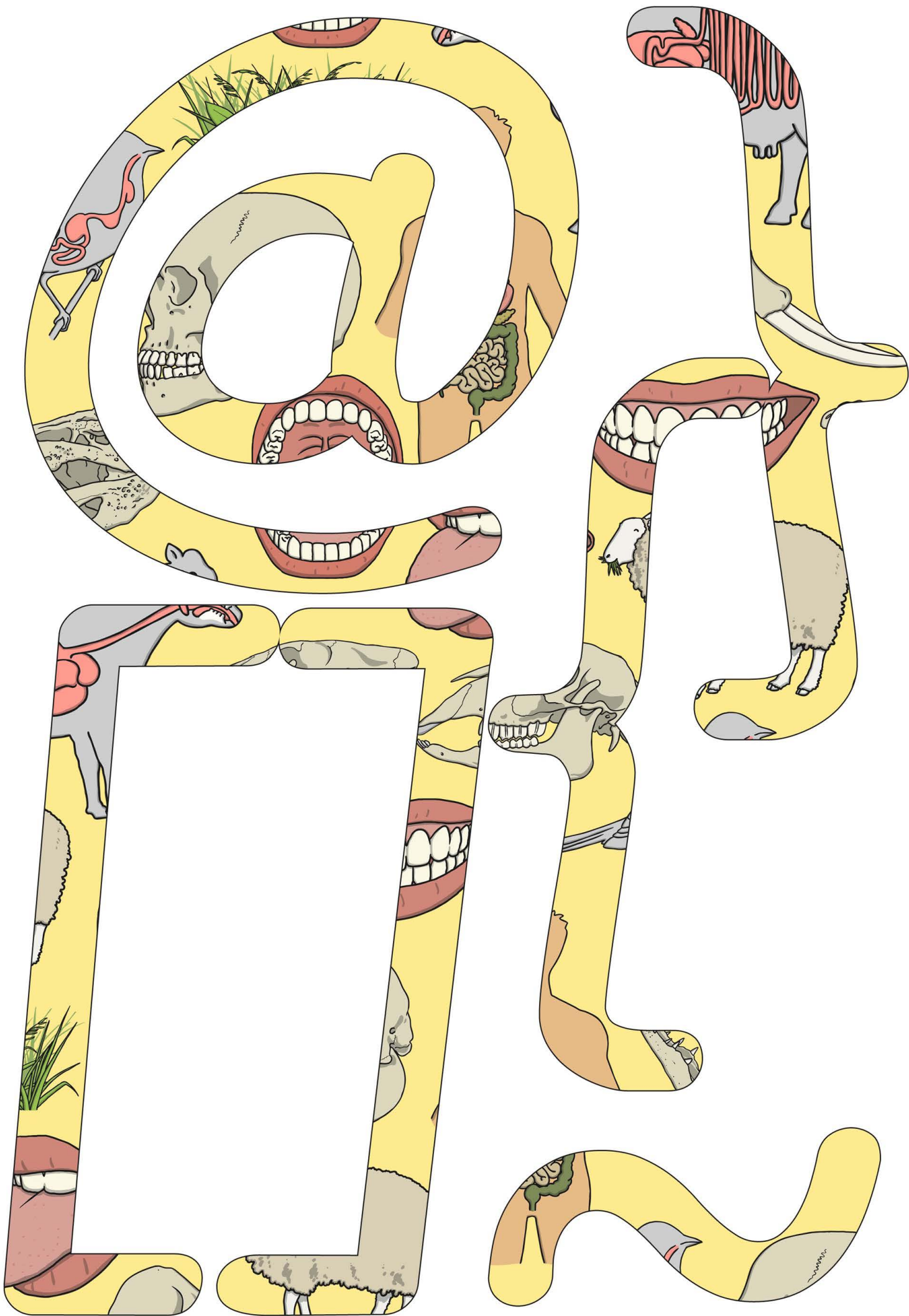


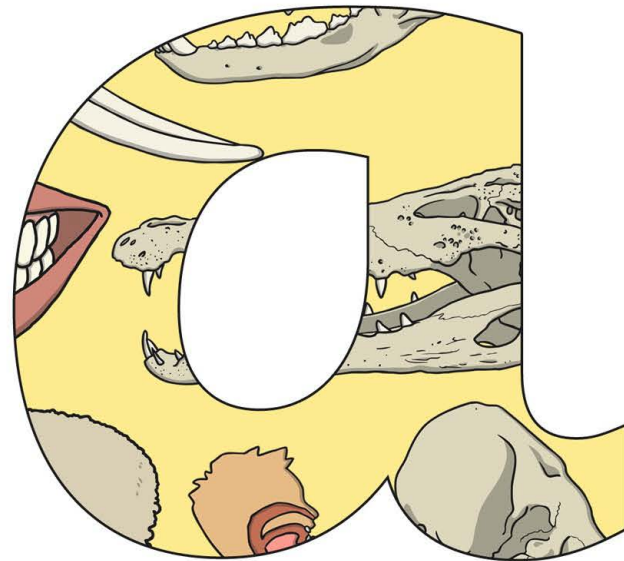
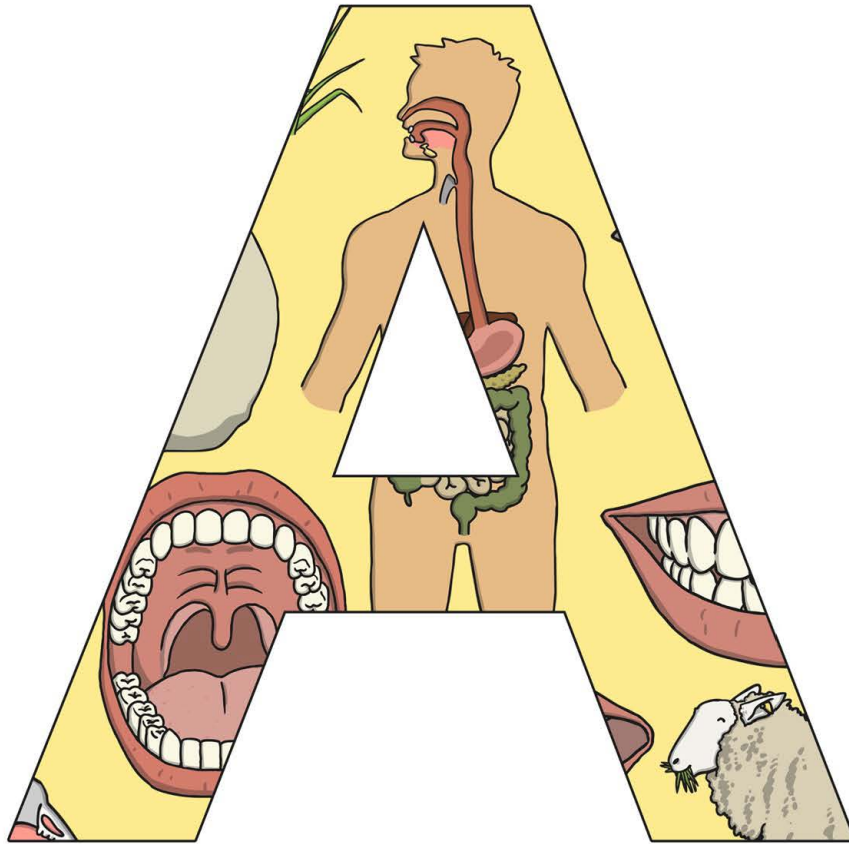


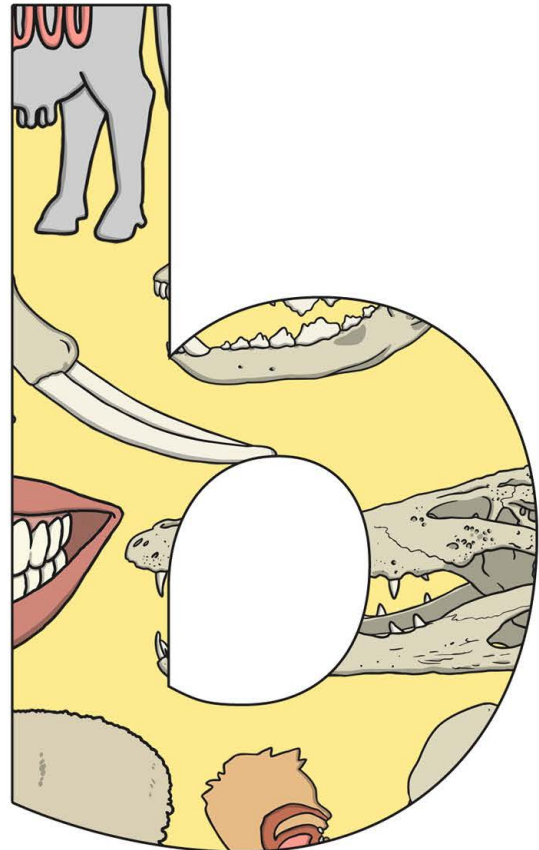
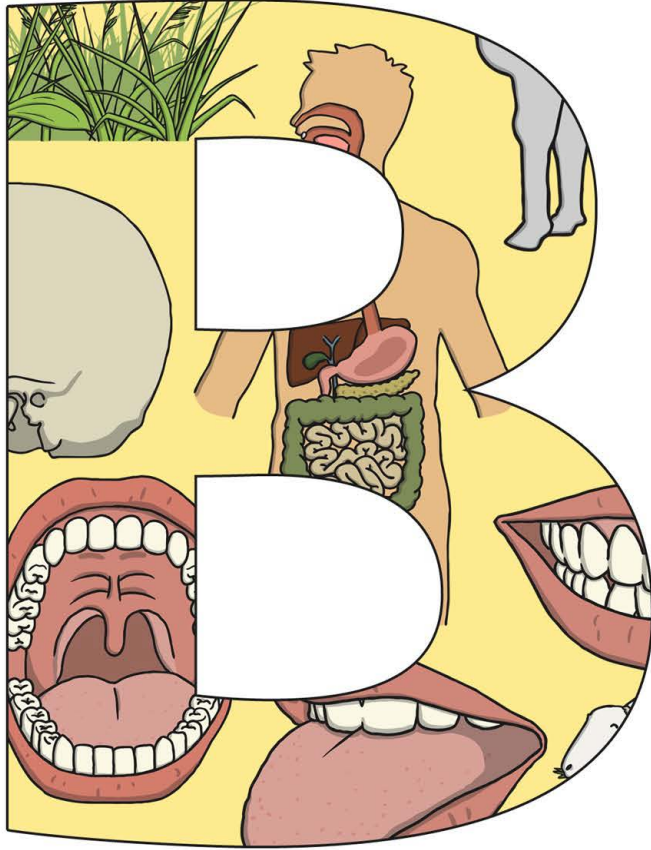


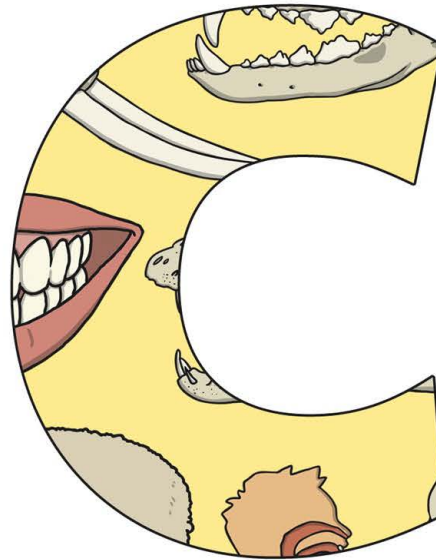
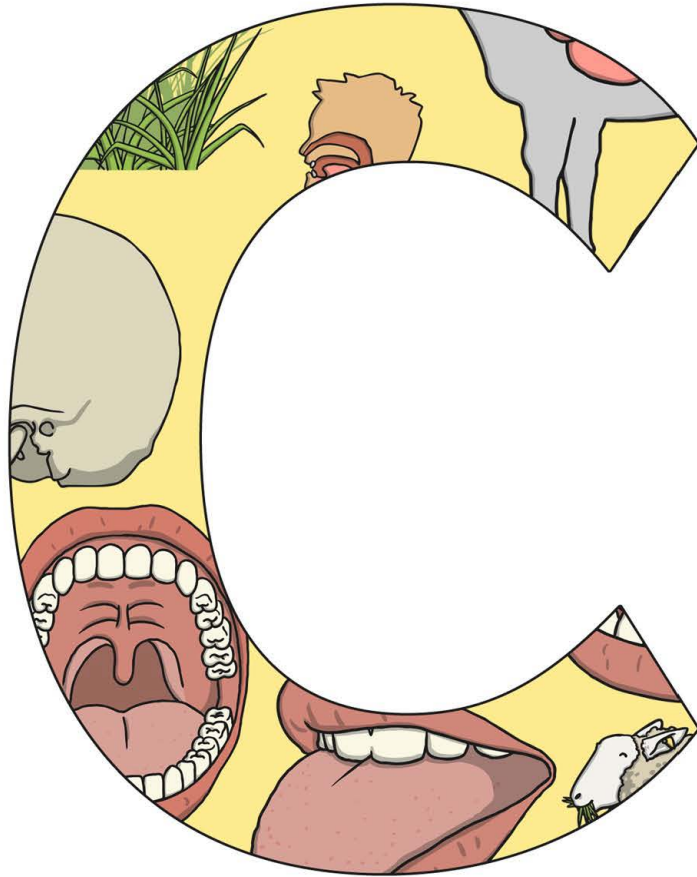


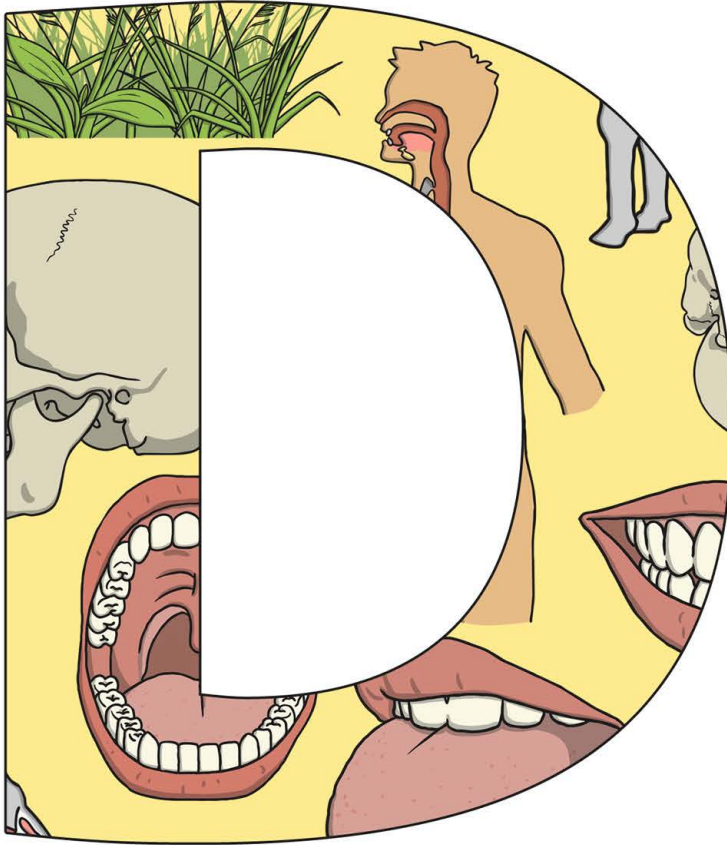


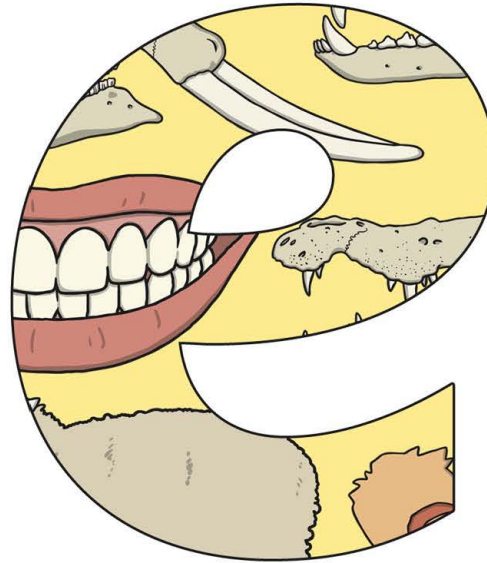
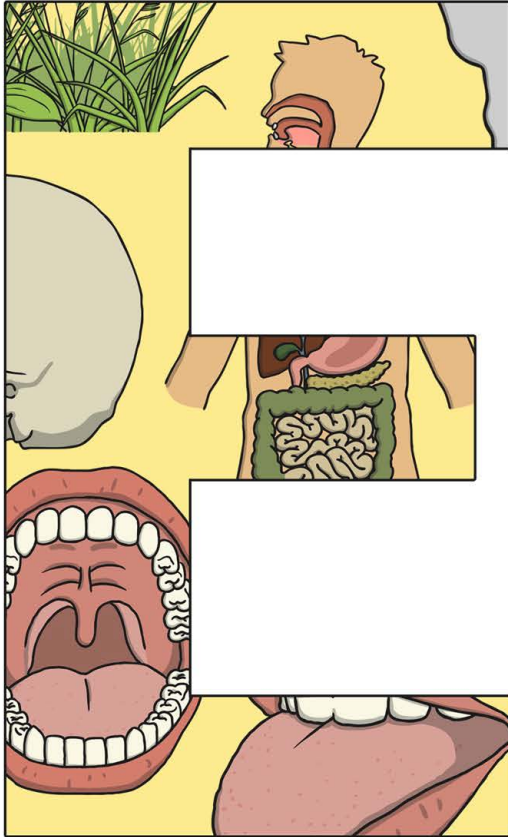


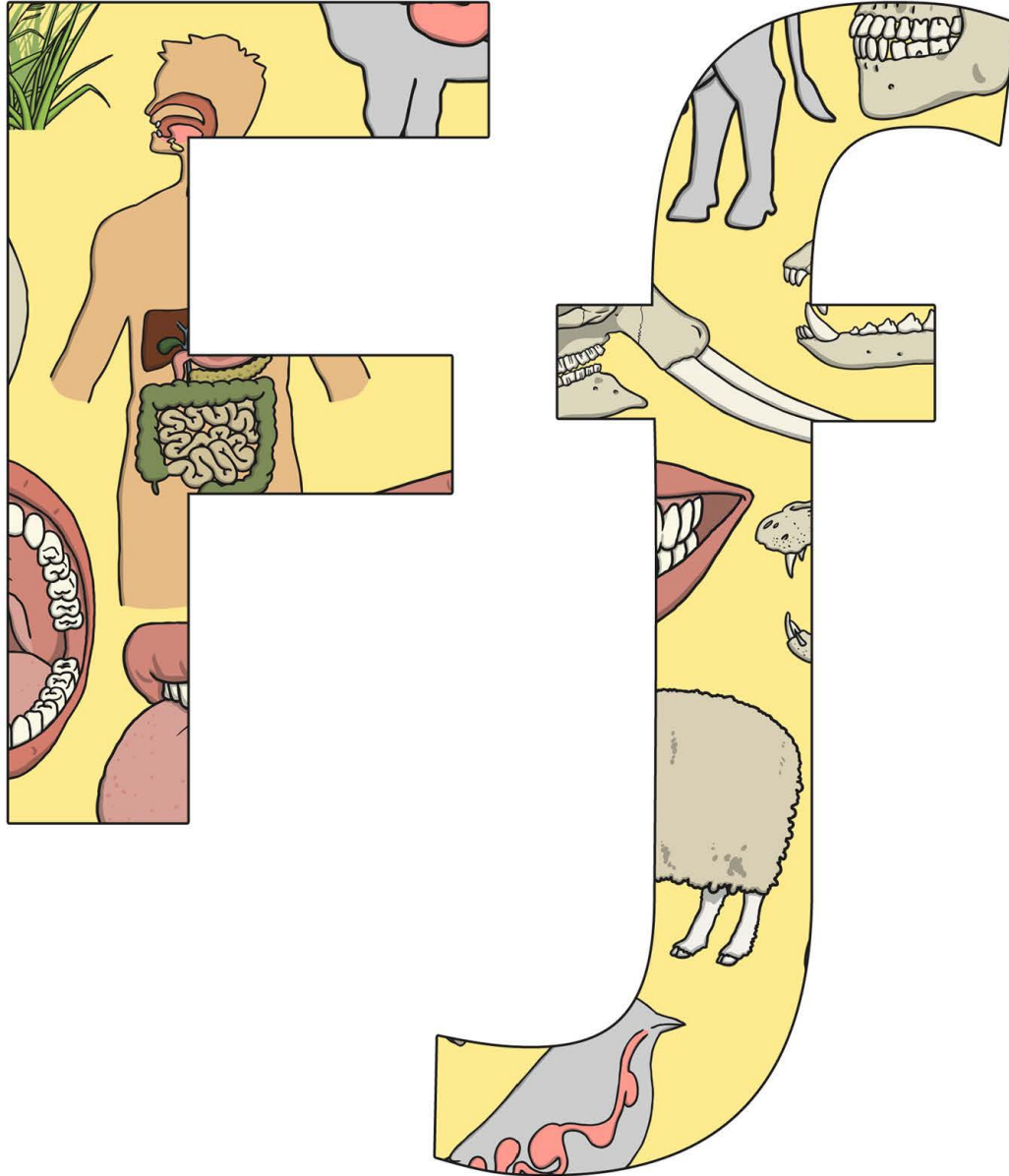


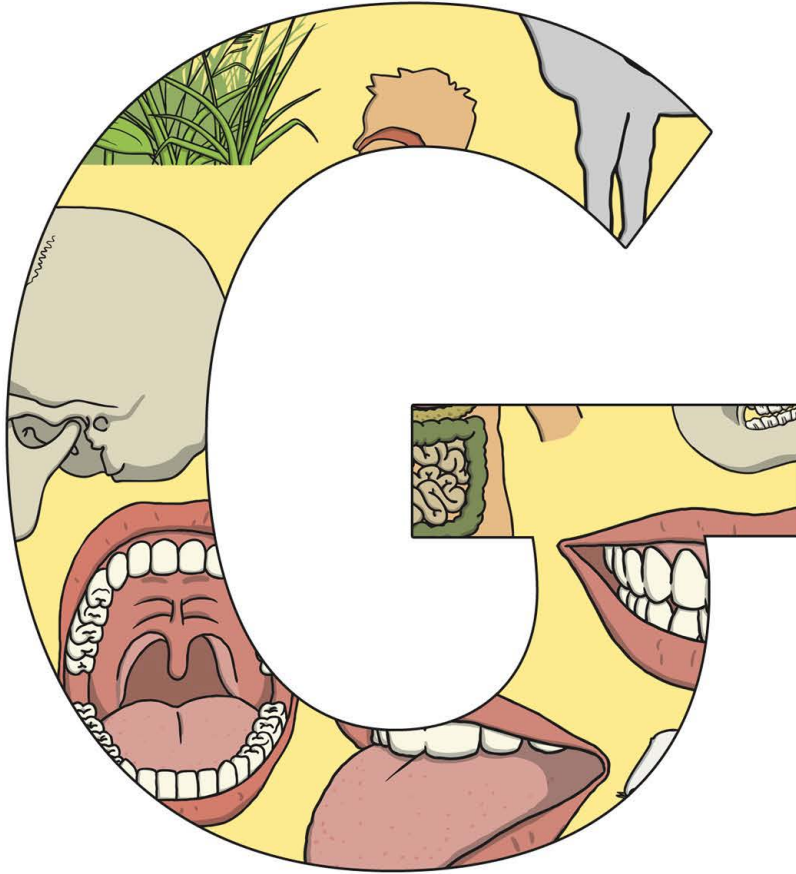


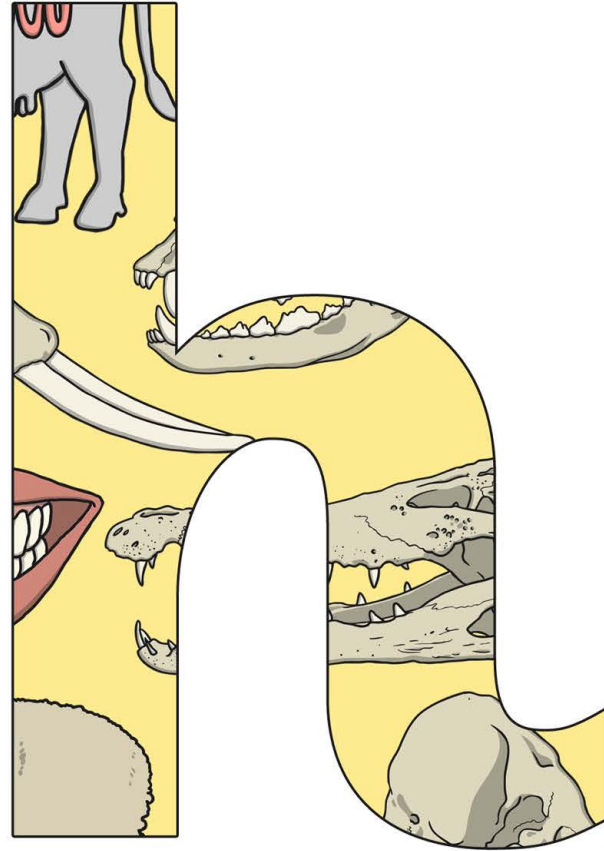


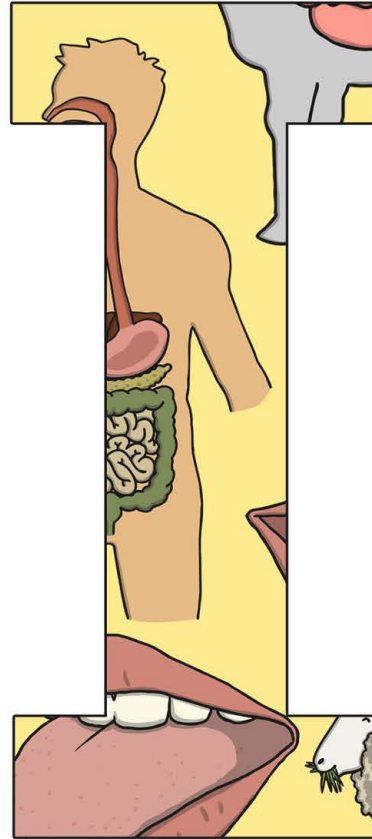


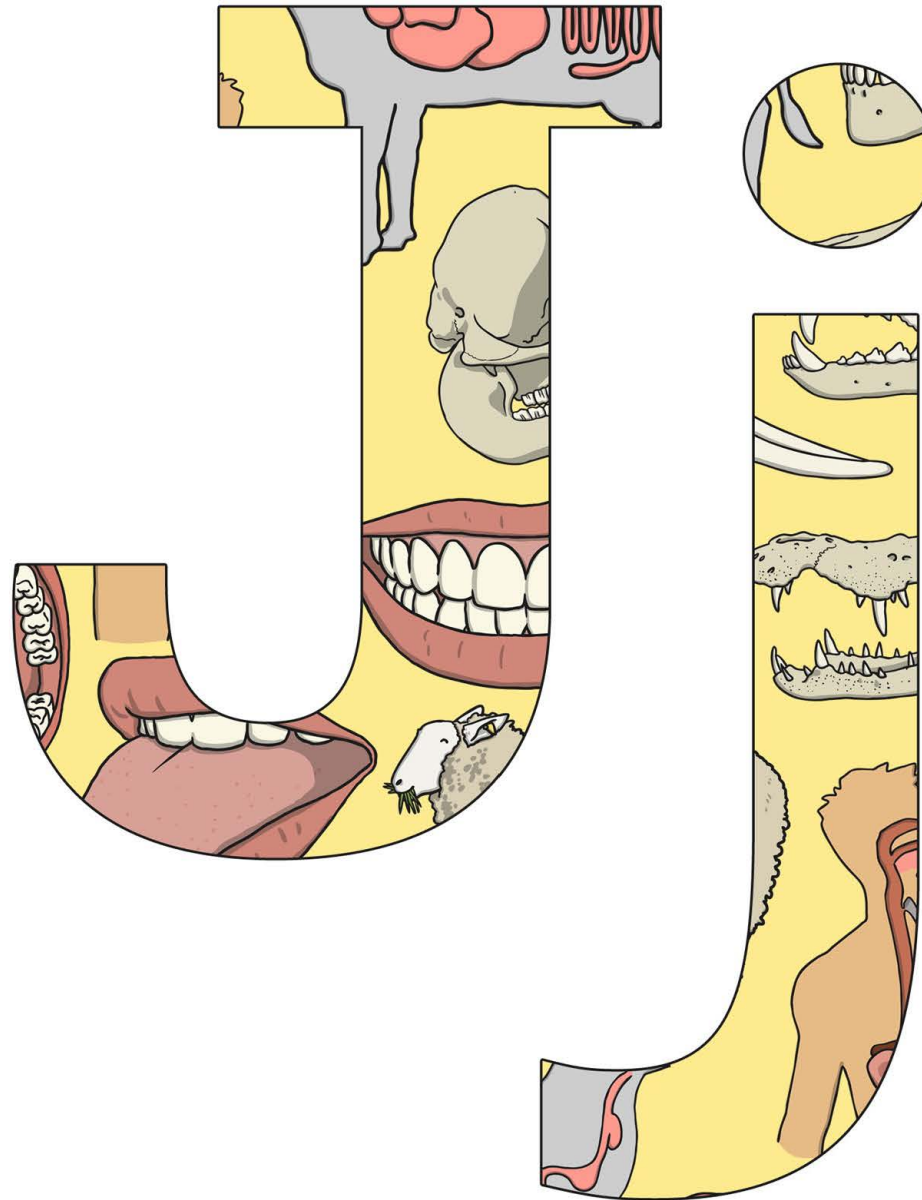




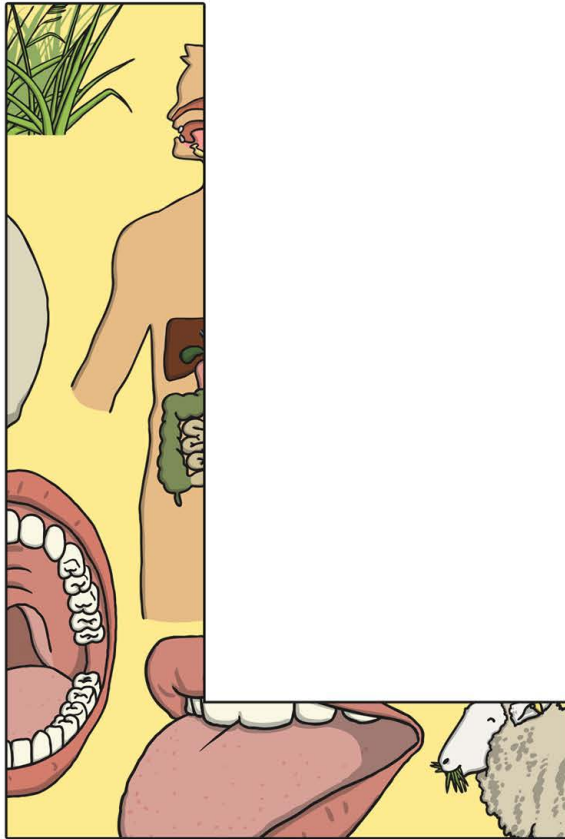


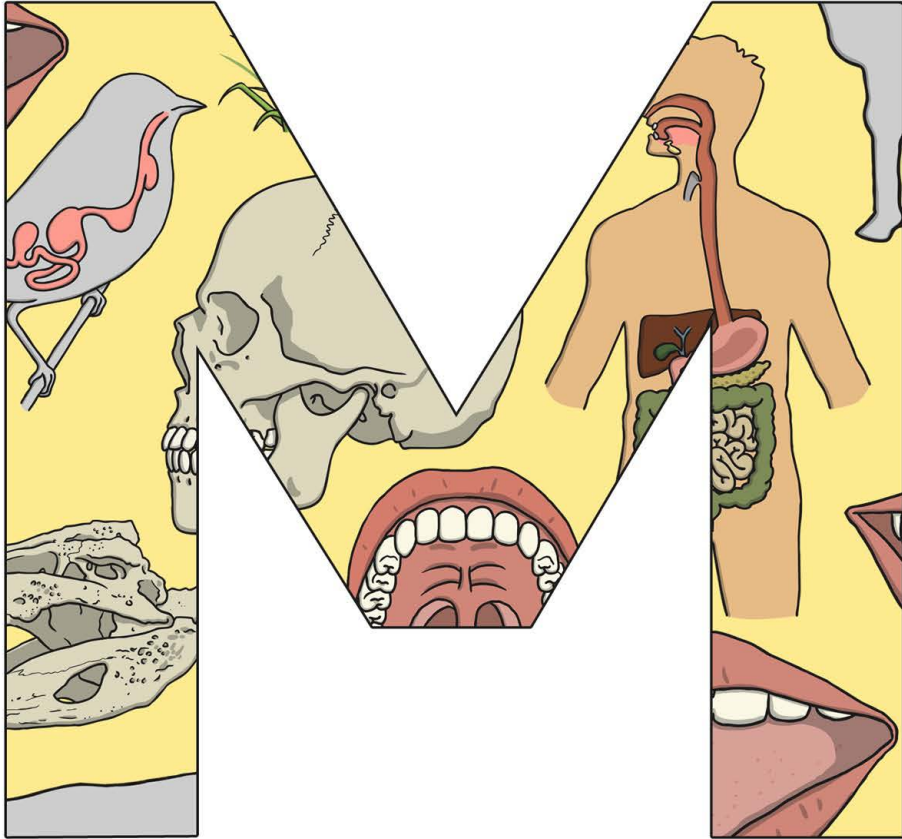


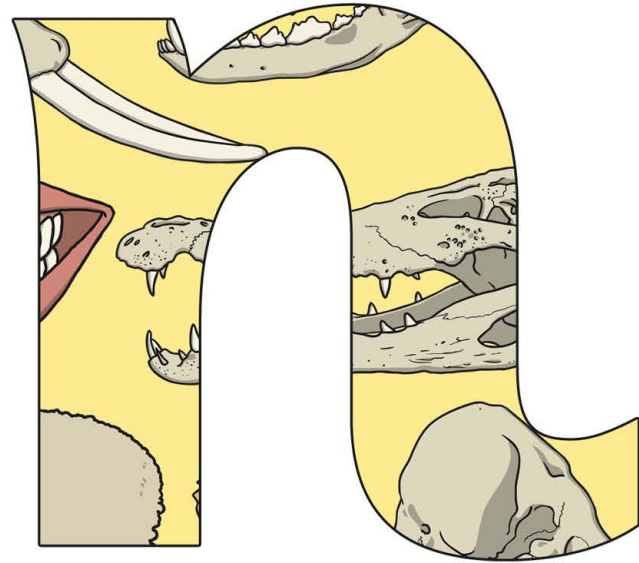


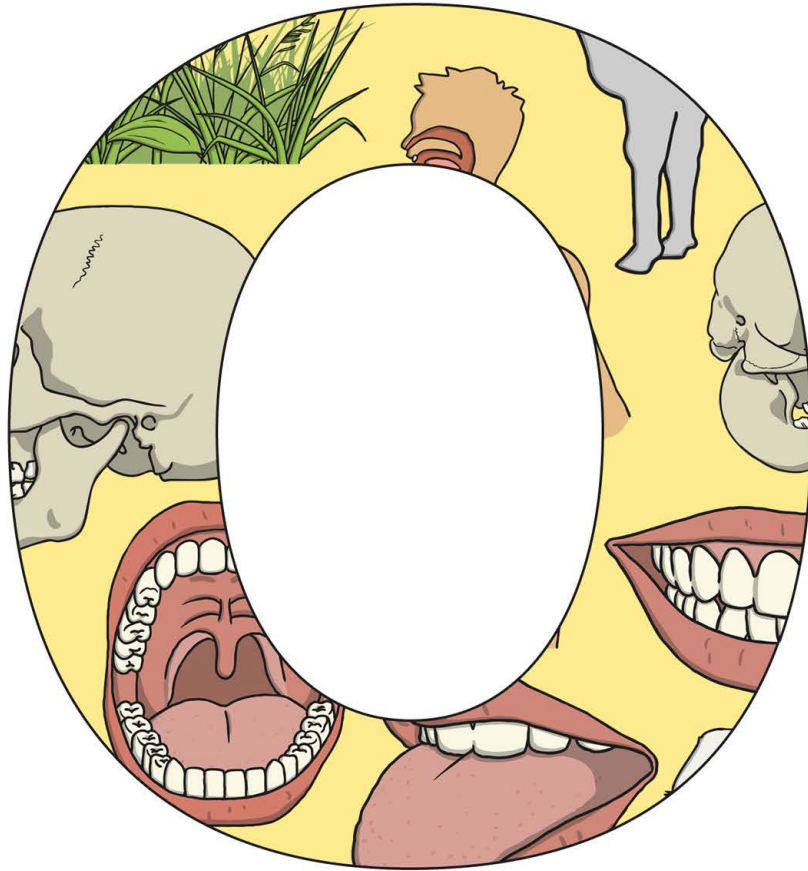


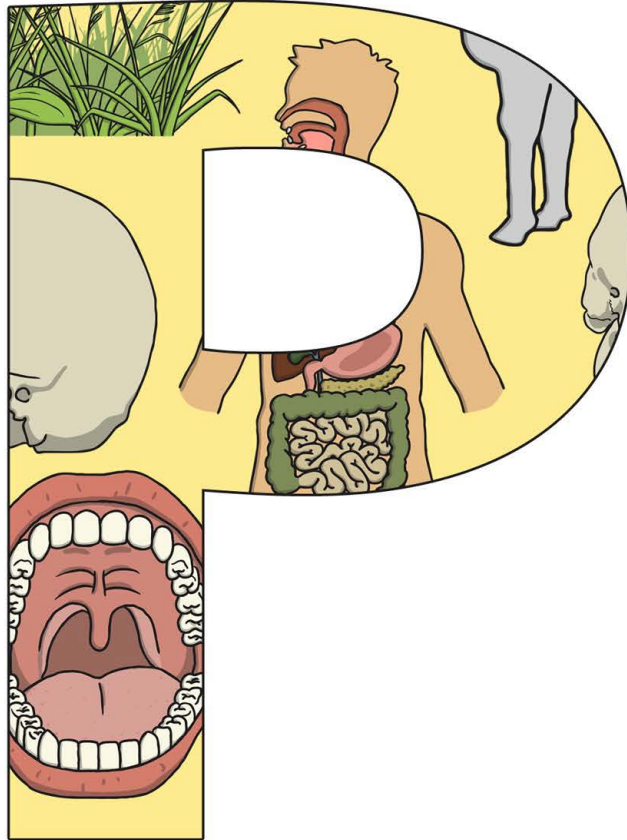


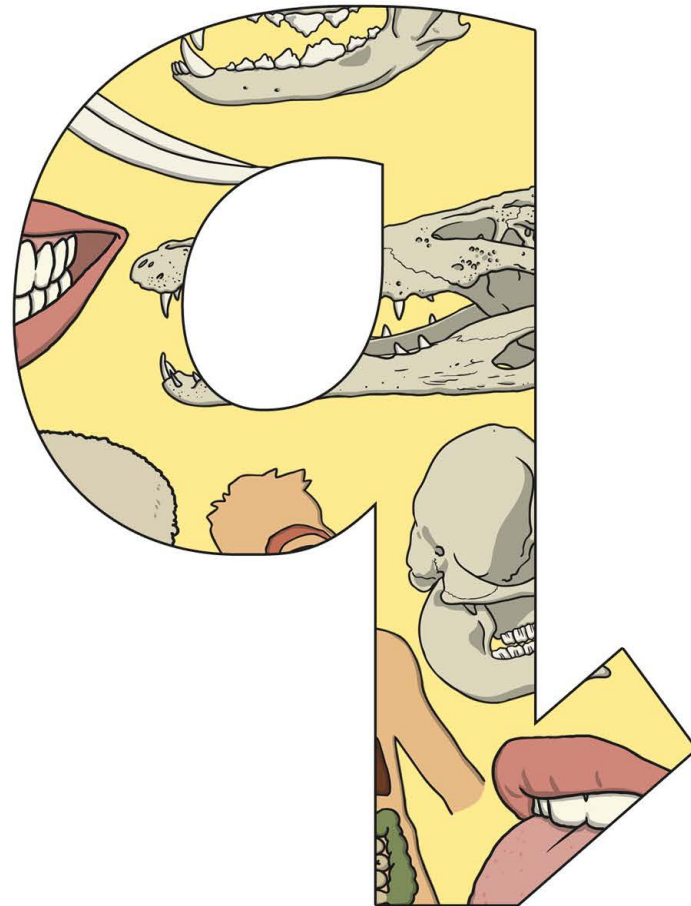




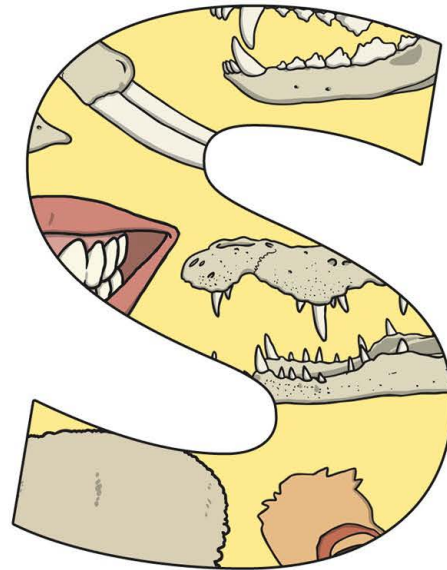


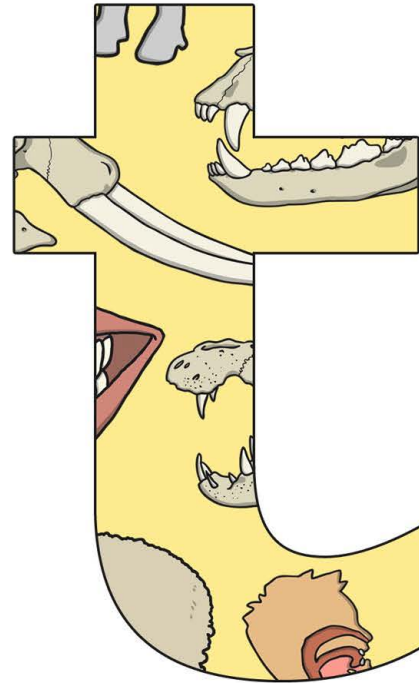
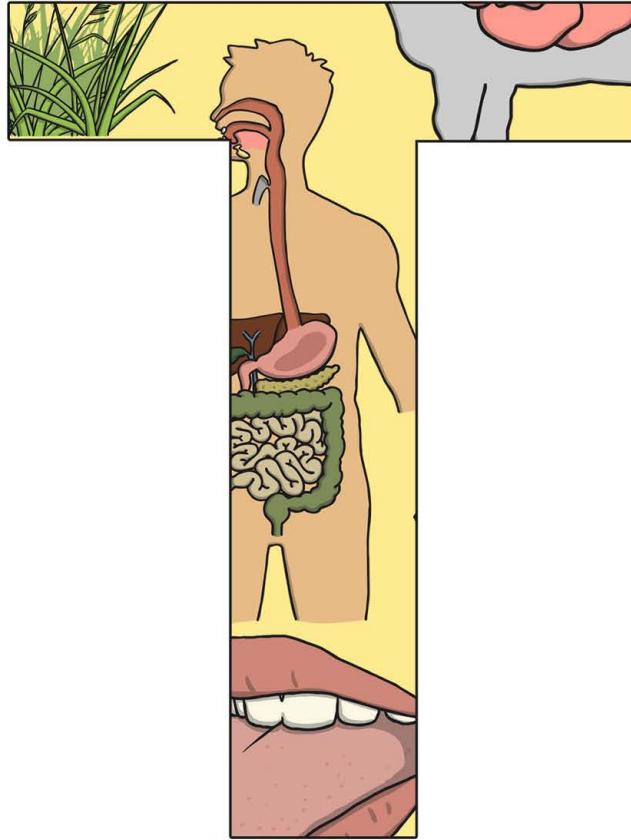


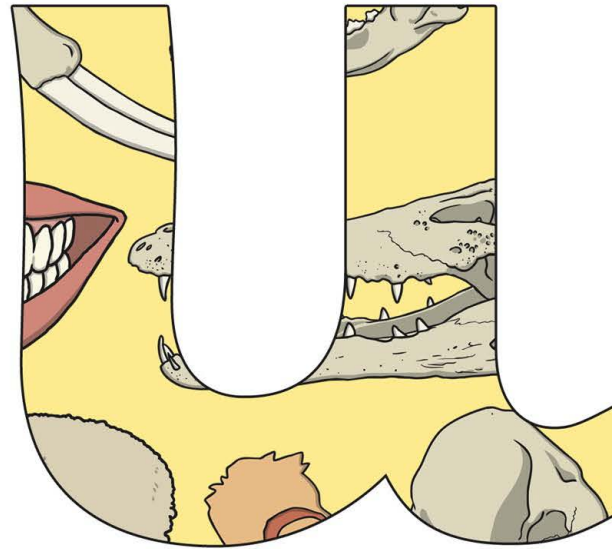
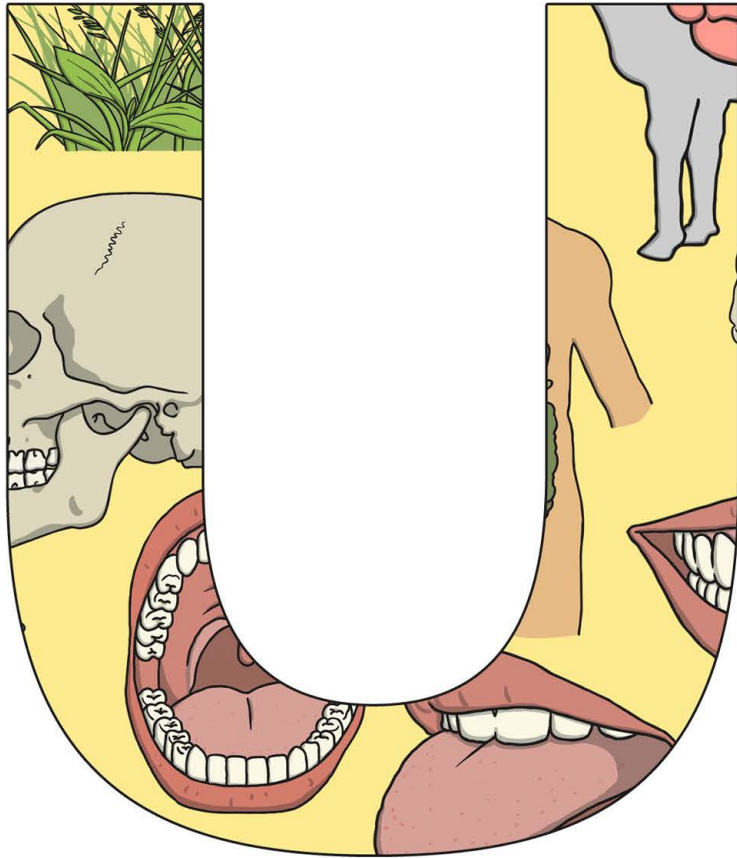


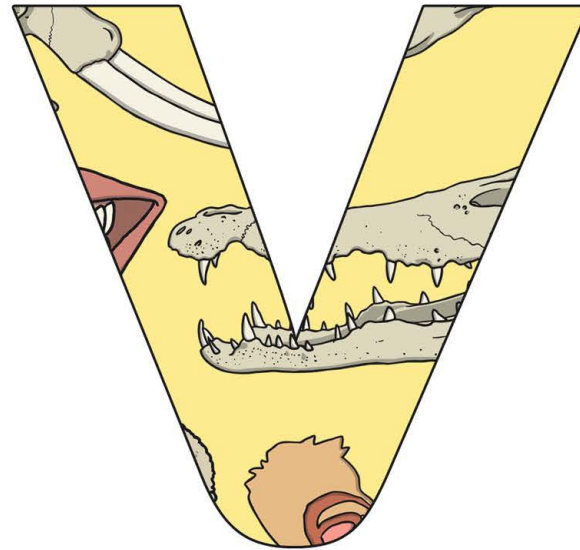
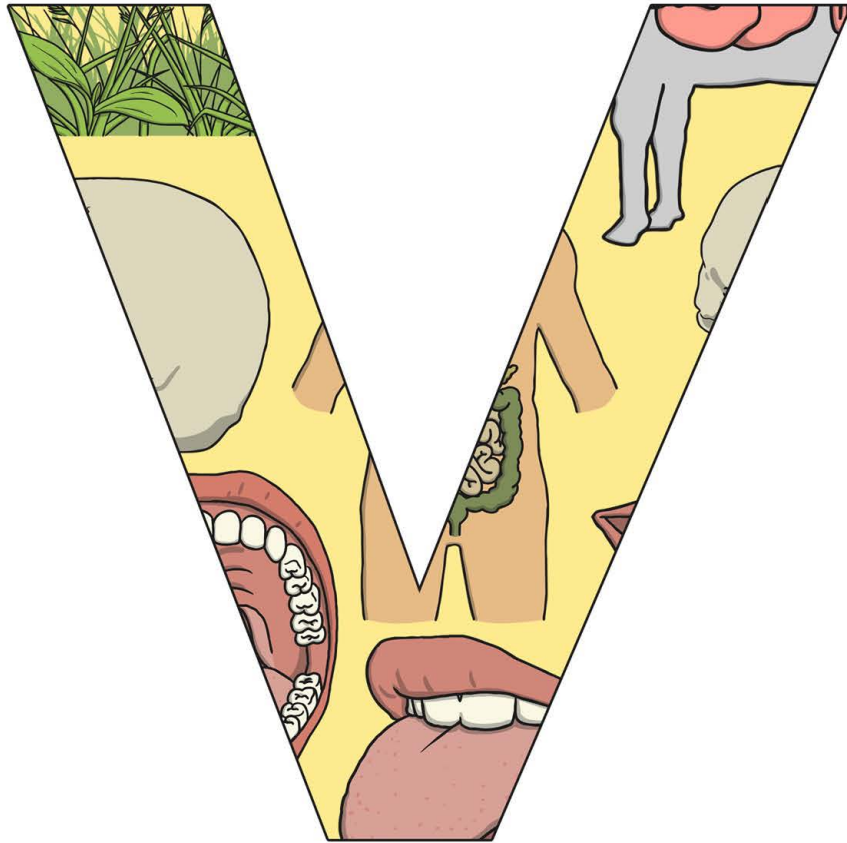




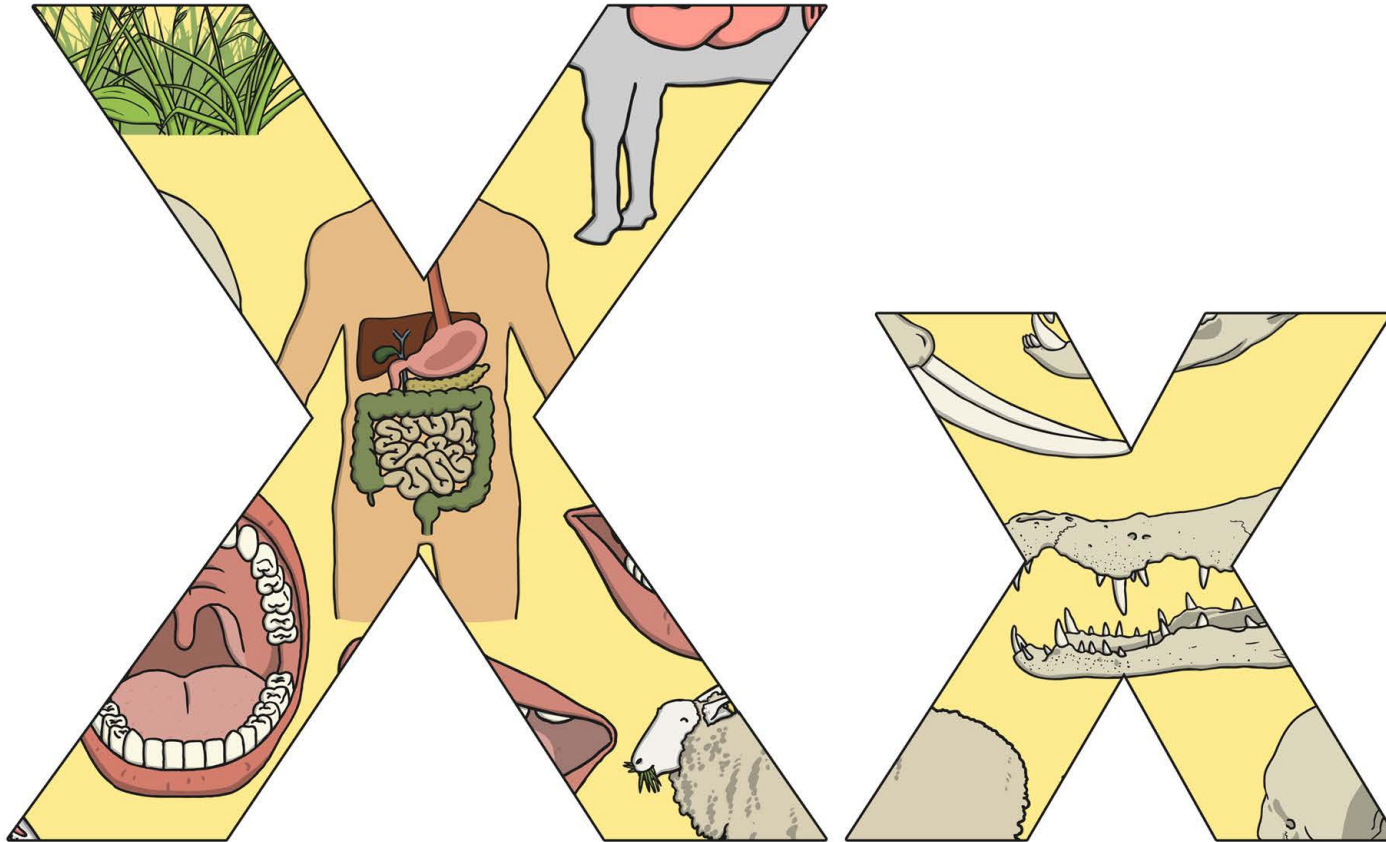


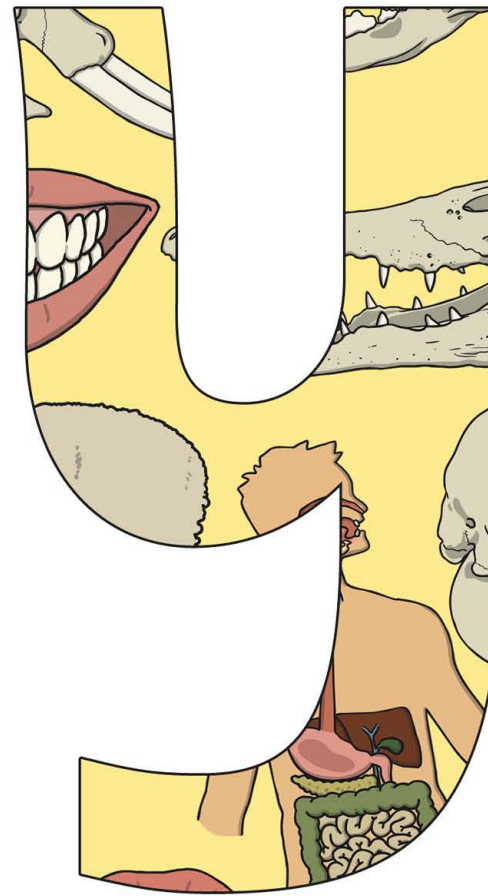
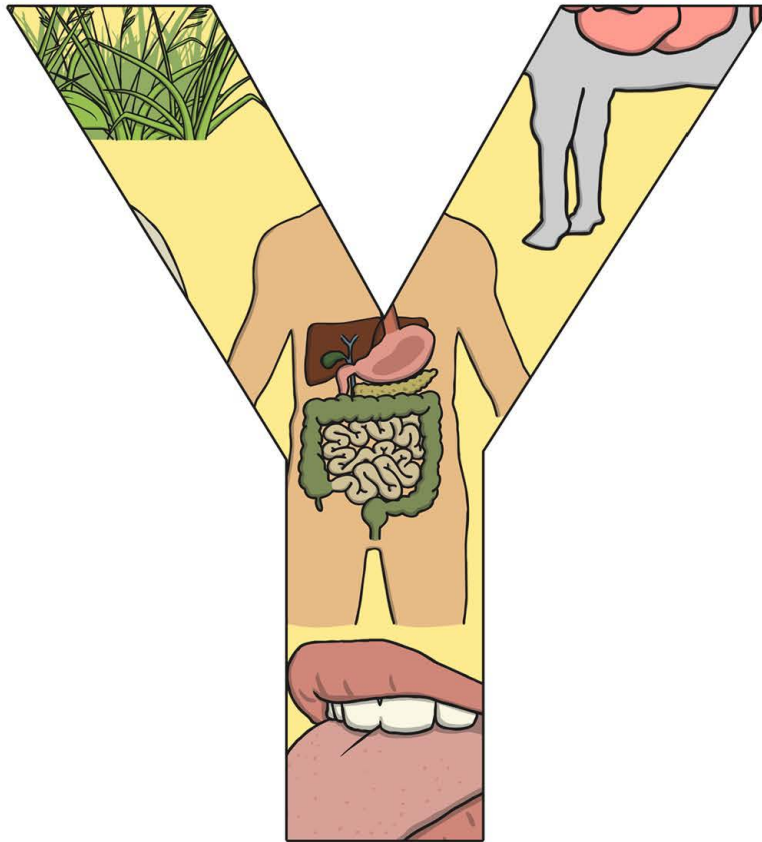


















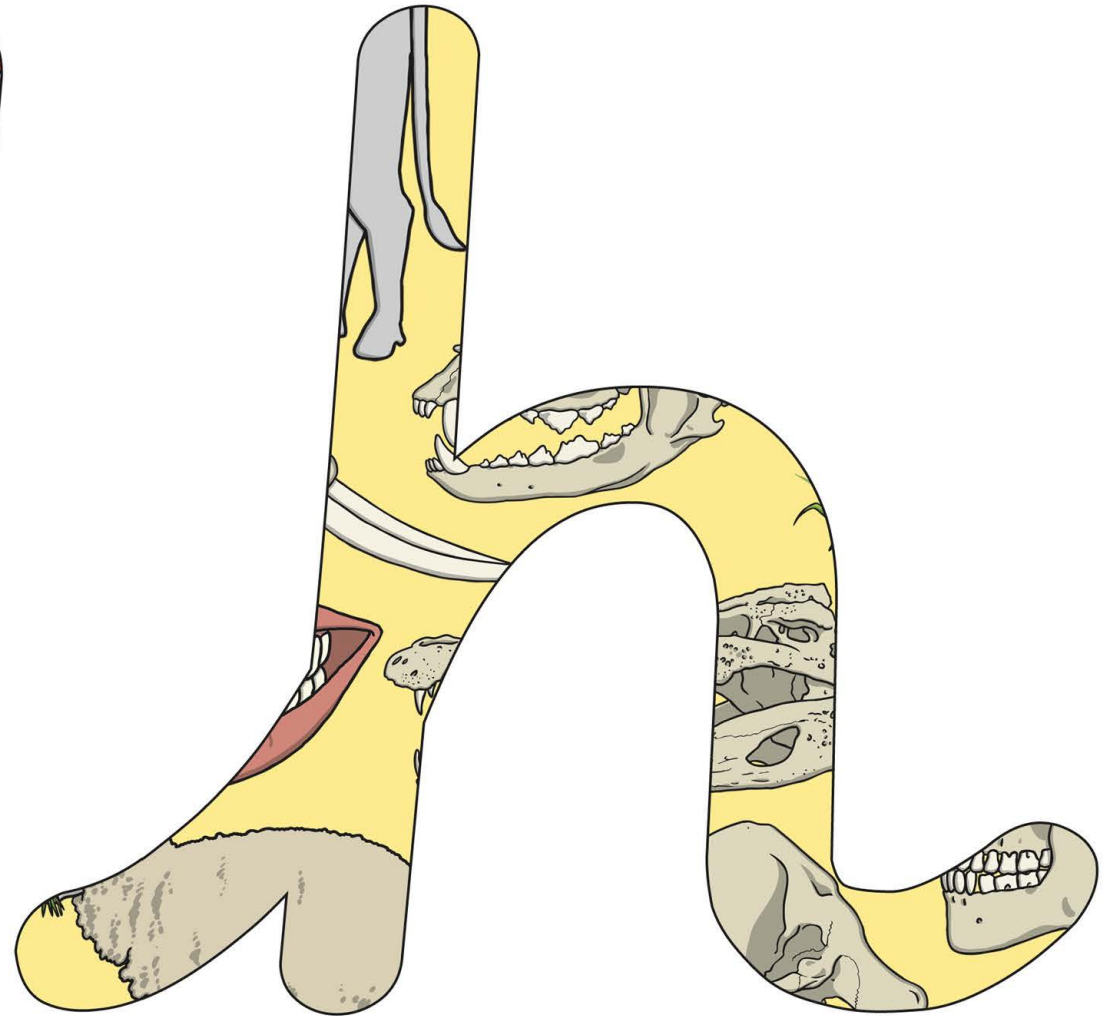
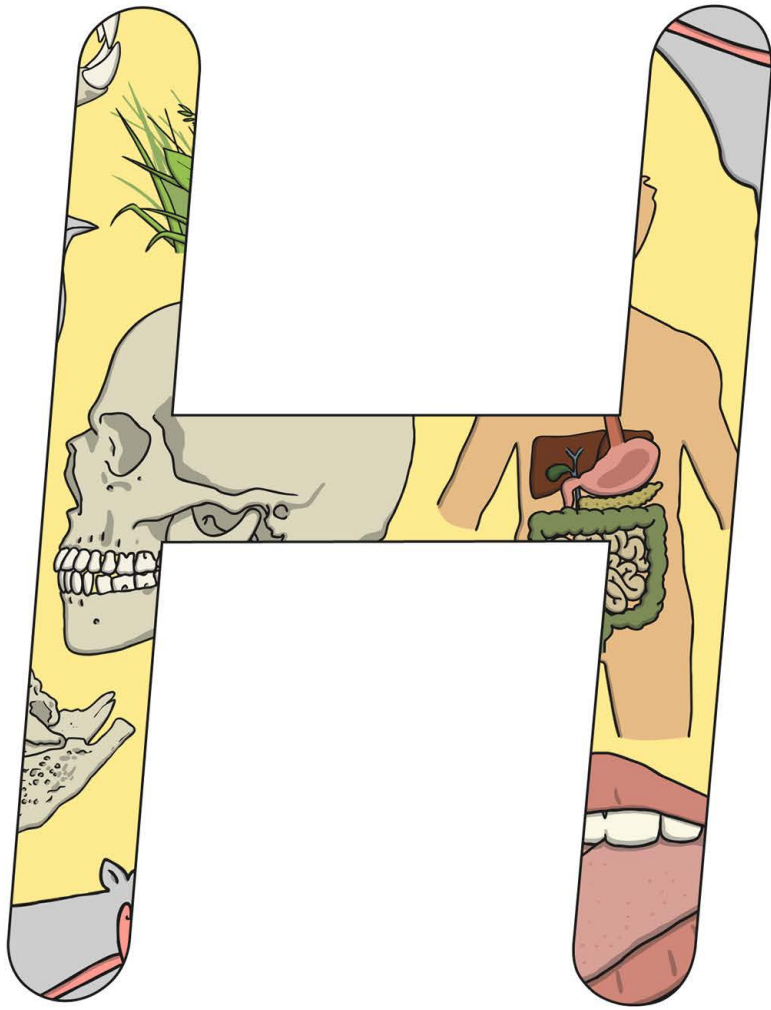


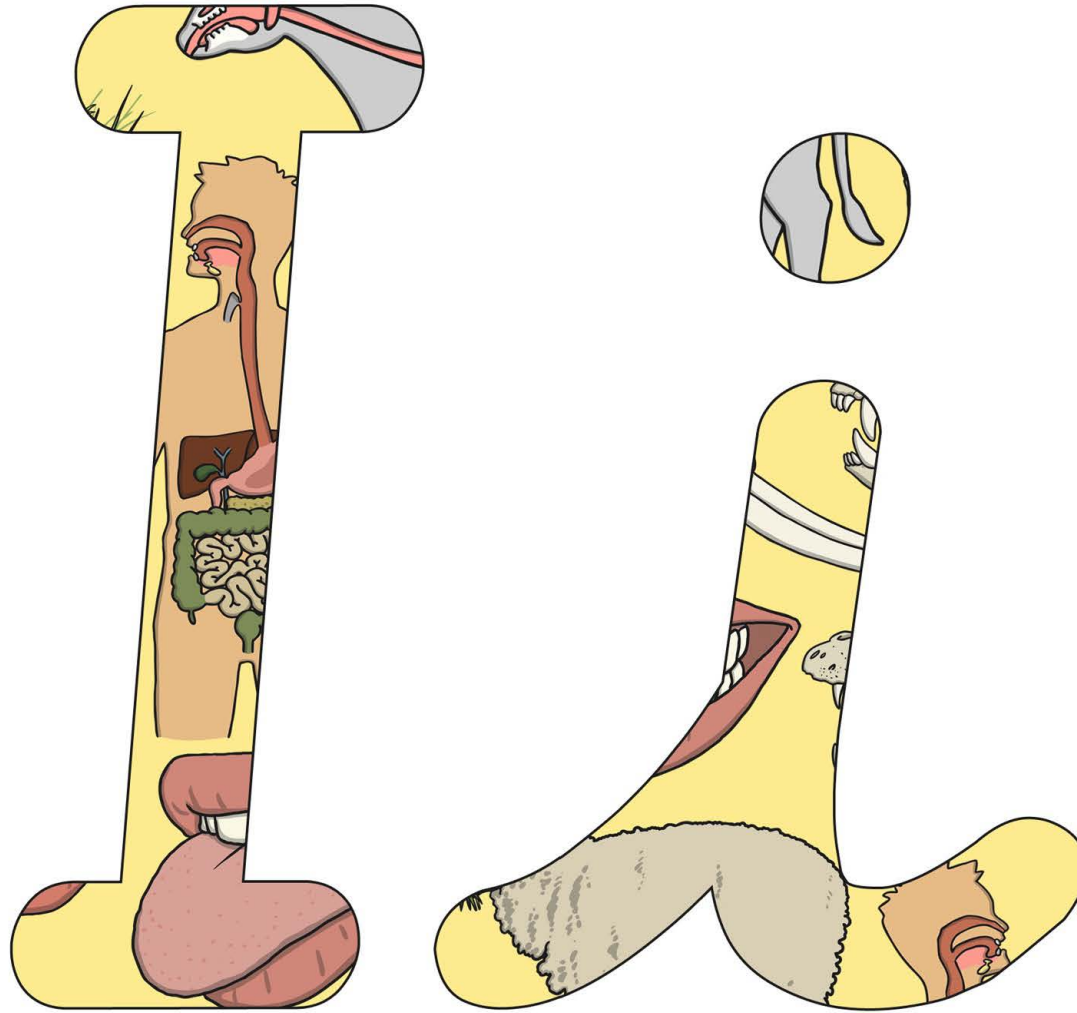


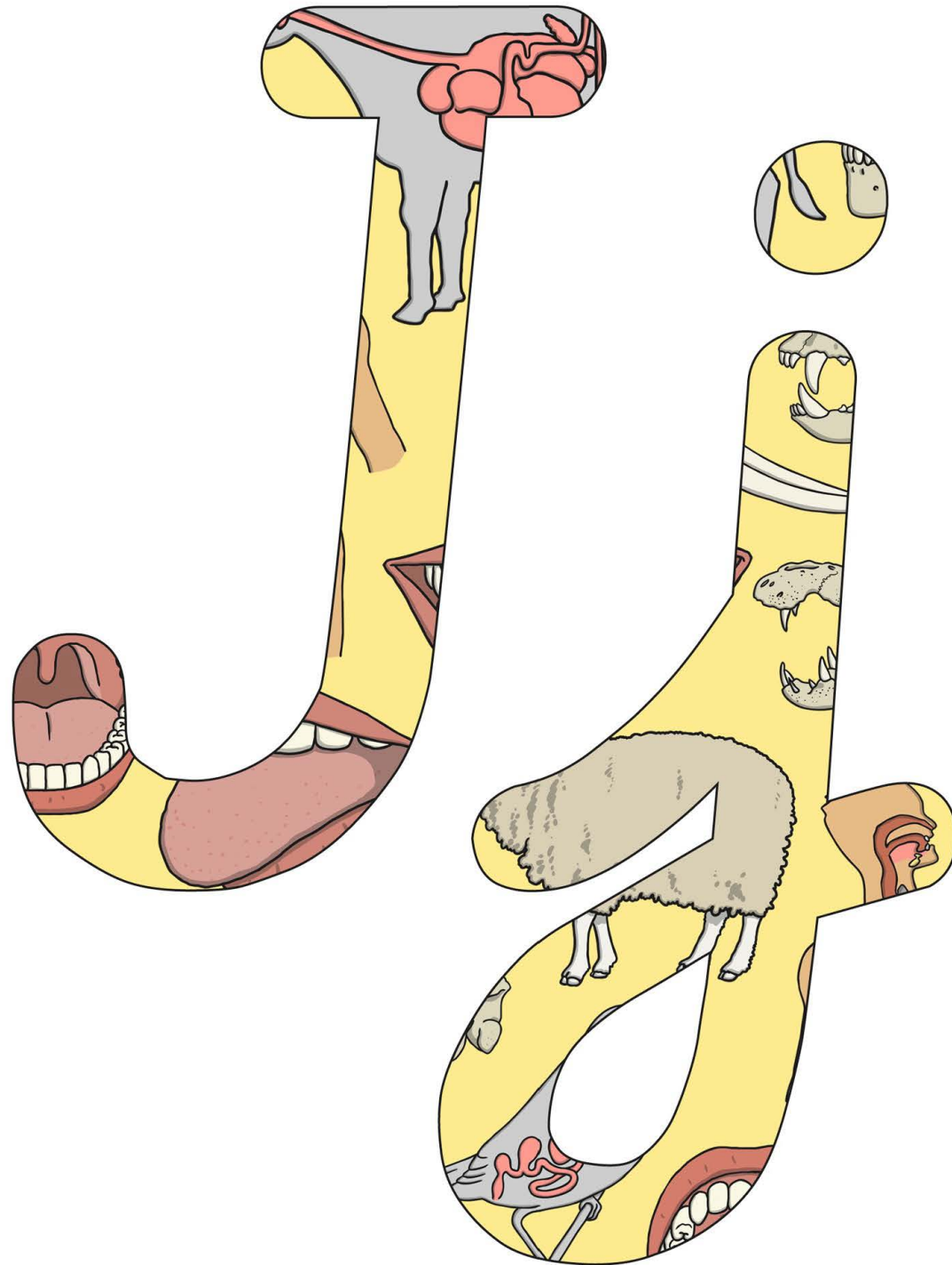


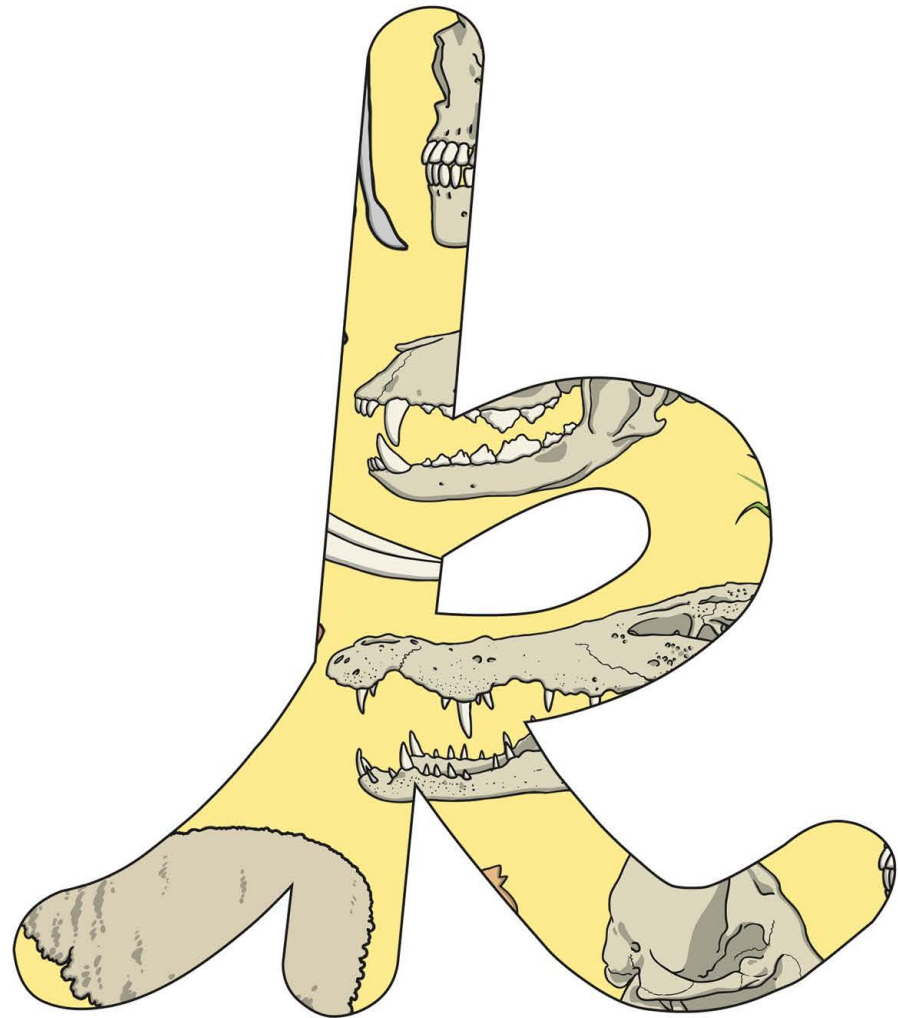
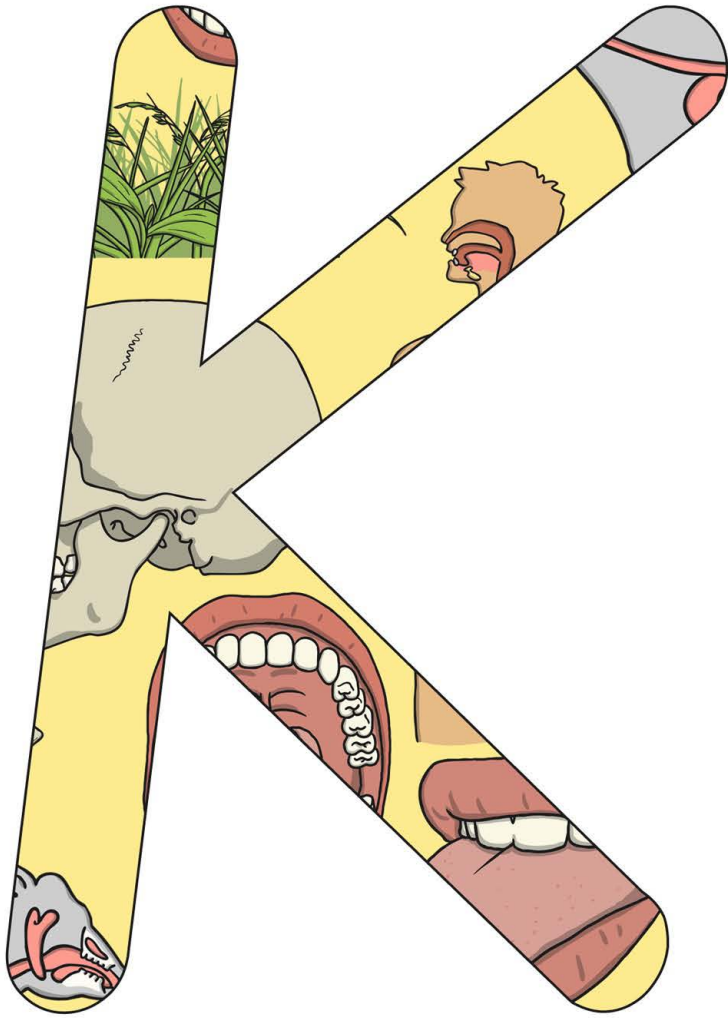


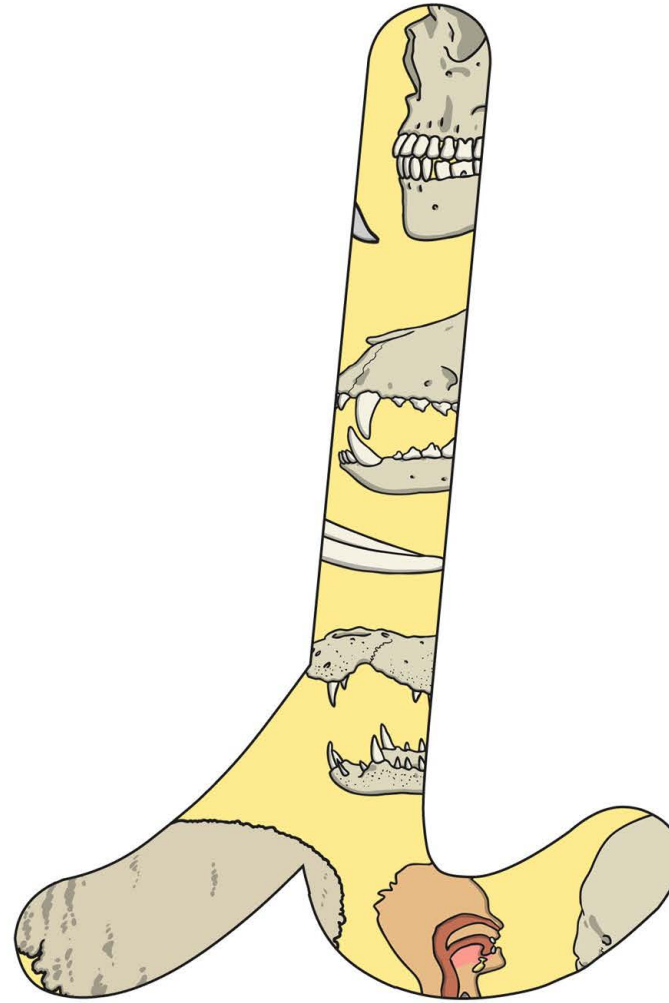
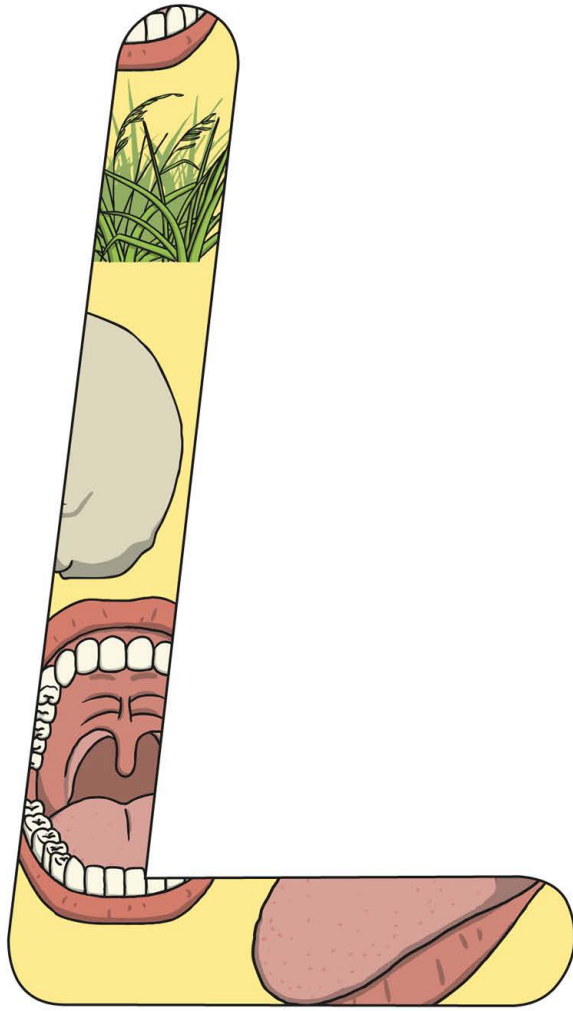




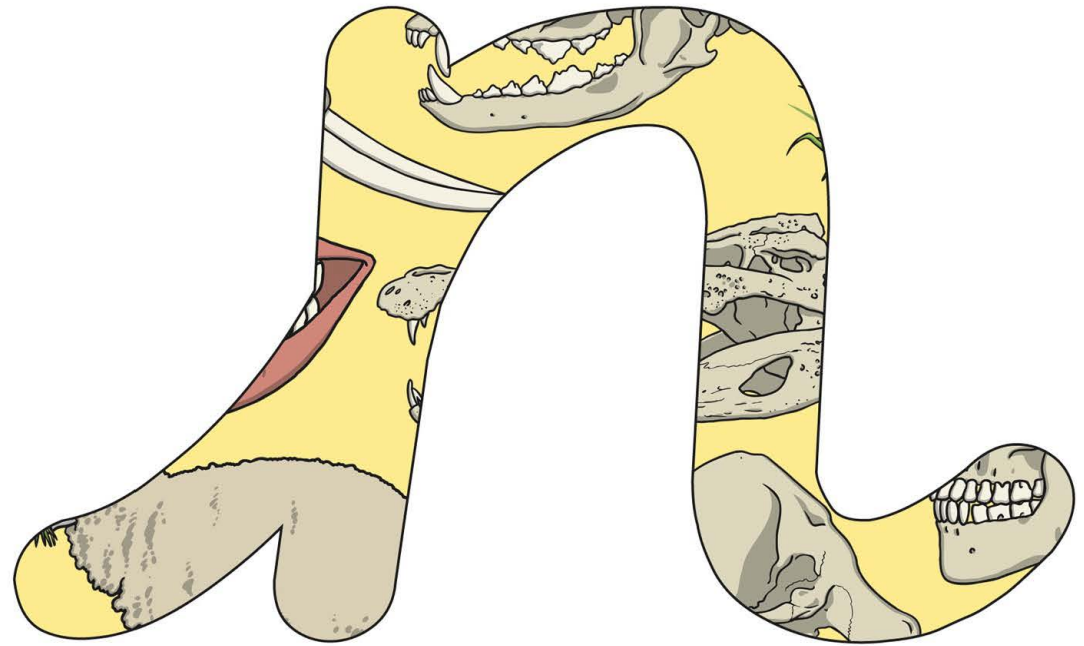


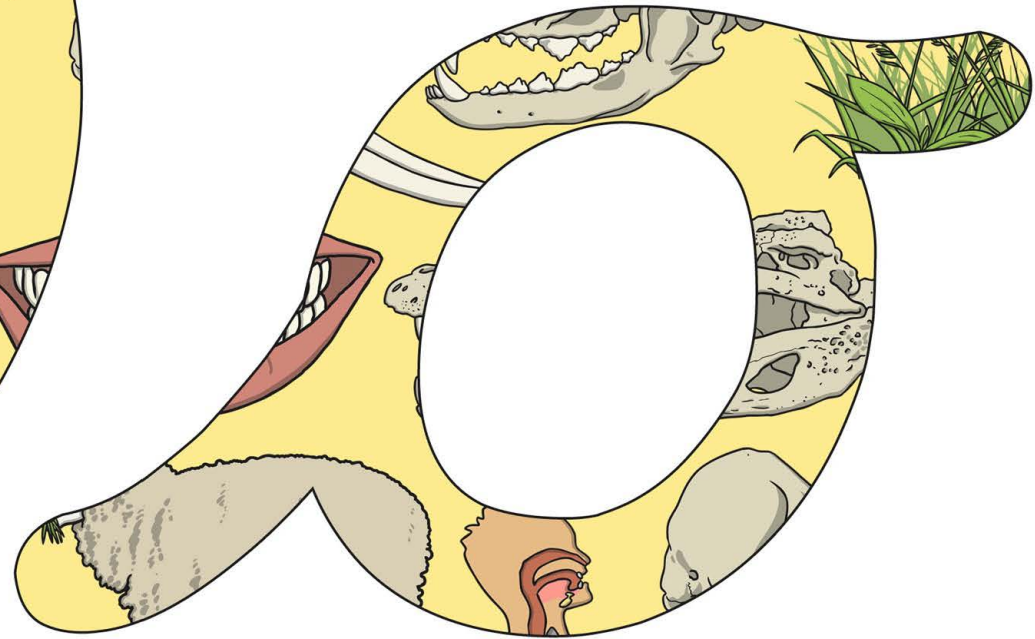


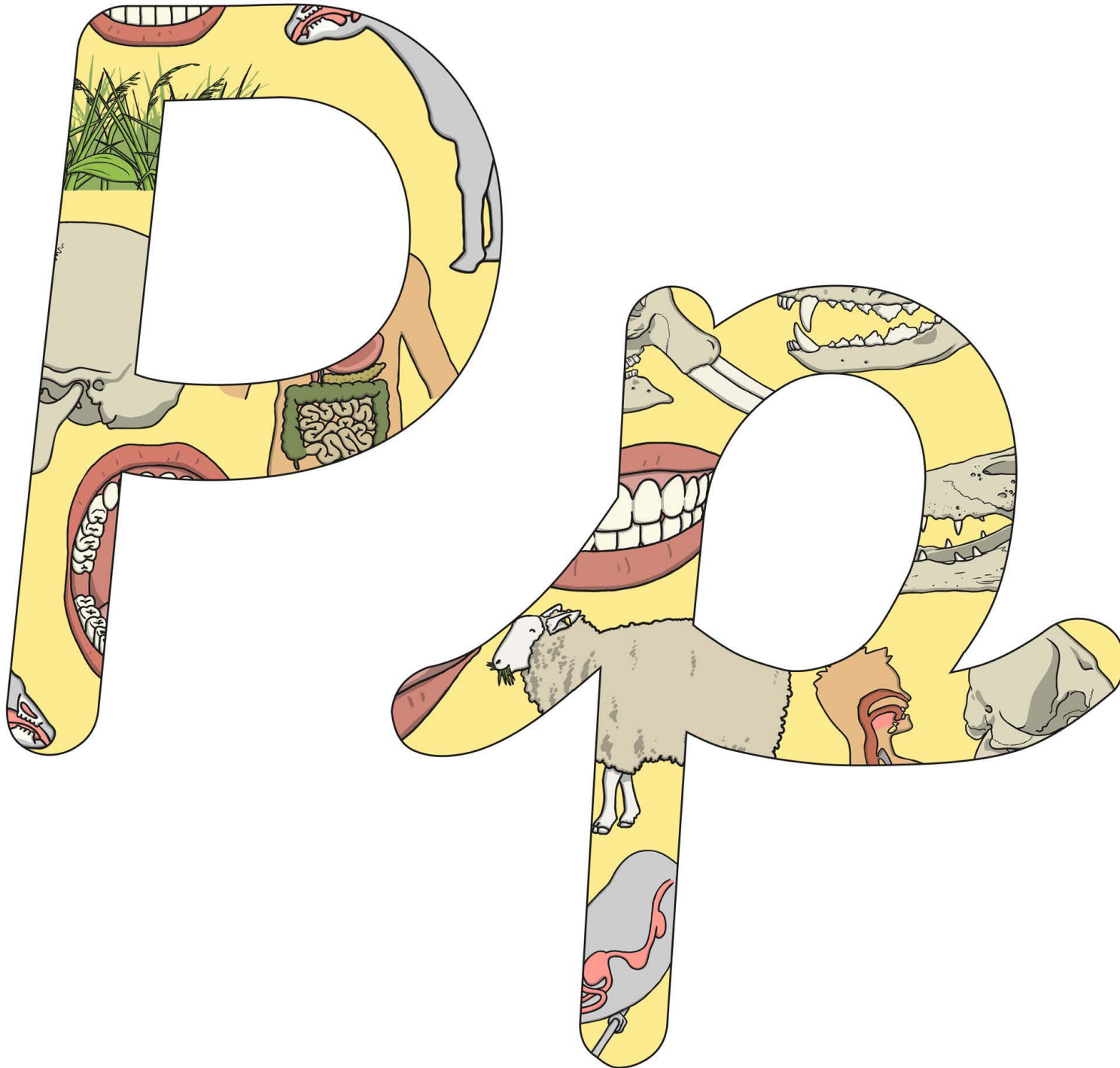


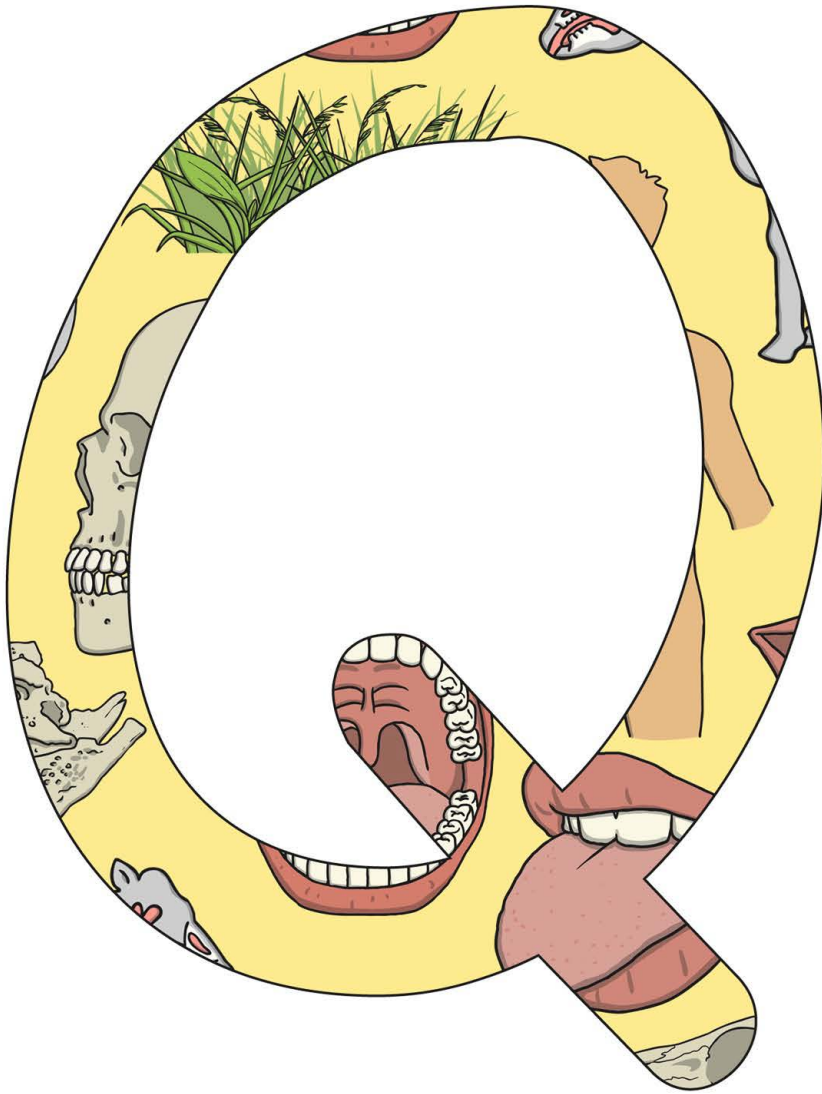


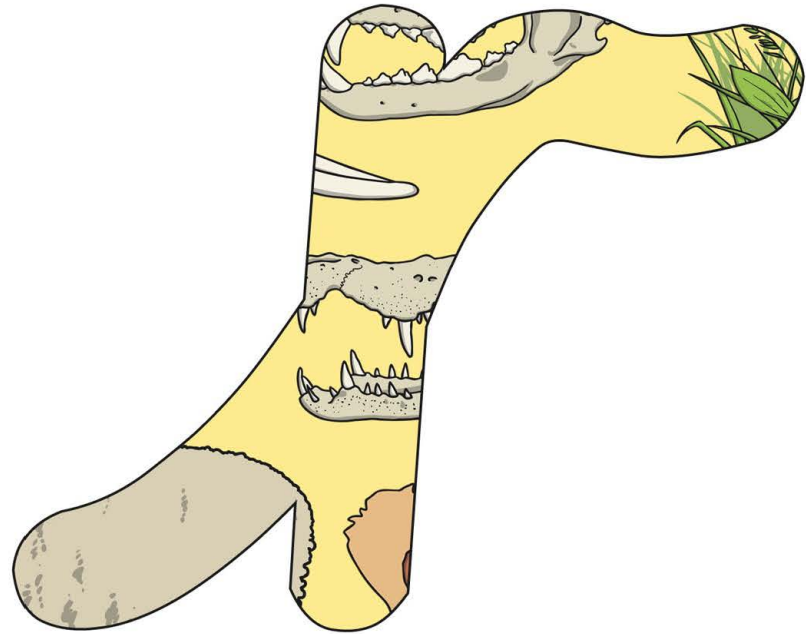


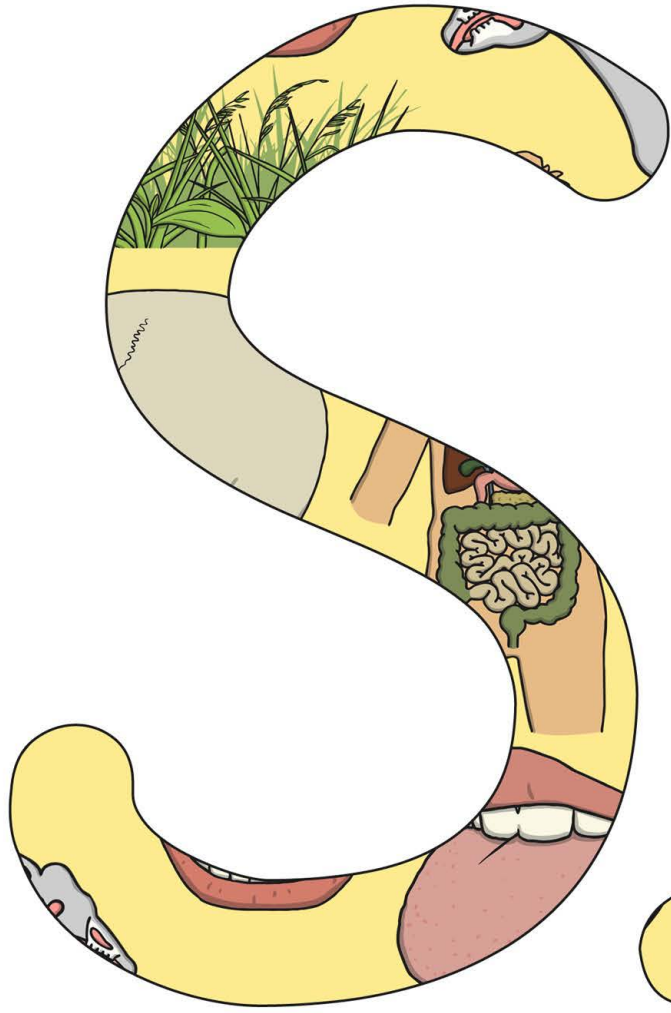










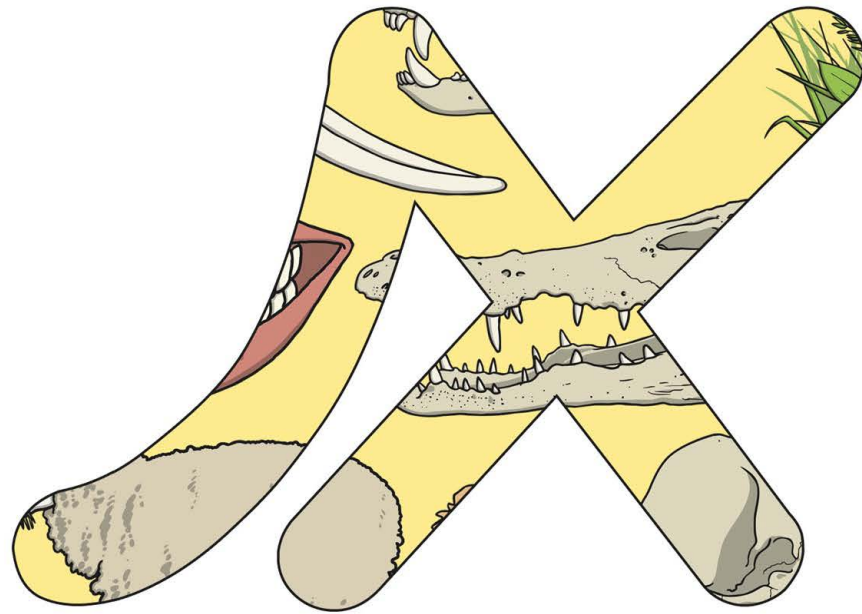
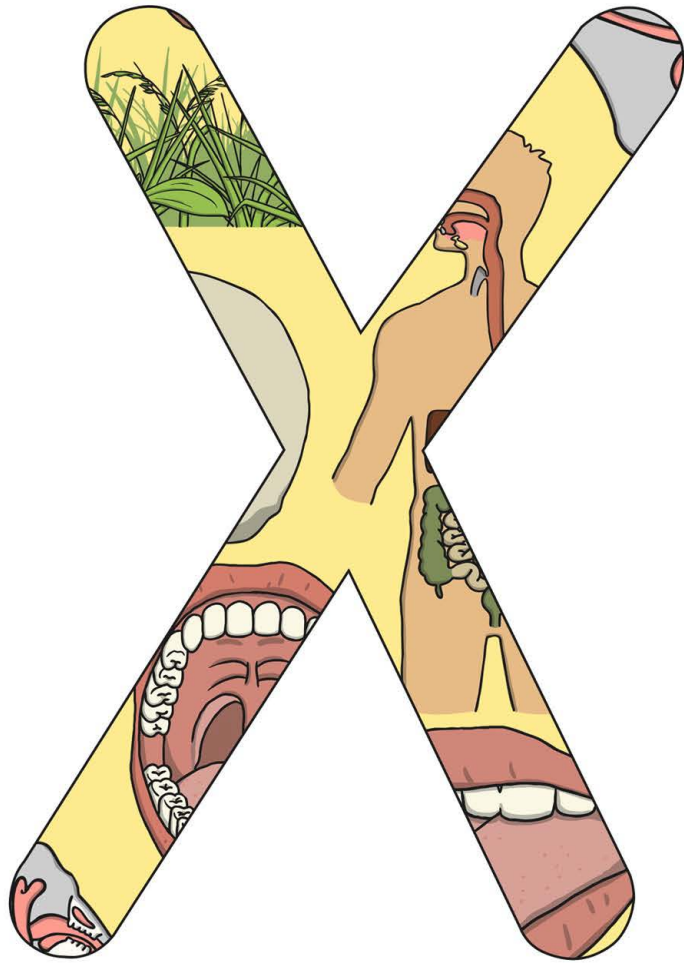


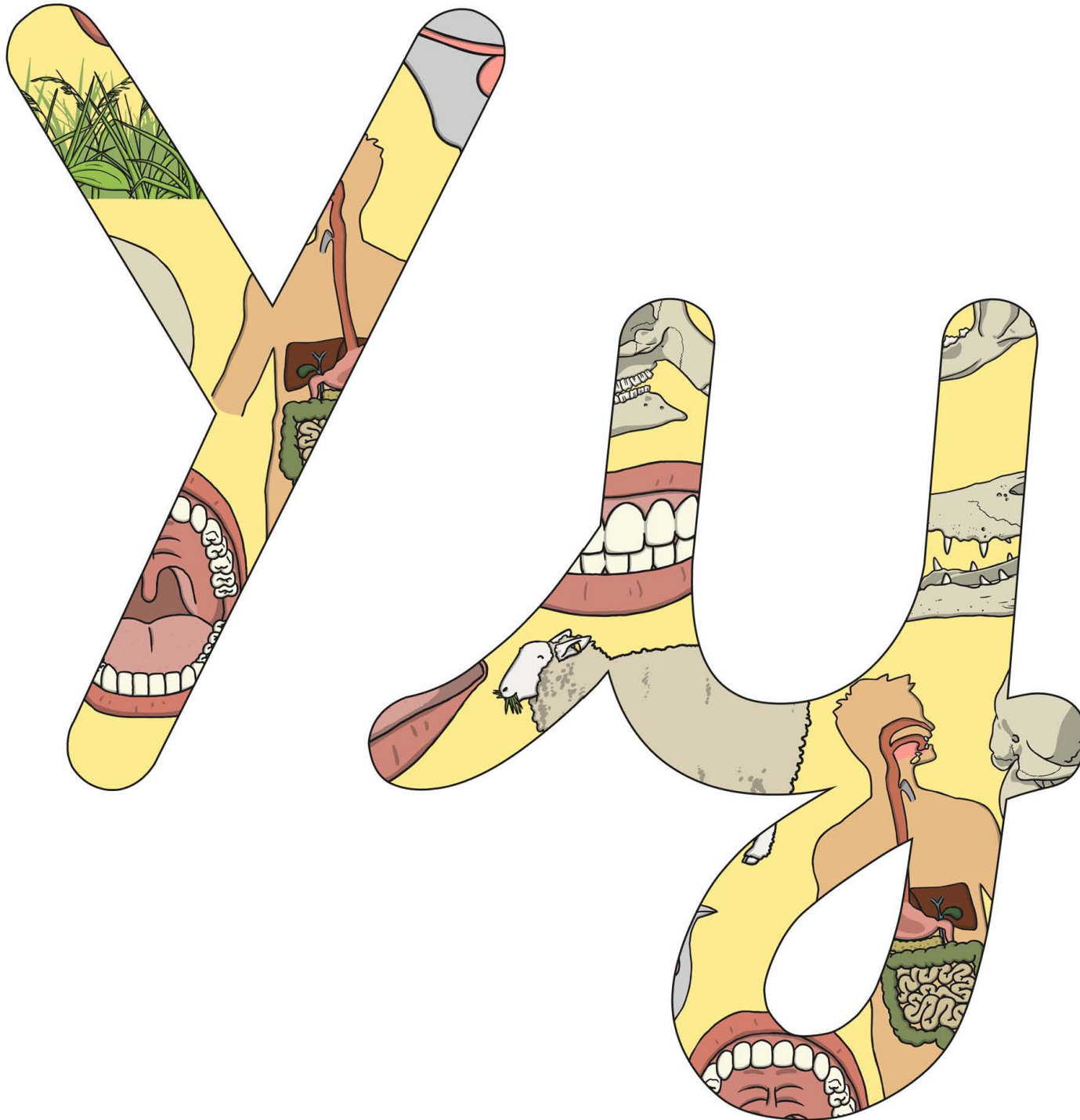


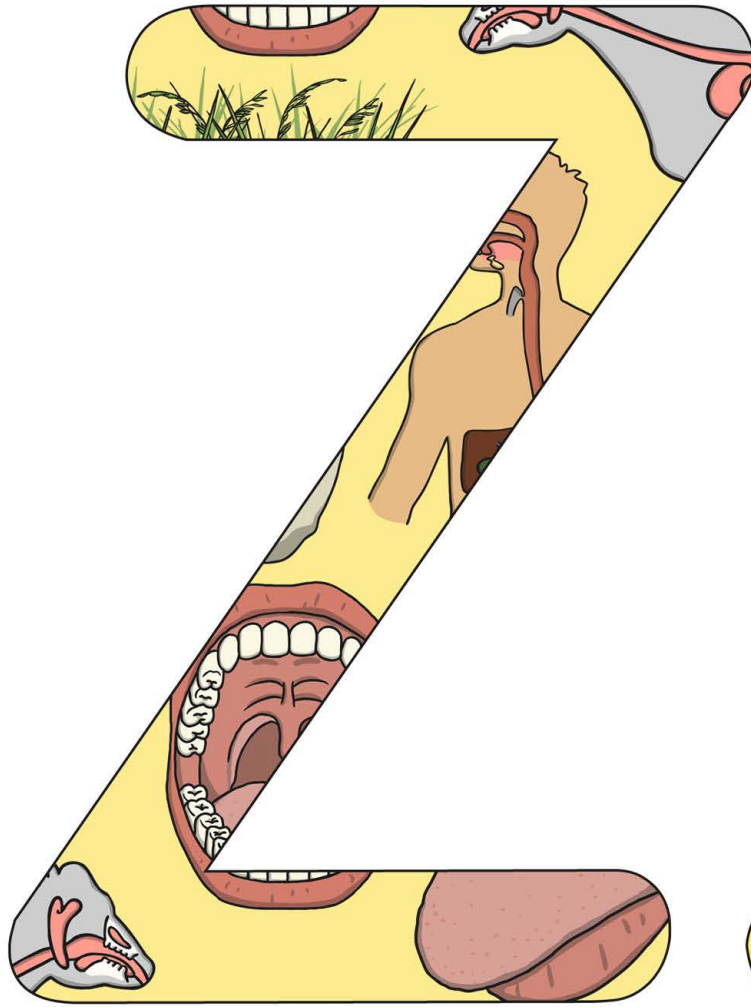


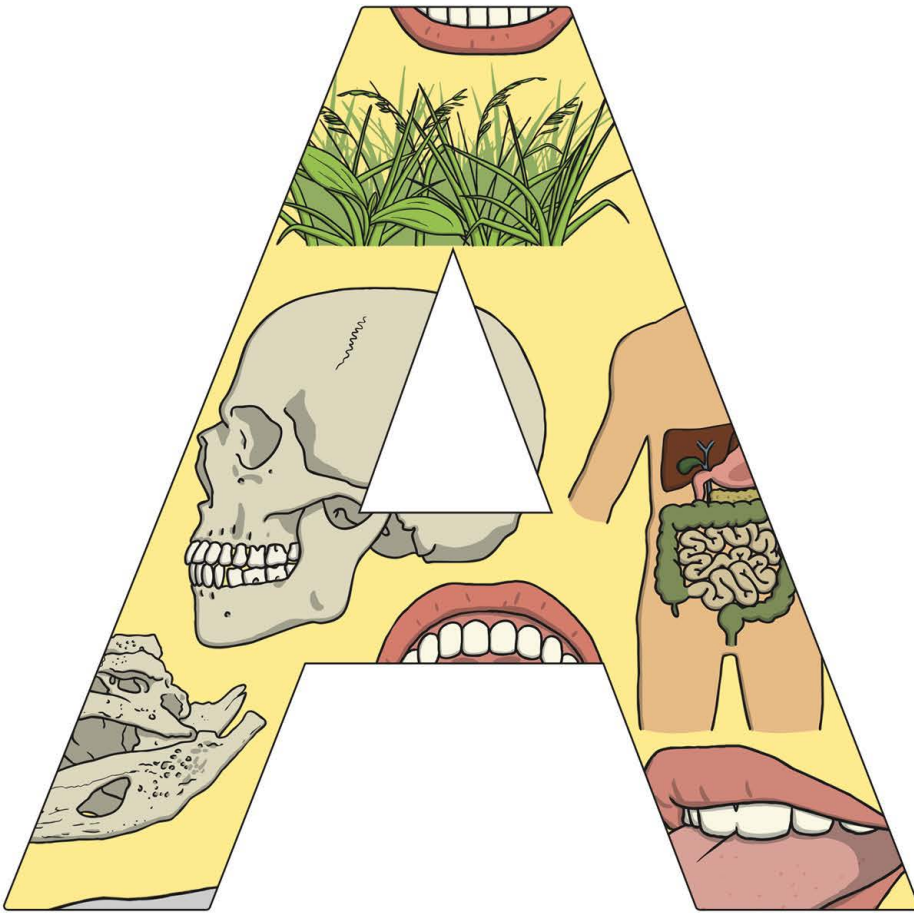


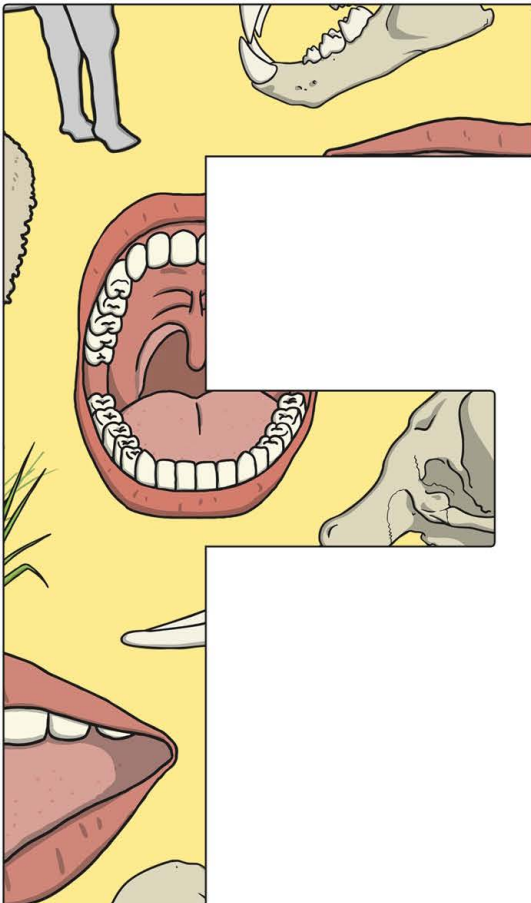
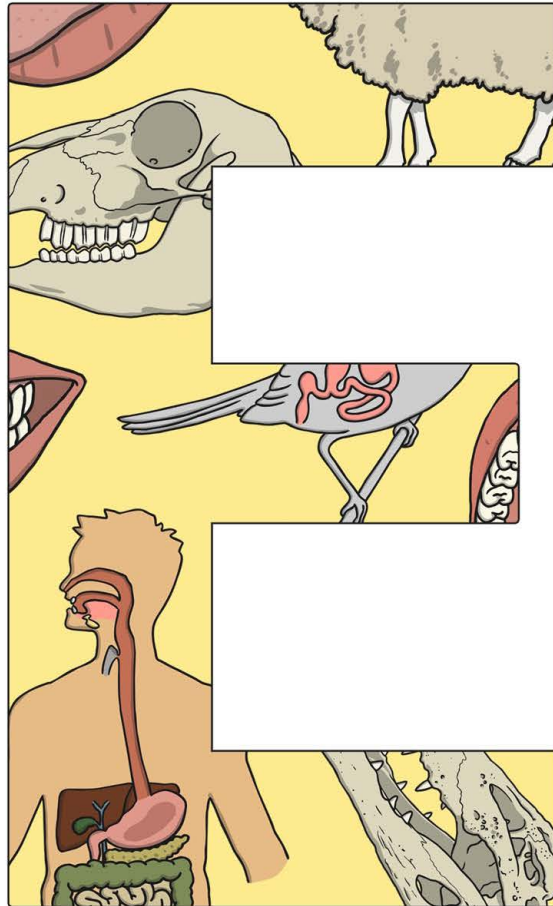
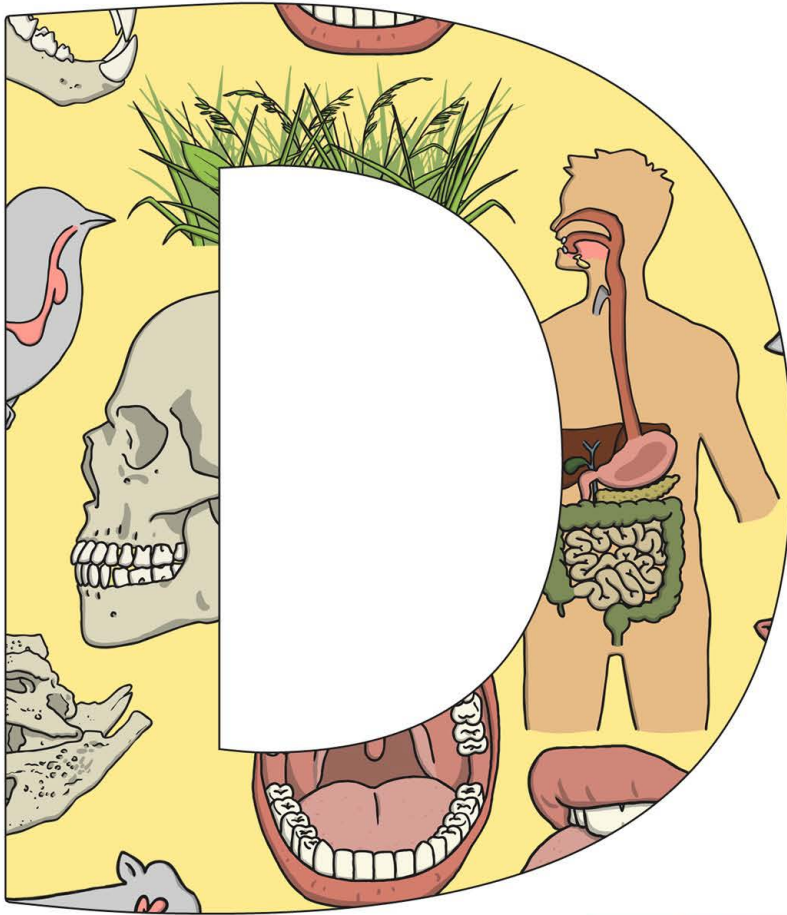


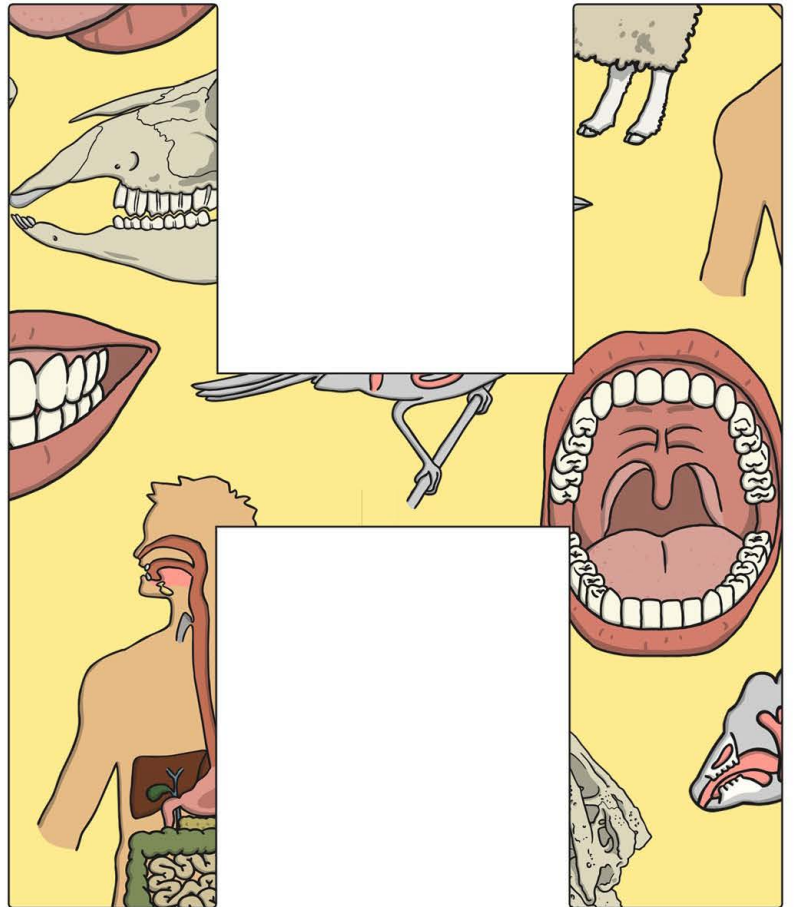
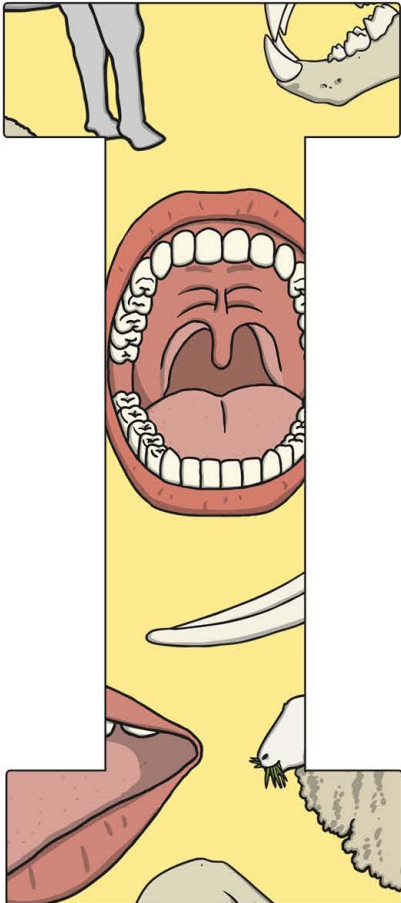


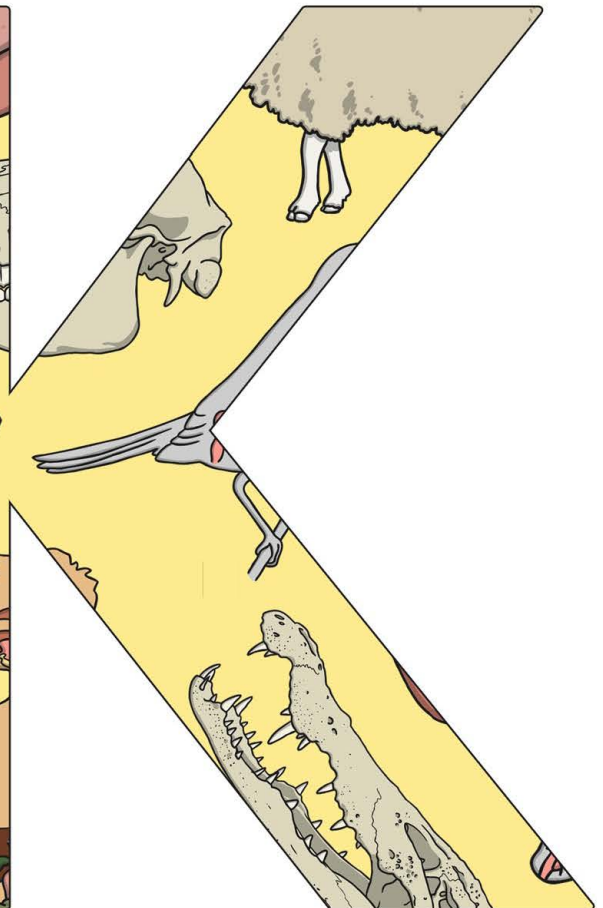
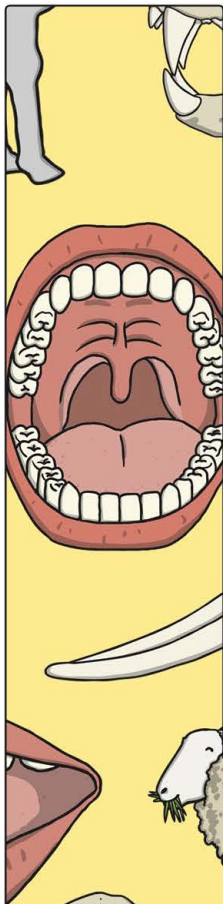




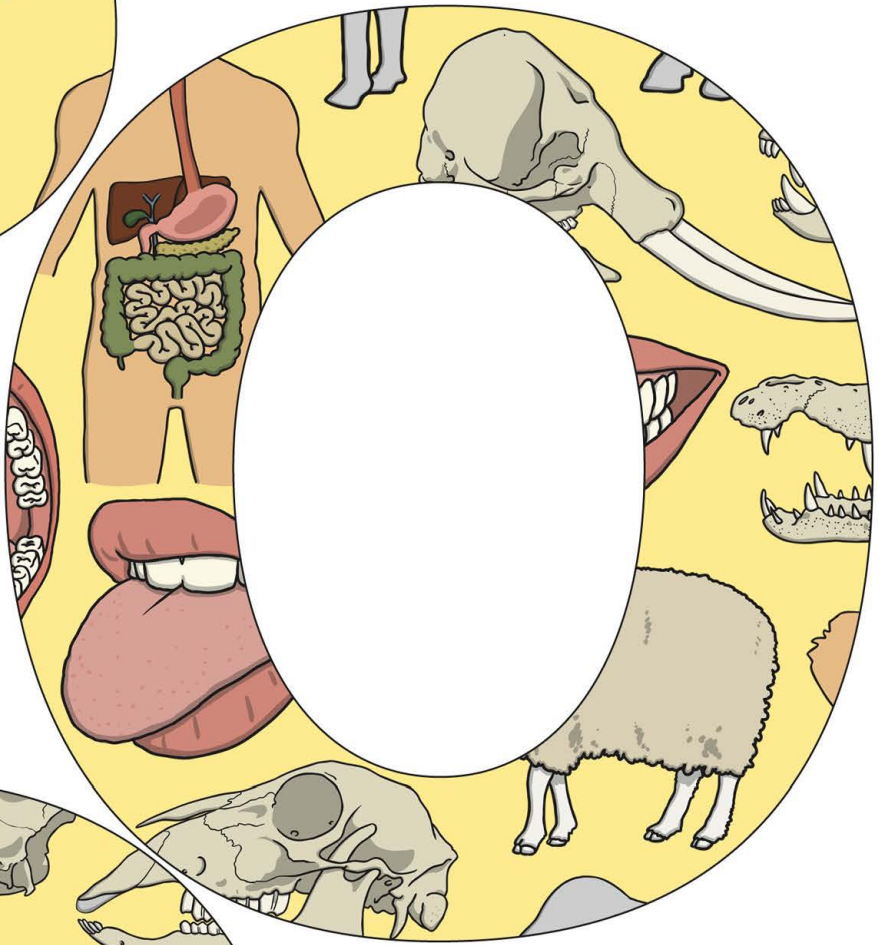


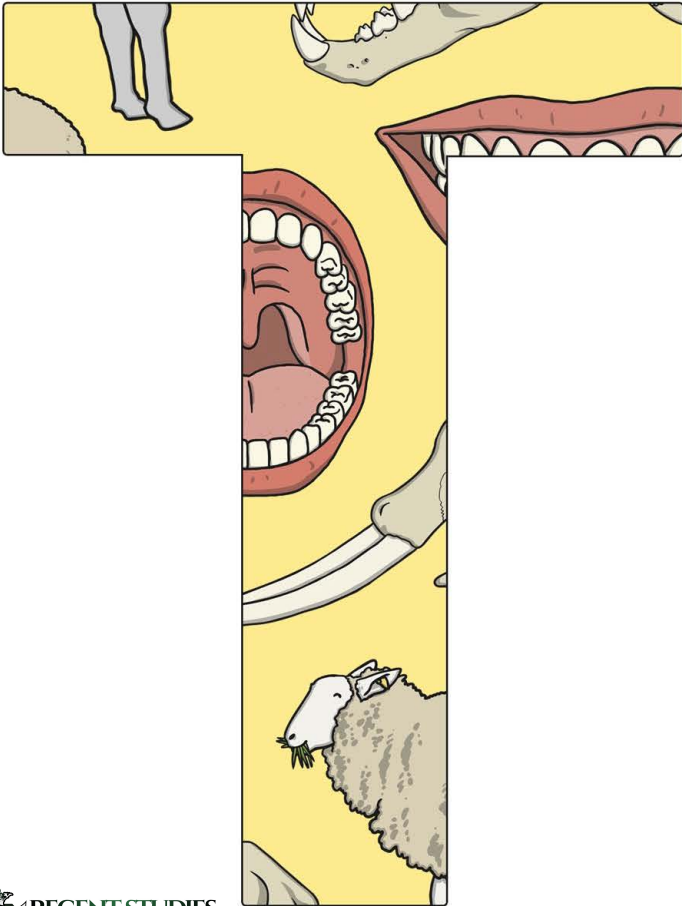
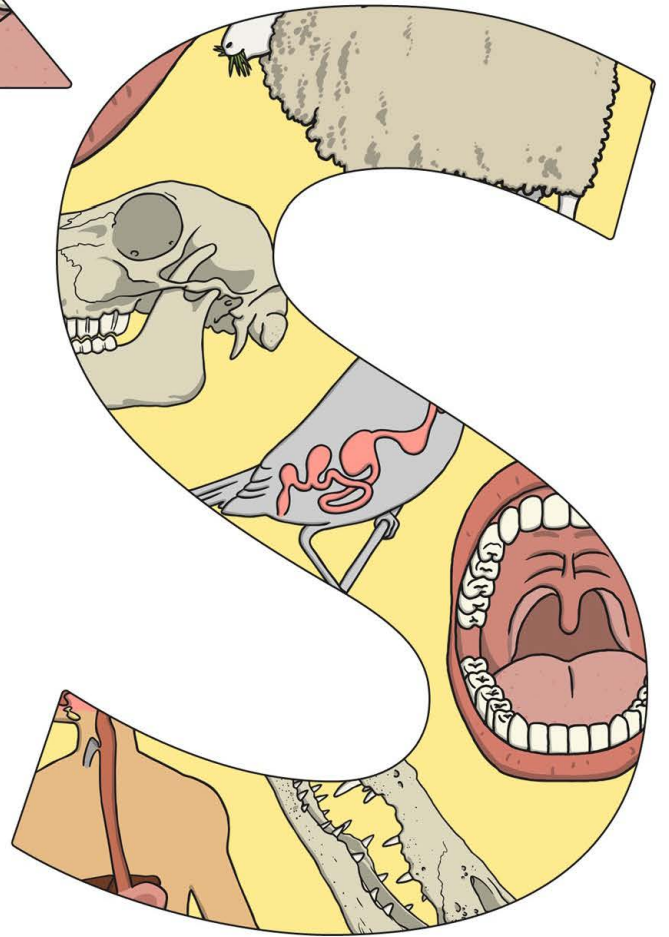
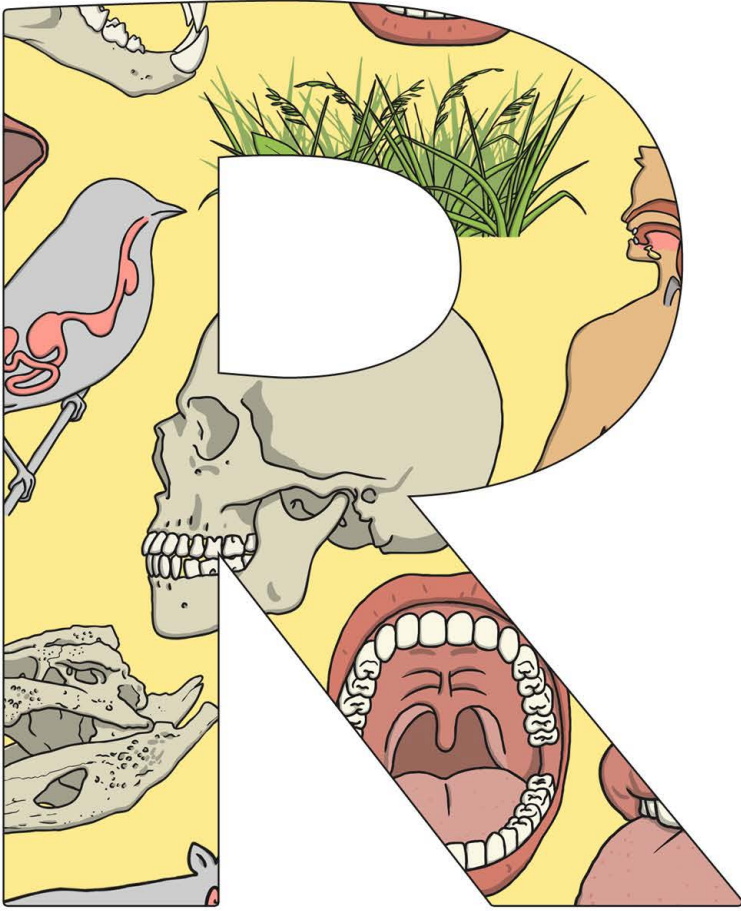


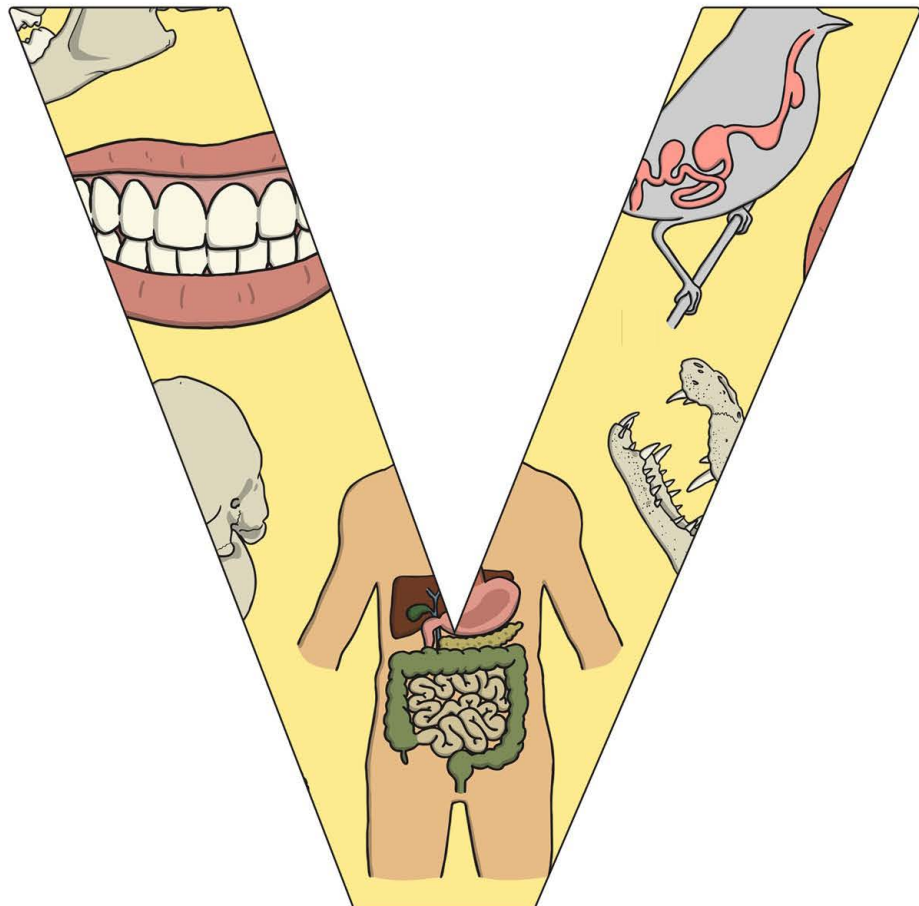
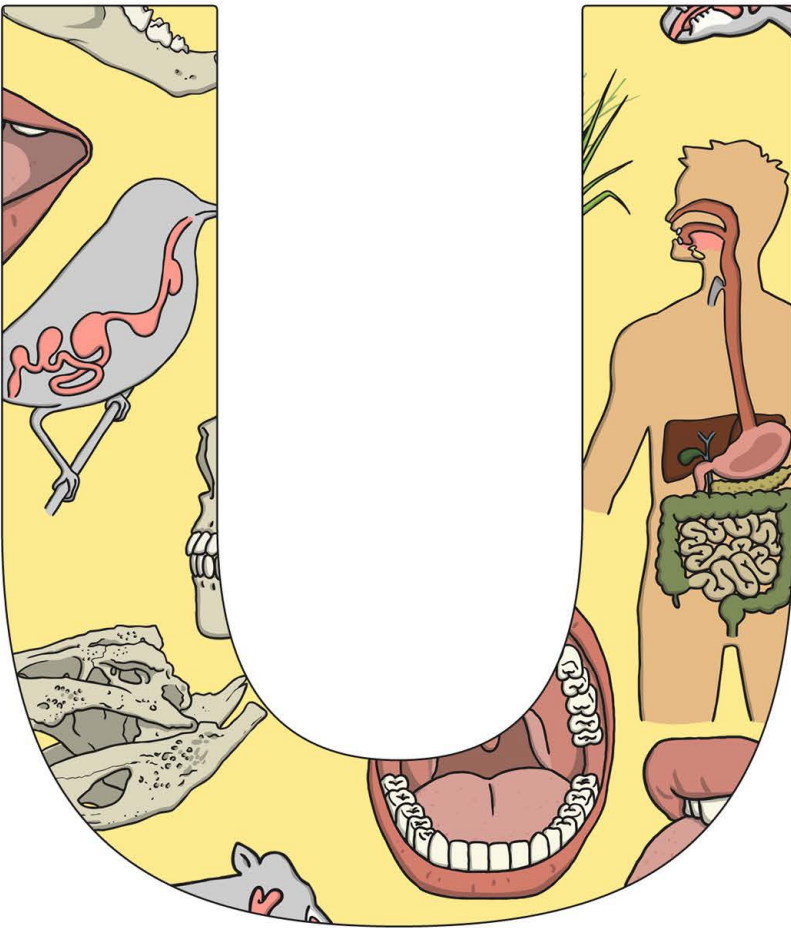


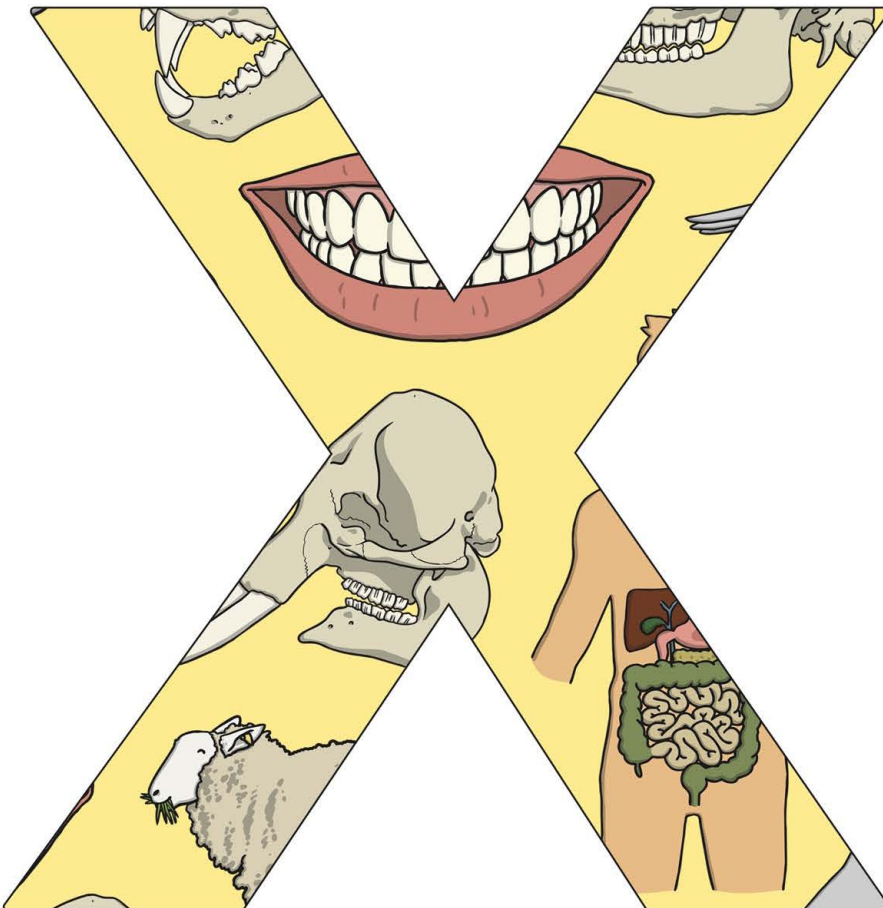


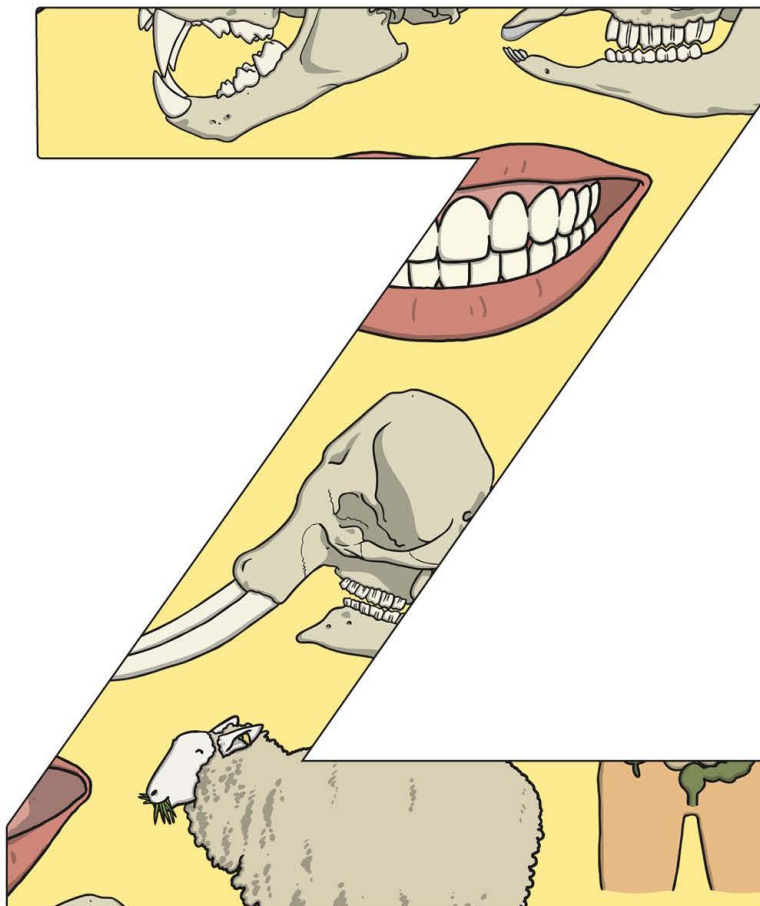
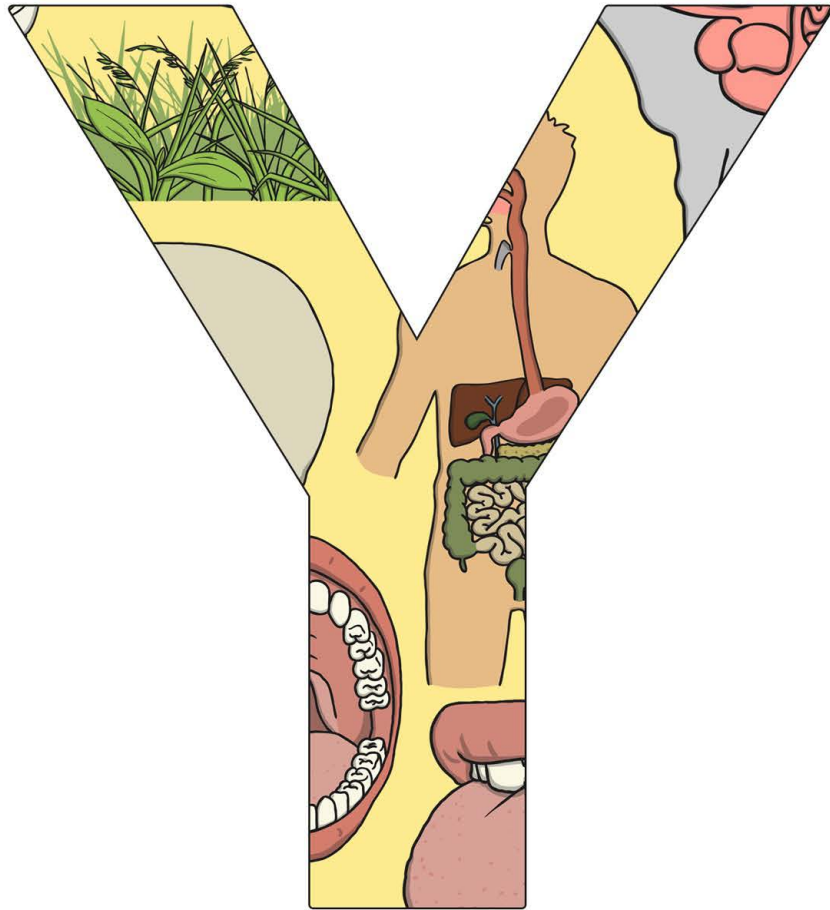


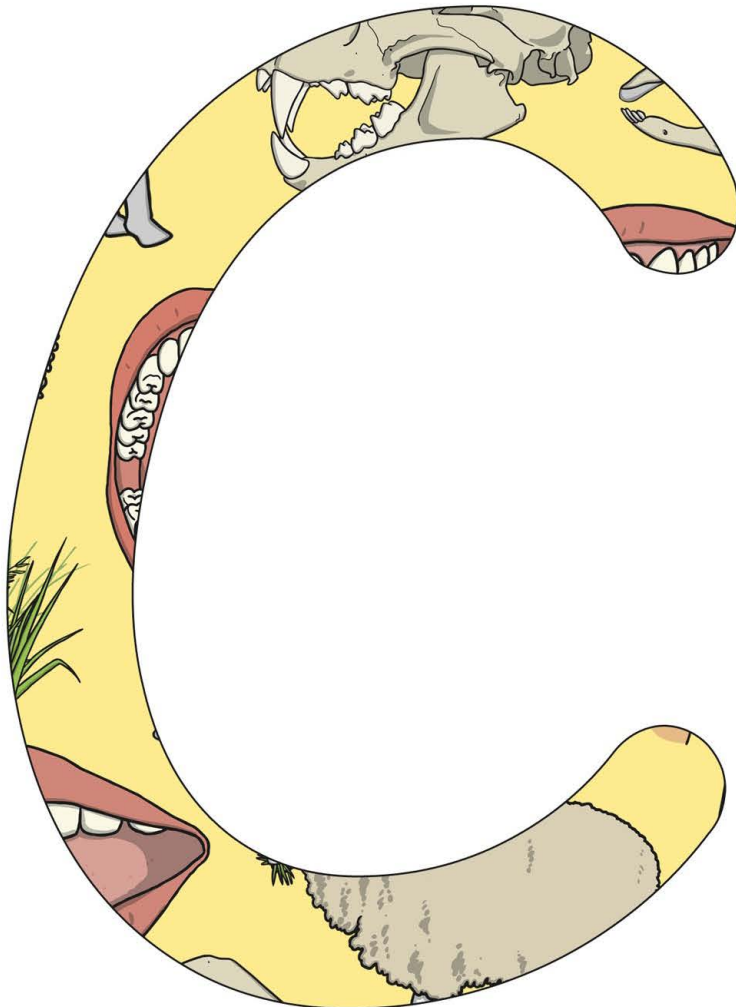
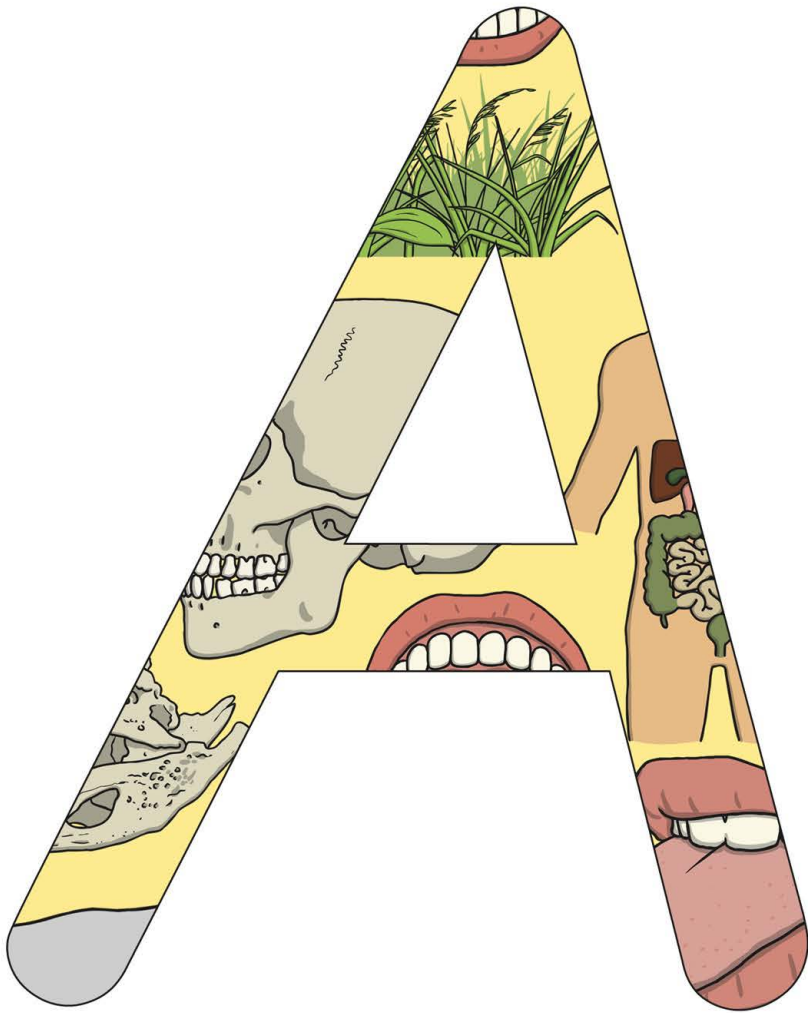


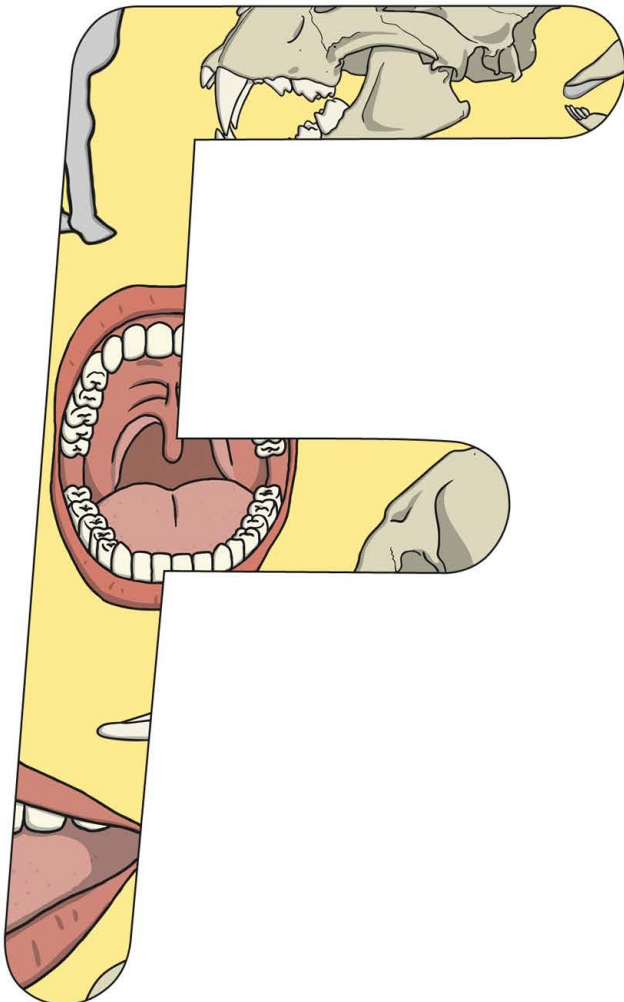
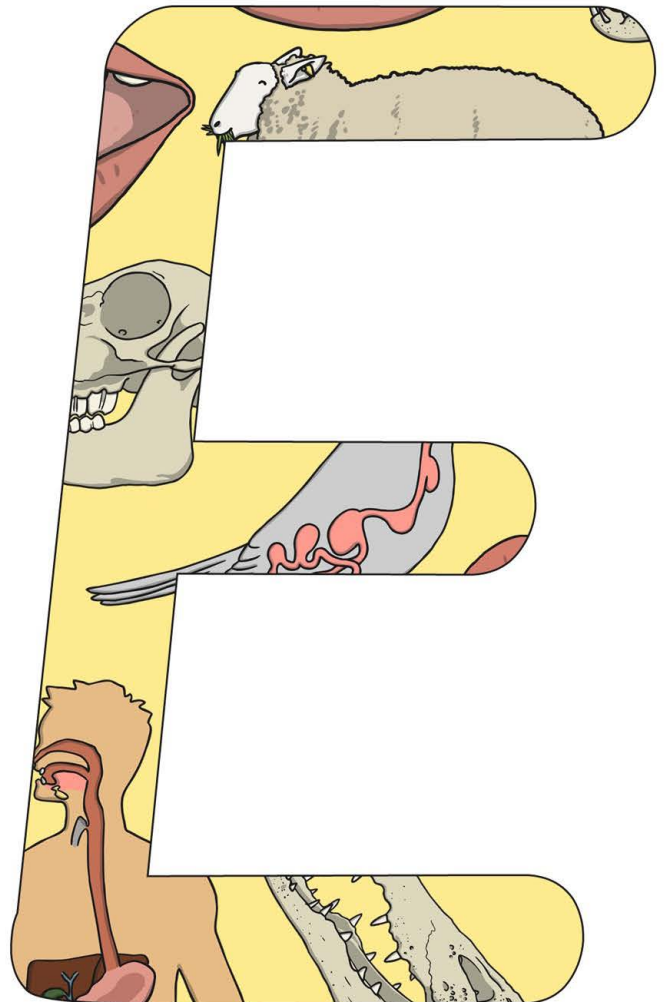
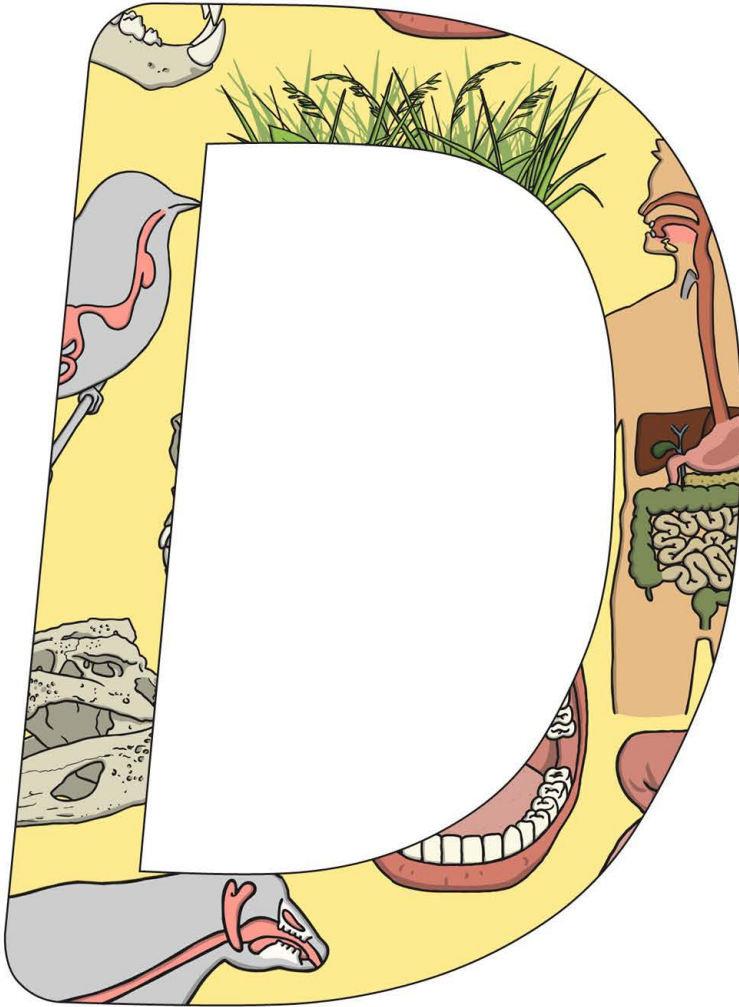


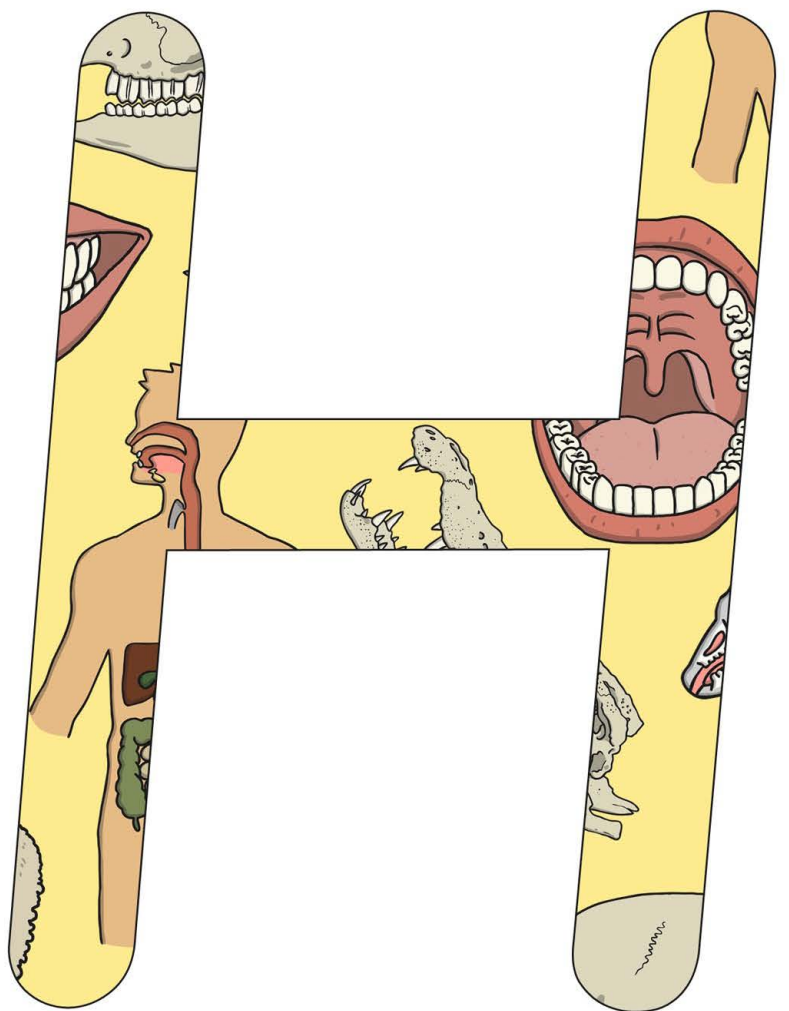
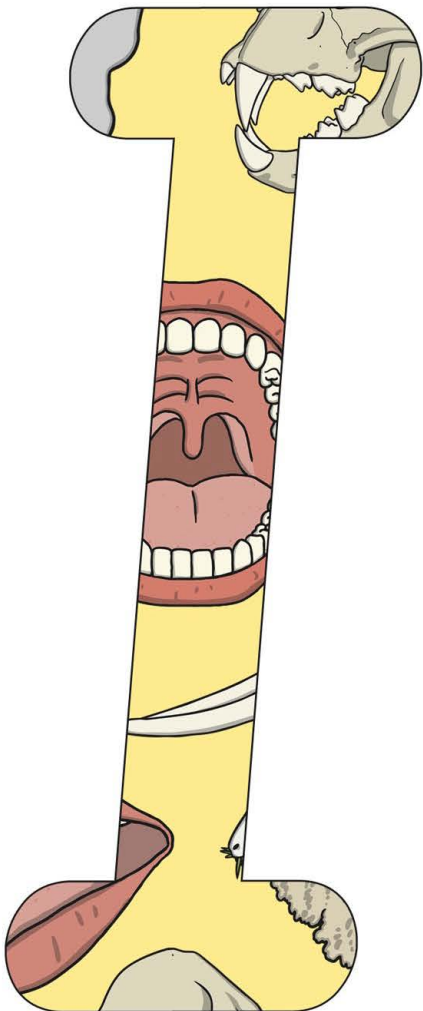


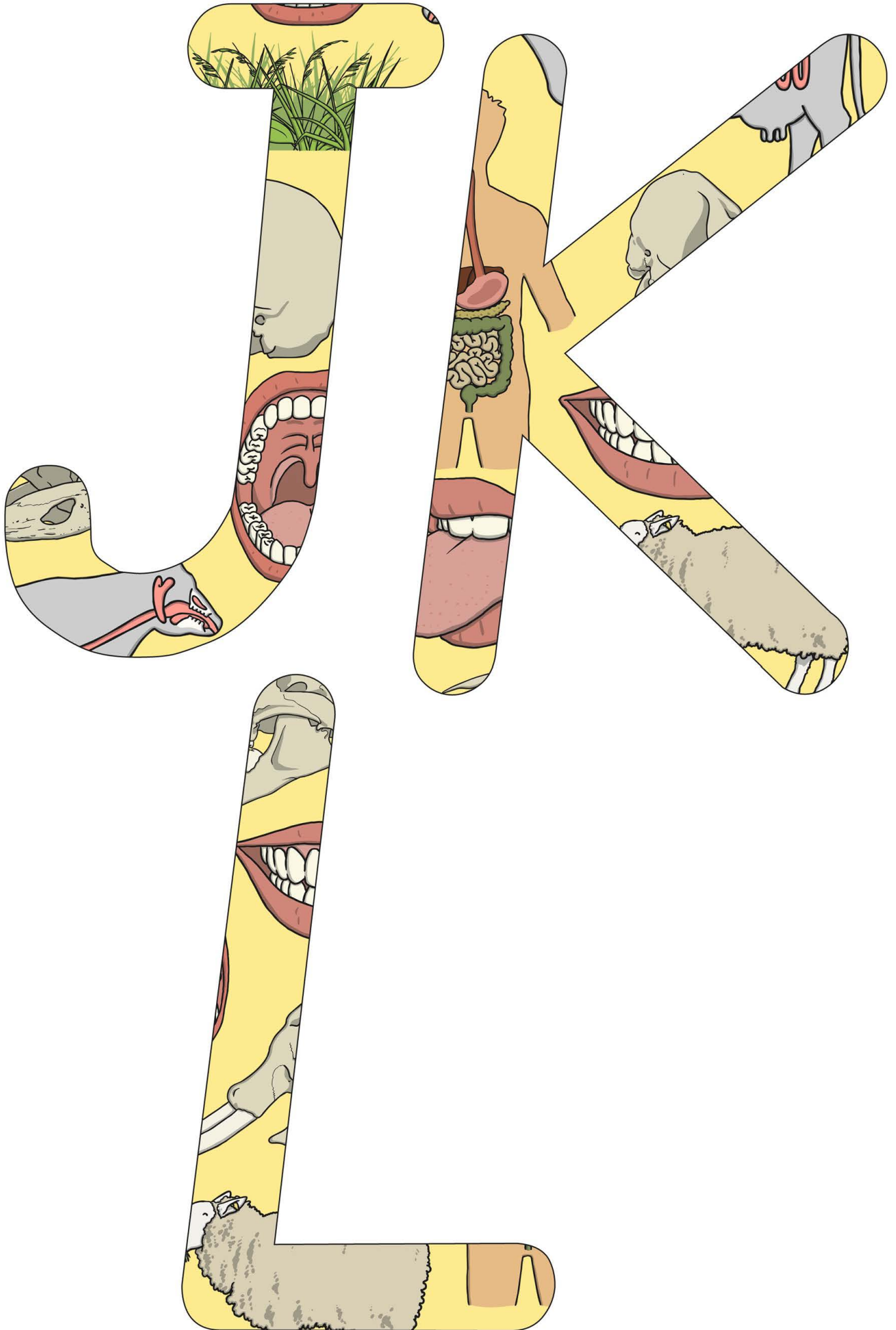


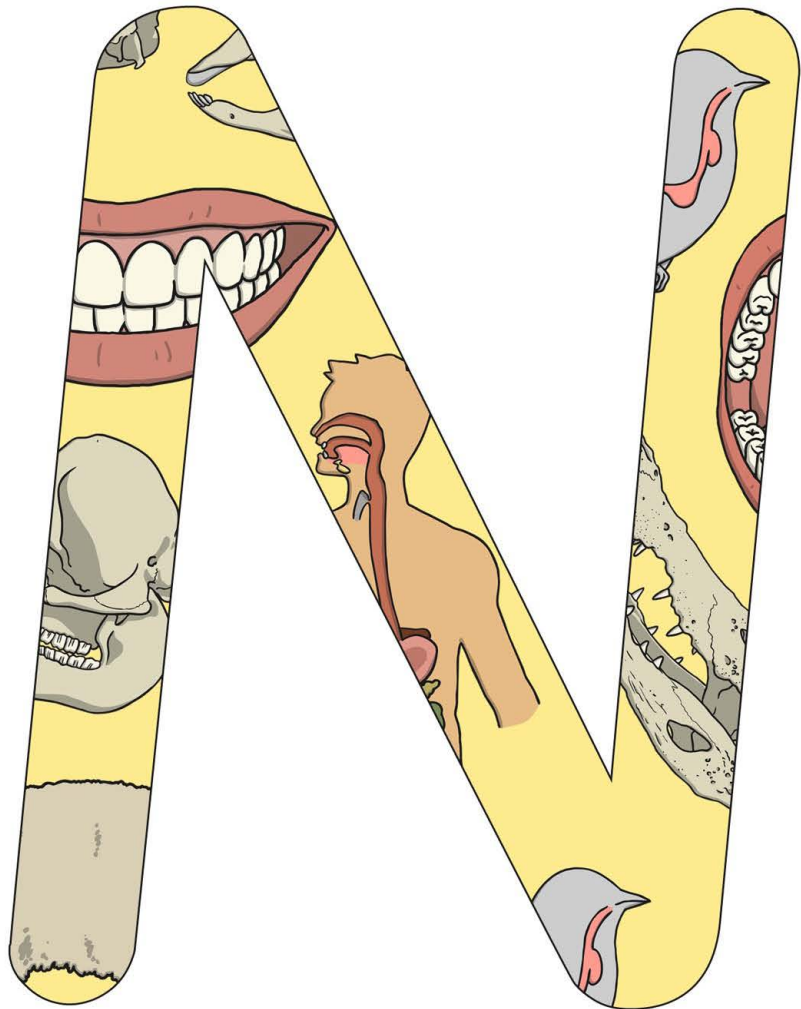


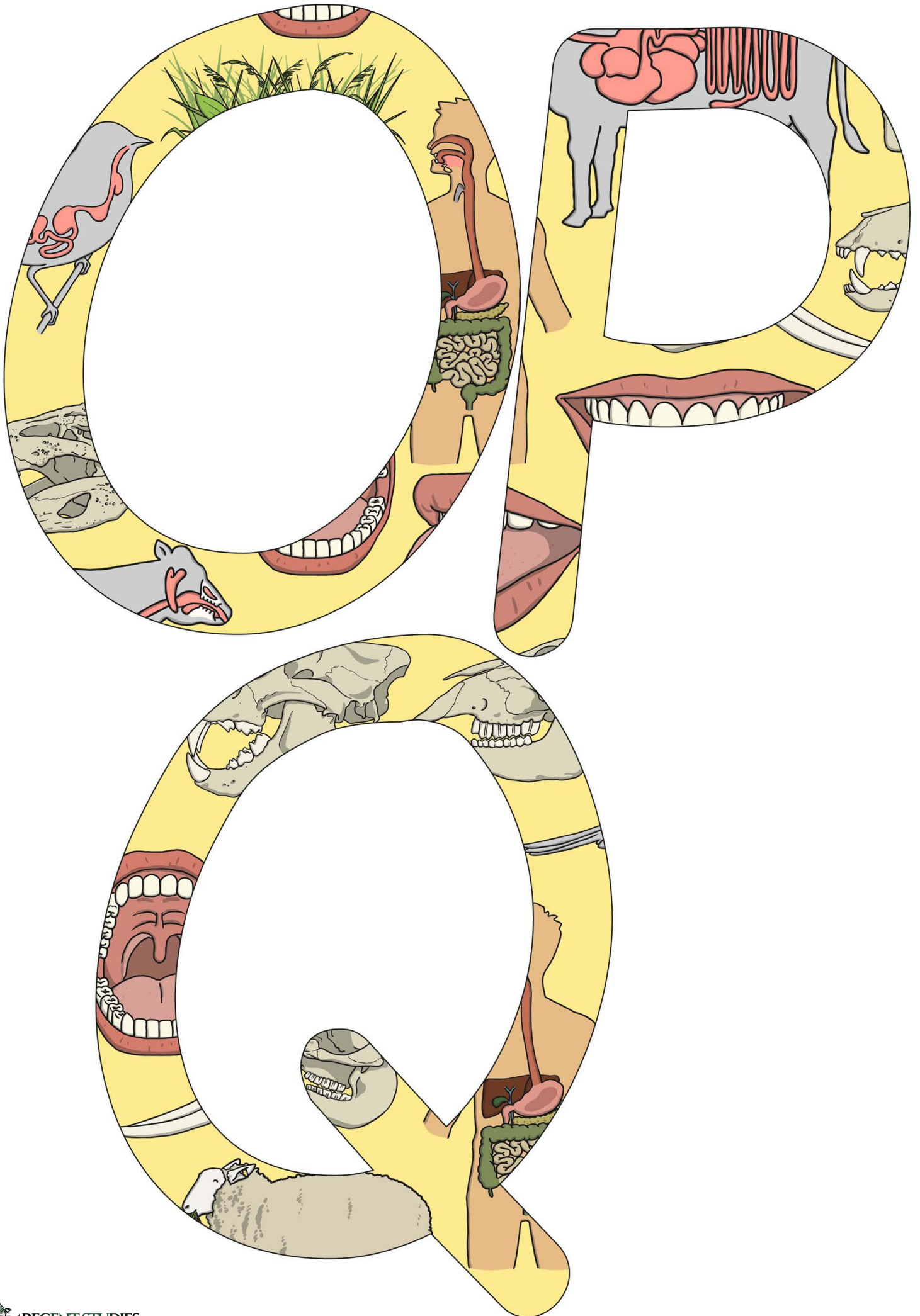


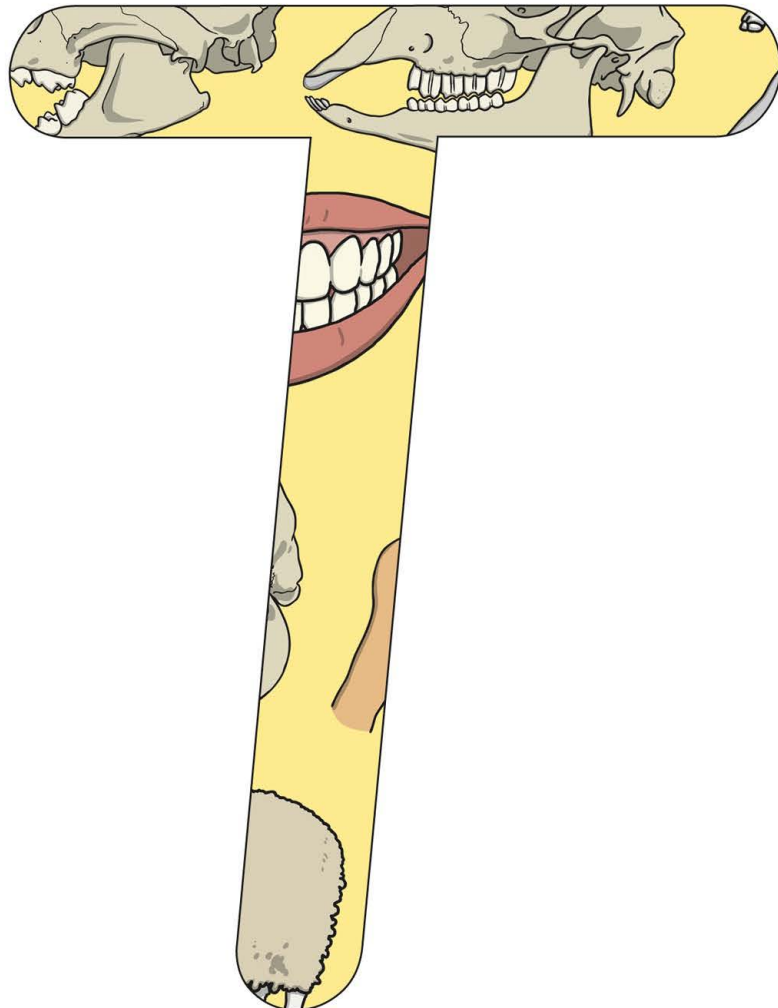
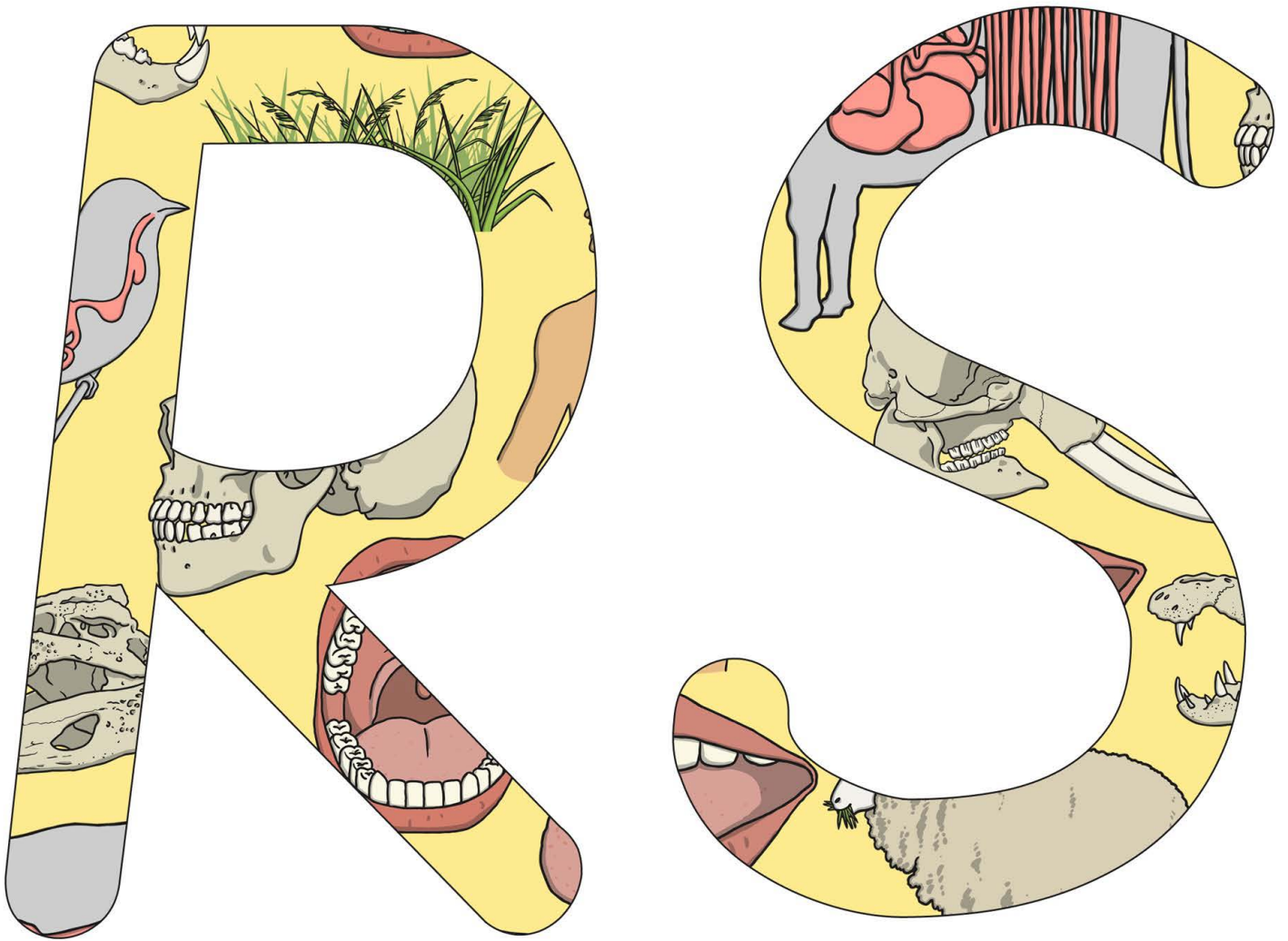


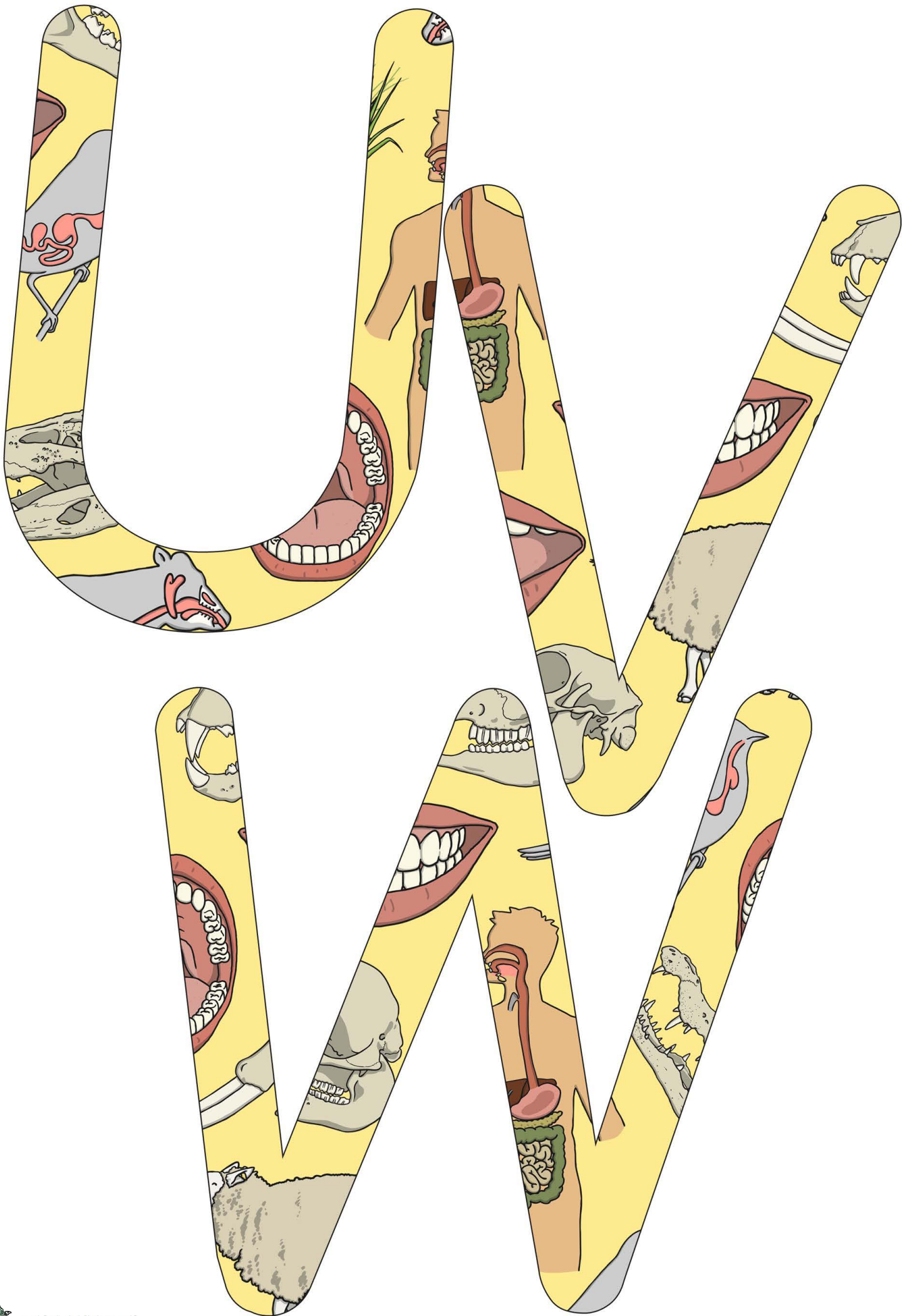


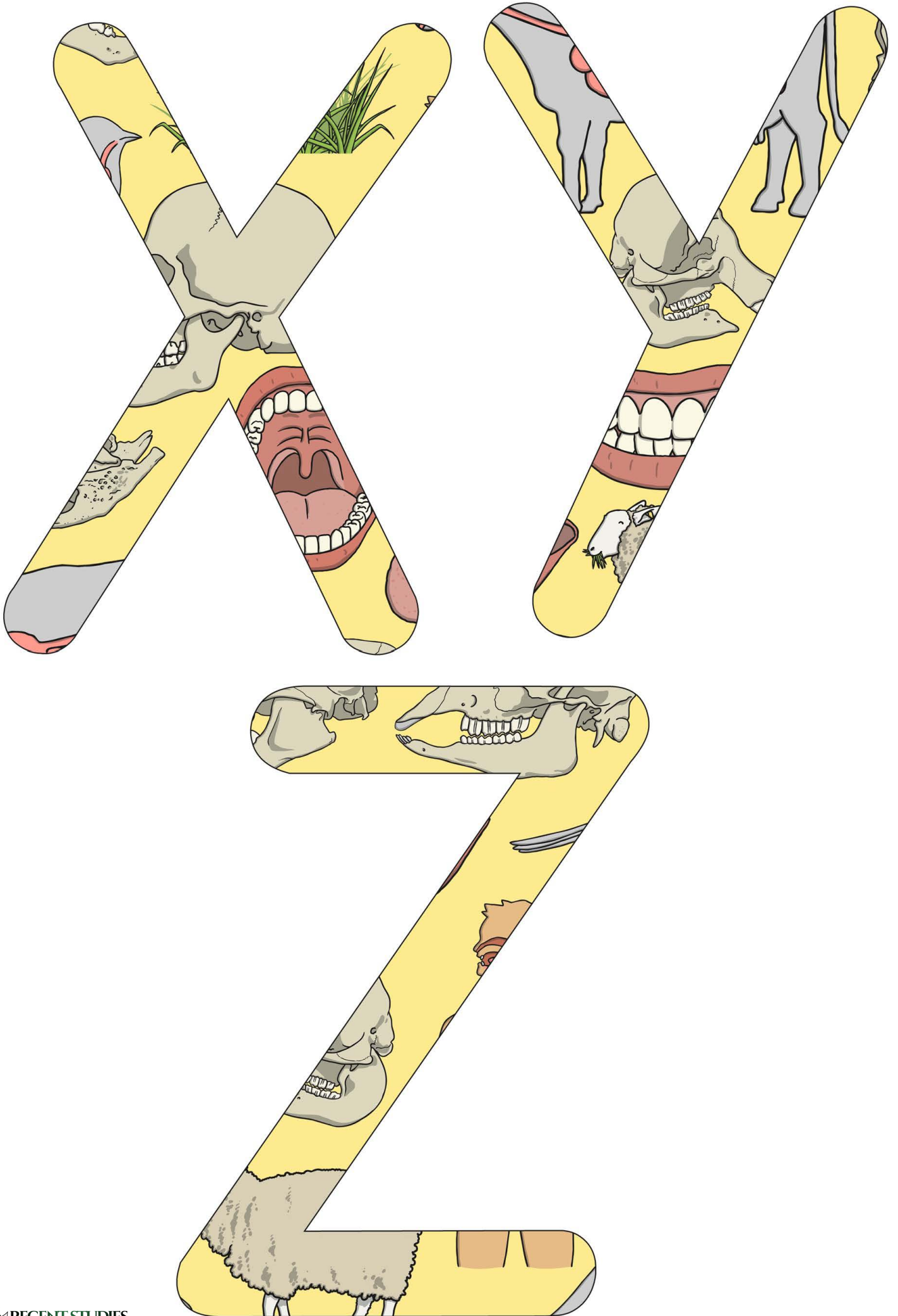














tooth





molar and premolar



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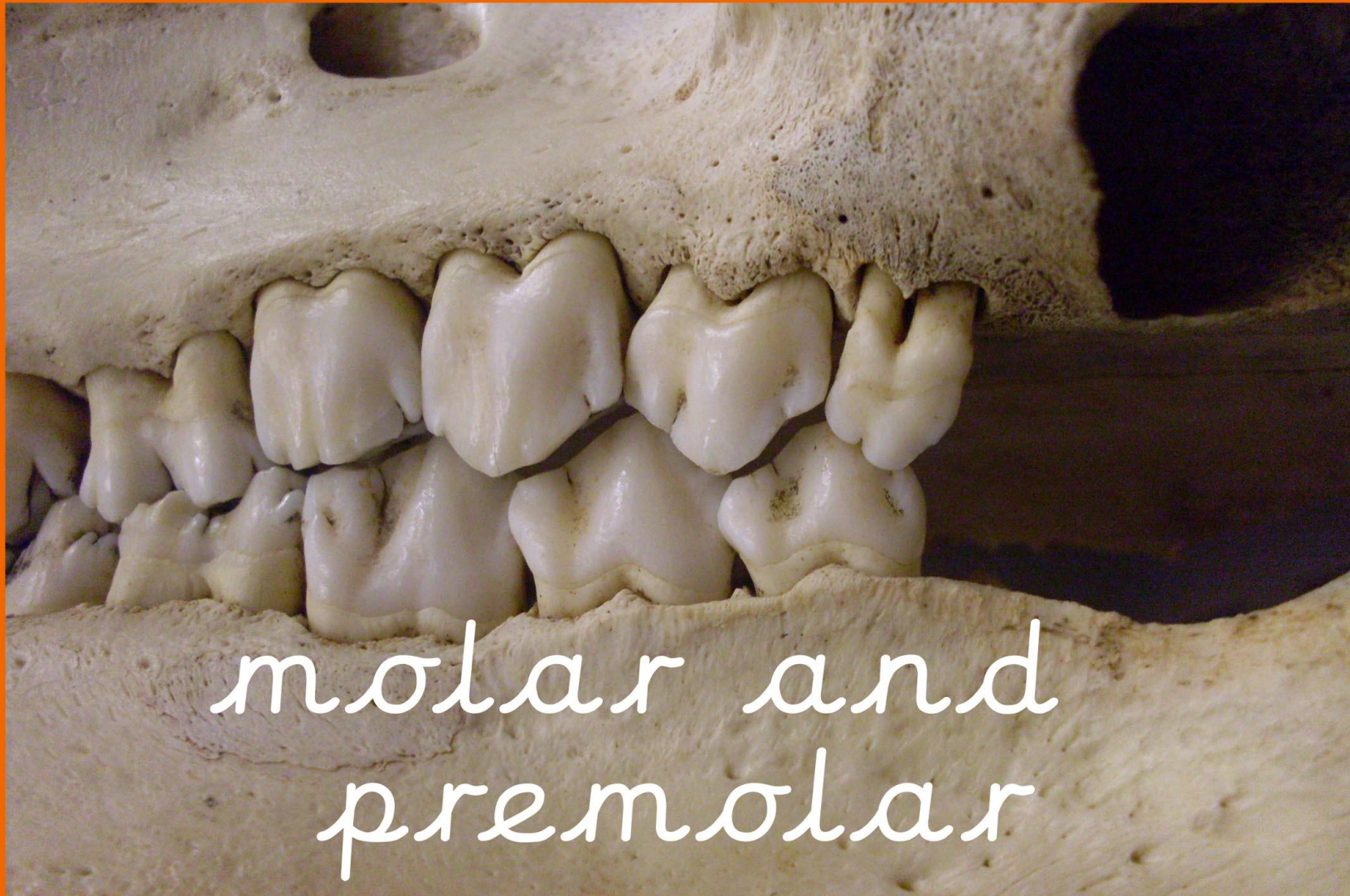
detritivore



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premolar



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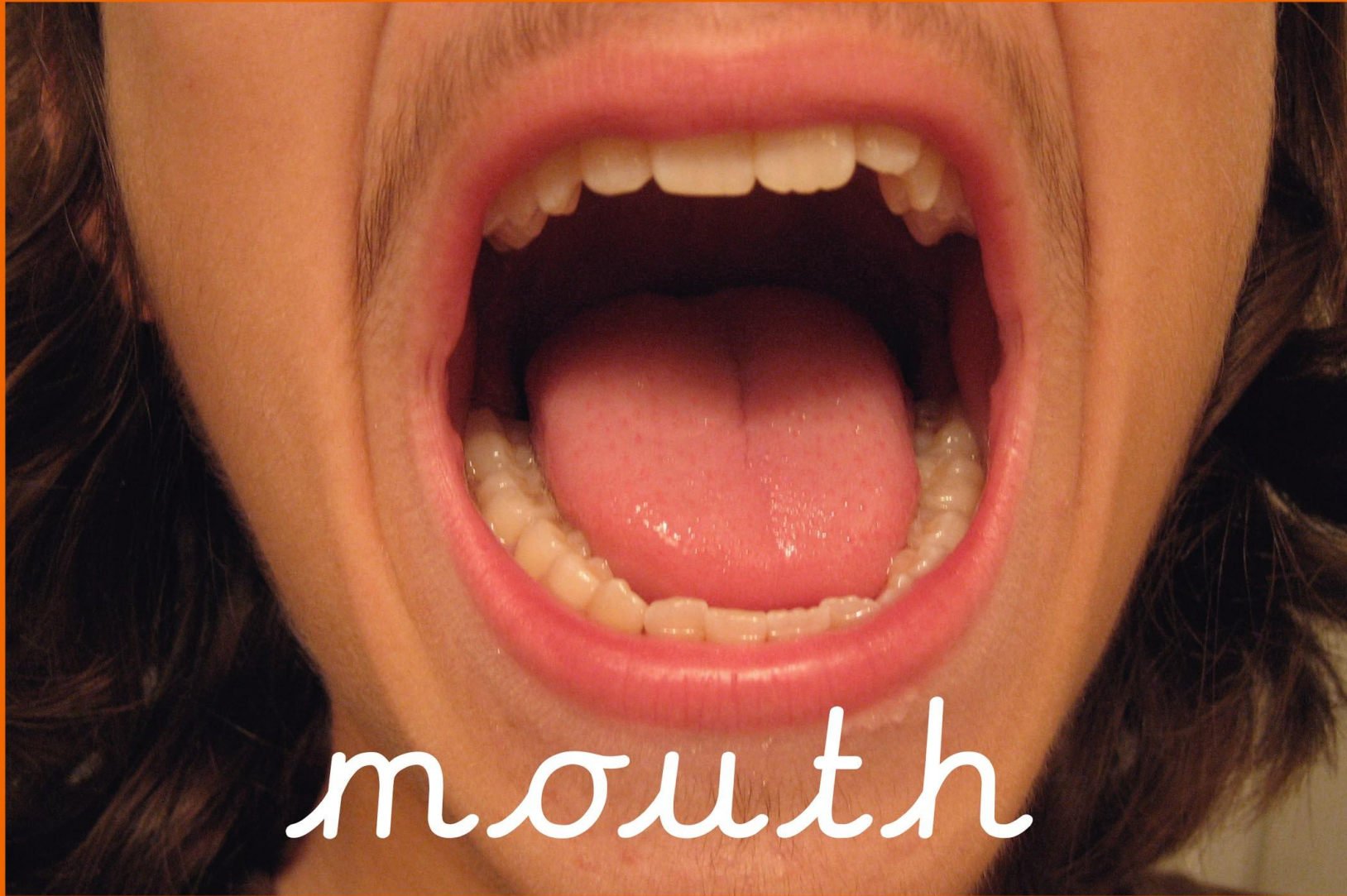
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mouth



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tongue



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producer

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herbivore



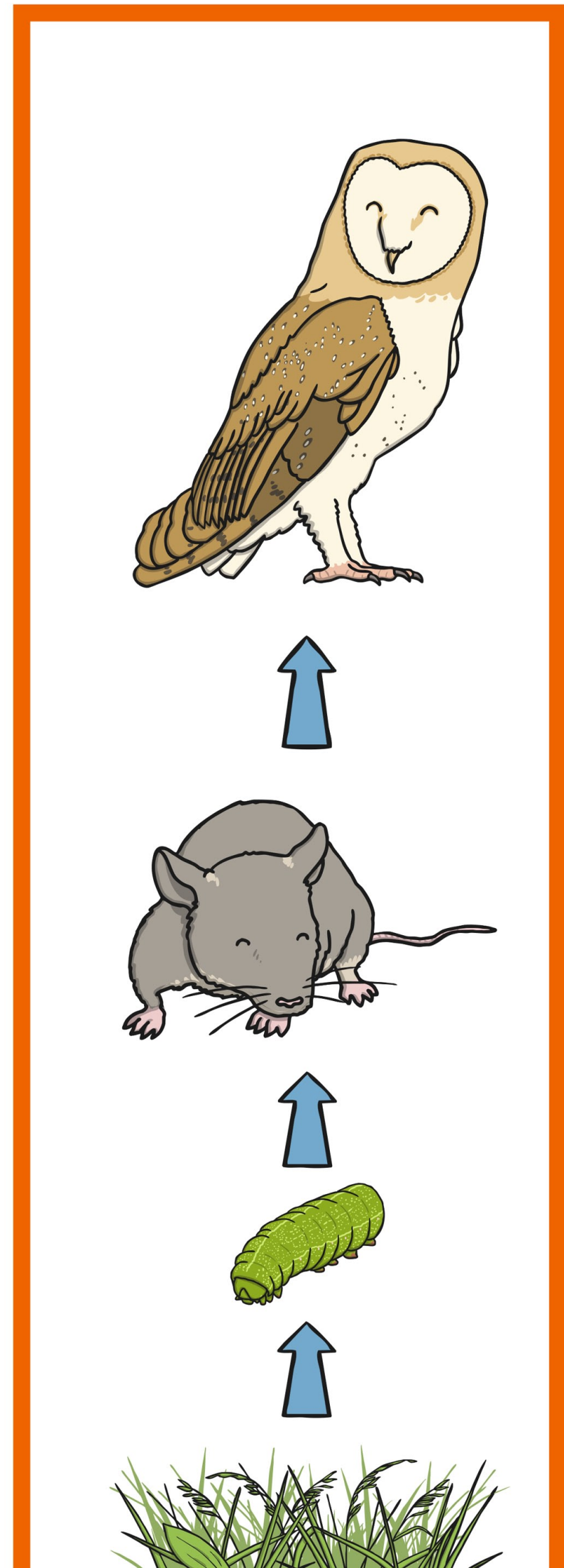
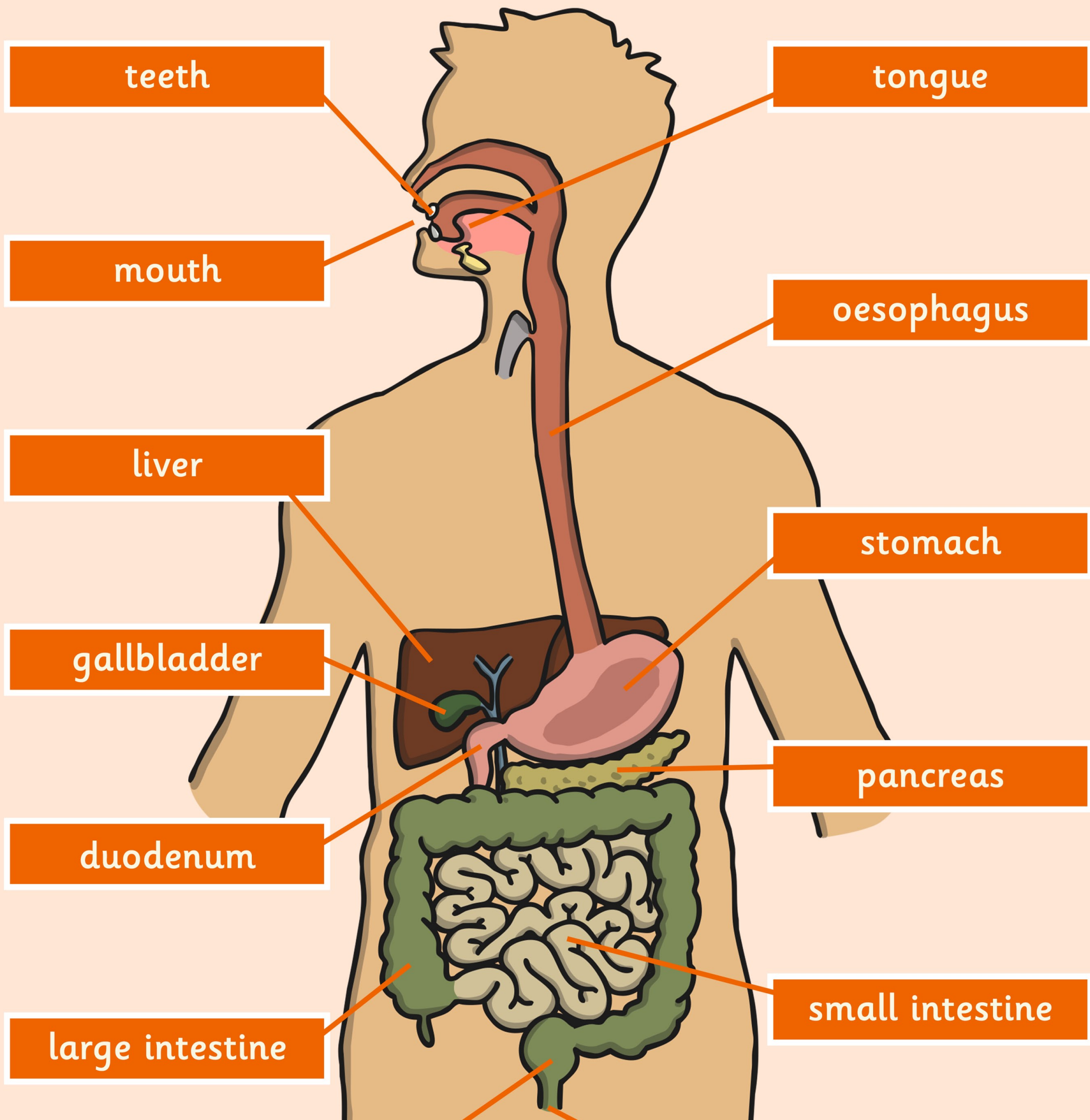
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detritivore





rectum

anus

the digestive system

consumer

producer



incisors



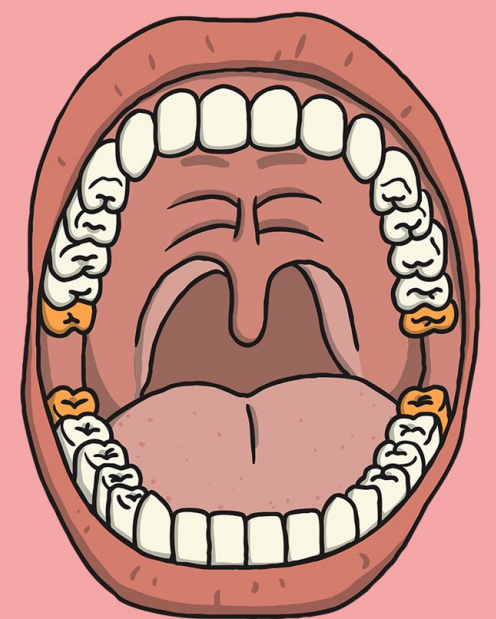
canines



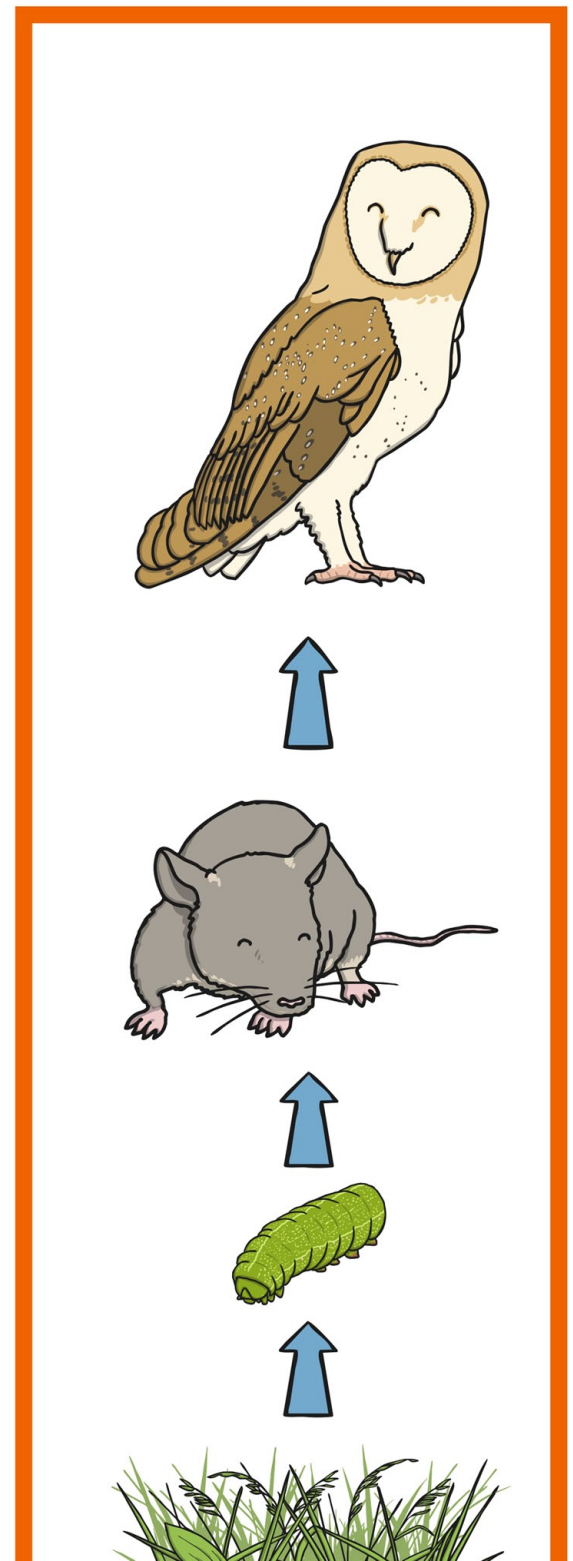
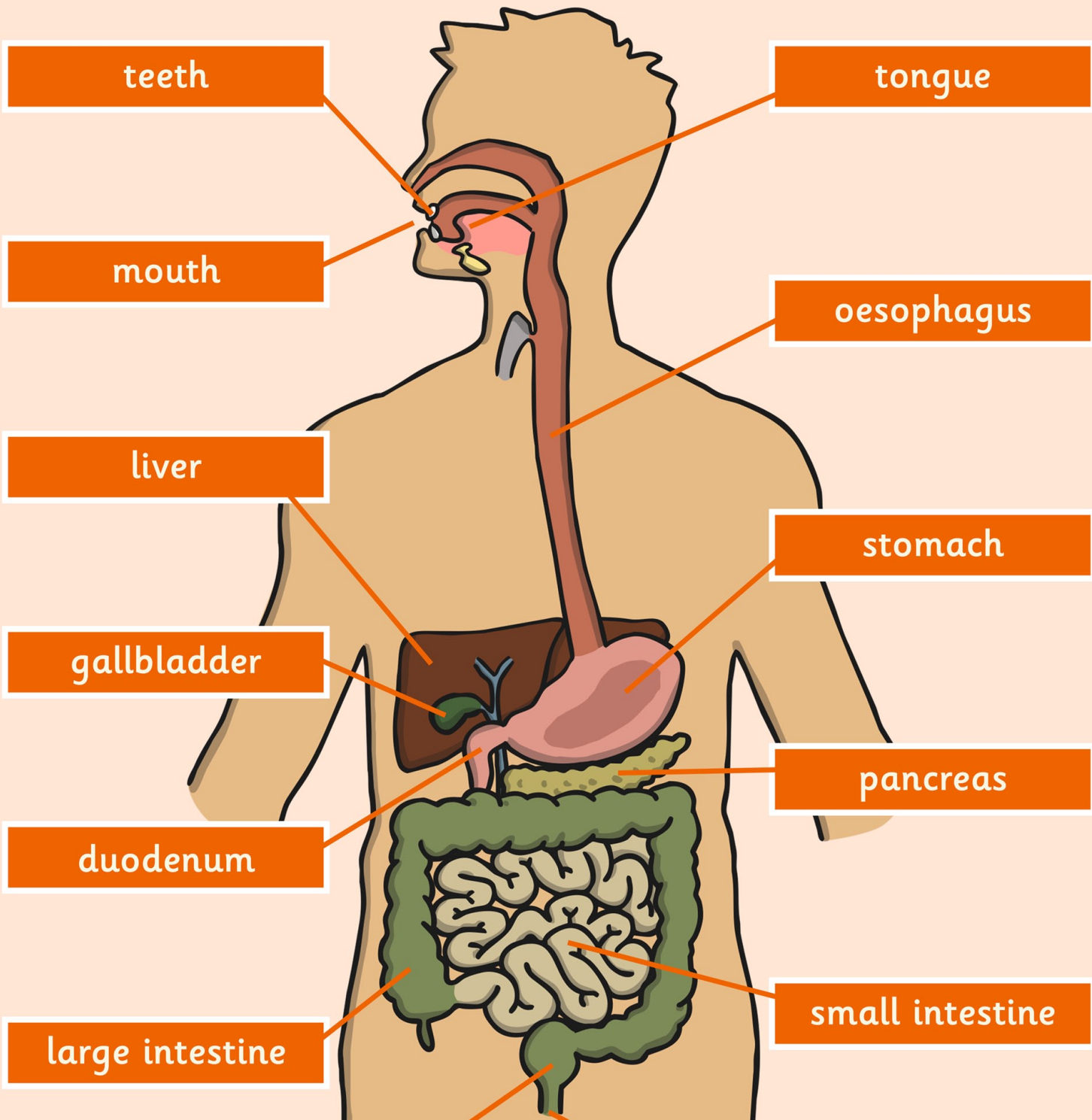
premolars



molars



wisdom teeth



rectum

anus

the digestive system

consumer

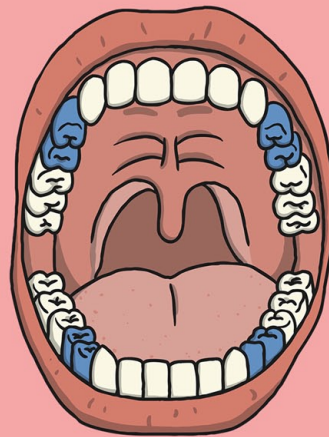
producer



incisors



canines



premolars



molars



wisdom teeth

teeth

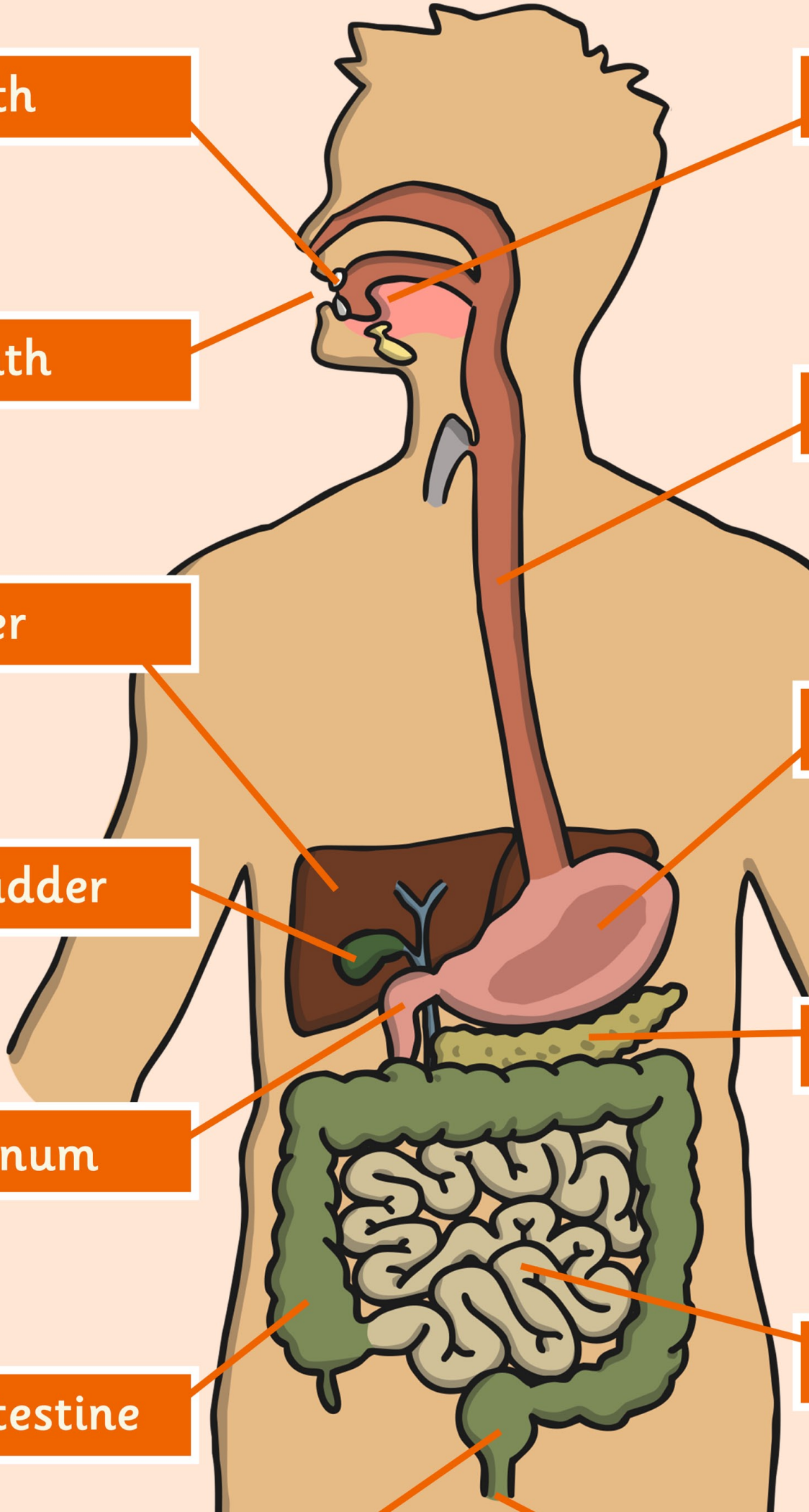
mouth

liver

gallbladder

duodenum

large intestine



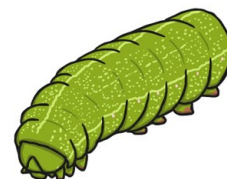
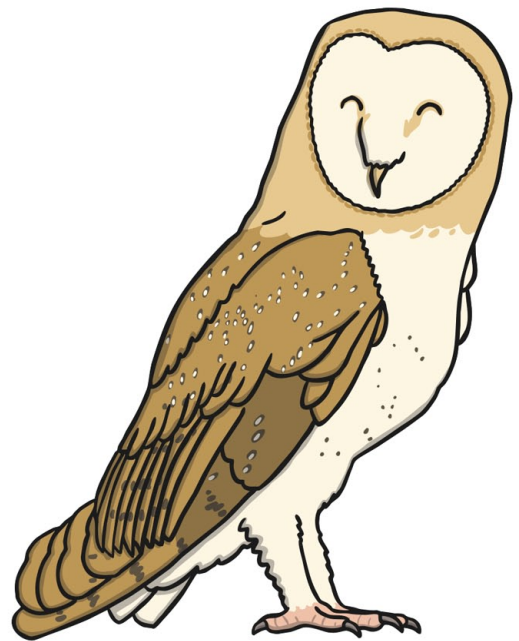
tongue

oesophagus

stomach

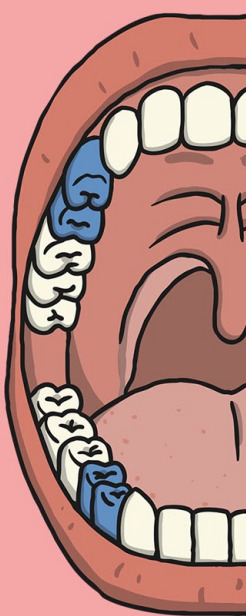
pancreas

small intestine



rectum

the digestive system



incisors

canines

premo

anus

consumer

producer



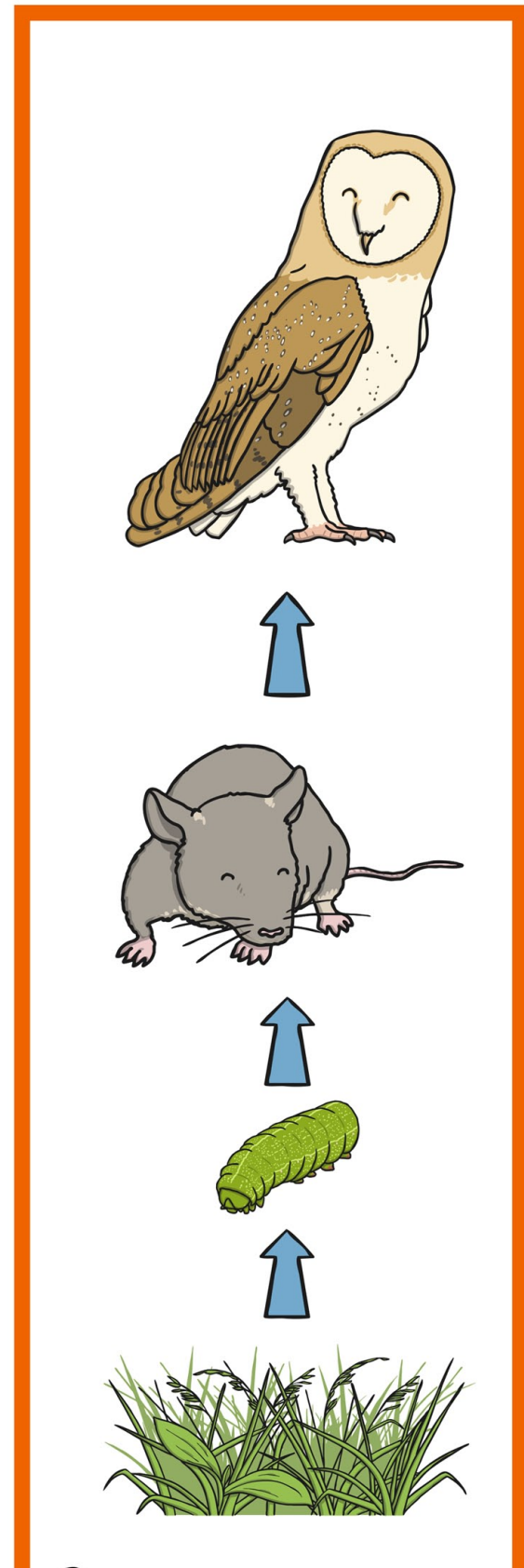
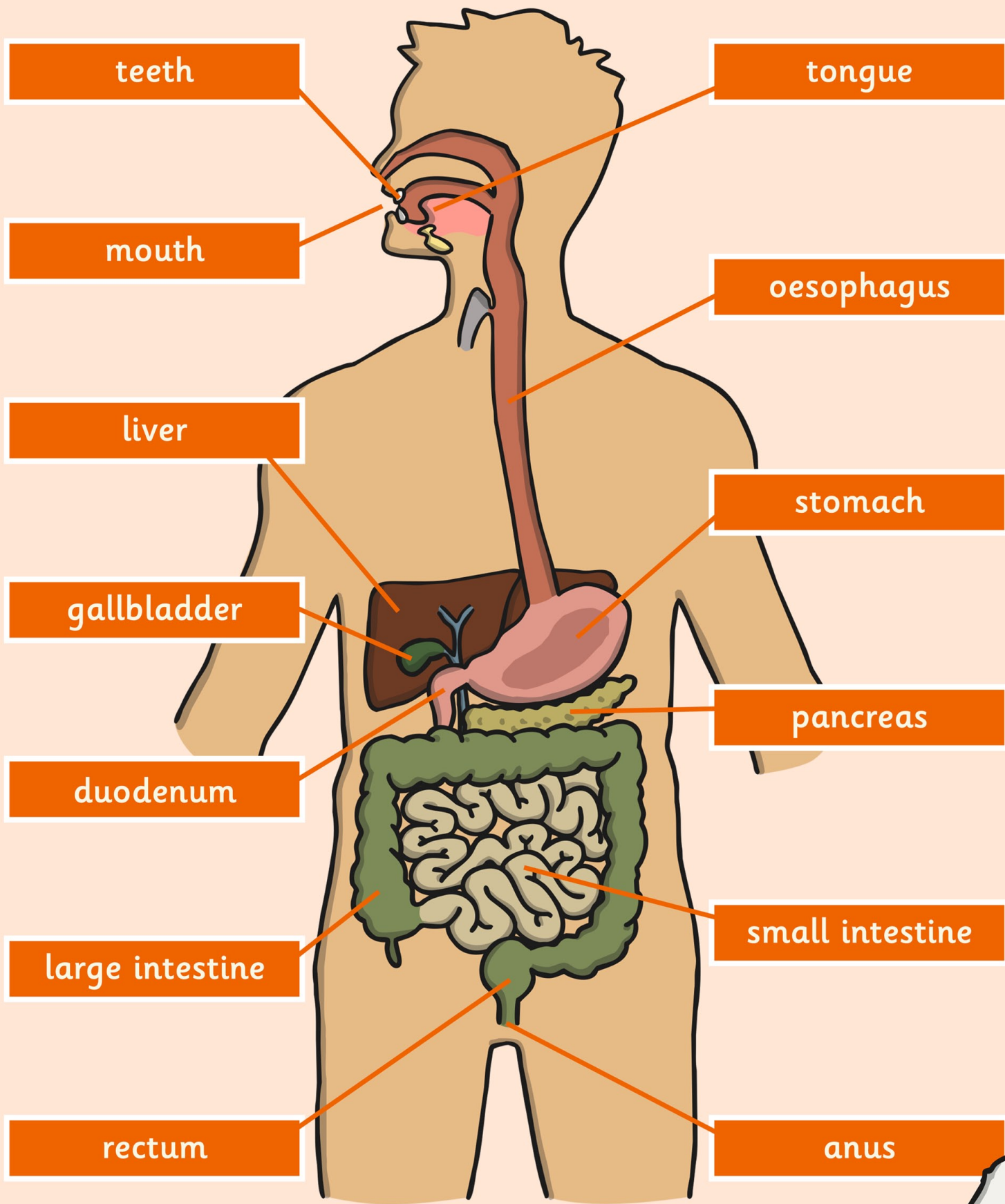
incisors



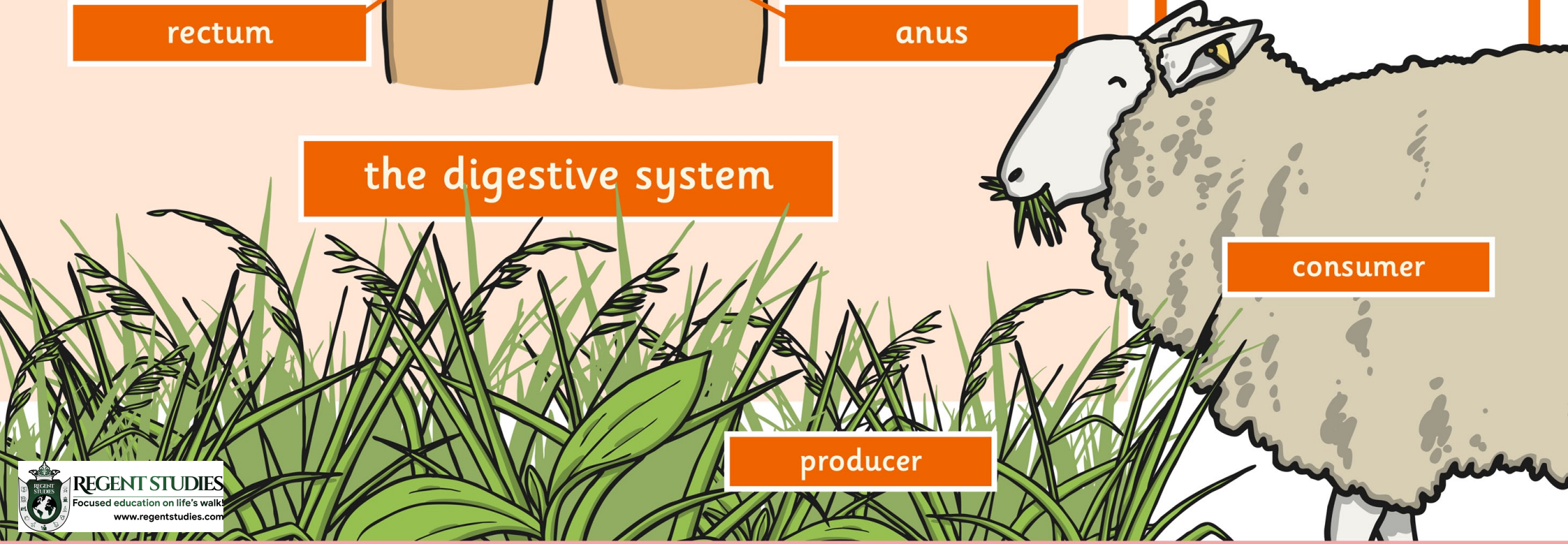
molars



wisdom teeth



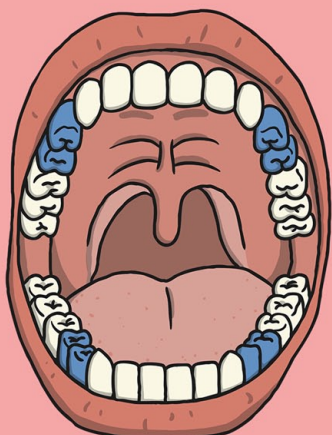
the digestive system



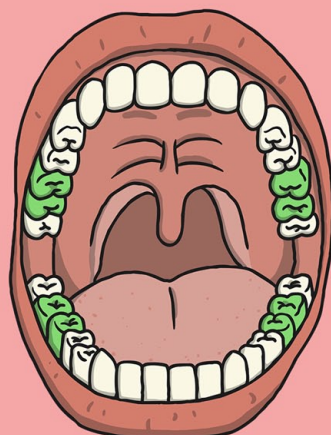
incisors



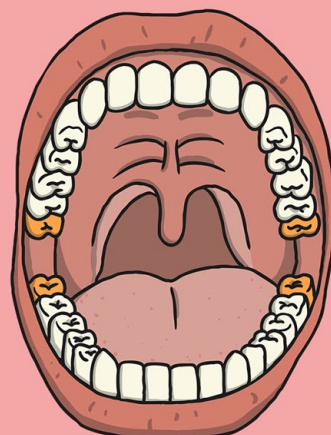
canines



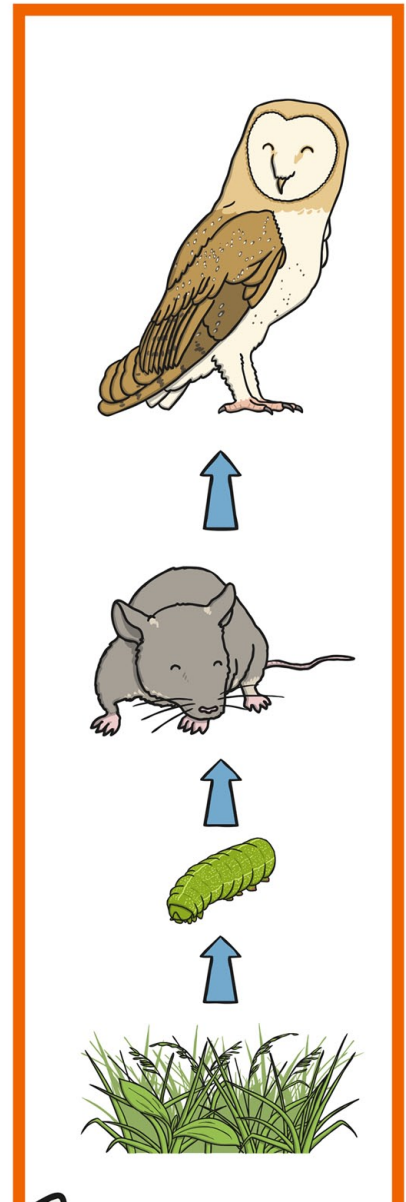
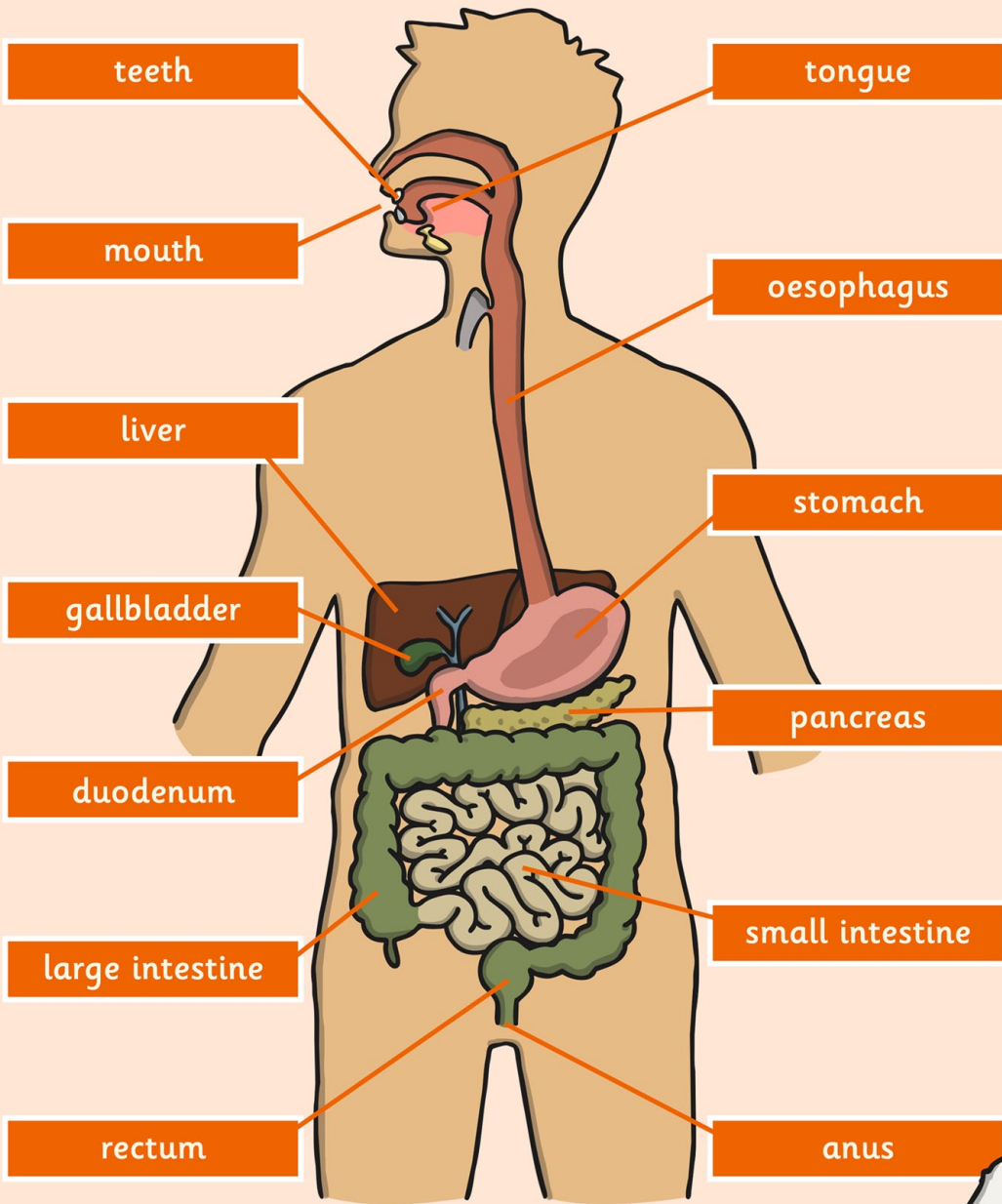
premolars



molars



wisdom teeth



the digestive system



incisors



canines



premolars

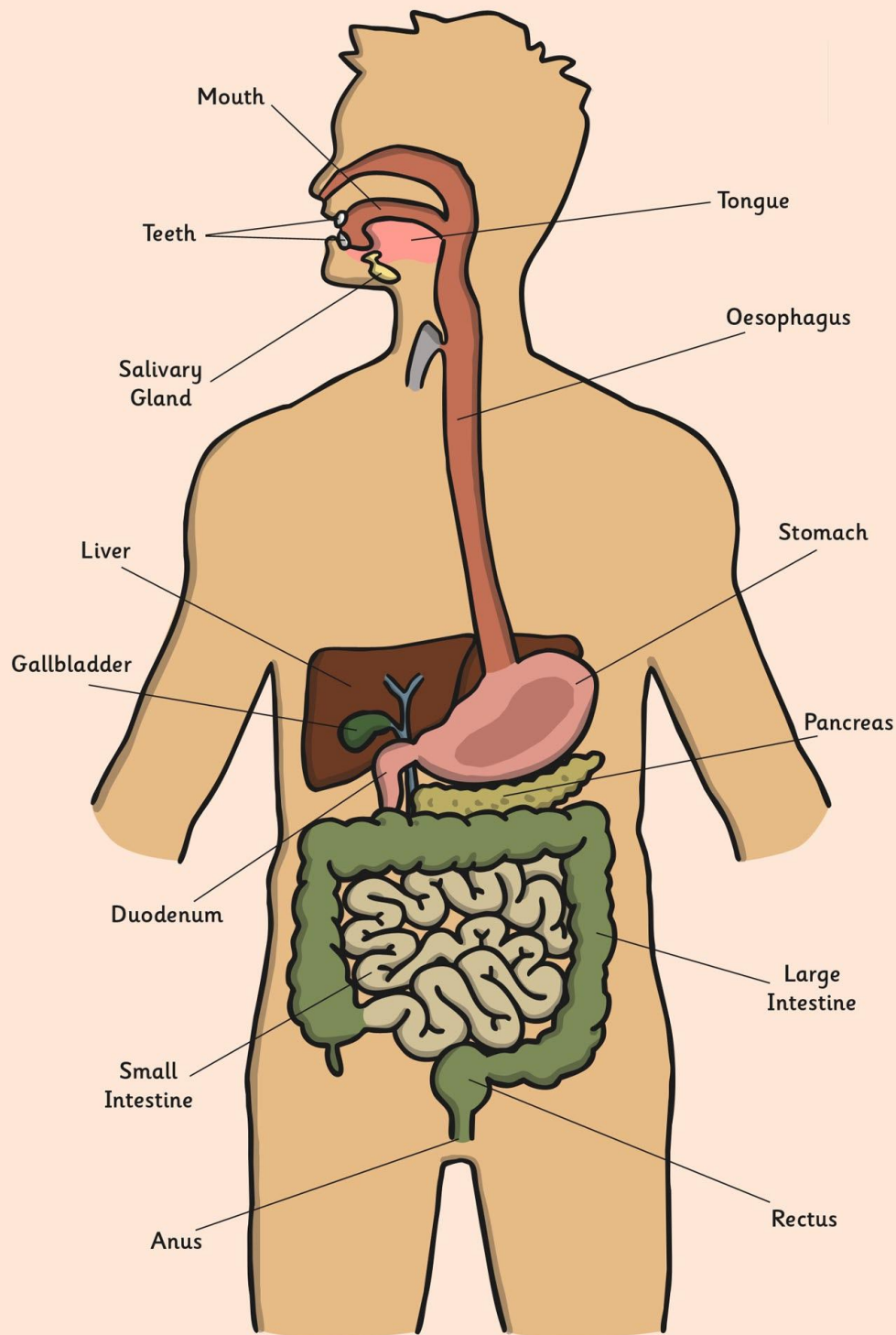


molars



wisdom teeth

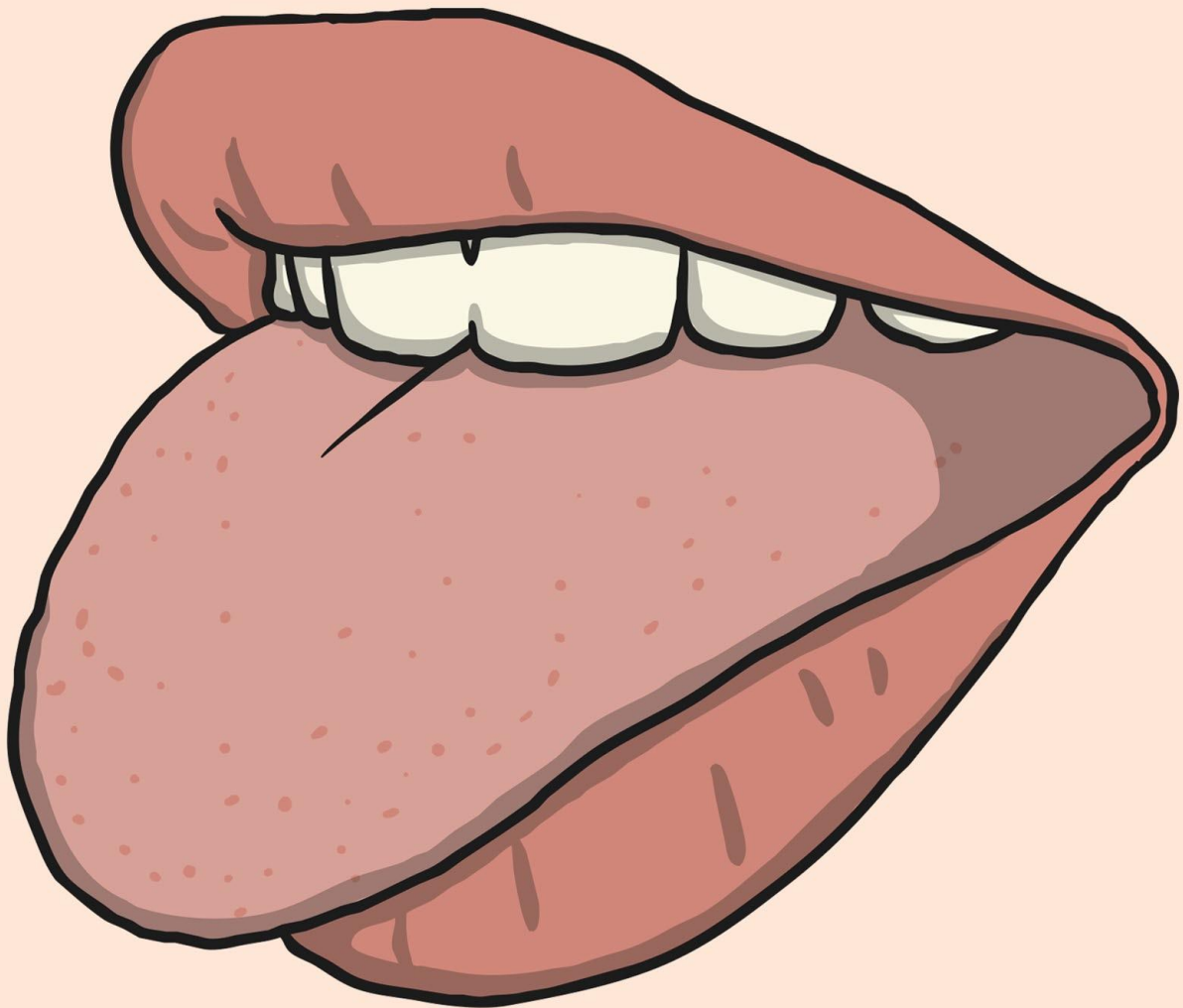
digestive system



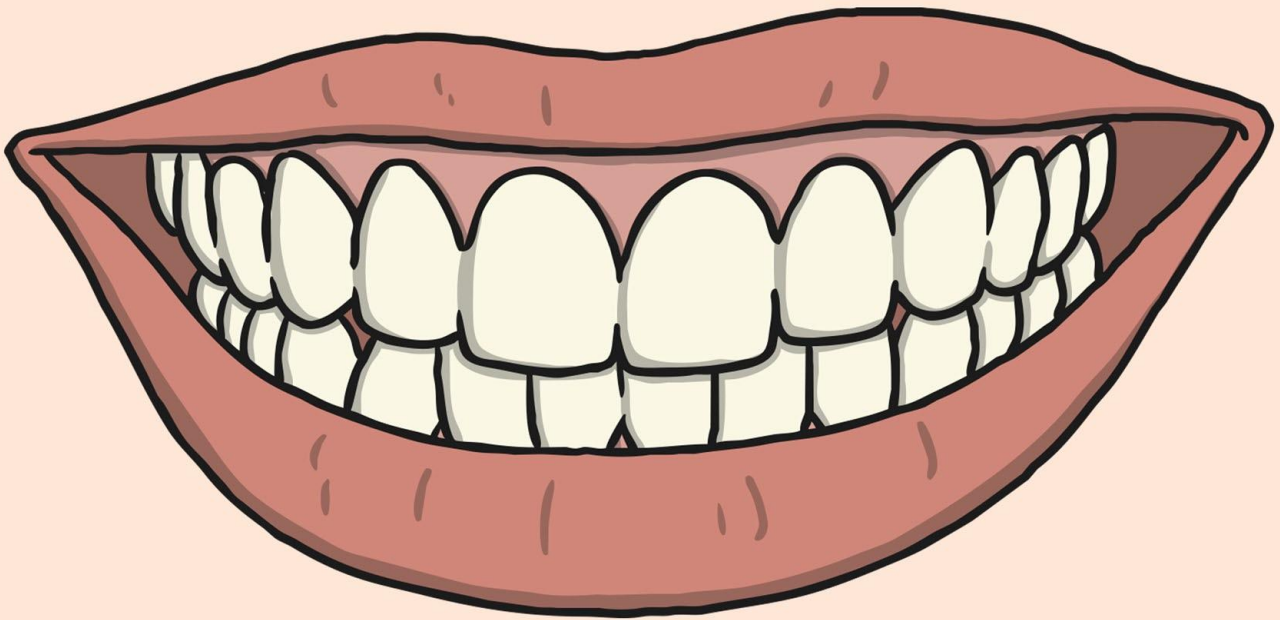
mouth



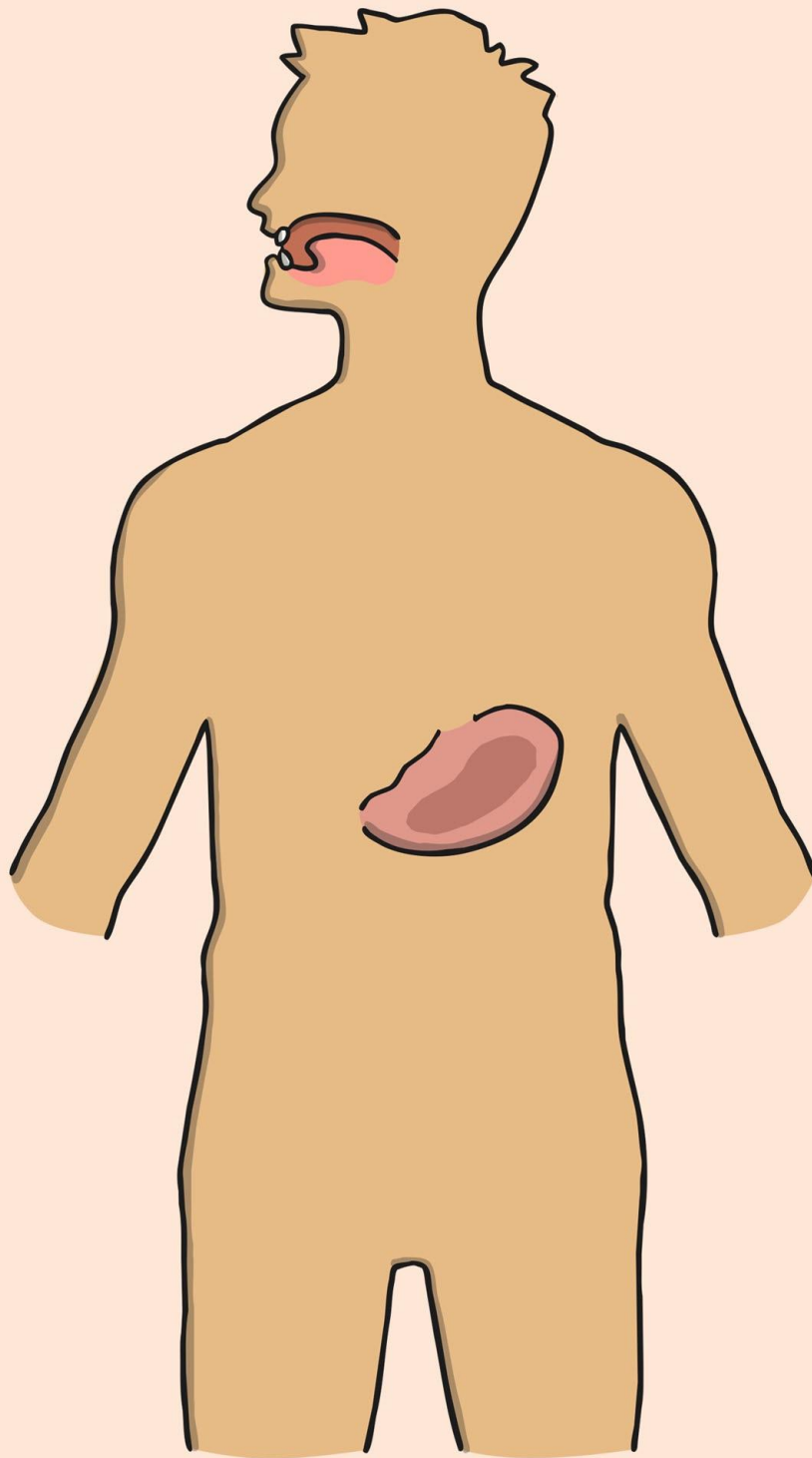
tongue



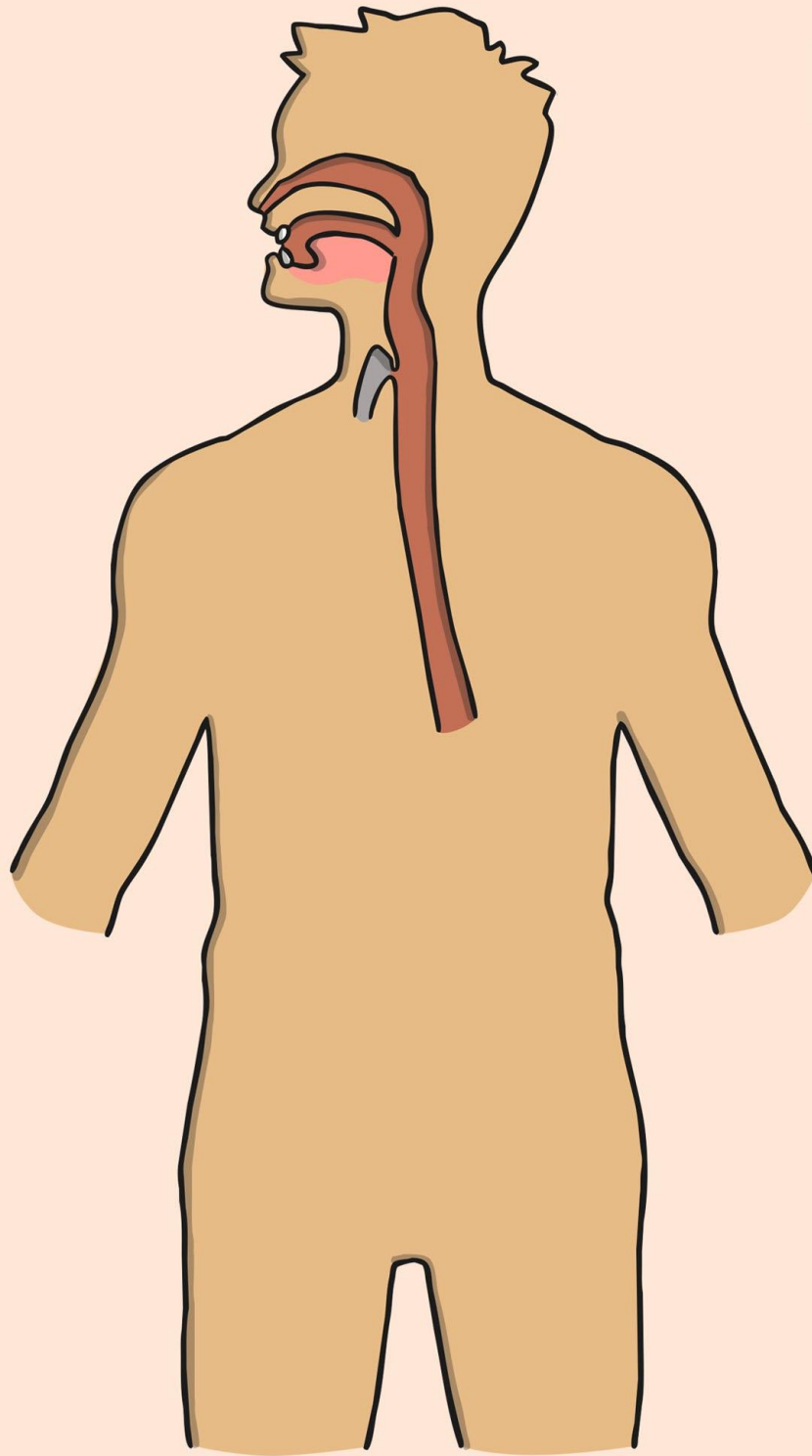
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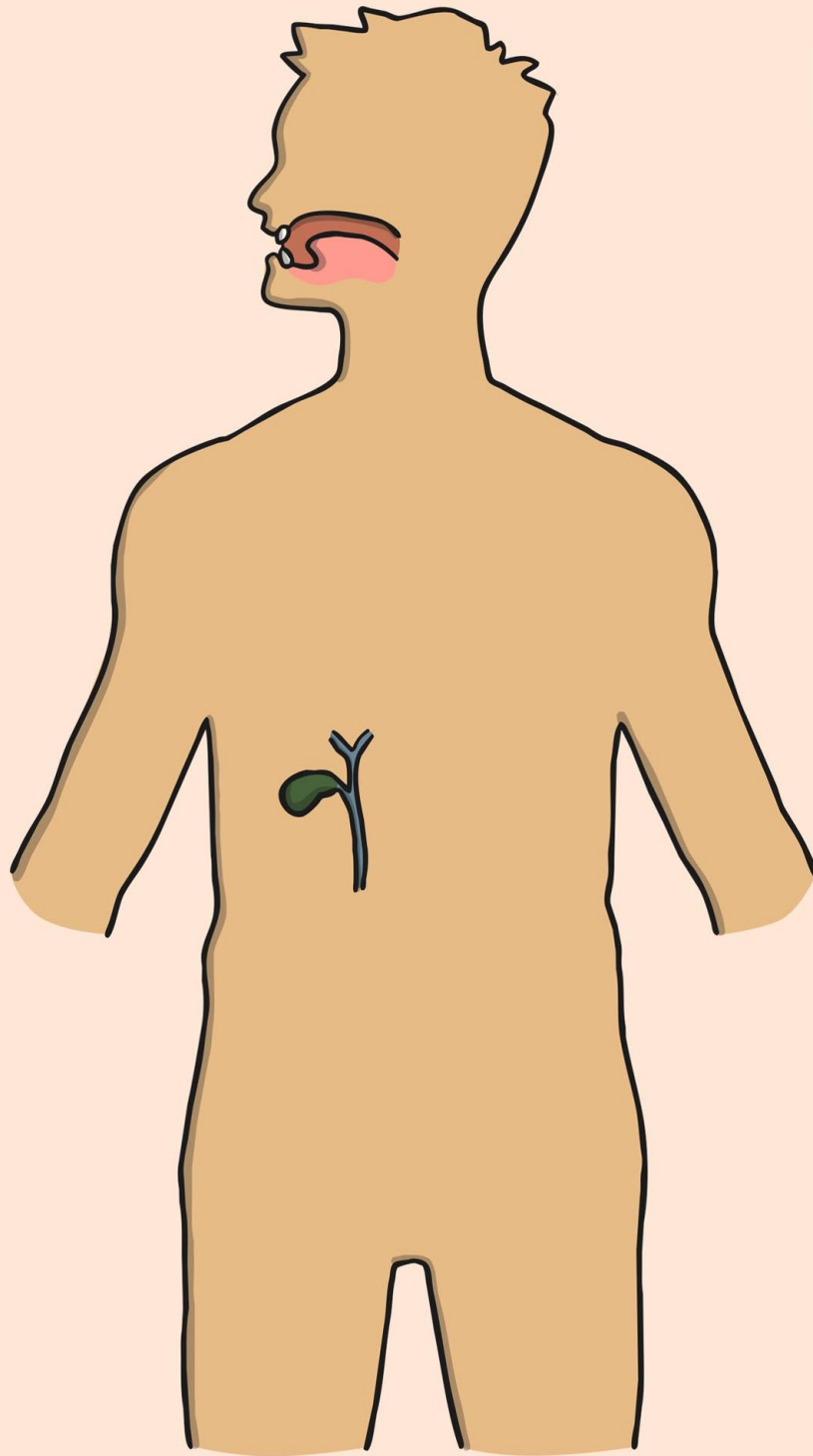
stomach



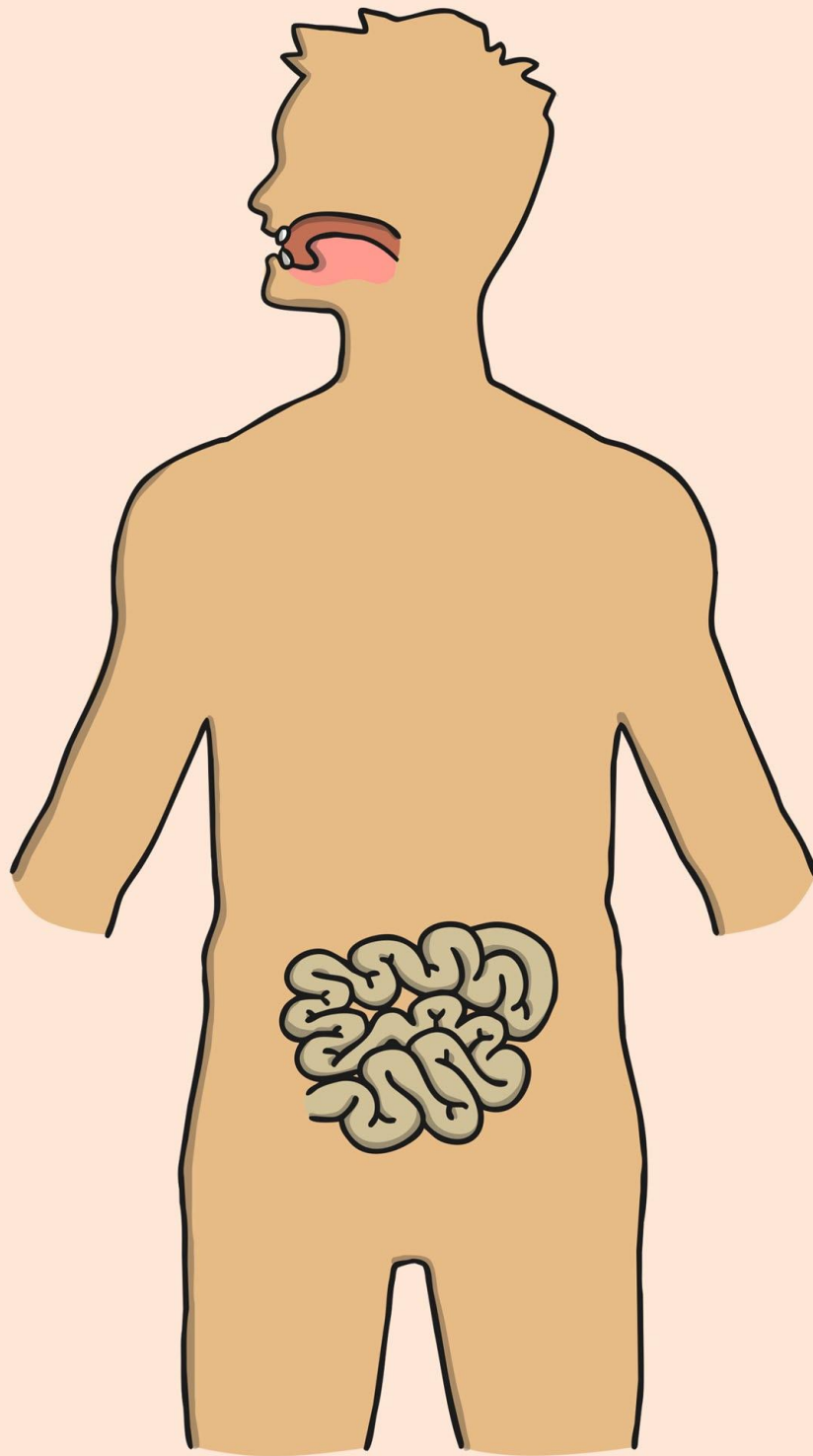
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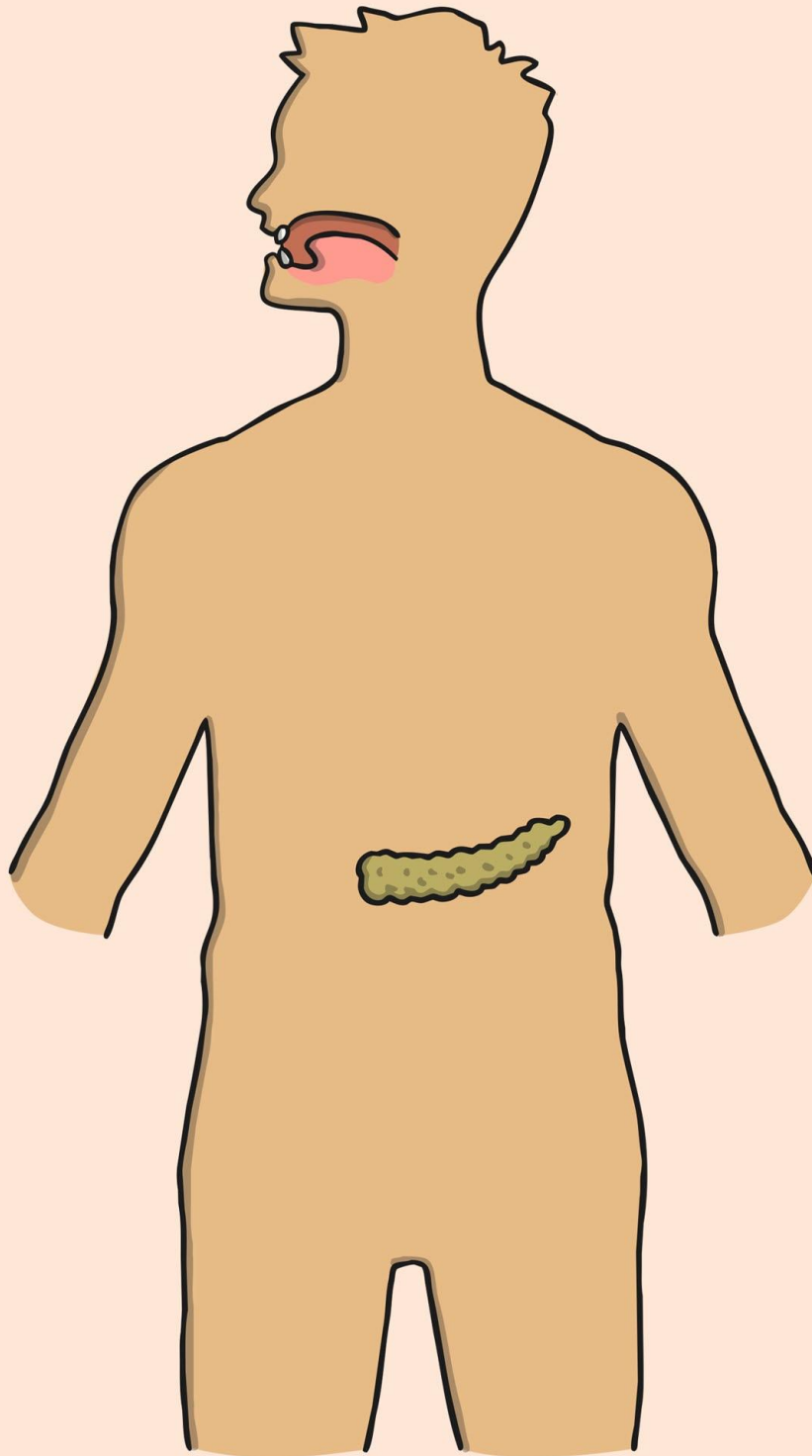
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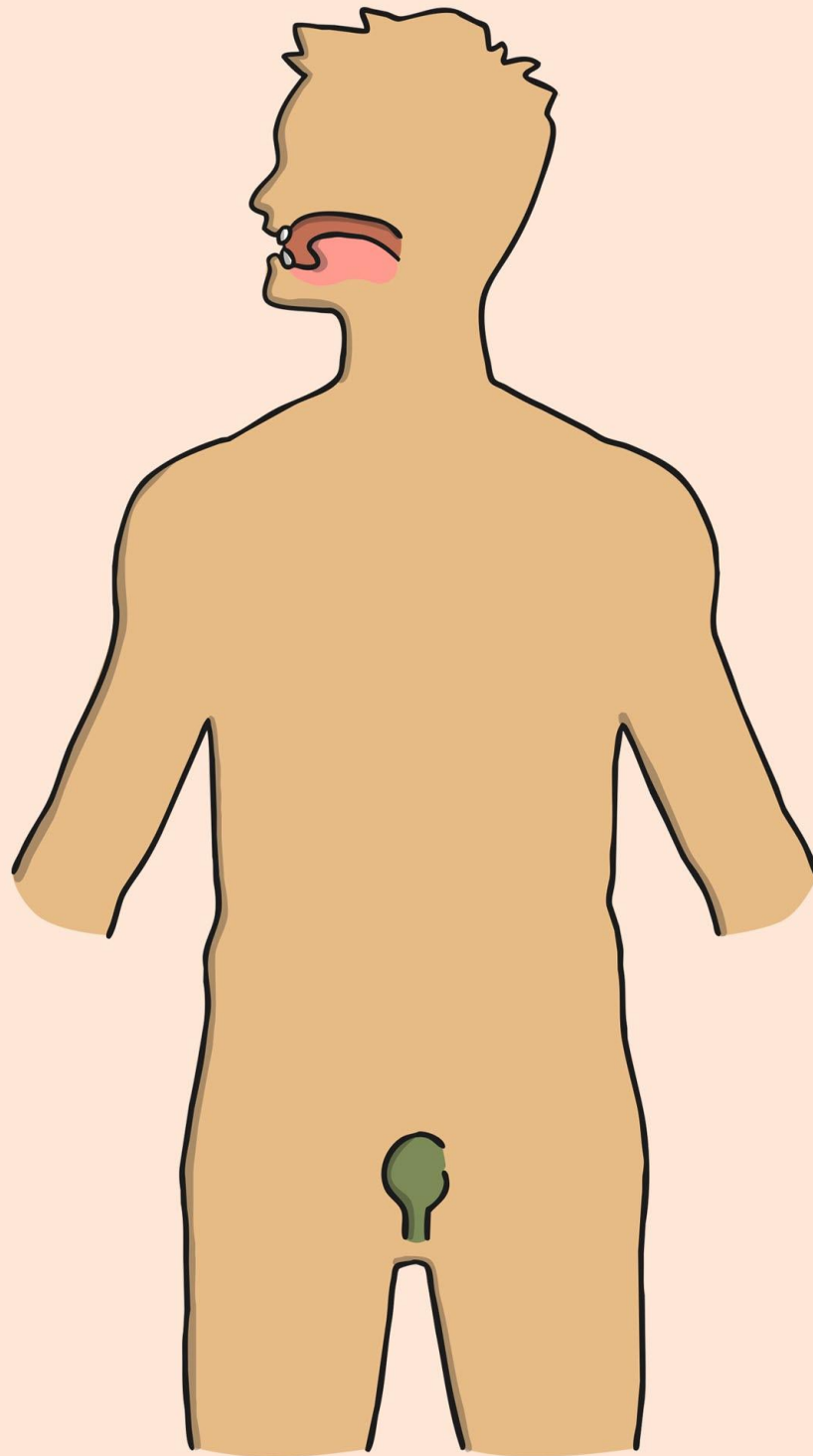
small intestine



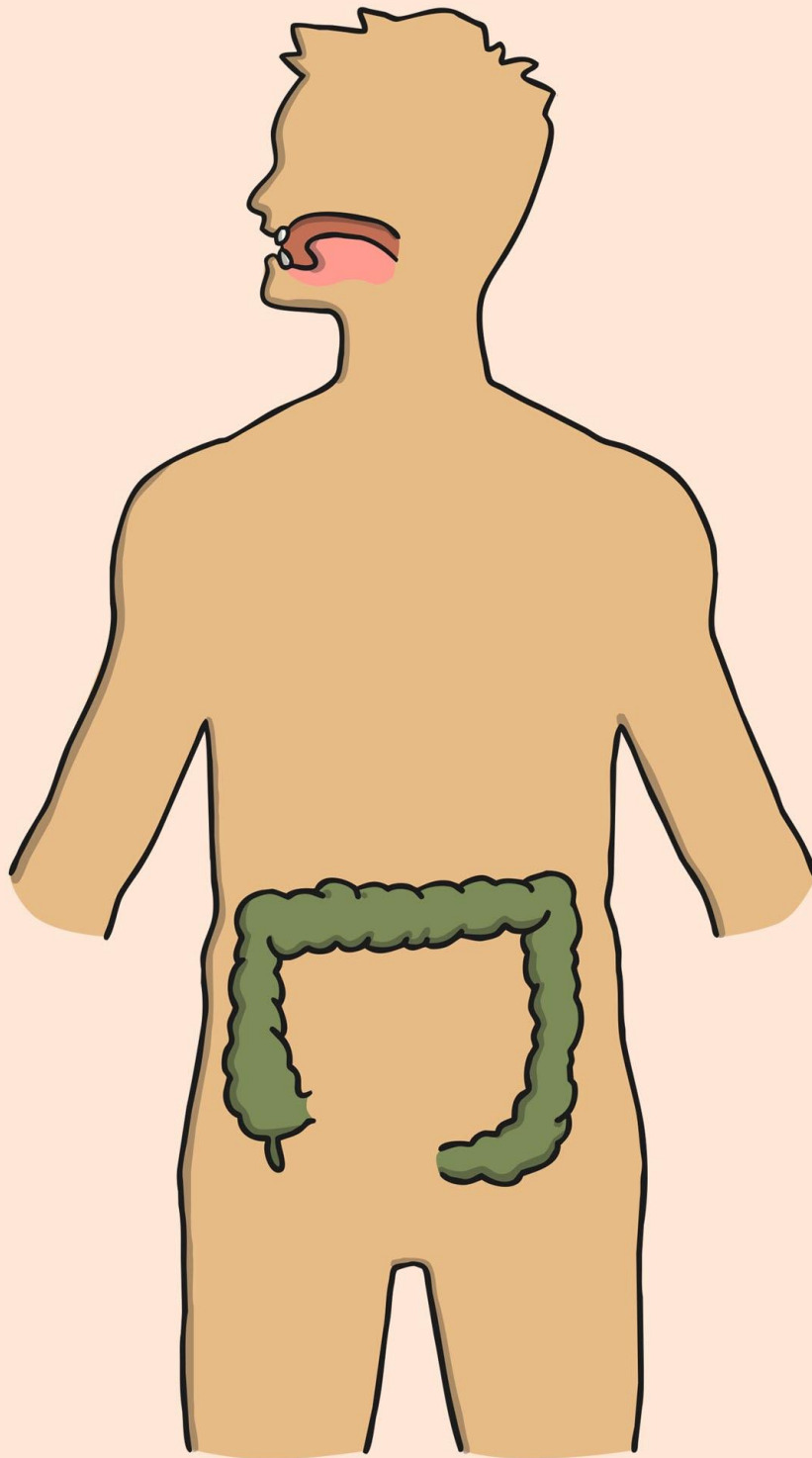
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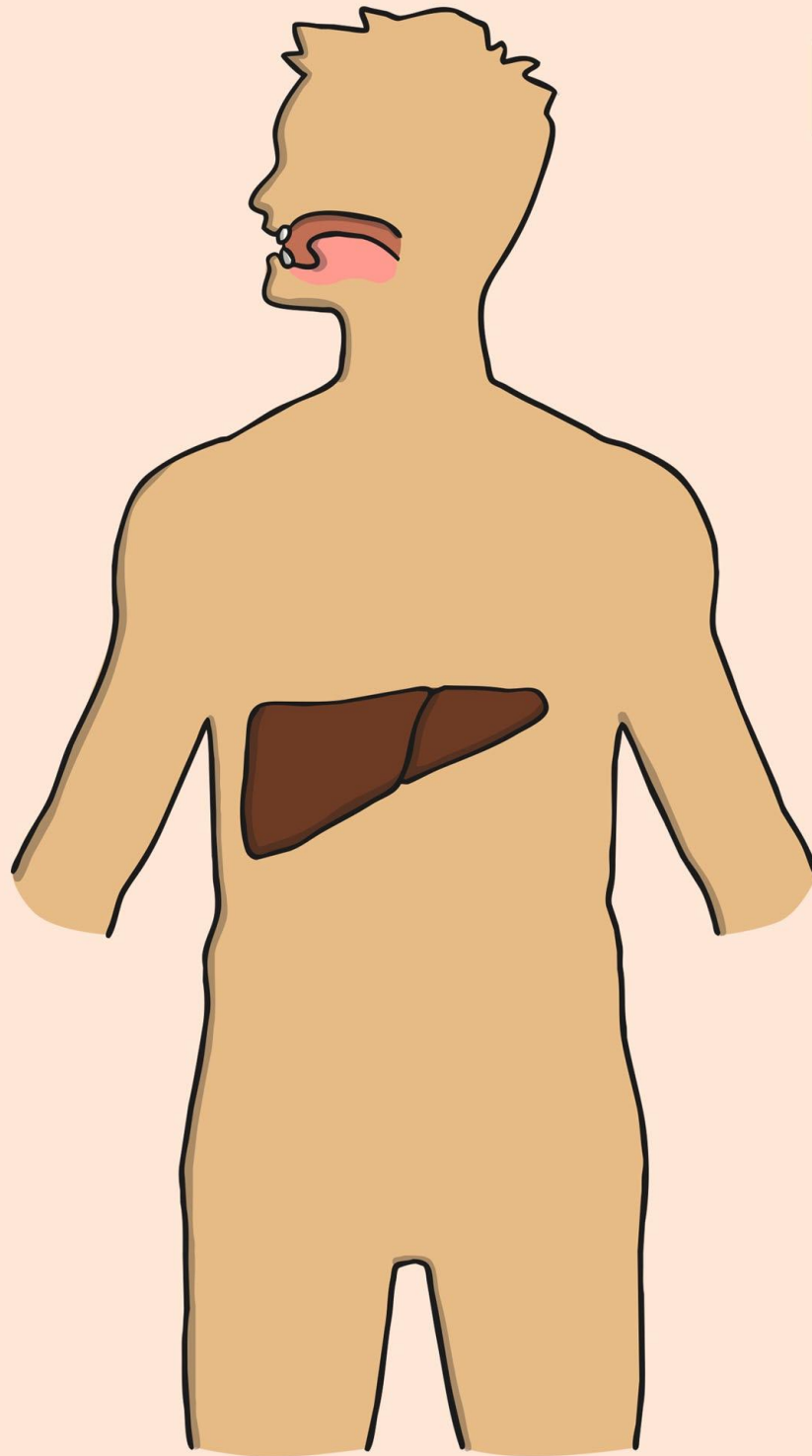
rectum and anus



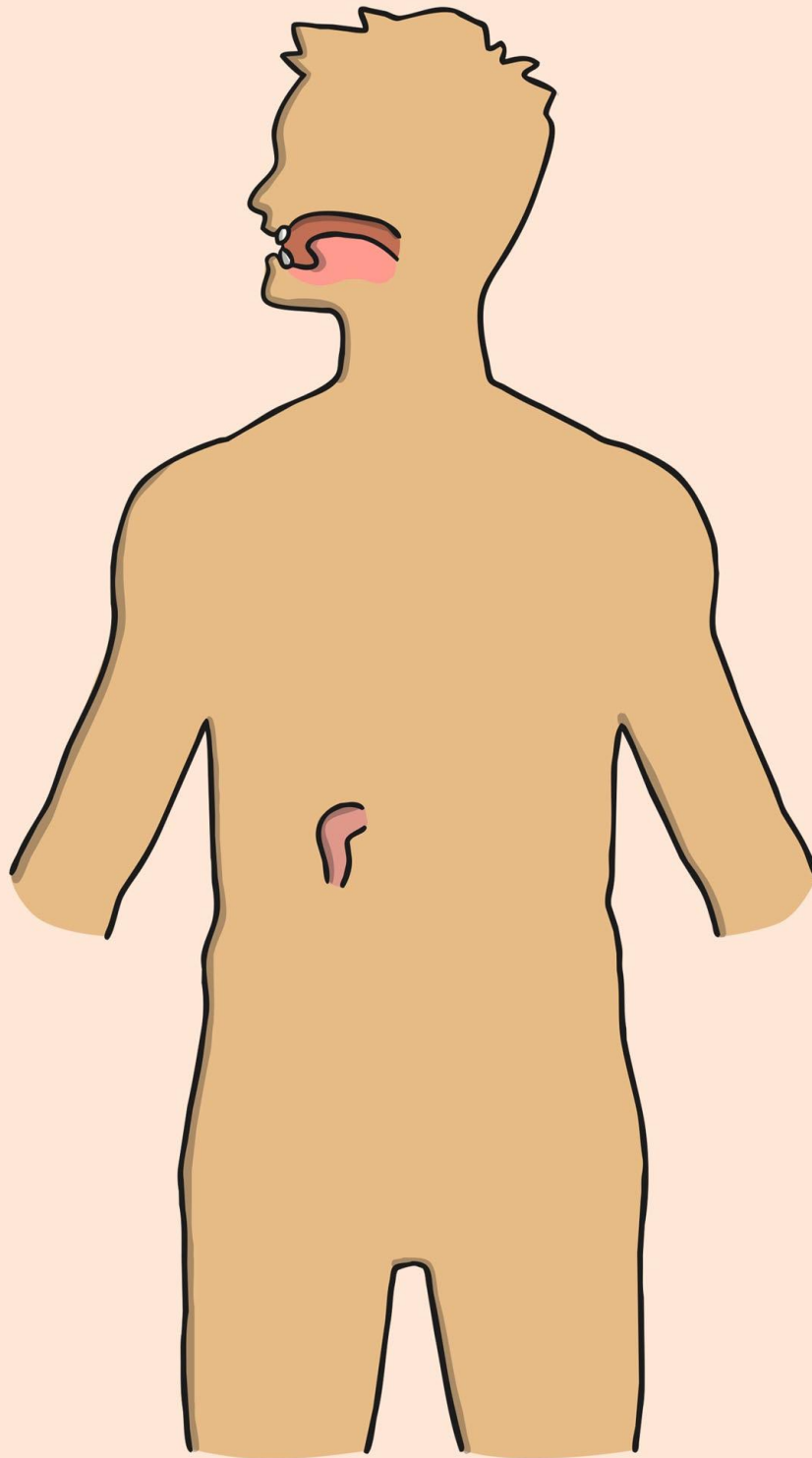
large intestine



liver



duodenum



tooth



canine



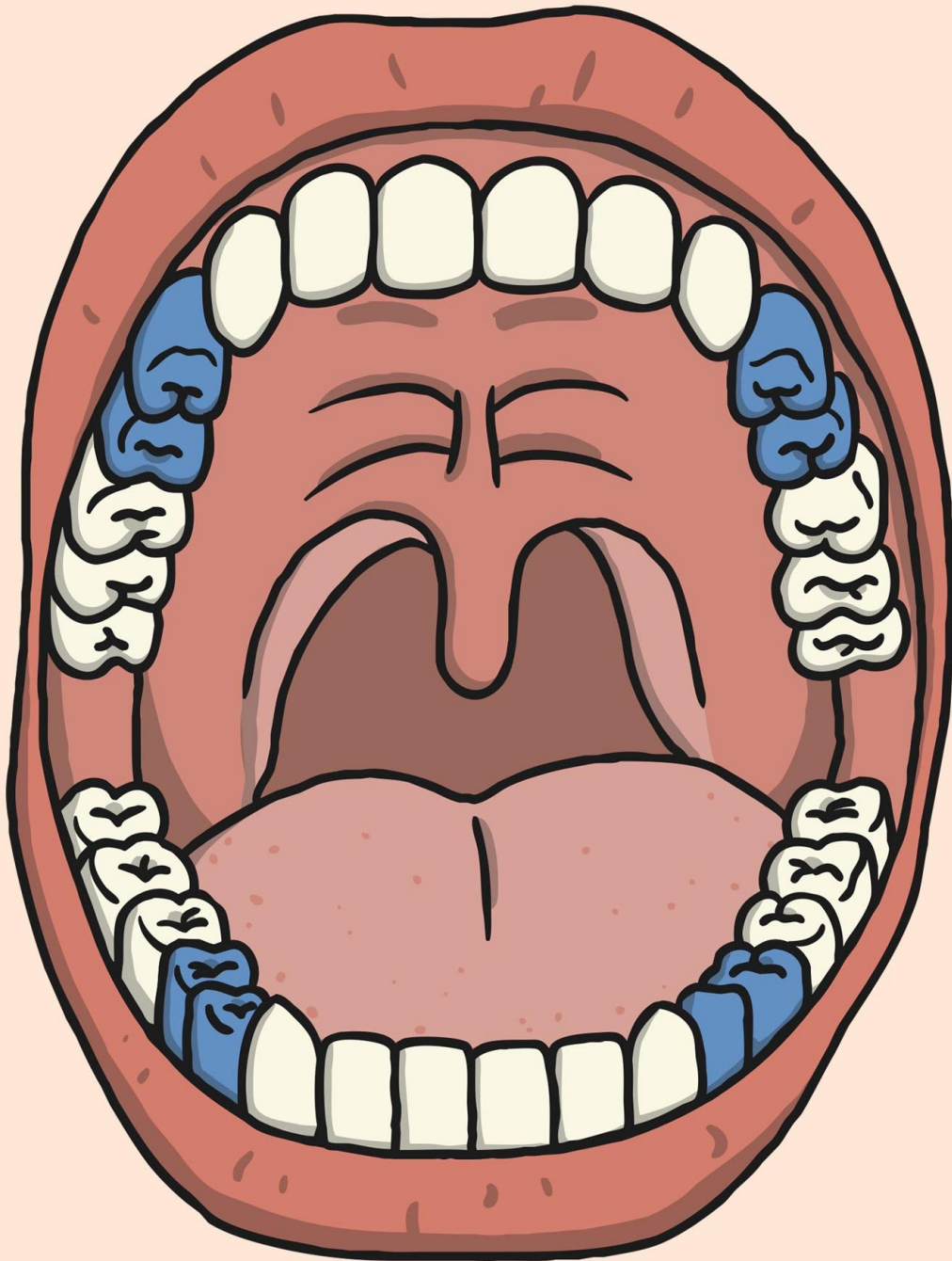
incisor



molar



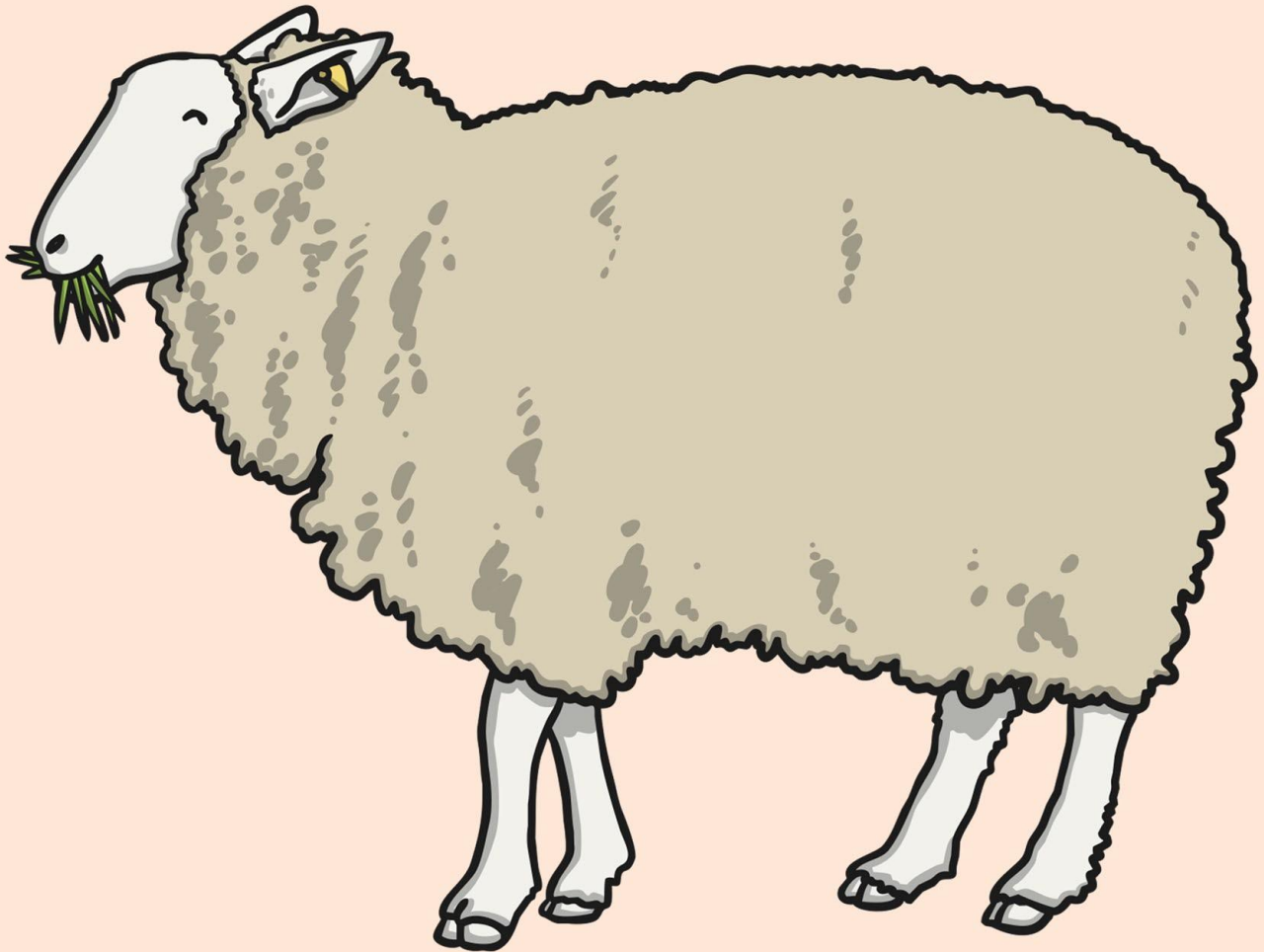
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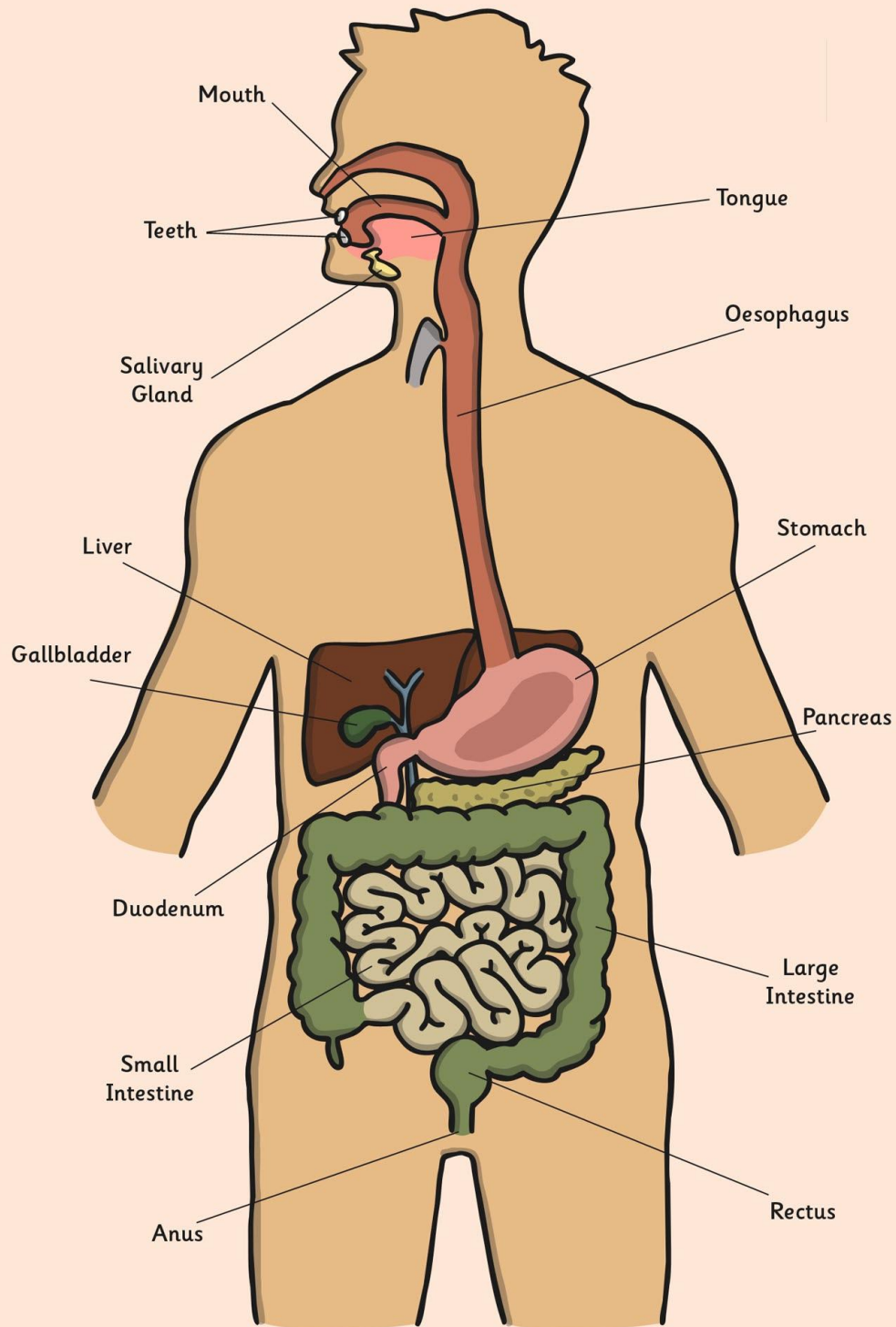
producer



consumer



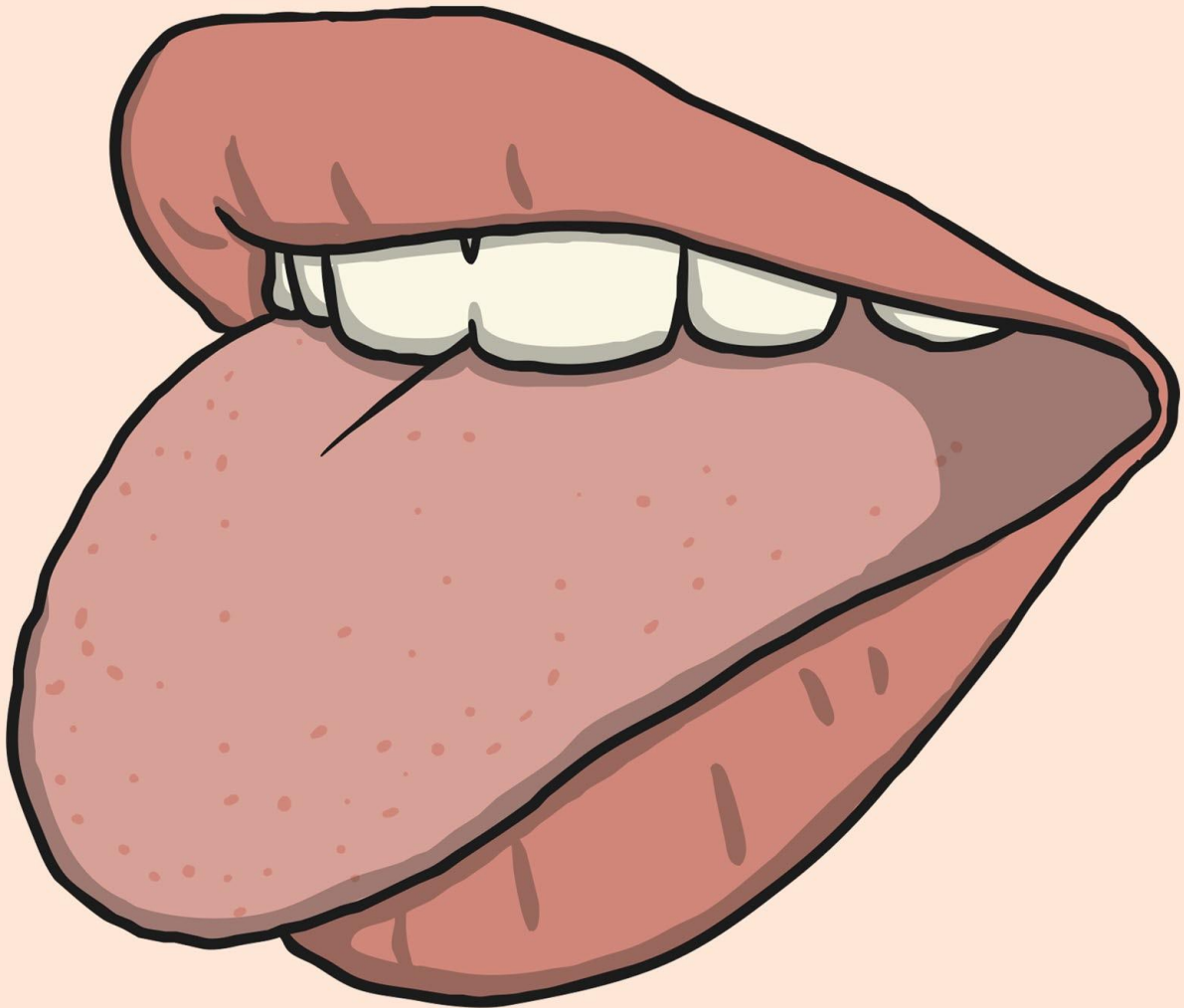
digestive system



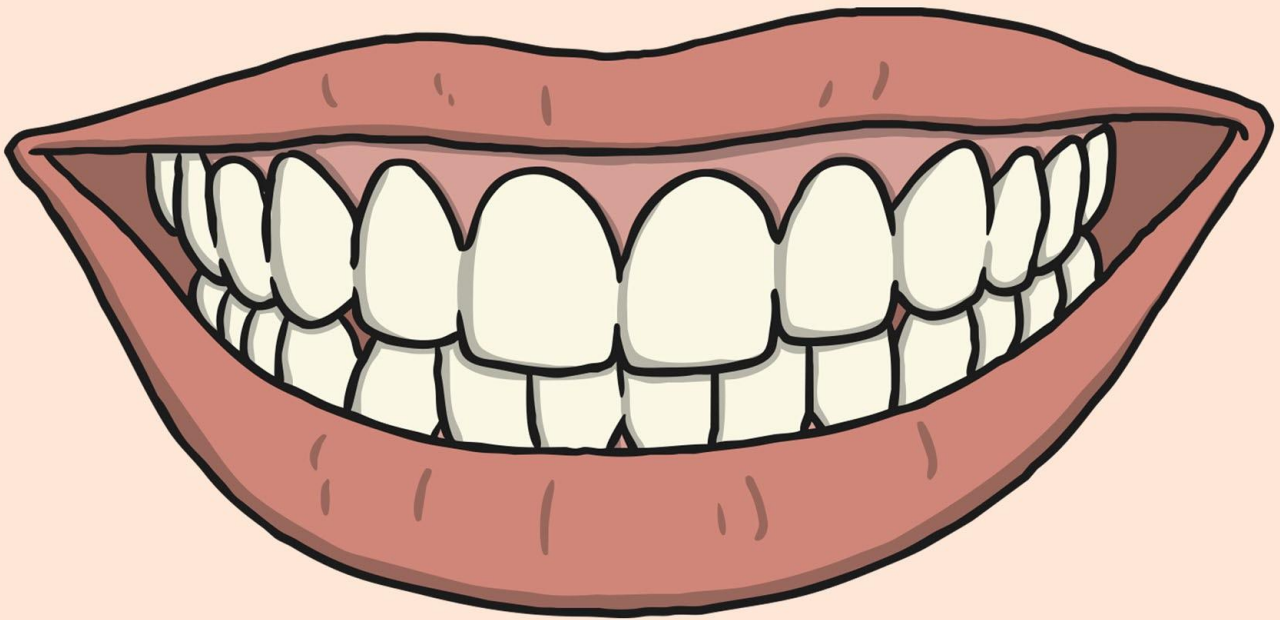
mouth



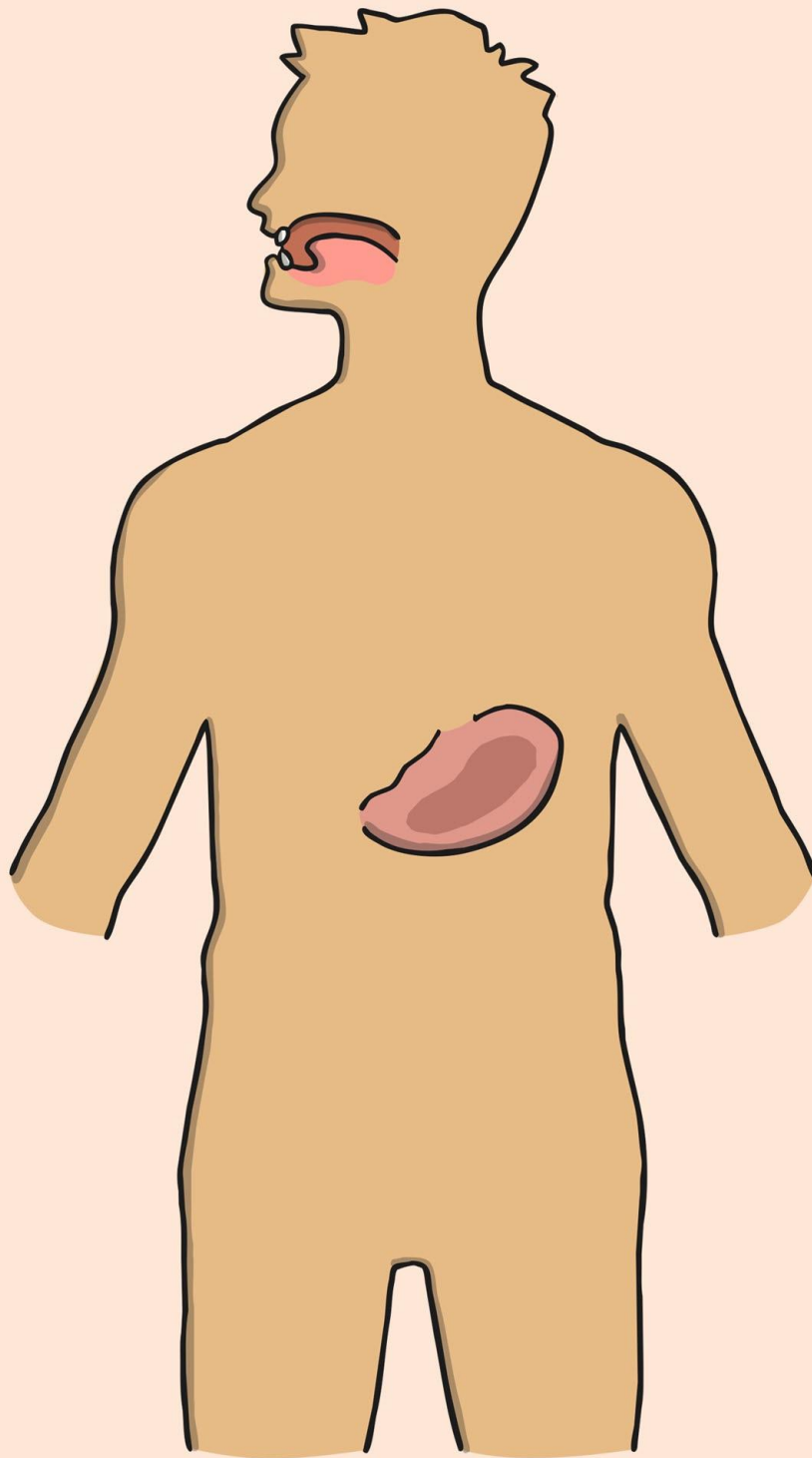
tongue



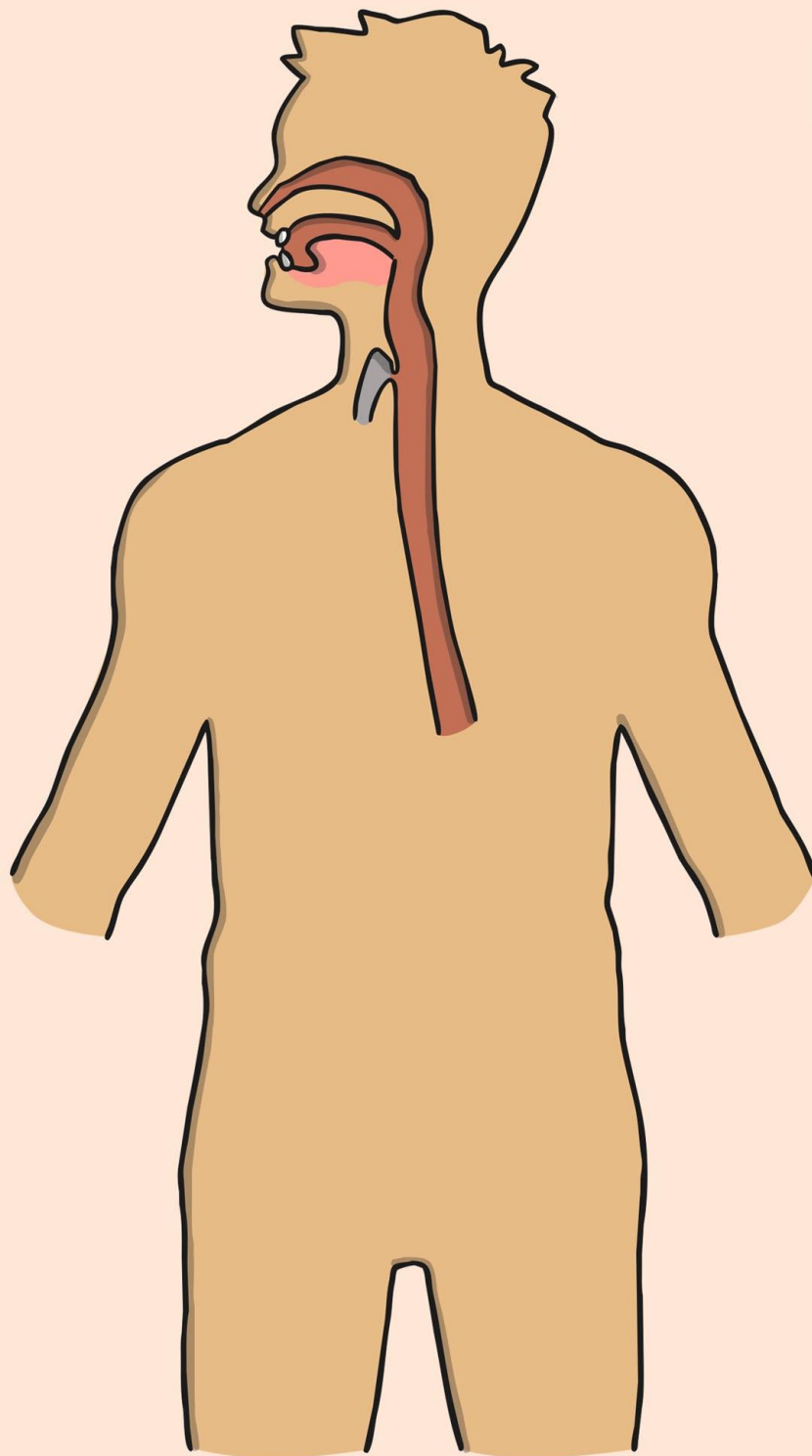
teeth



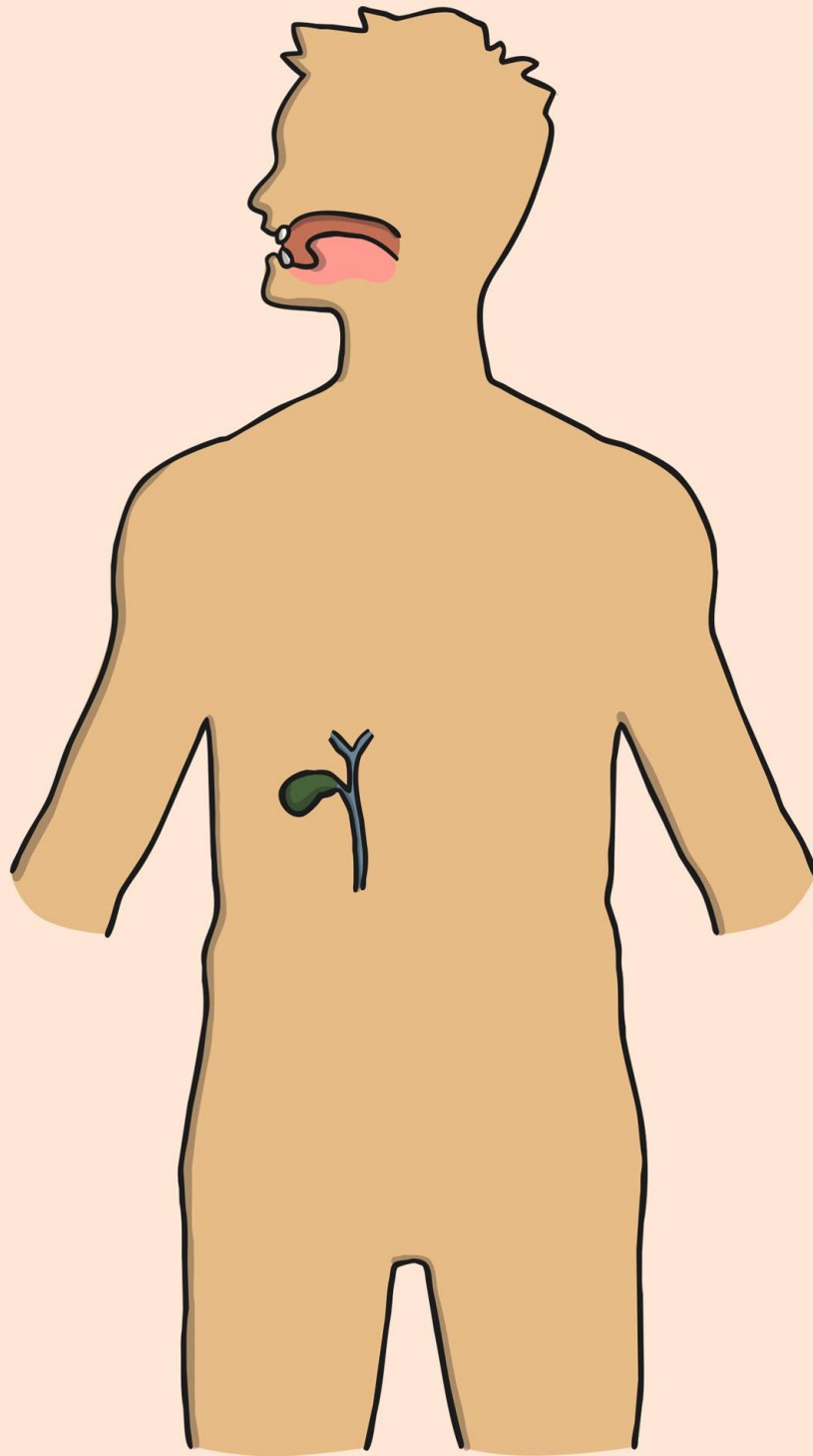
stomach



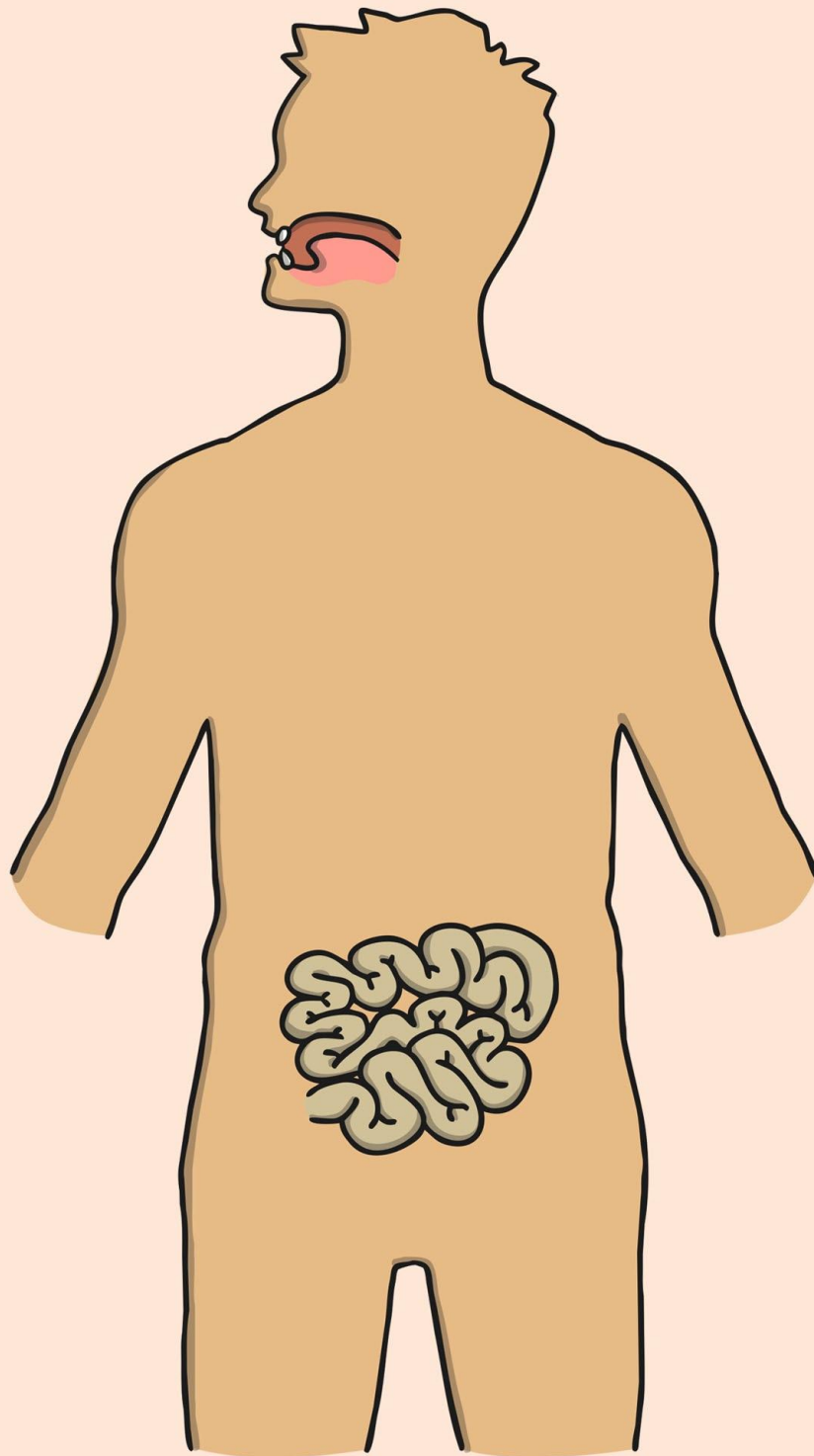
oesophagus



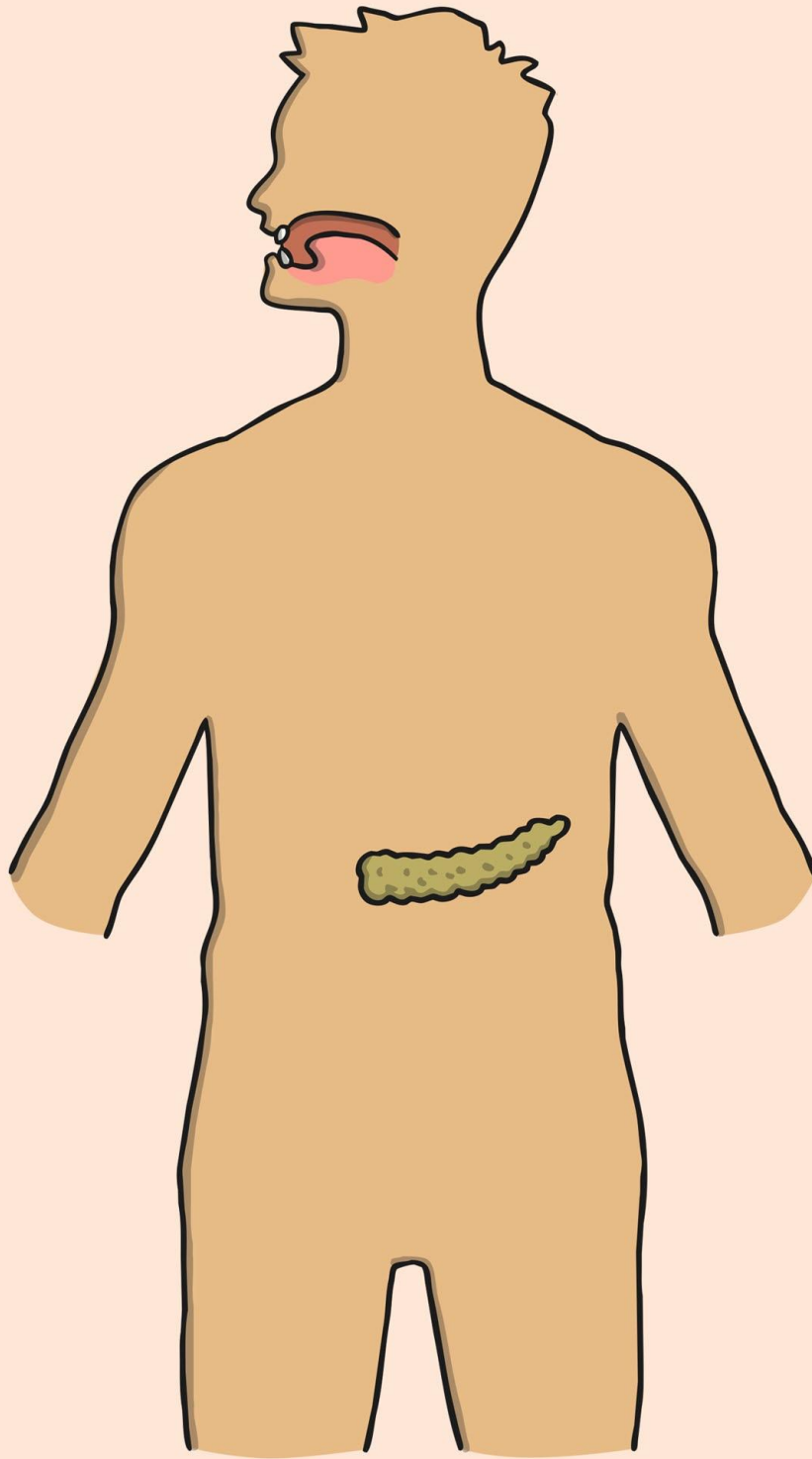
gallbladder



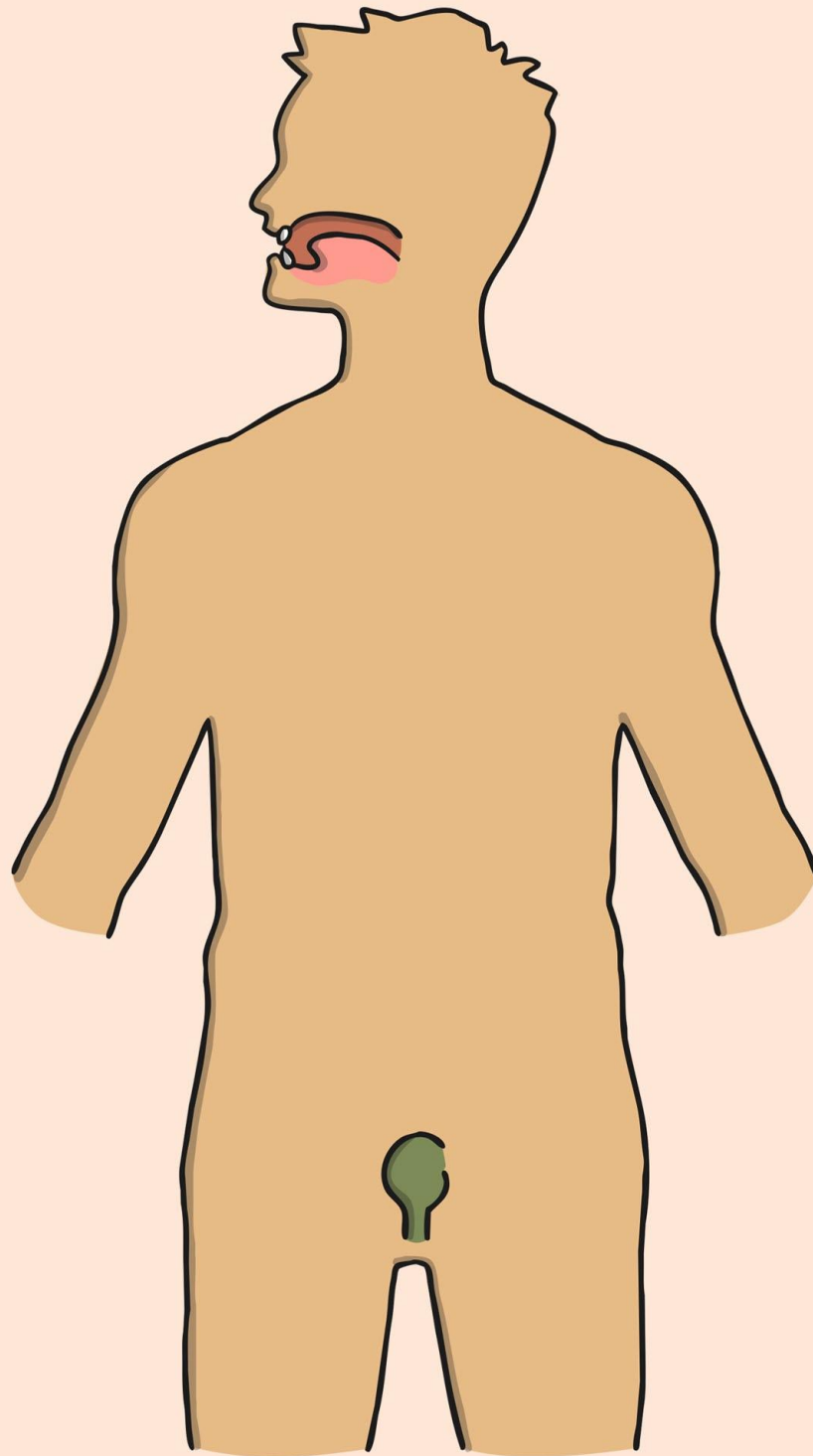
small intestine



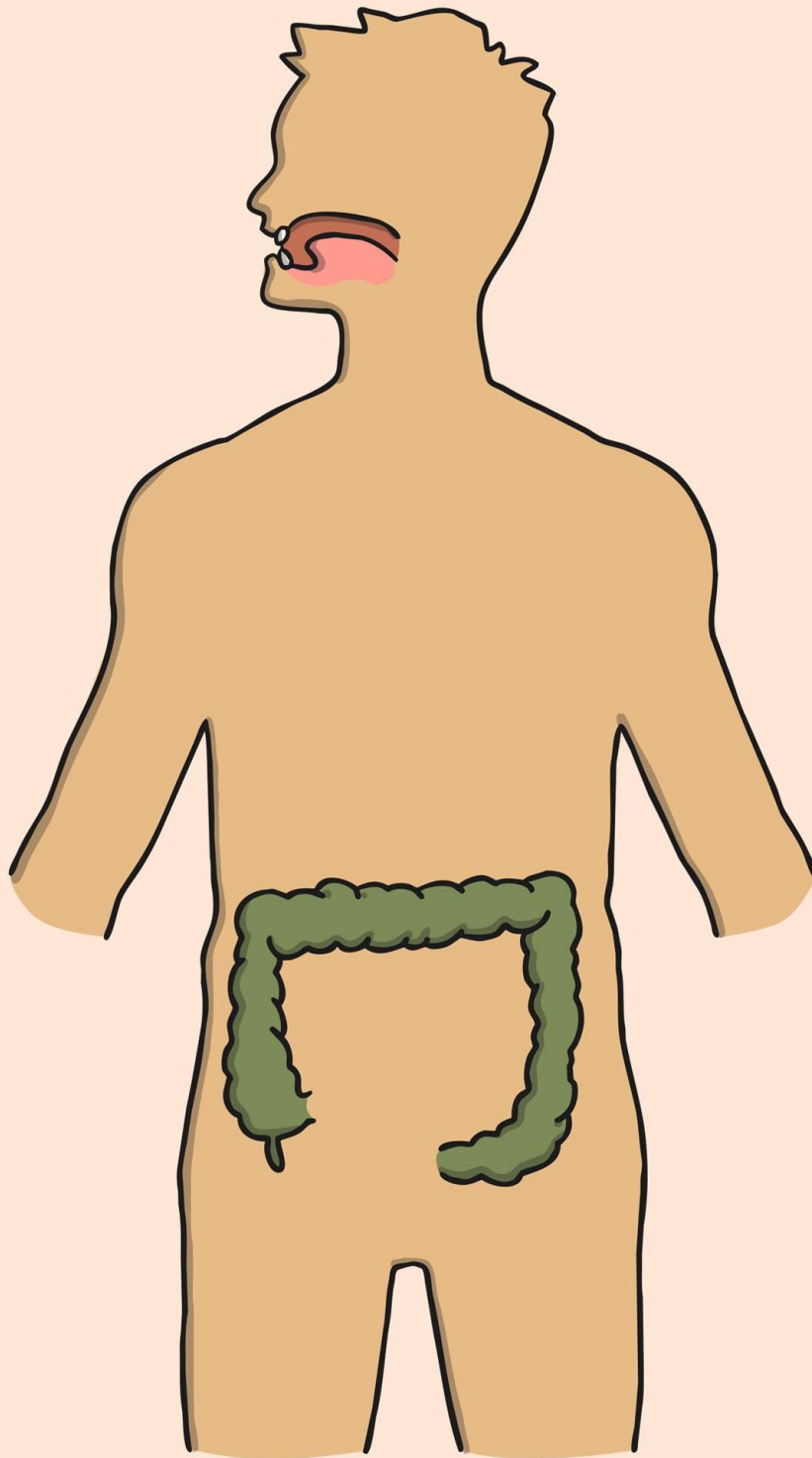
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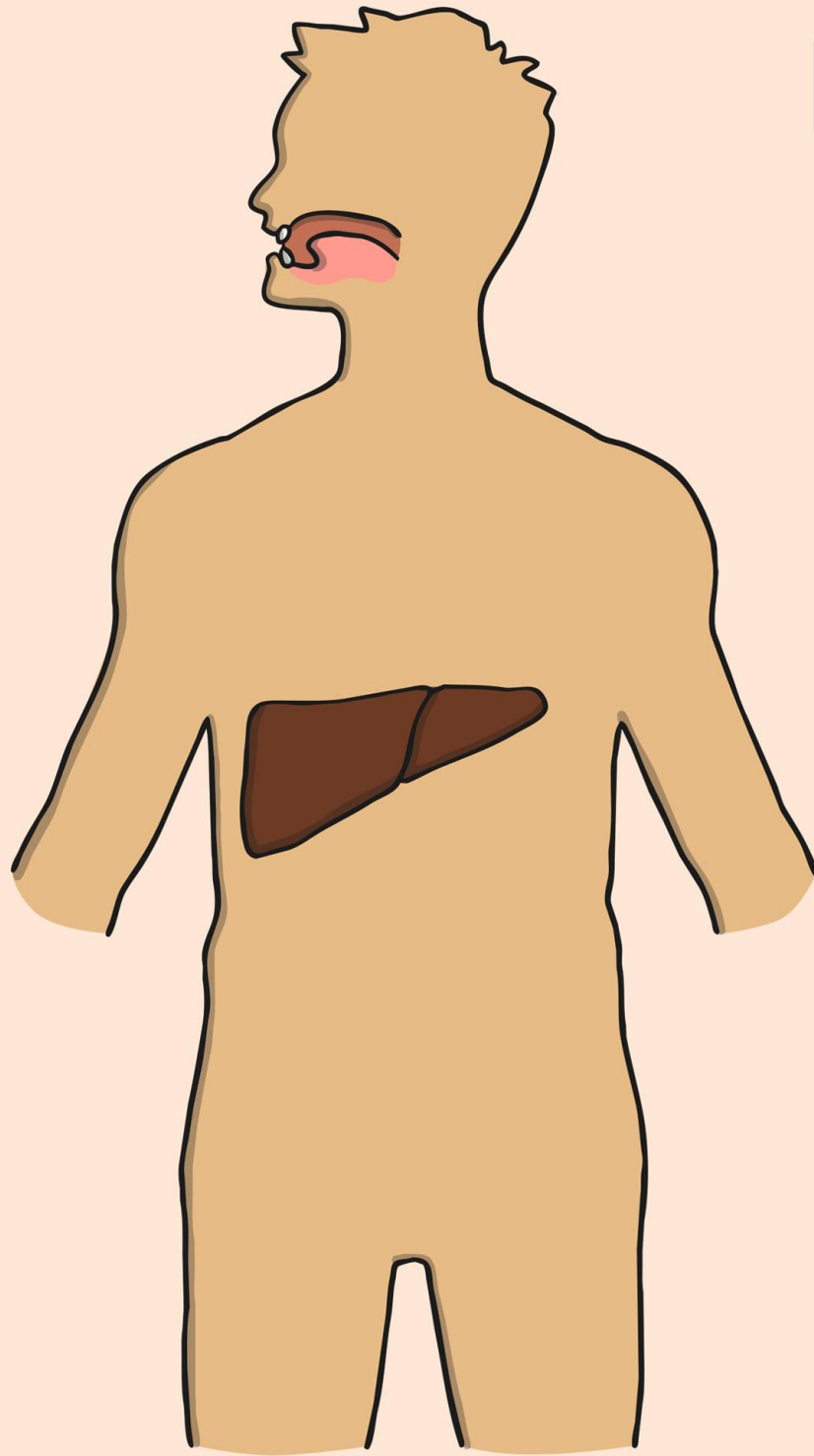
rectum and anus



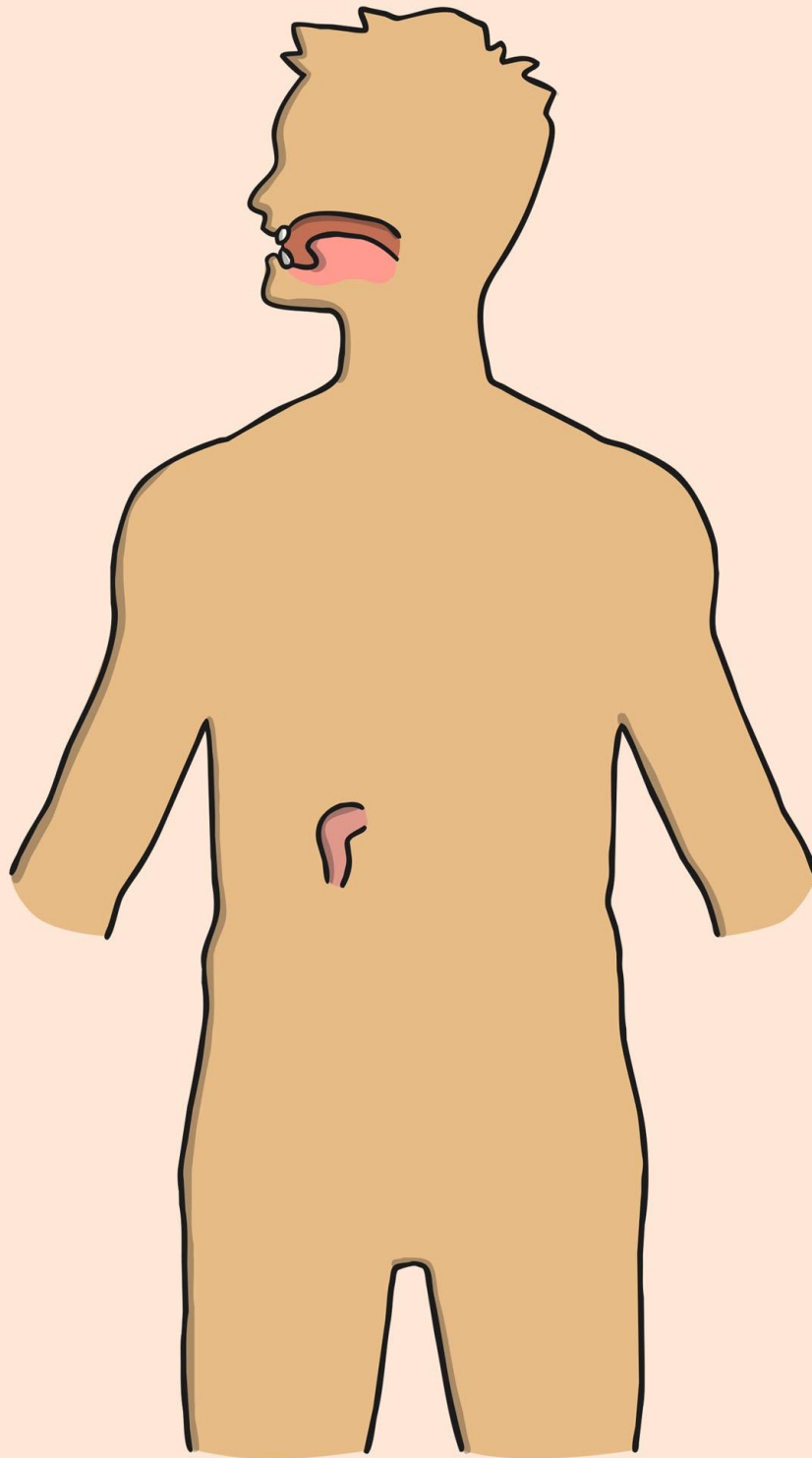
large intestine



liver



duodenum



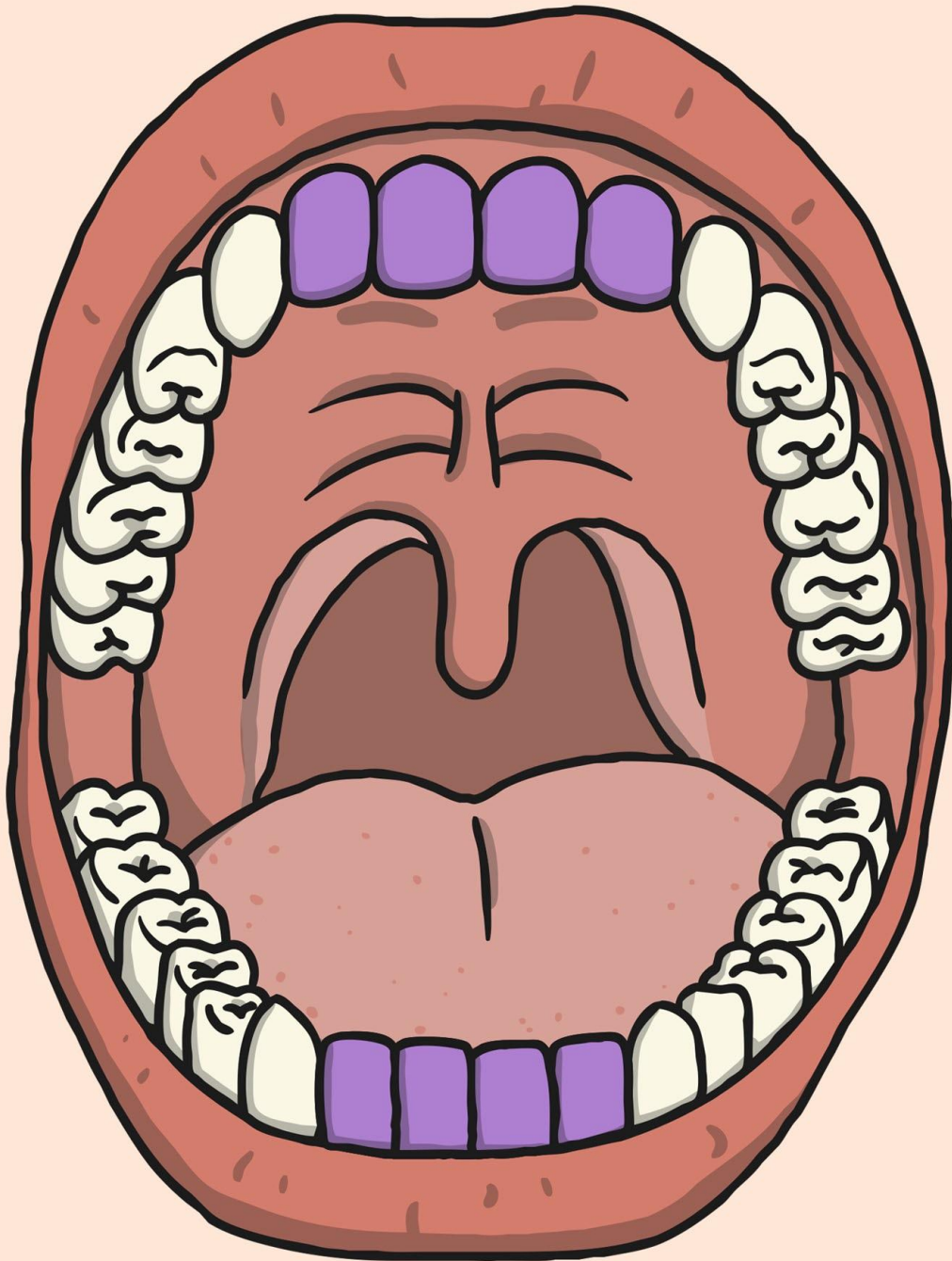
tooth



canine



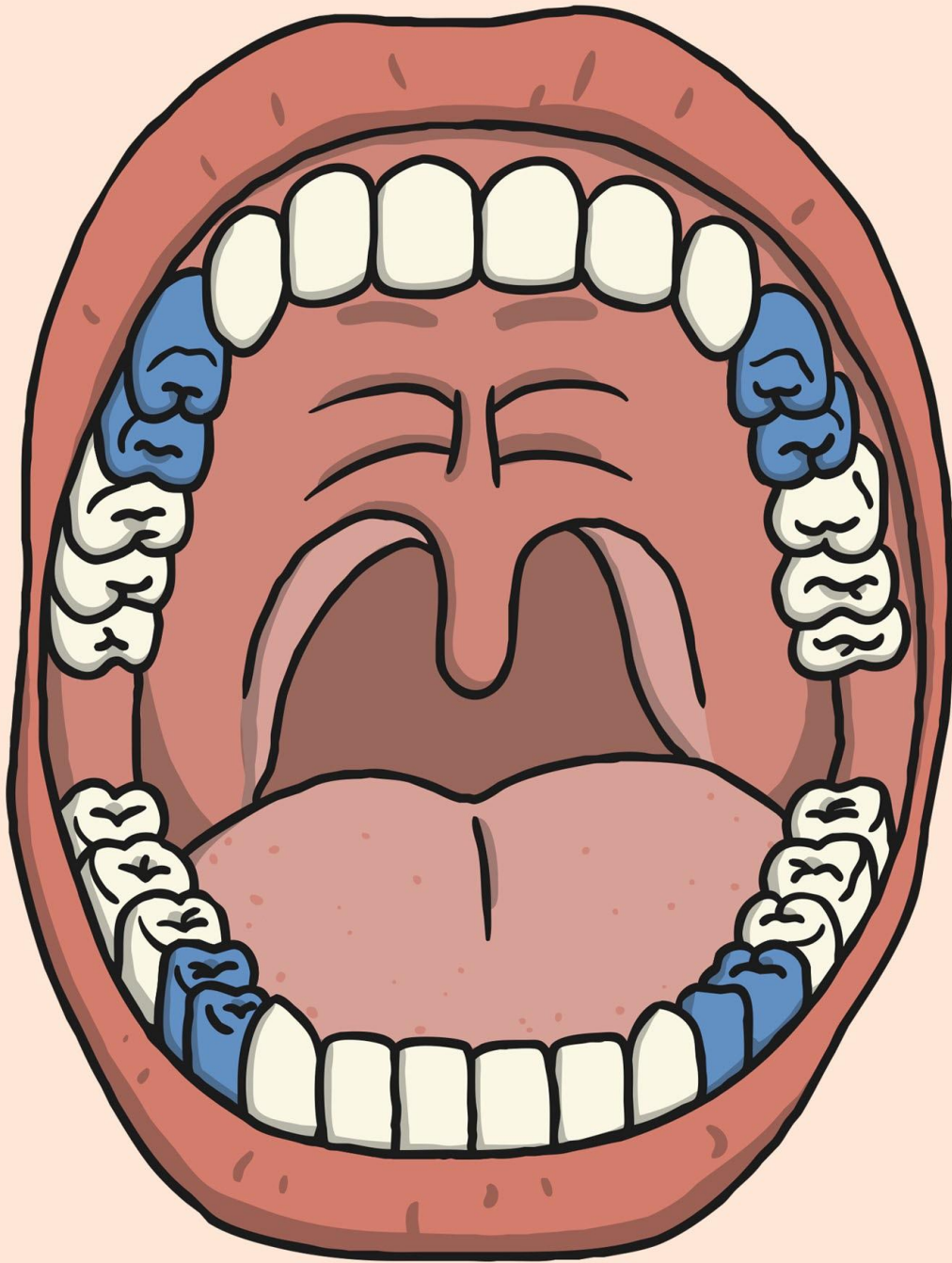
incisor



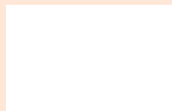
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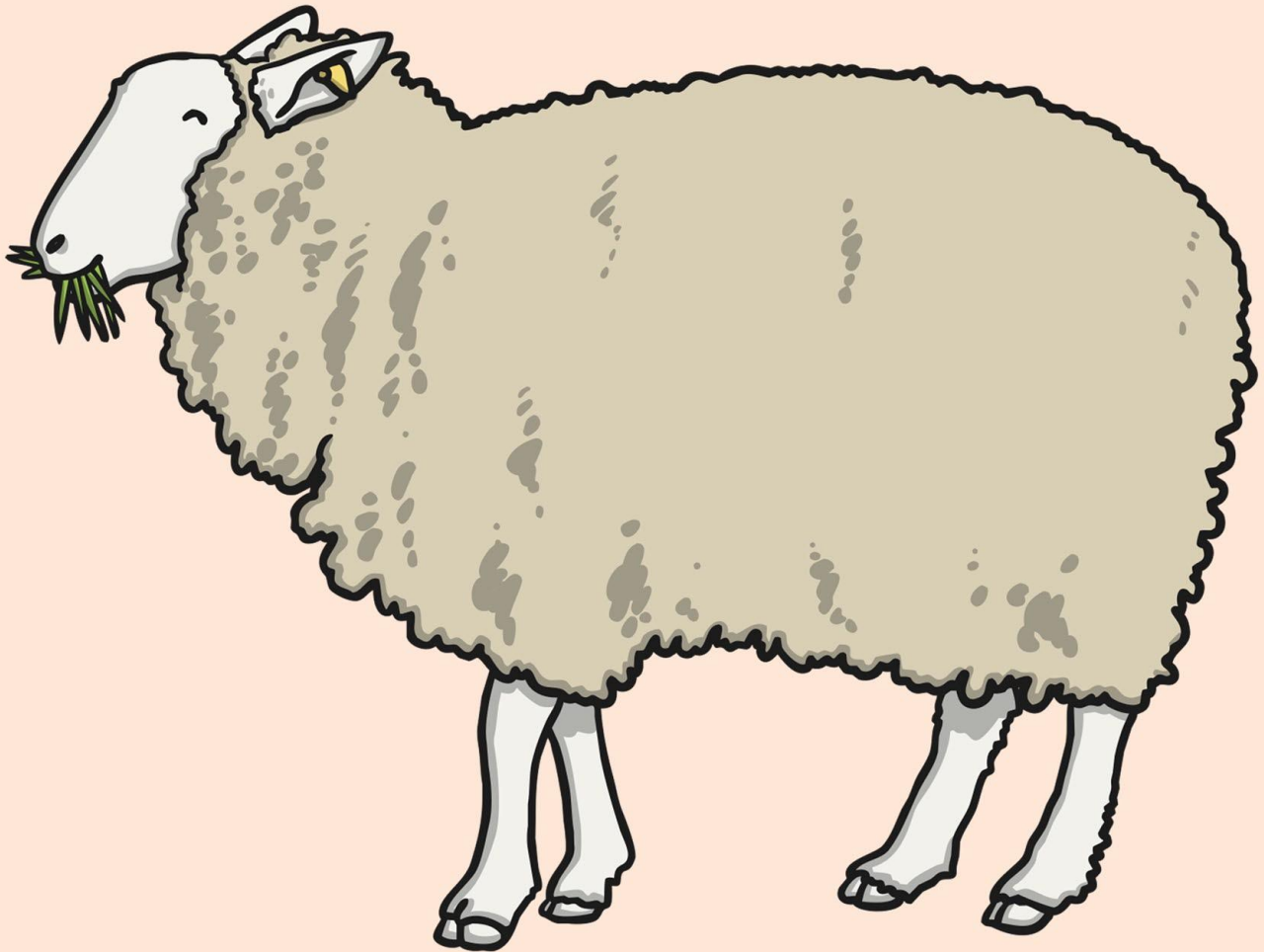
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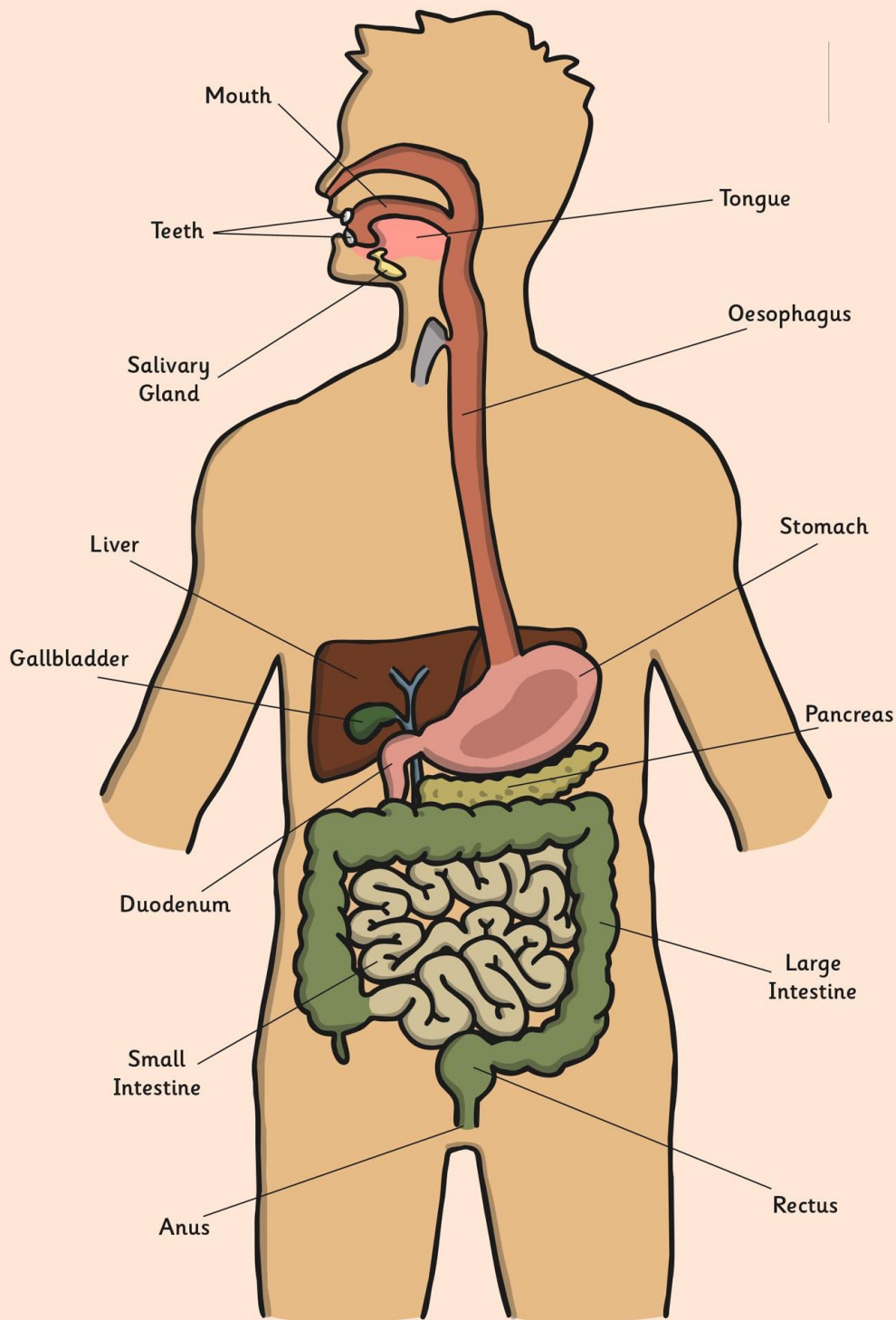
producer



consumer



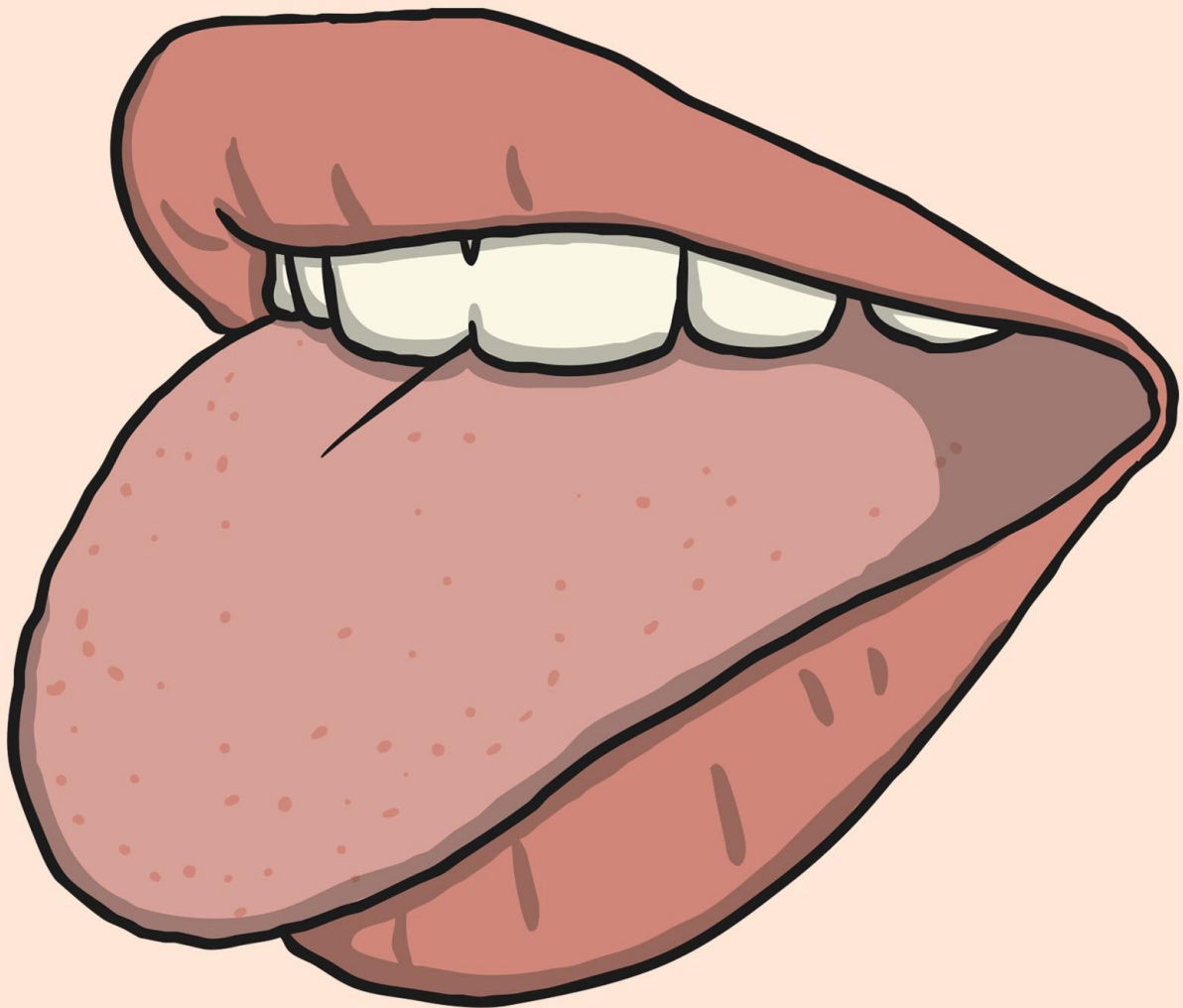
digestive system



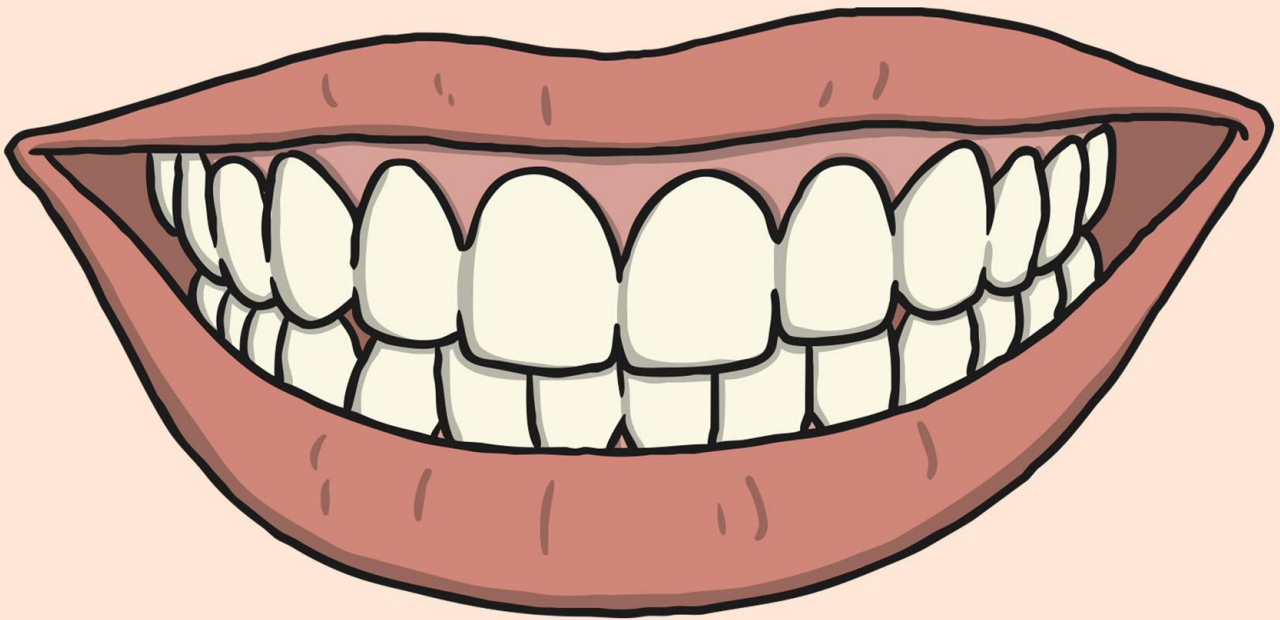
mouth



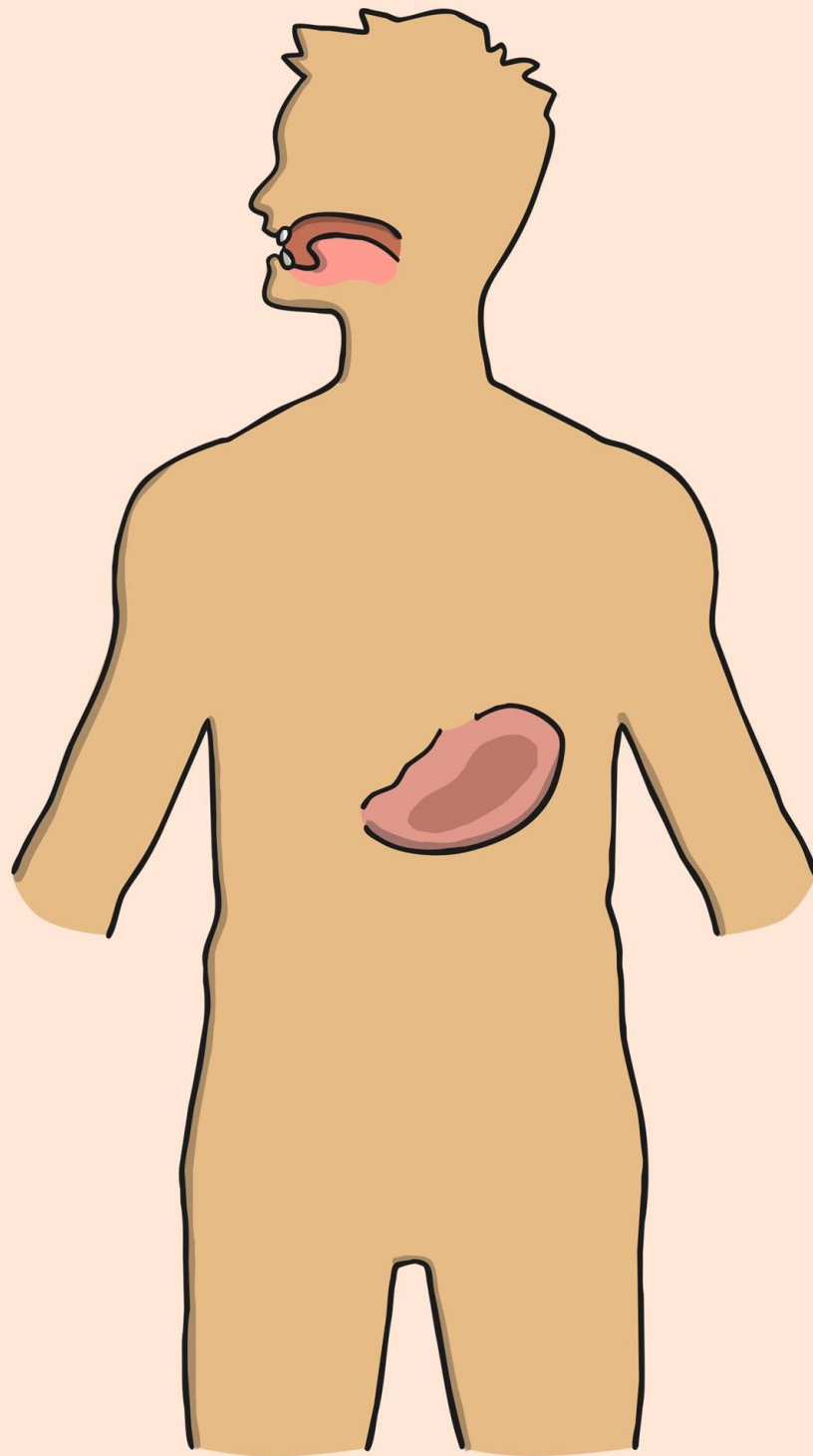
tongue



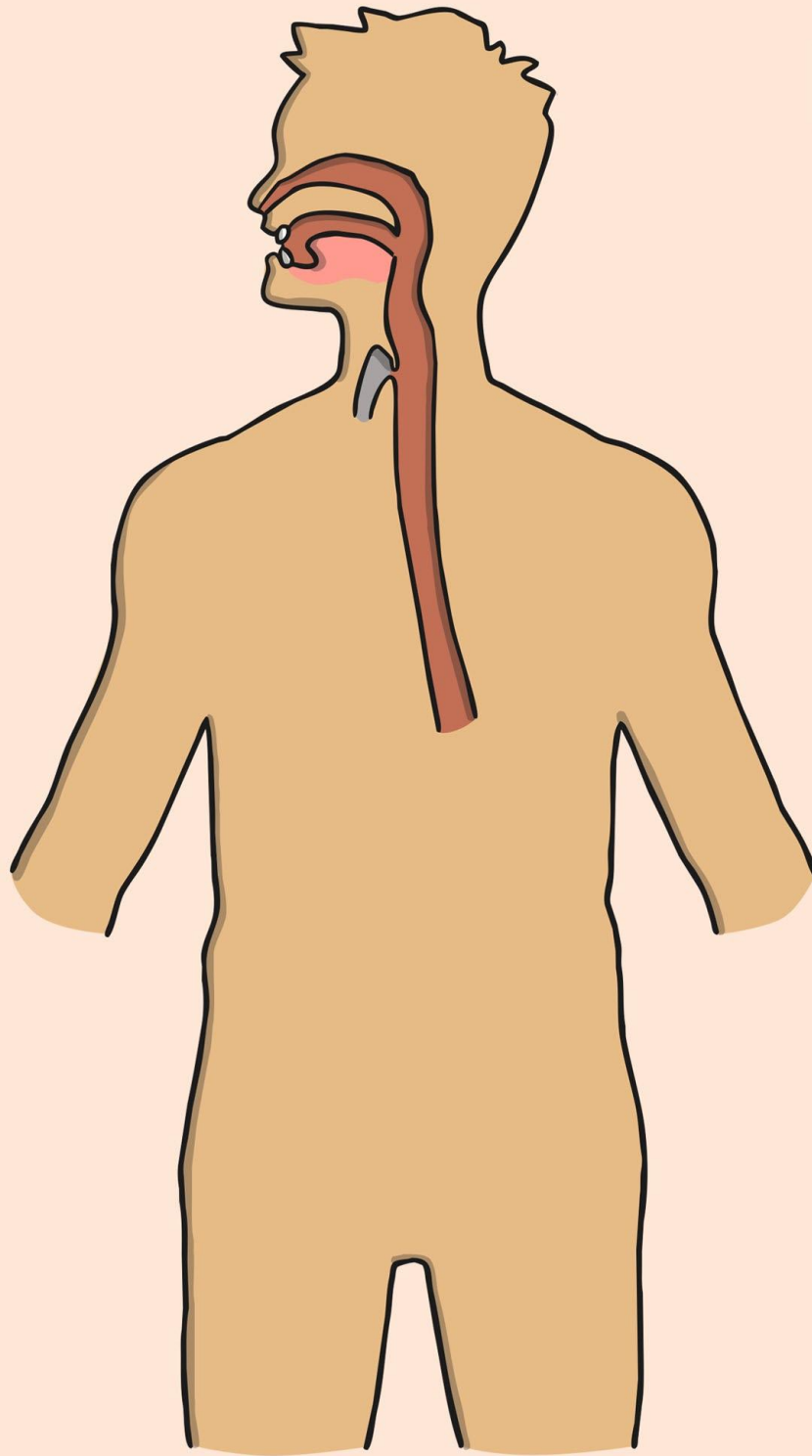
teeth



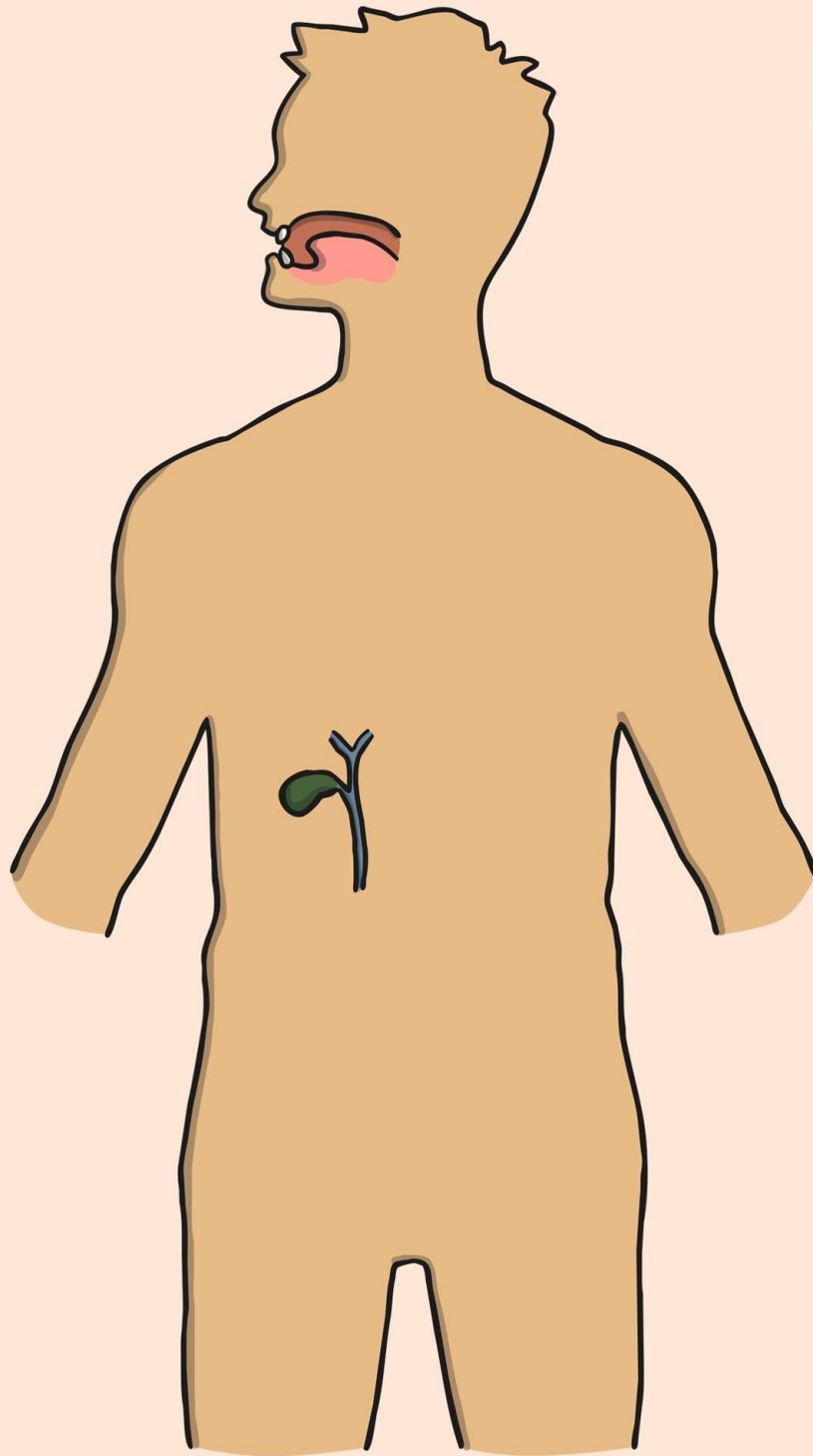
stomach



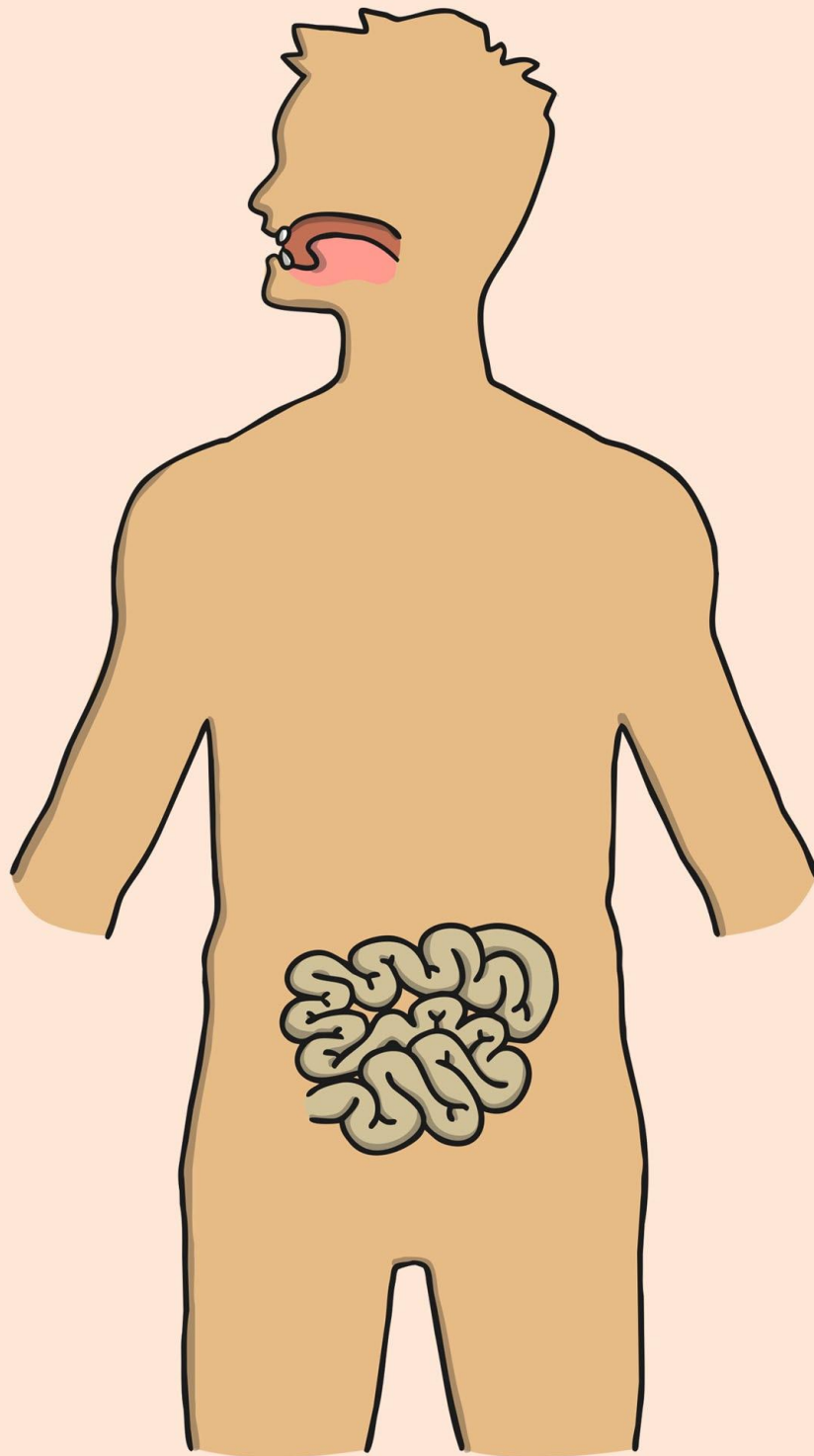
oesophagus



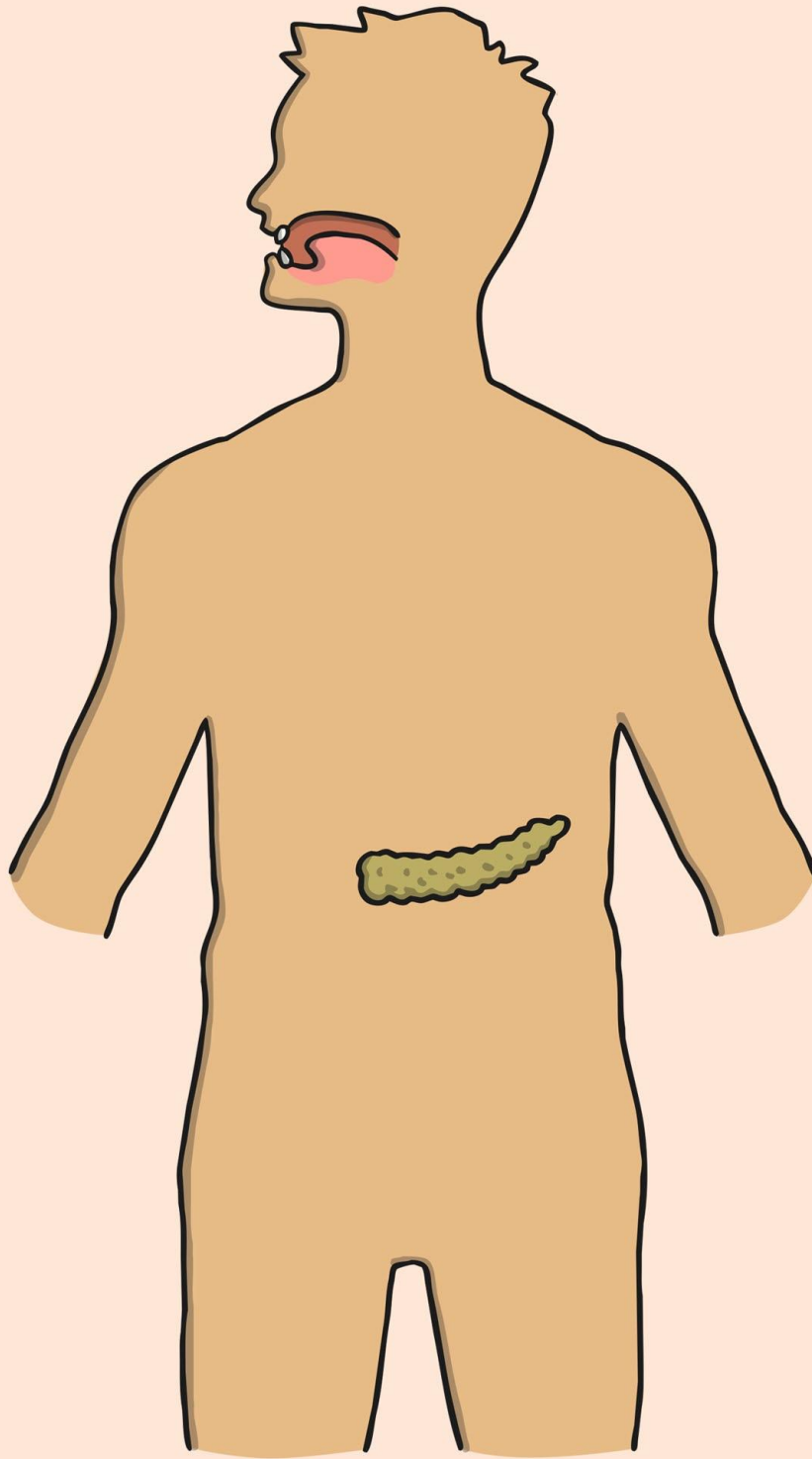
gallbladder



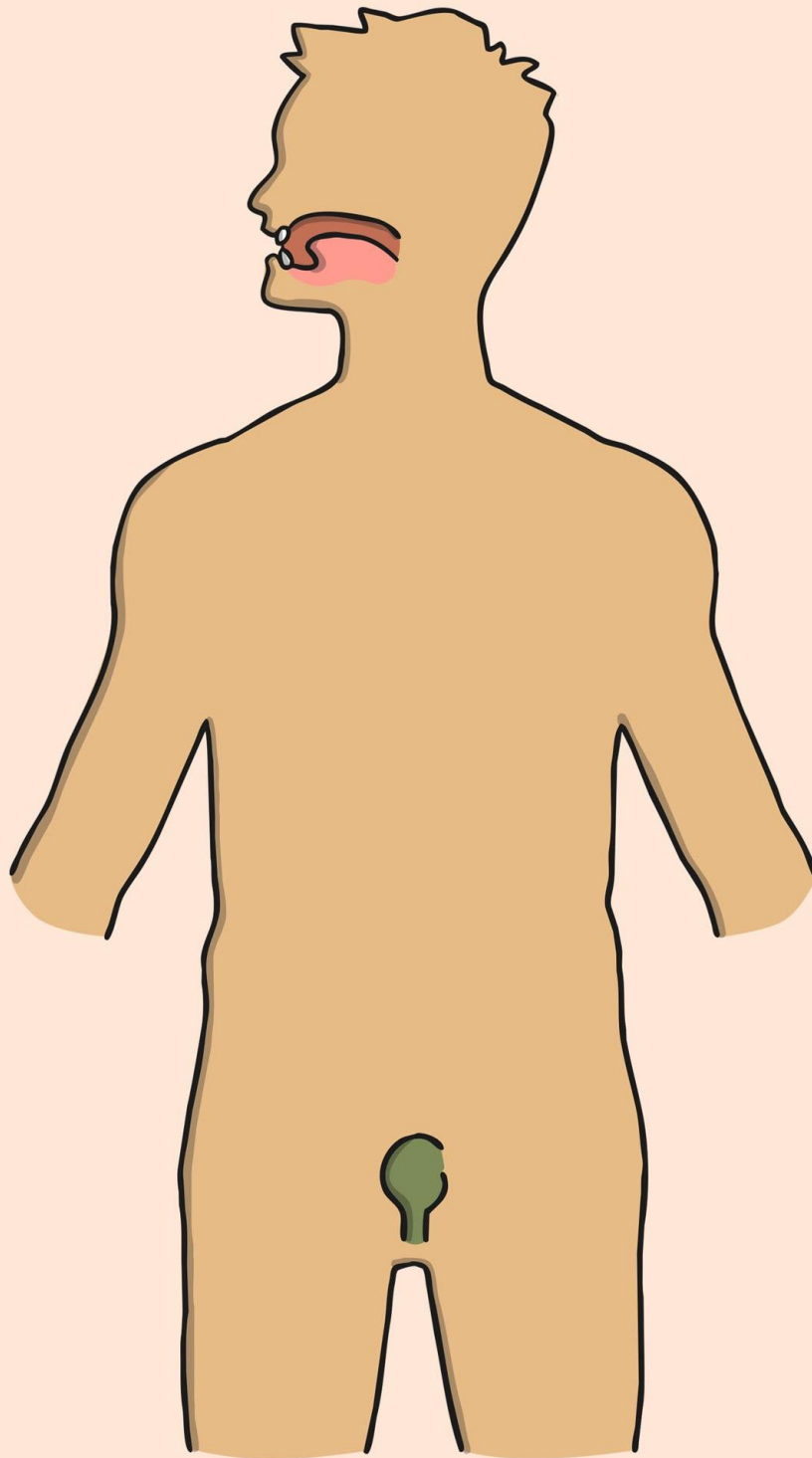
small intestine



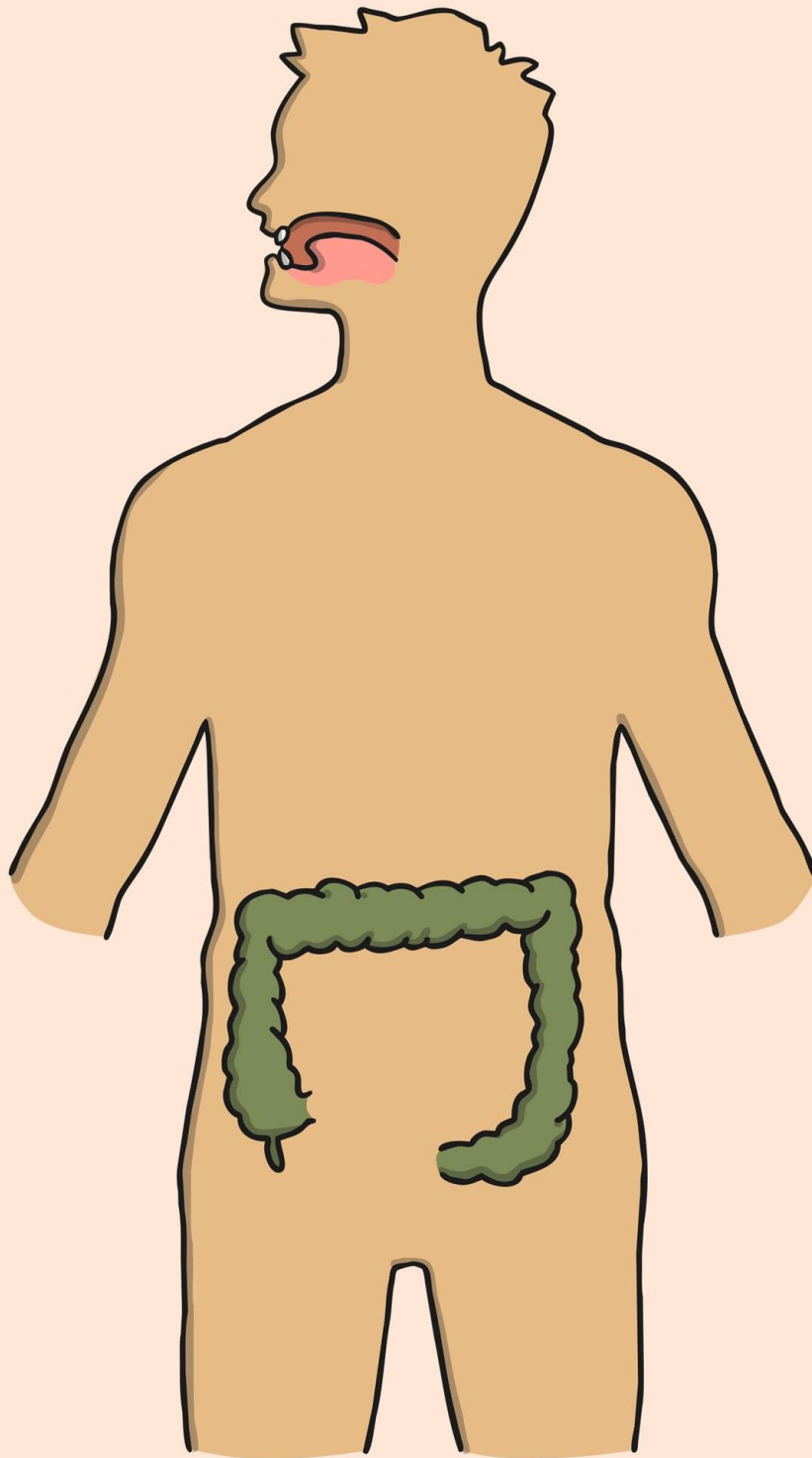
pancreas



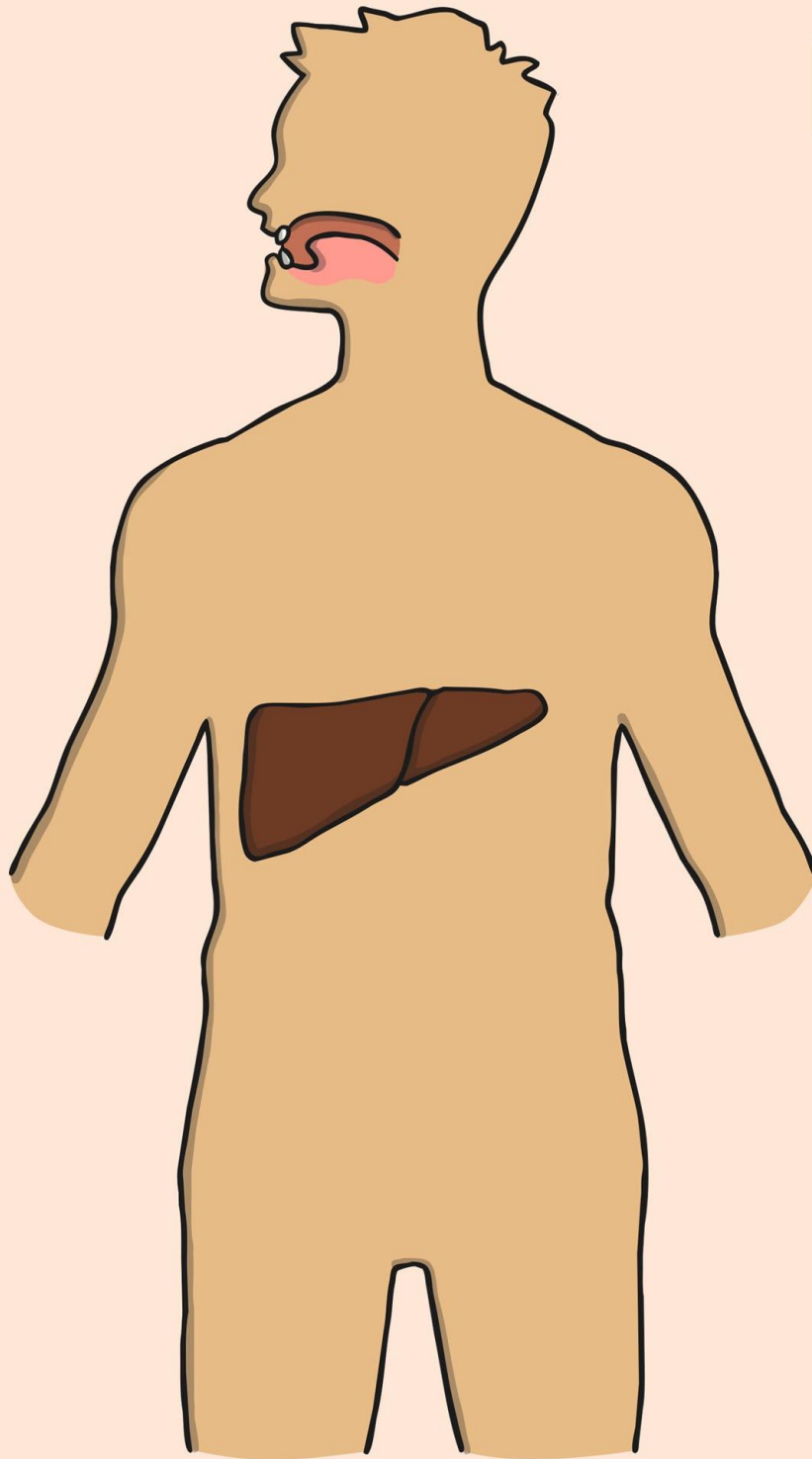
rectum and anus



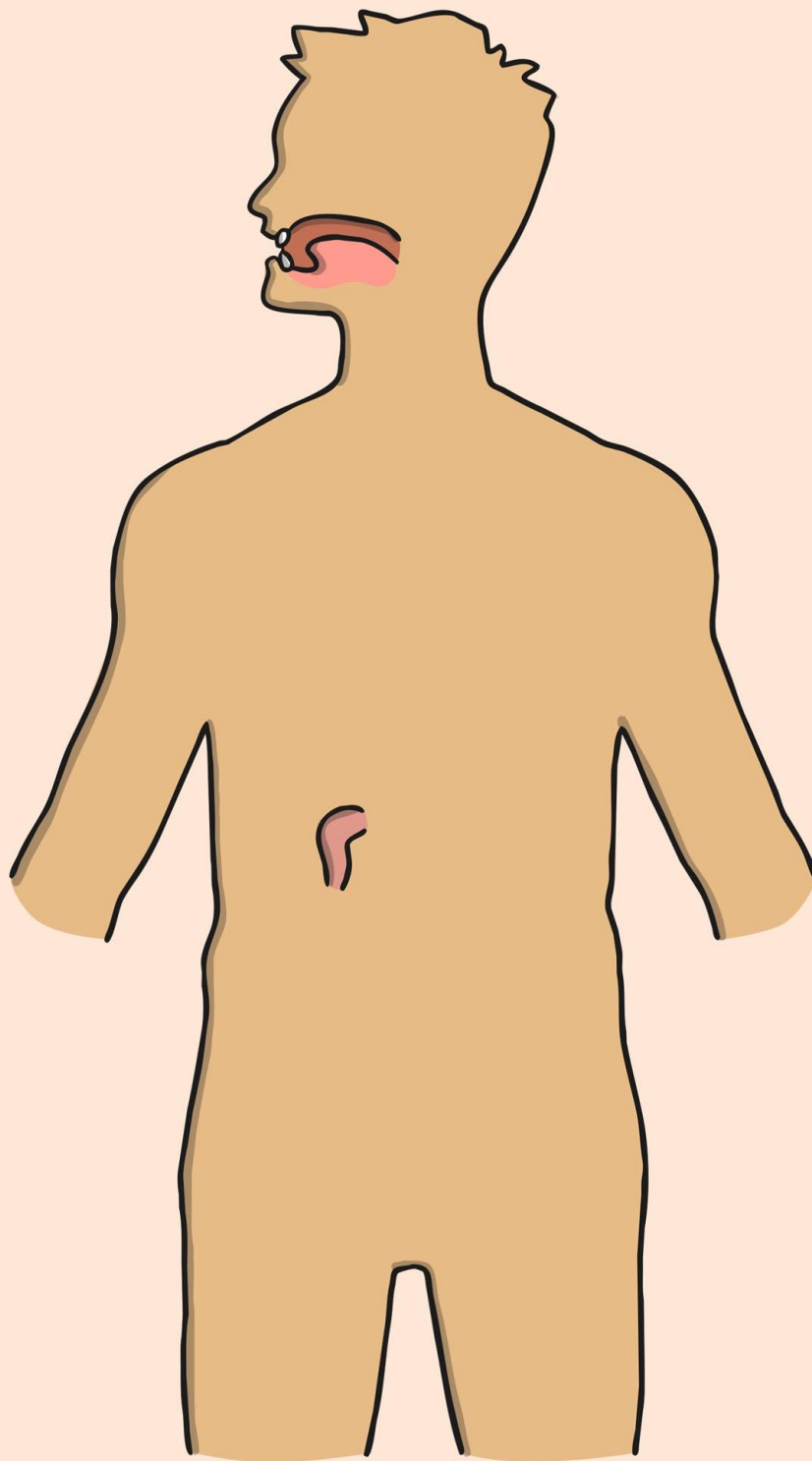
large intestine



liver



duodenum



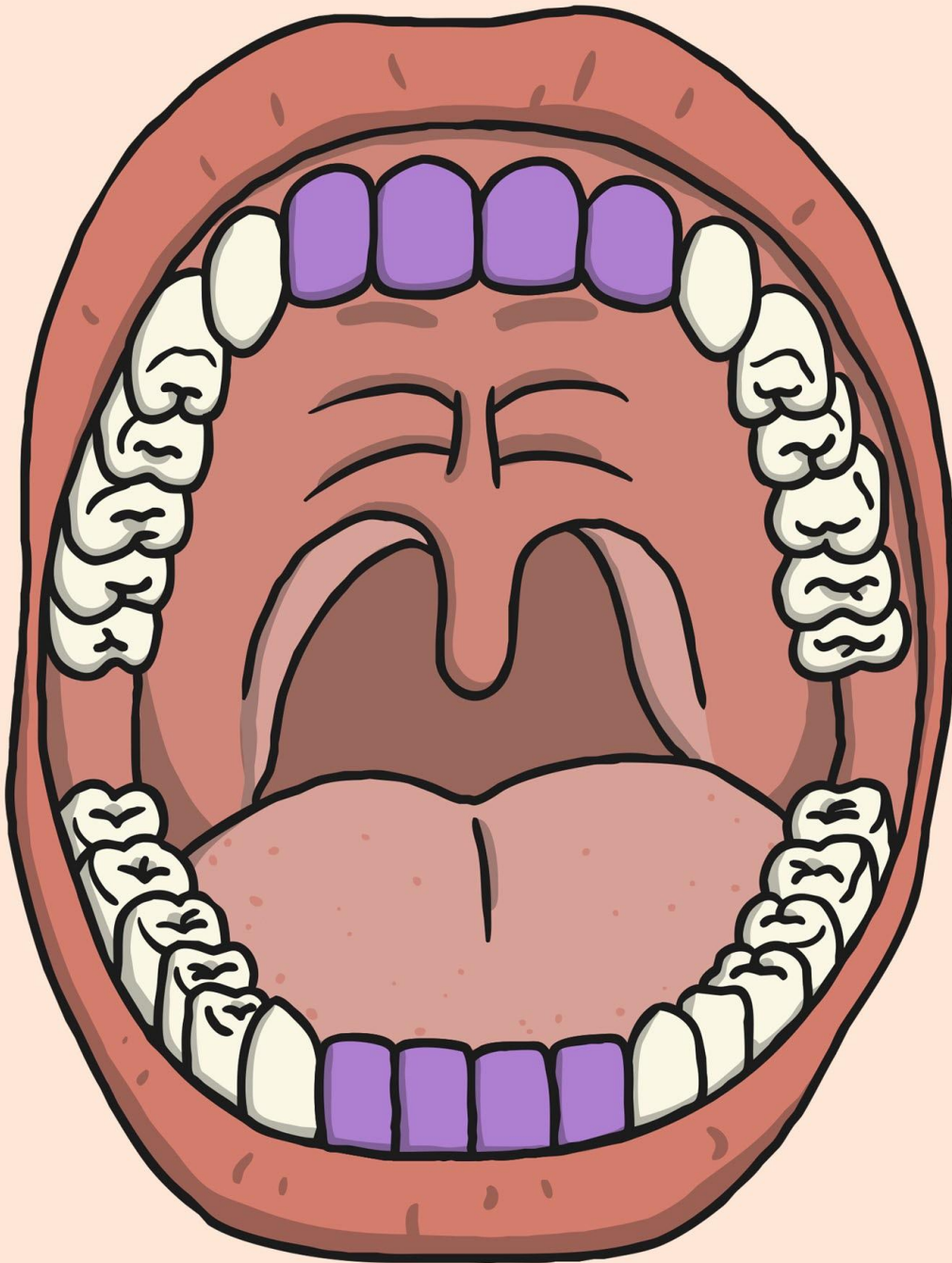
tooth



canine



incisor



molar



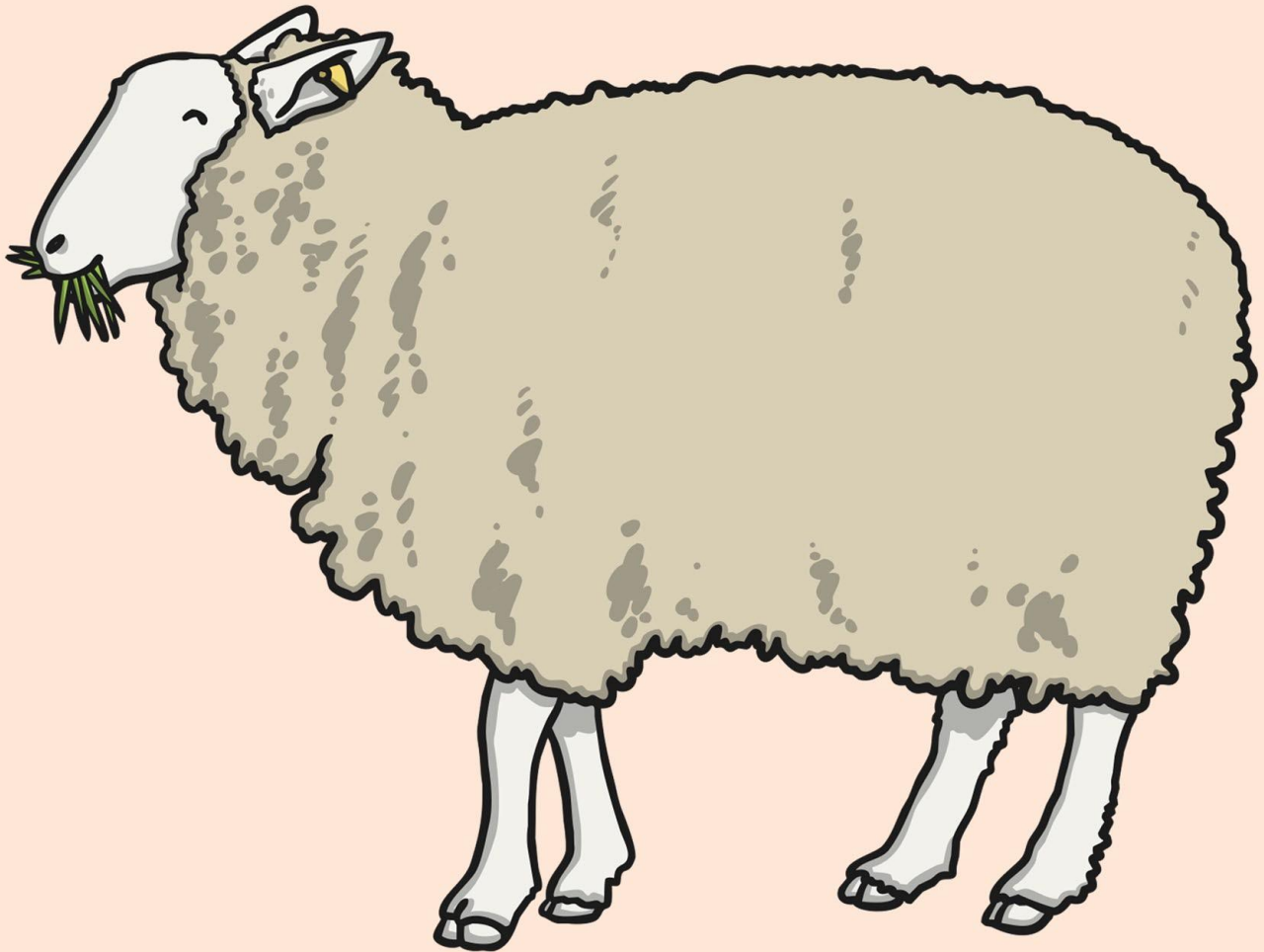
premolar



producer



consumer





**Animals
Including
Humans**

Fact Cards



**Animals
Including
Humans**

Fact Cards



**Animals
Including
Humans**

Fact Cards



**Animals
Including
Humans**

Fact Cards



Insert fact here

Insert fact here

Insert fact here

Insert fact here

Insert fact here

Insert fact here

Insert fact here

Insert fact here



**Animals
Including
Humans**

Fact Cards



**Animals
Including
Humans**

Fact Cards



**Animals
Including
Humans**

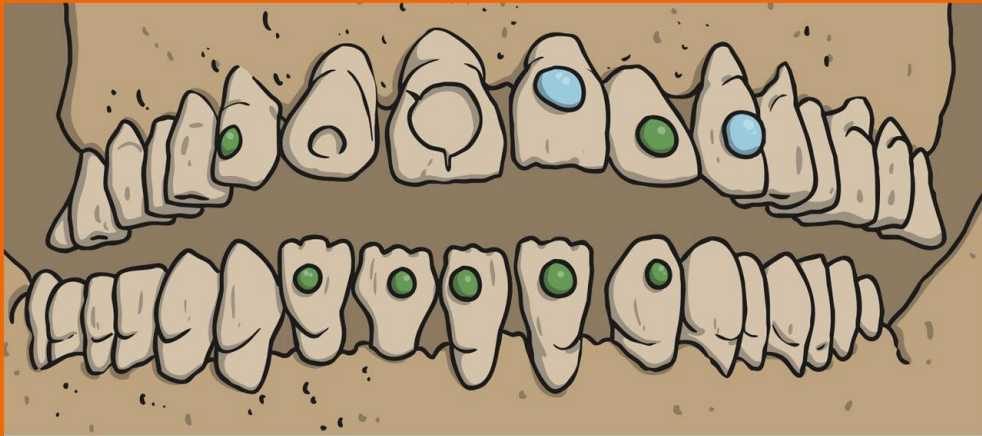
Fact Cards



**Animals
Including
Humans**

Fact Cards





Did you know? Ancient Mayans had jewelled teeth! They had skilled dentists who were able to create holes where jewels and precious stones were placed.

In Spain they do not have the tooth fairy. Instead, 'Ratoncito Perez' (Perez the mouse) collects the teeth of young children.

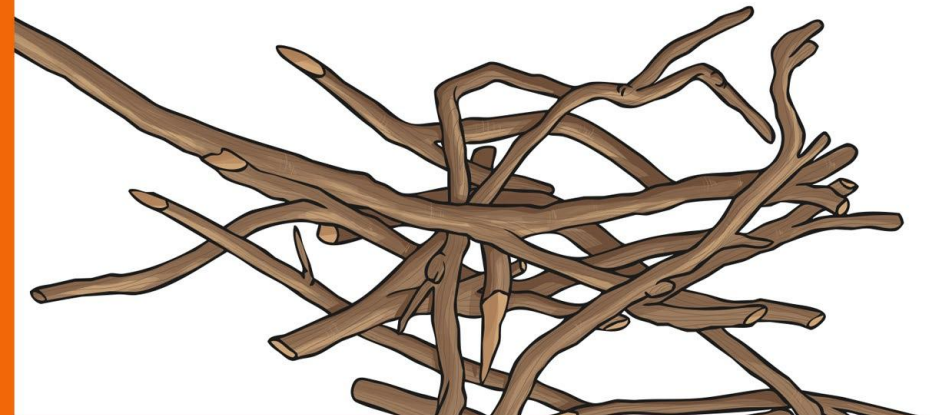


Open your mouth and say 'argh'!



Before dentists existed it was blacksmiths and barbers who would perform dentistry work!

Evidence suggests that humans as long ago as ancient Egyptian times brushed their teeth. However the toothbrushes were made from twigs.

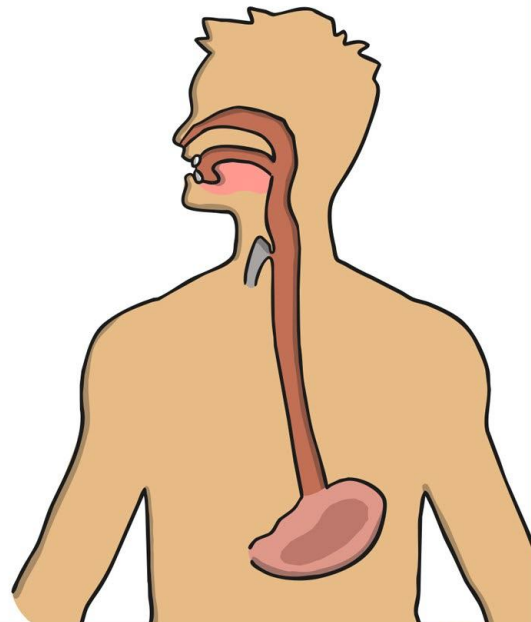


Human beings don't have predators! We do not smell like food to other animals and the only reason why sometimes humans have been eaten is because the animal was desperate and starving.

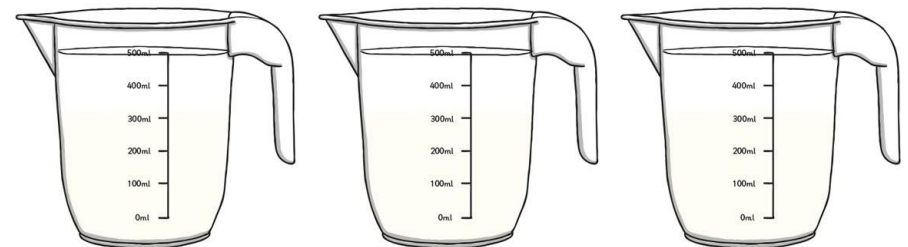


Food chains are just a way of transferring energy from one source to another! The Sun transfers it to the plants, plants to animals, animals to each other. When animals and plants die, decomposers break them down so that the nutrients are put back in the soil where the plants use it to help them grow.

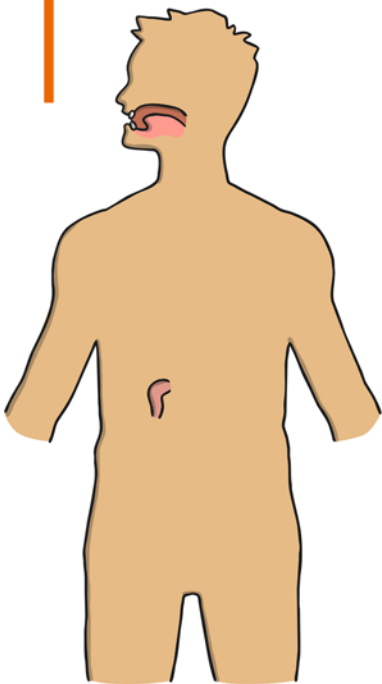
It takes 7 seconds for food to travel from the oesophagus to the stomach!



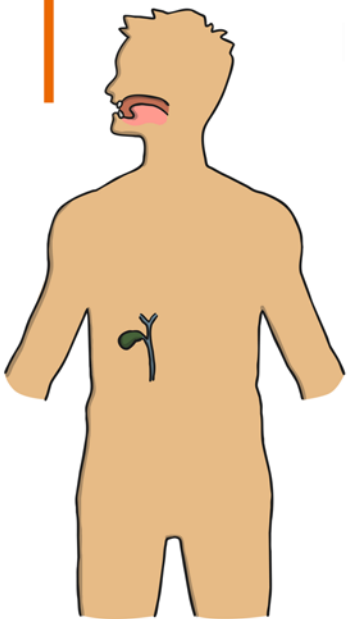
Salivary glands in the human mouth produce 1.5 litres of saliva... every day!



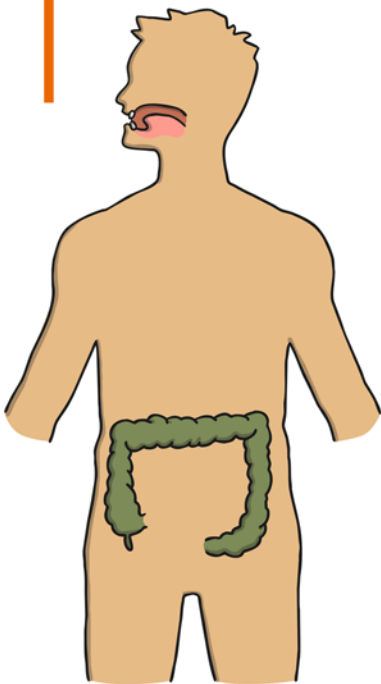
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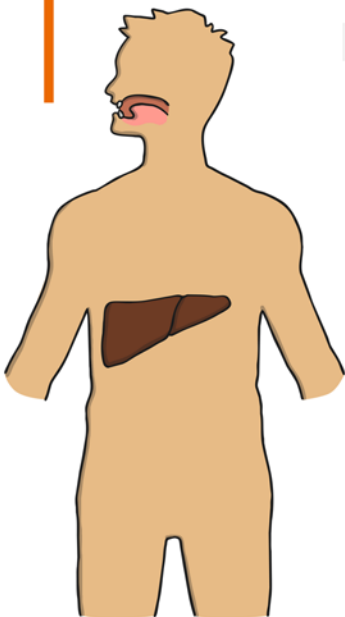
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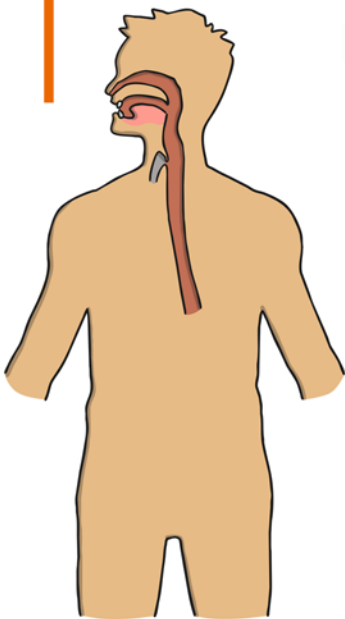
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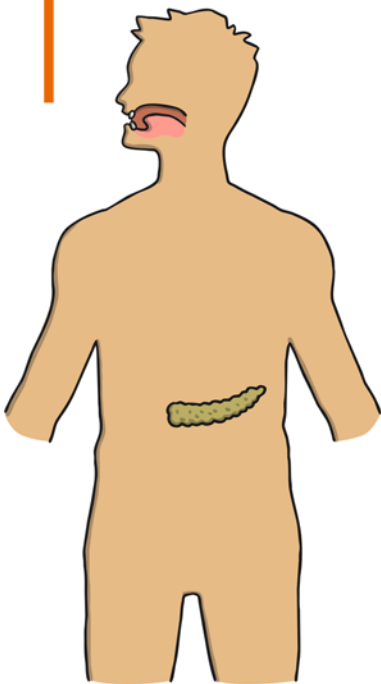
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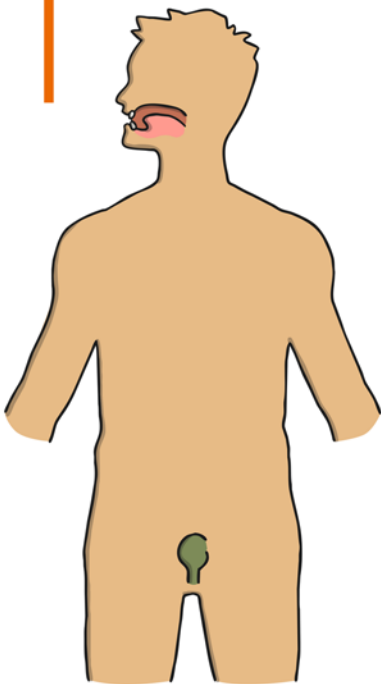
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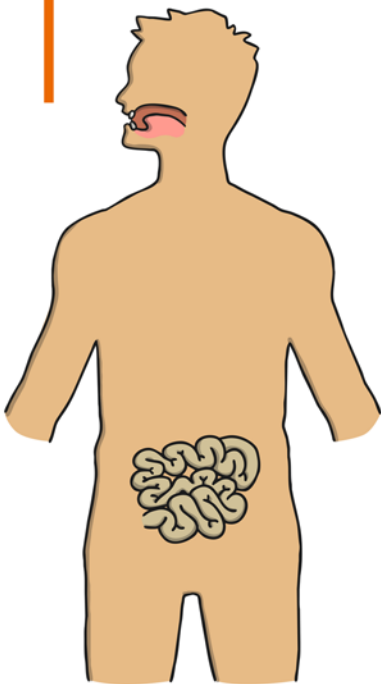
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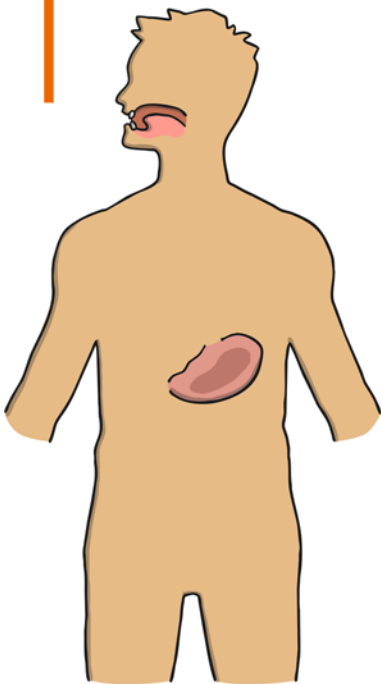
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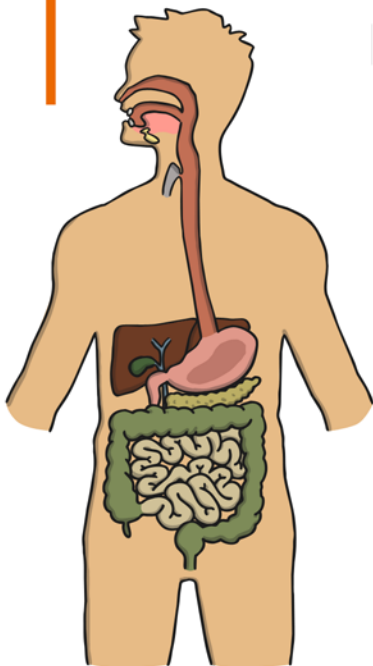
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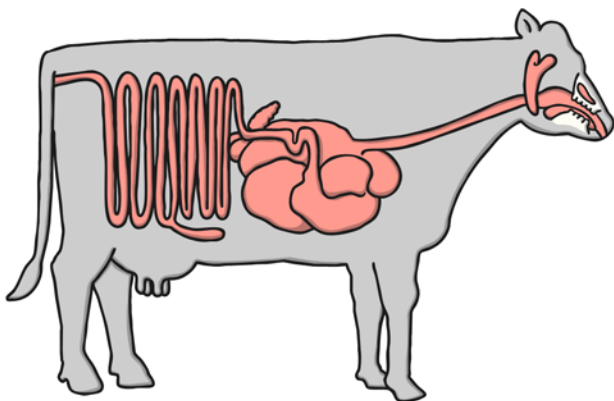
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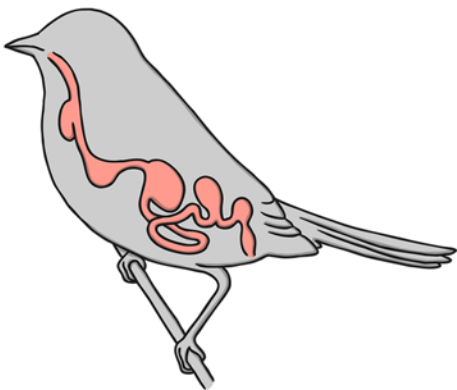
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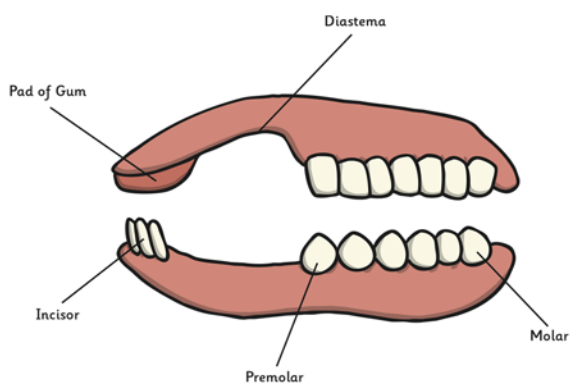
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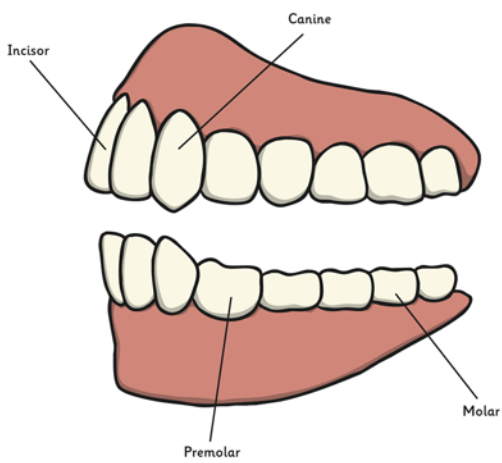
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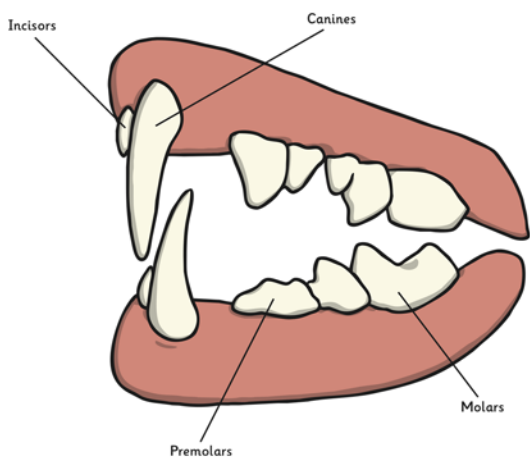
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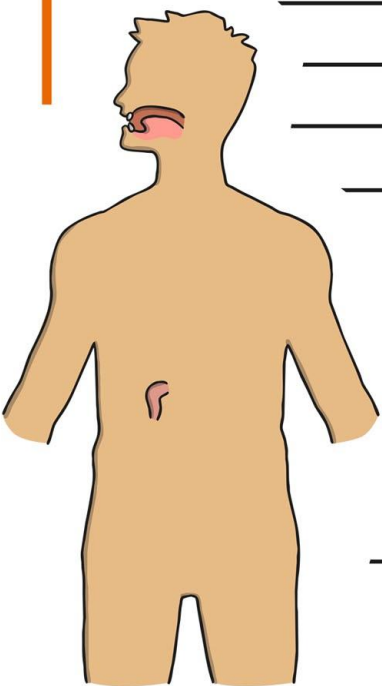


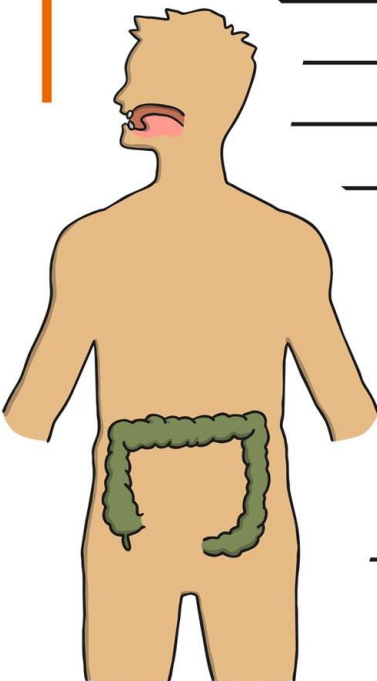
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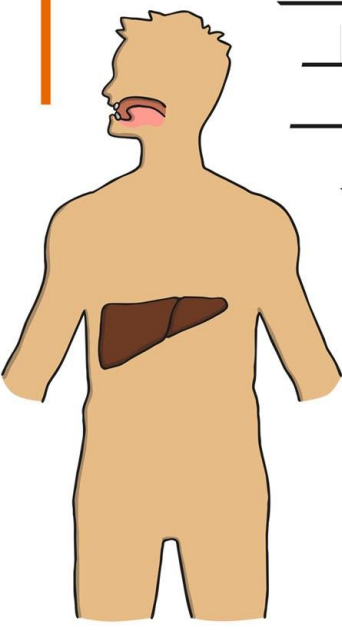


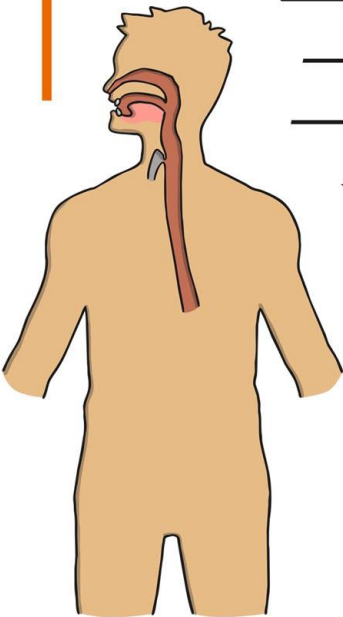
Handwritten notes area with 18 horizontal lines.

Handwritten notes area with 8 horizontal lines, starting from the neck level of the human figure.



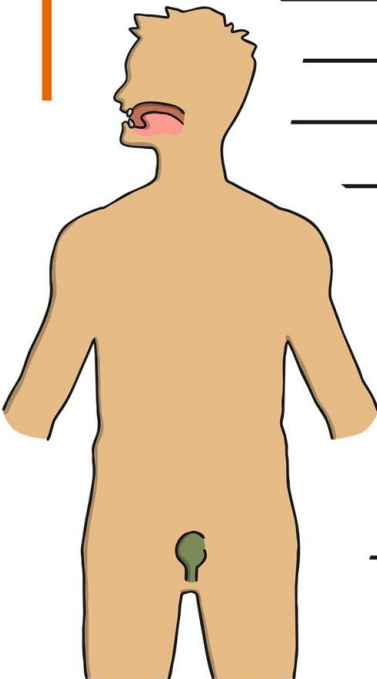




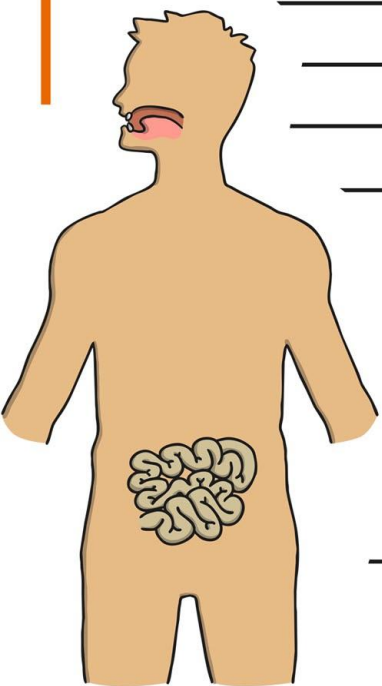


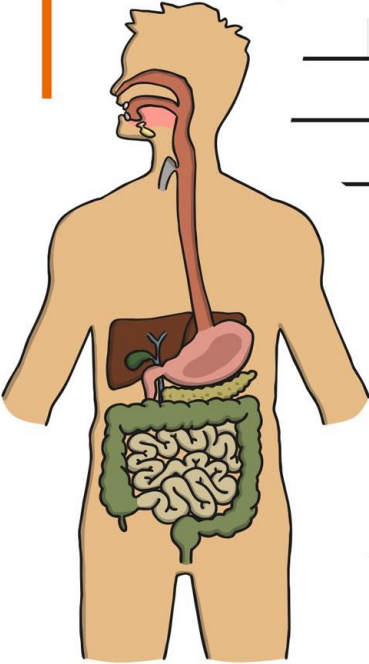
[Main body of the page containing horizontal lines for writing notes, enclosed in an orange border. There are 28 horizontal lines in total, with 25 lines in the upper section and 3 lines in the lower section, separated by the anatomical diagram.]

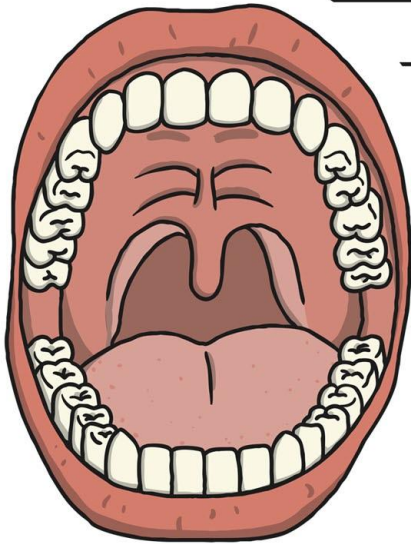
Lined writing area with 20 horizontal lines.

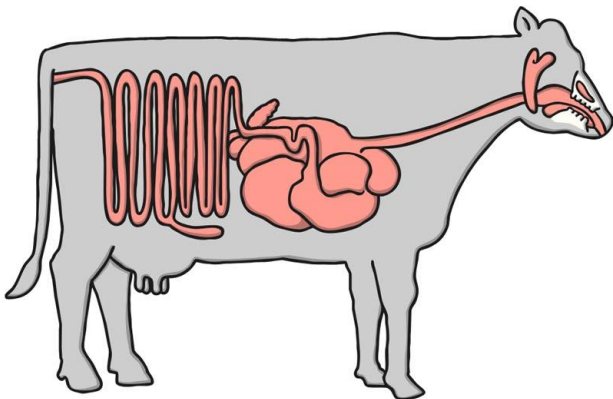


Lined writing area with 8 horizontal lines.

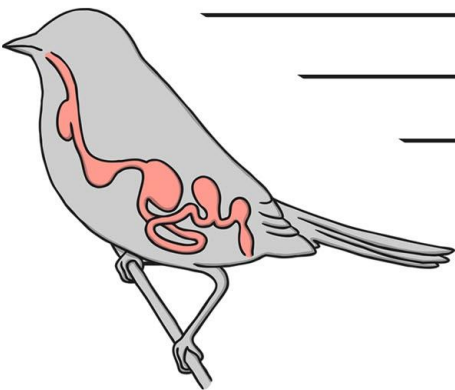






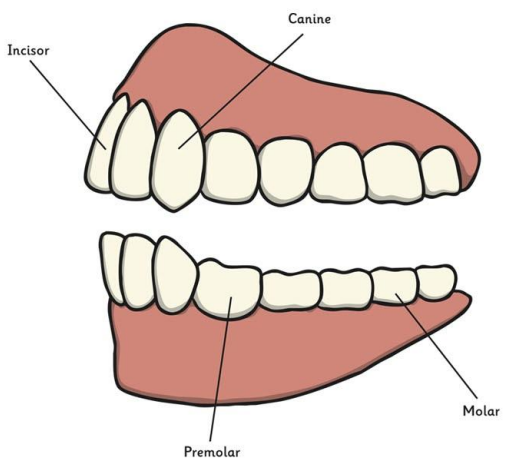


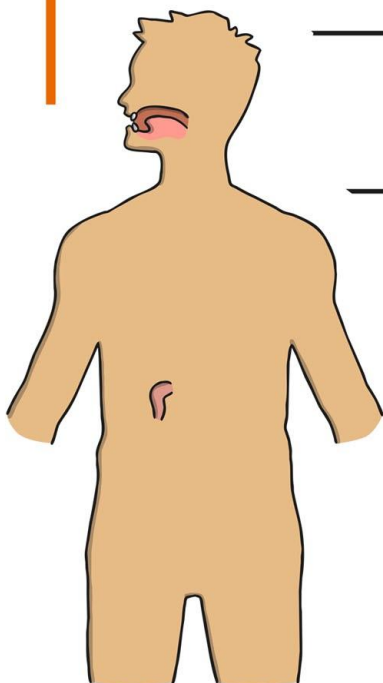
Lined writing area with 28 horizontal lines.

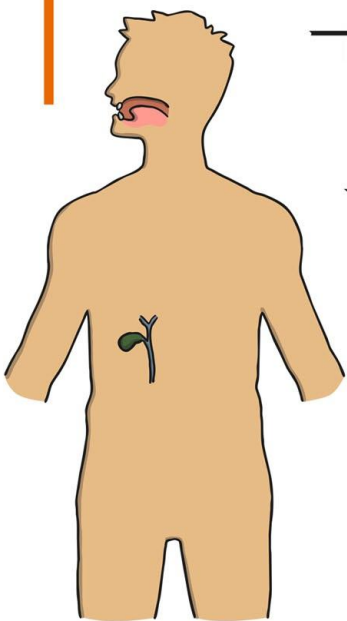


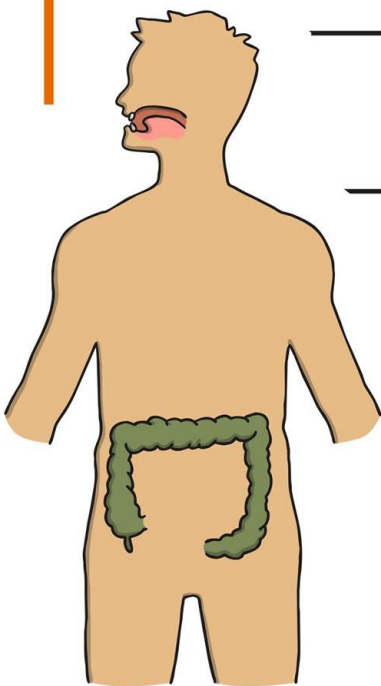
Lined writing area with four horizontal lines, positioned to the right of the bird illustration.

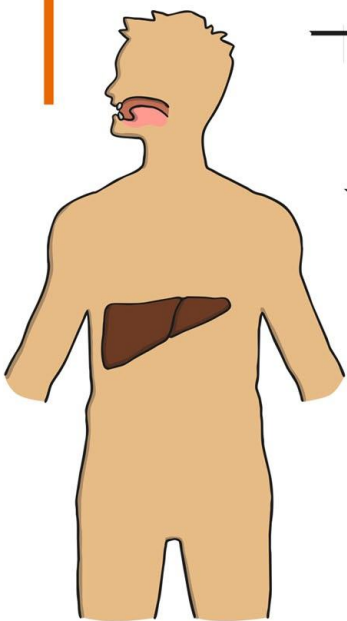


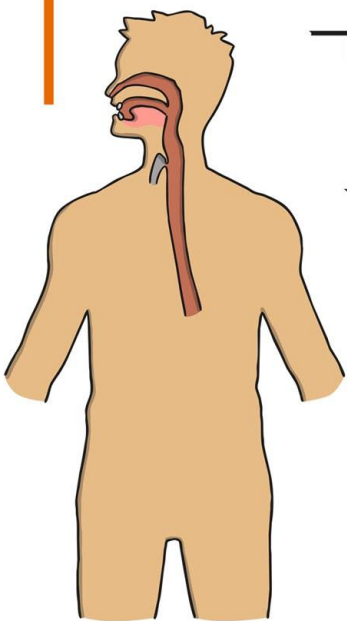


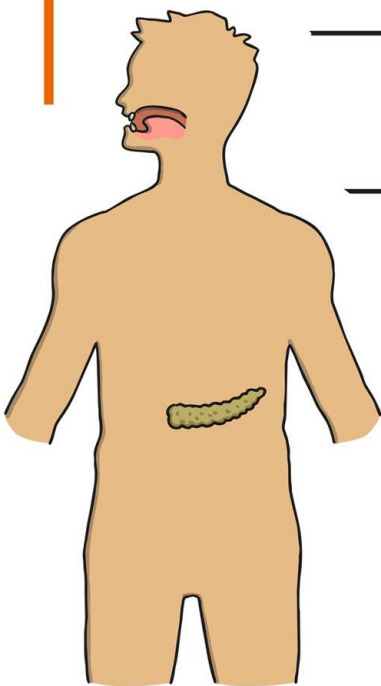


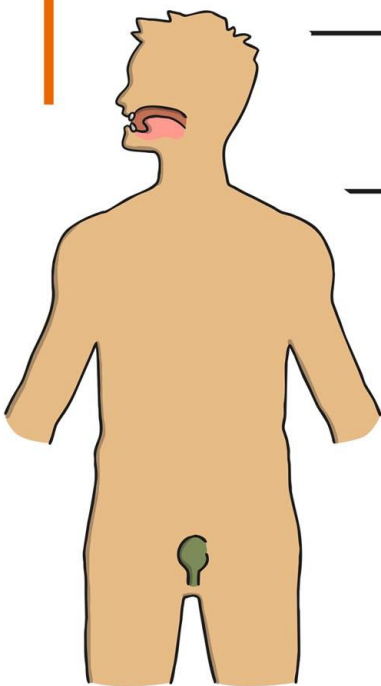




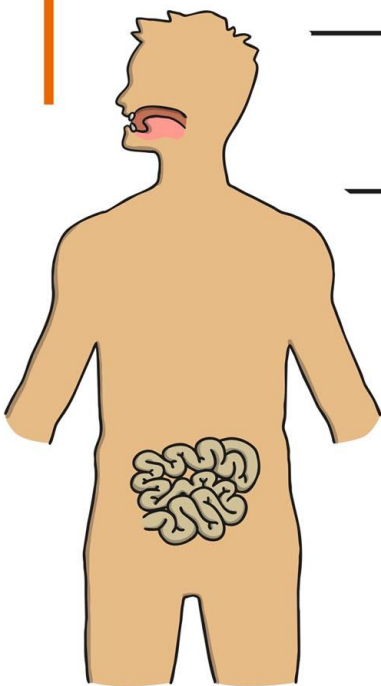




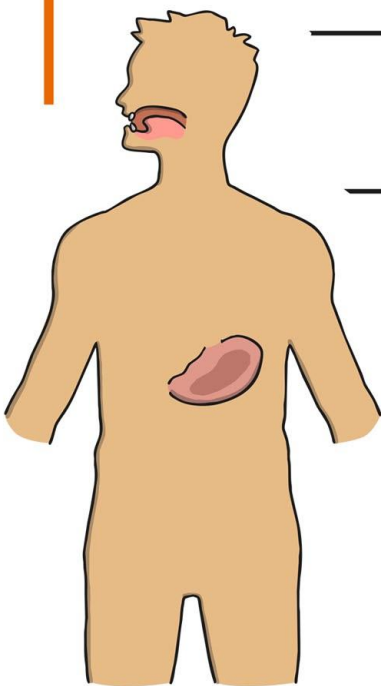


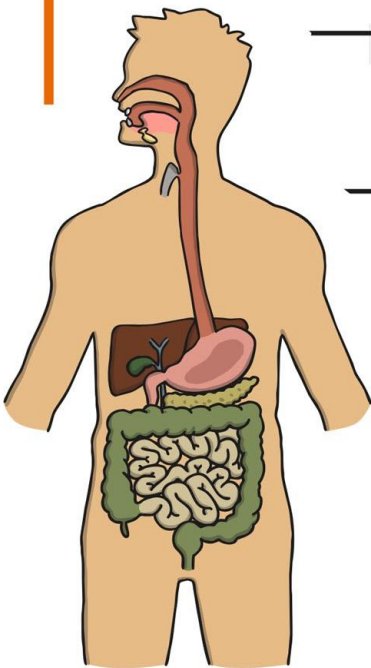


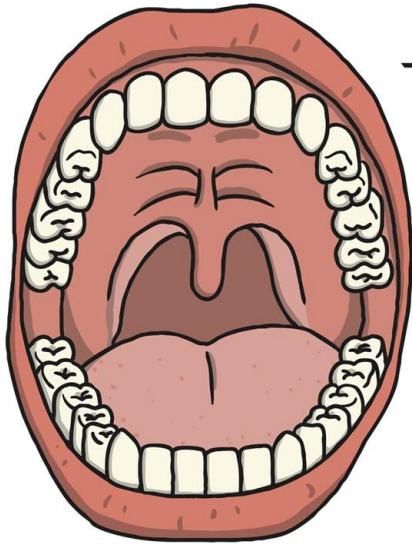


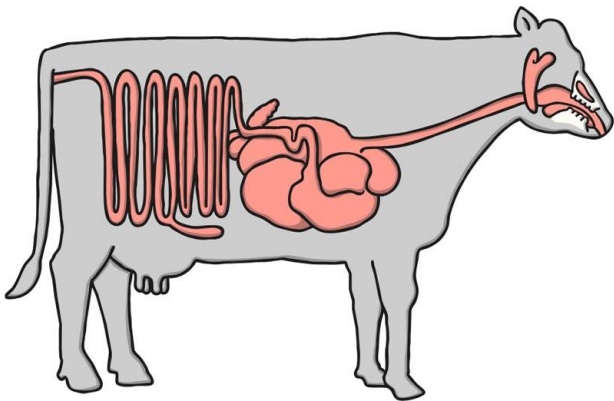


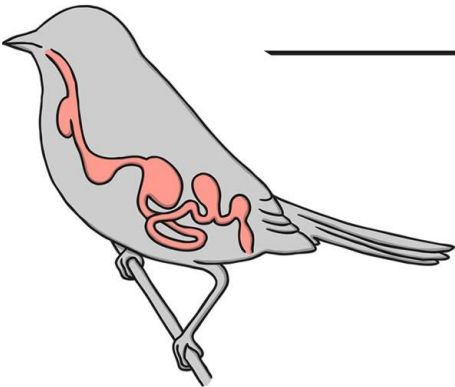


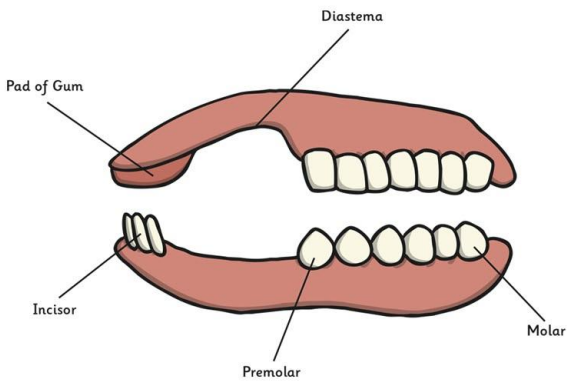


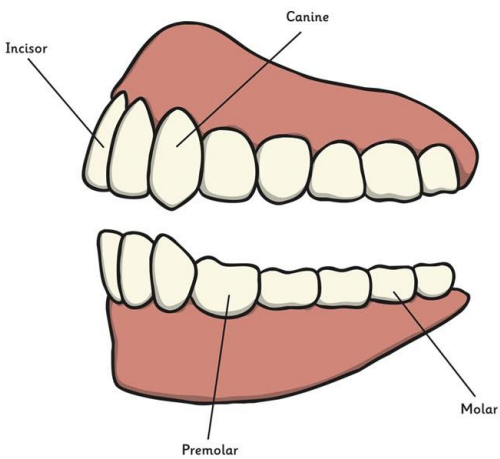


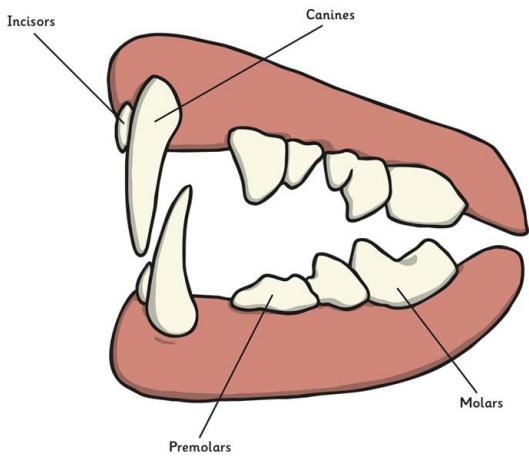


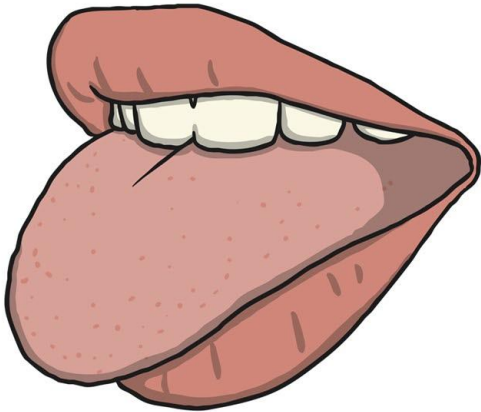


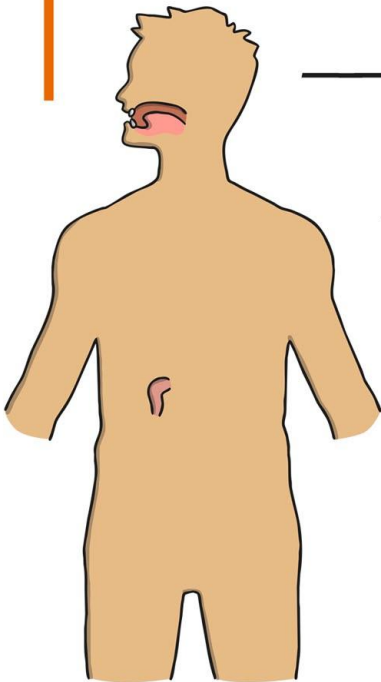




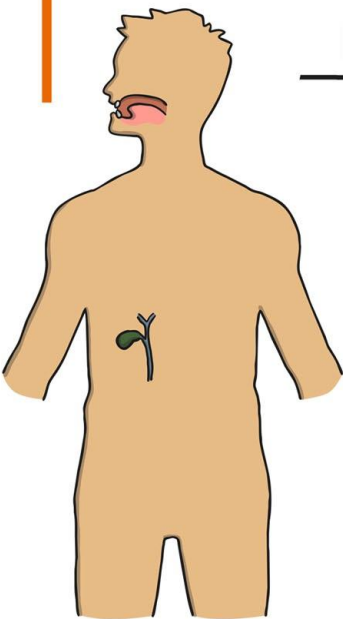


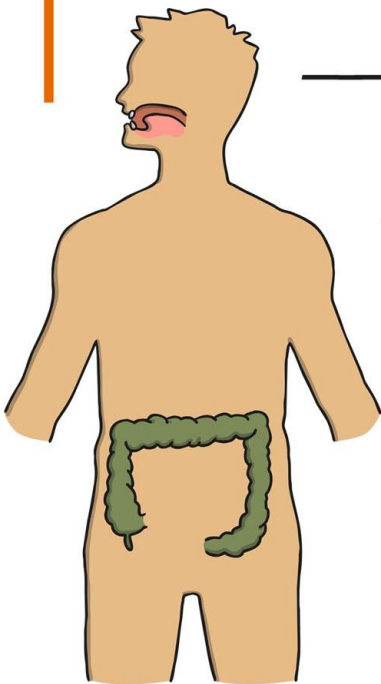


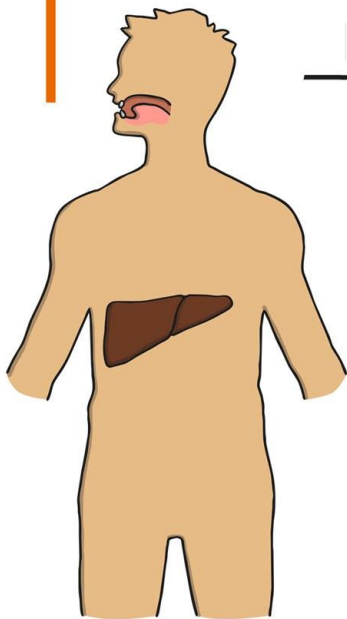


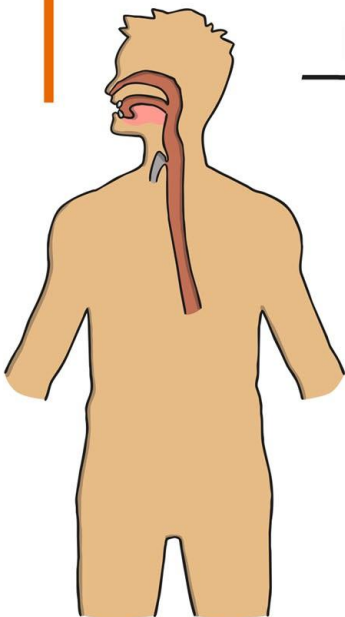


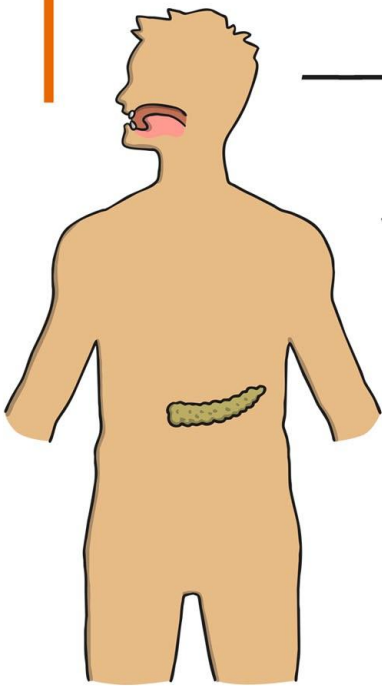


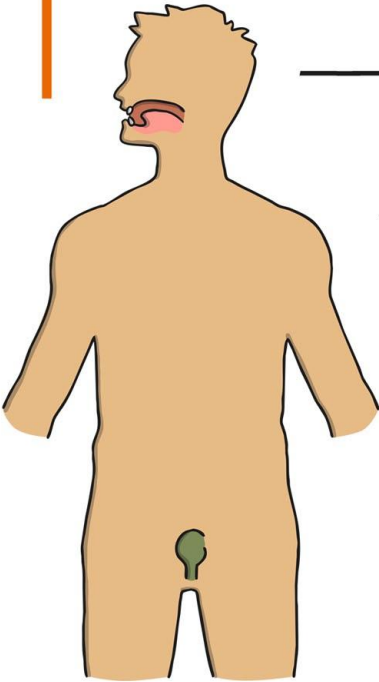


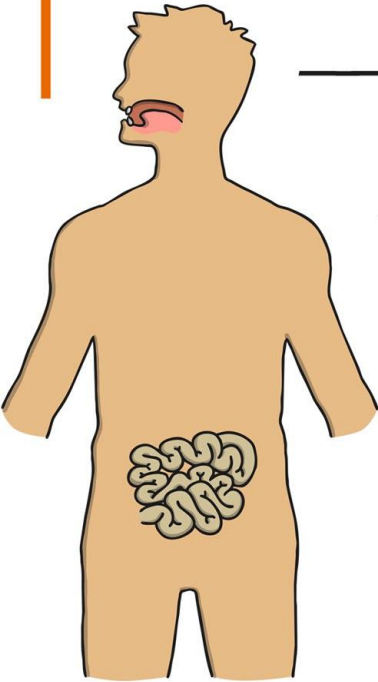


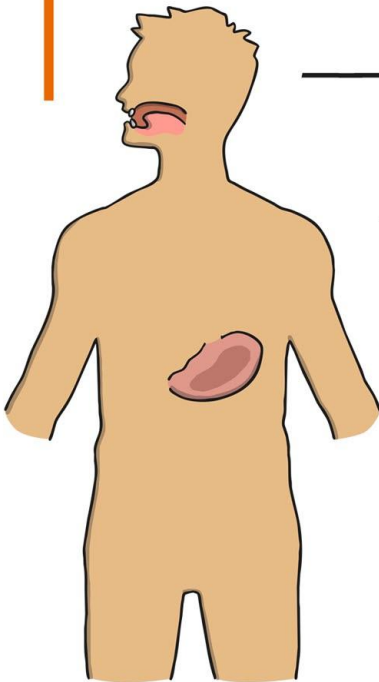


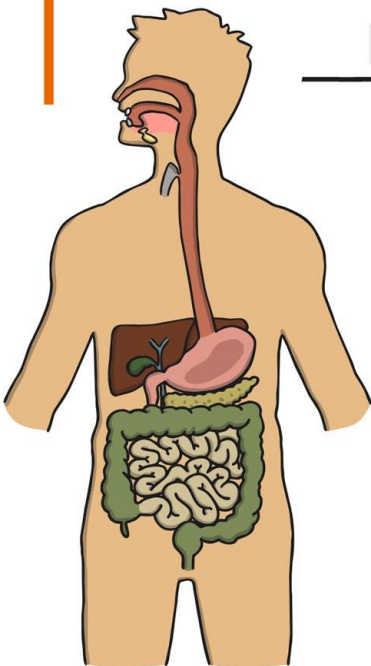




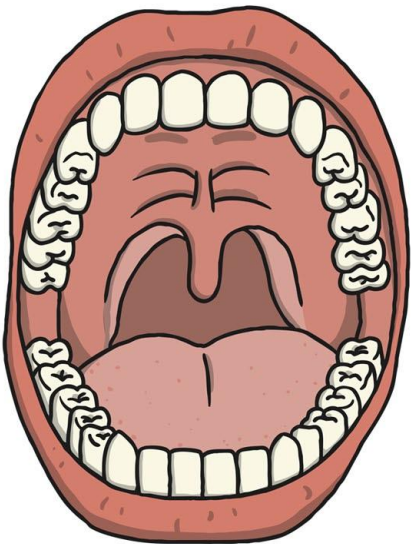




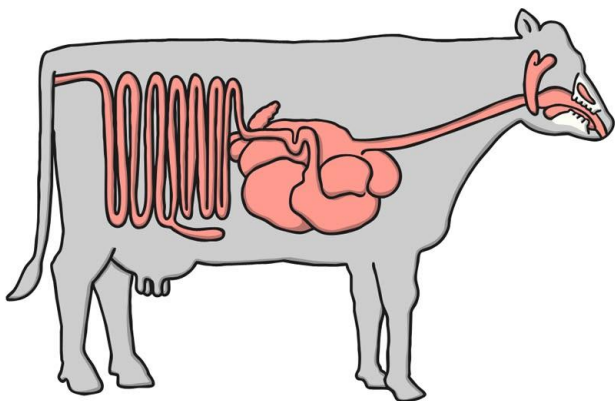


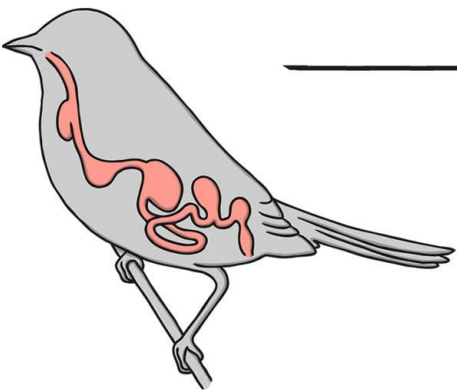


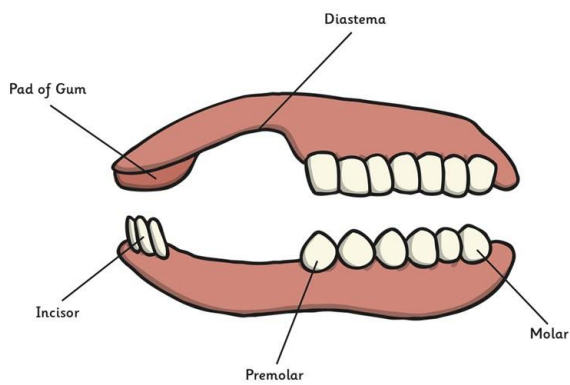
Handwriting practice area consisting of 11 horizontal lines.

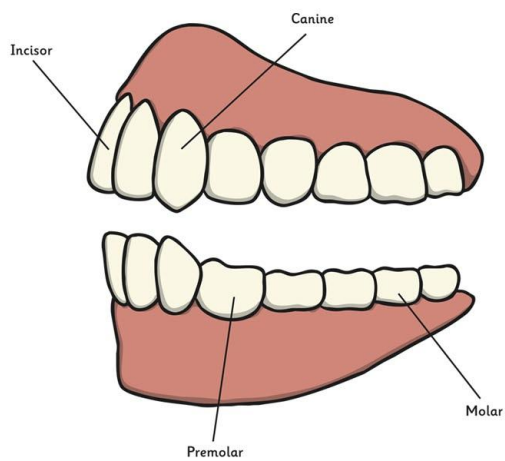


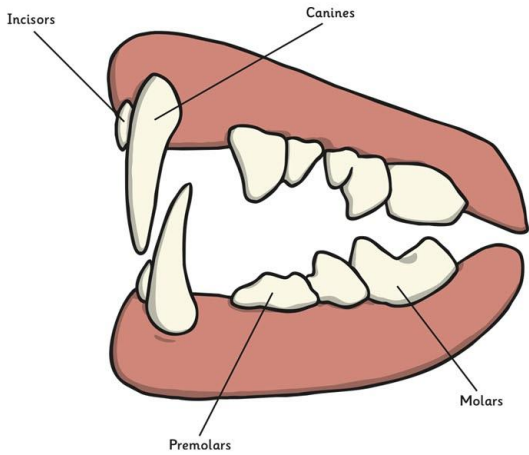
Three horizontal lines for additional writing or notes.

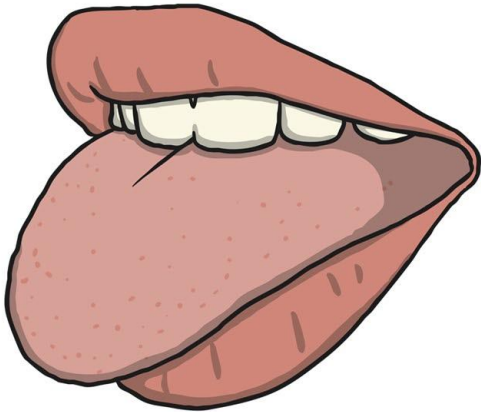


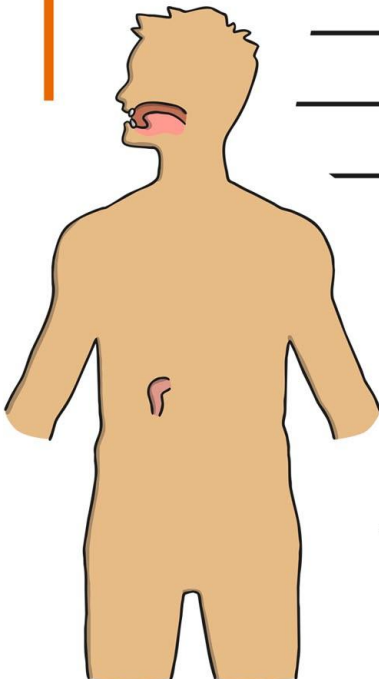


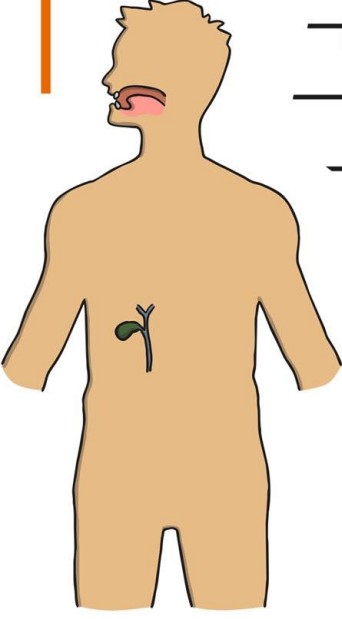


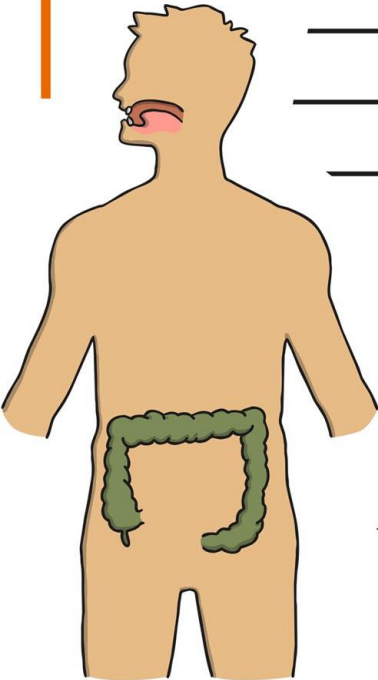


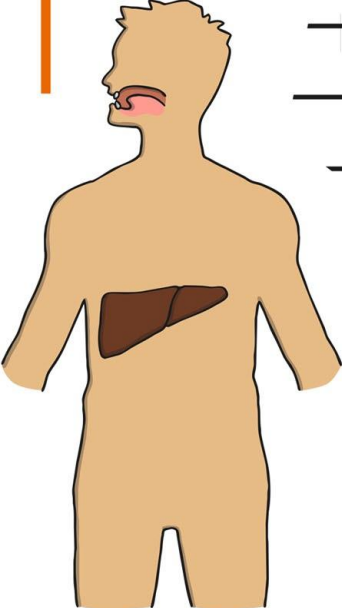


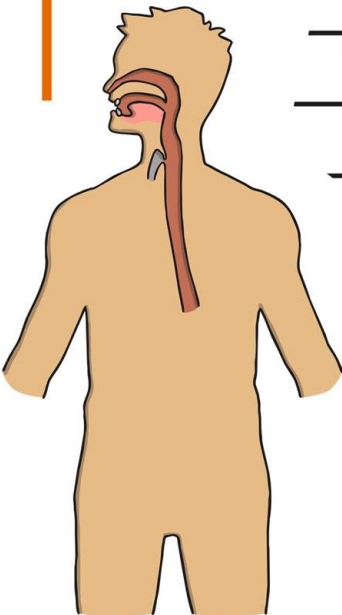


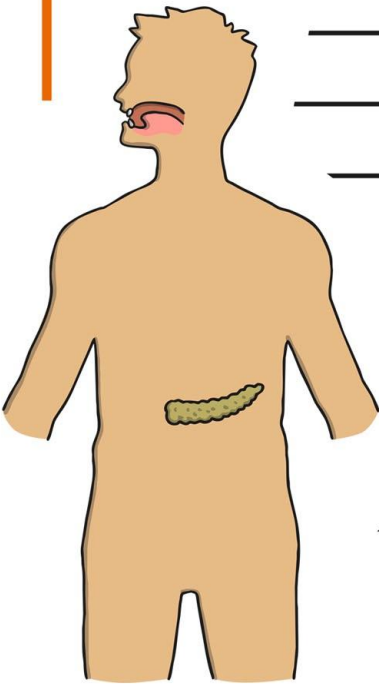


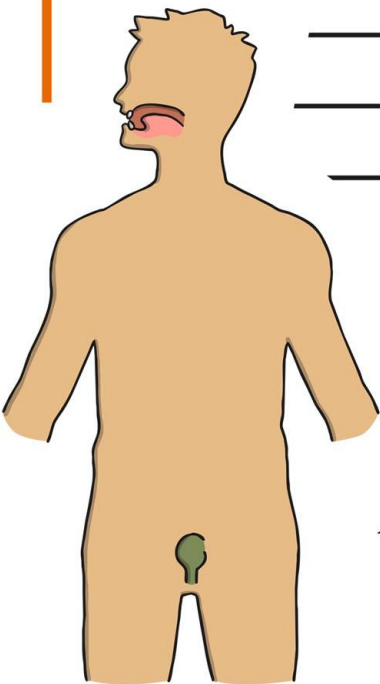


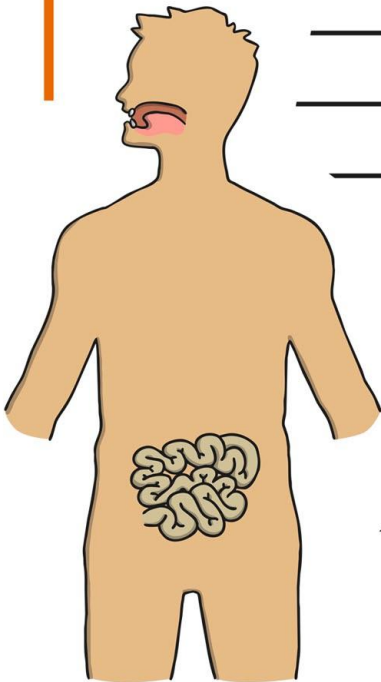


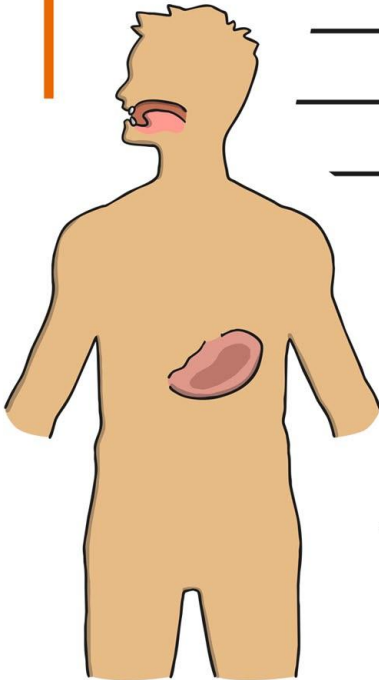




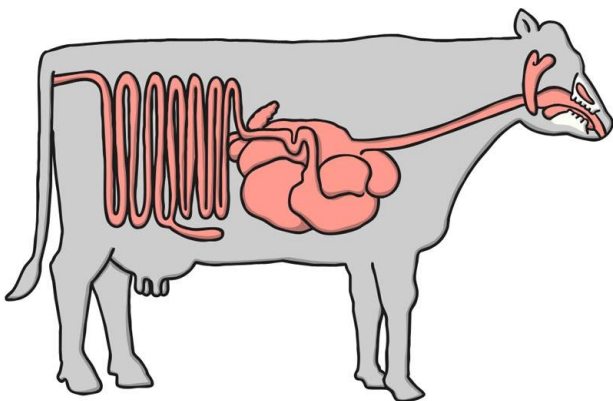


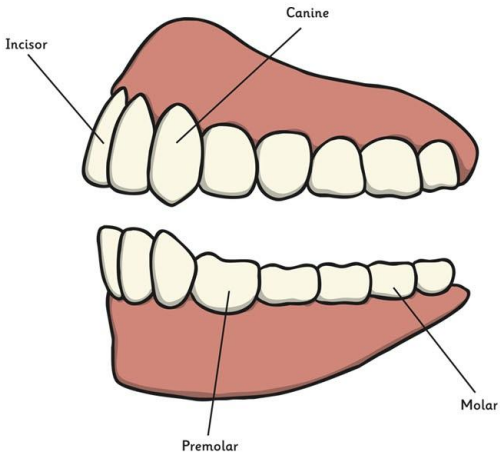


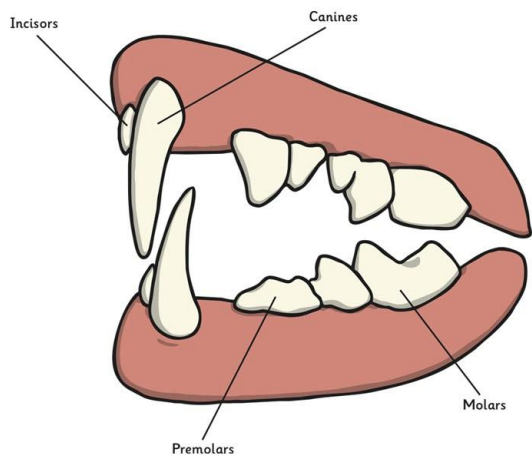




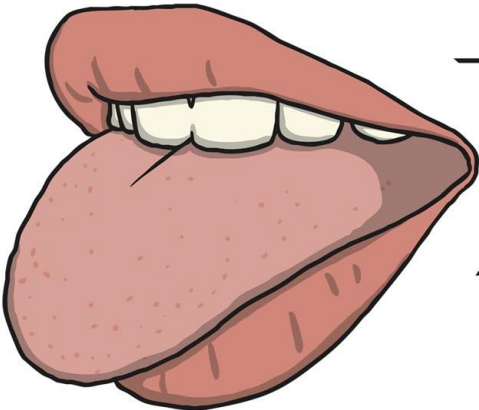




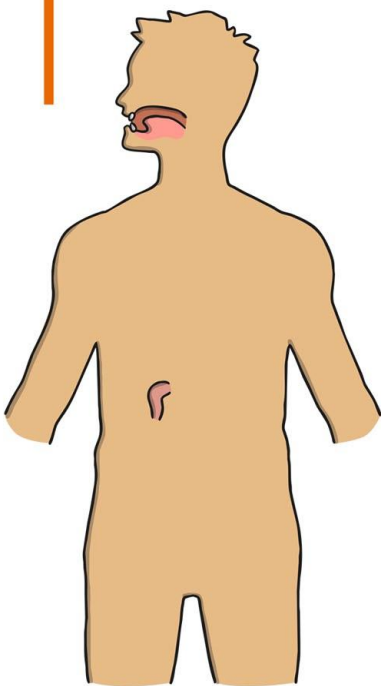


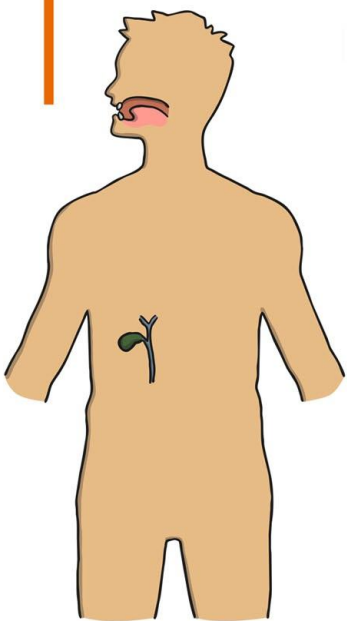


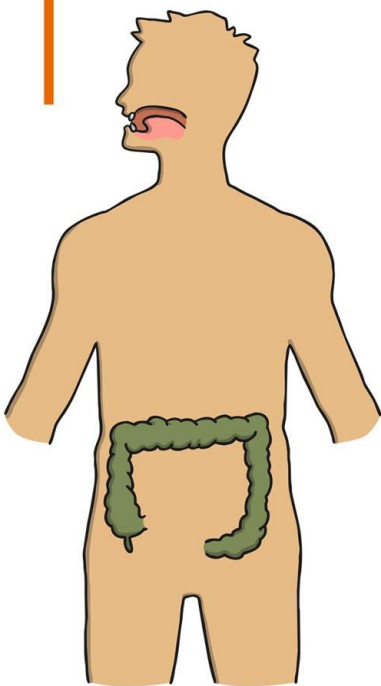
Lined writing area with 20 horizontal lines.

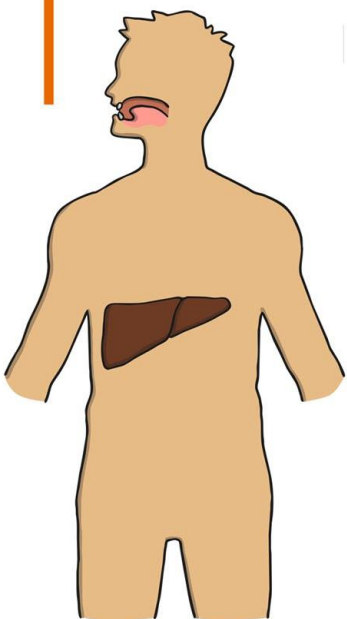


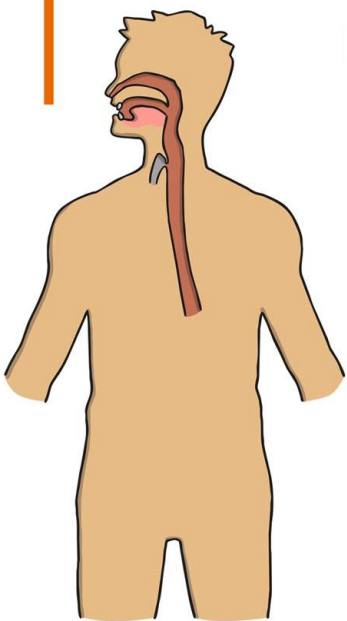
Lined writing area with 4 horizontal lines.

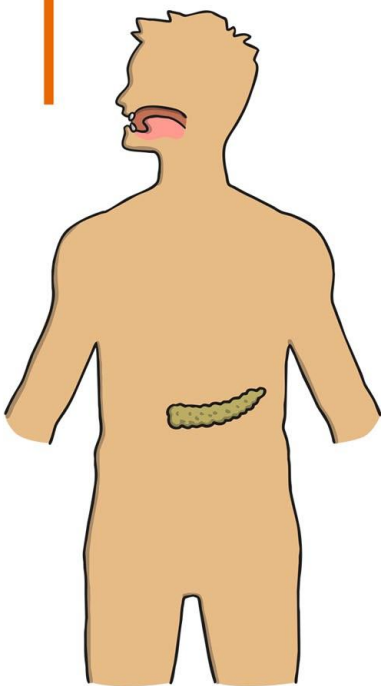


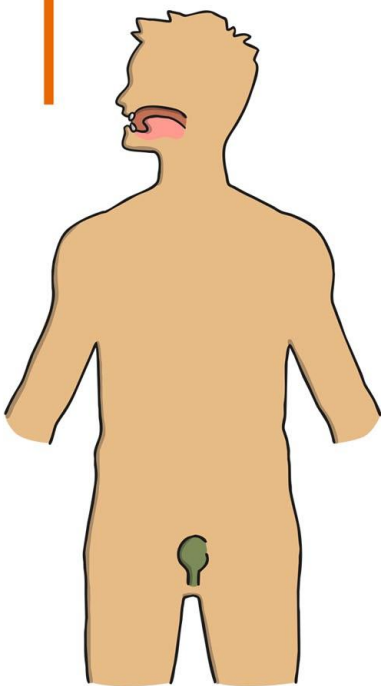


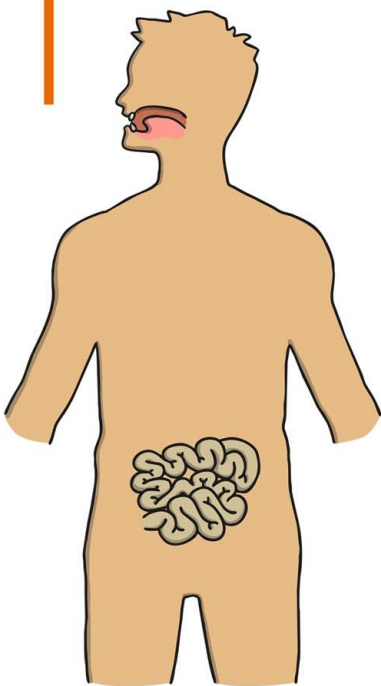


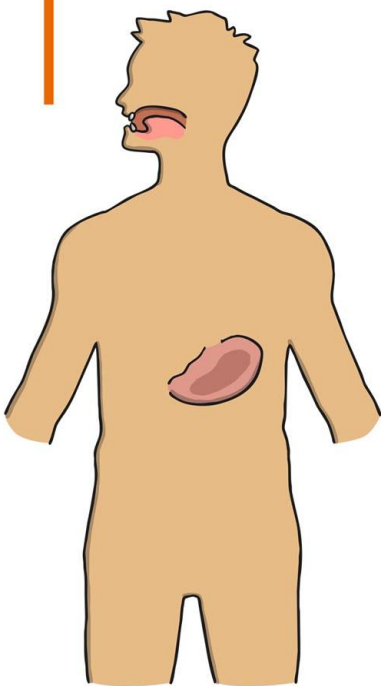


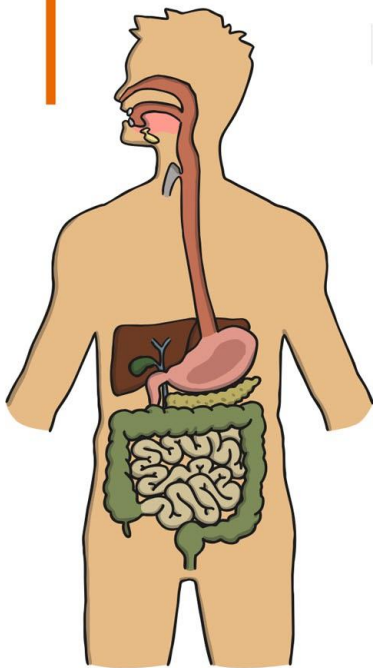


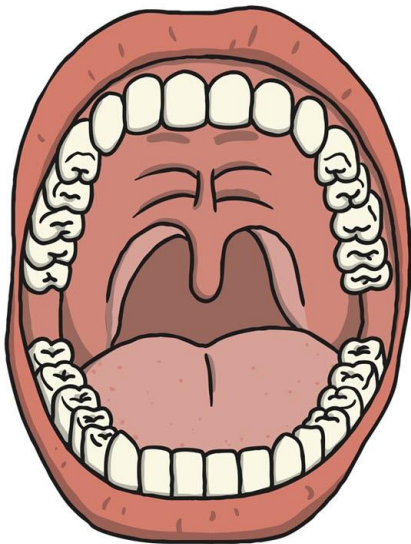


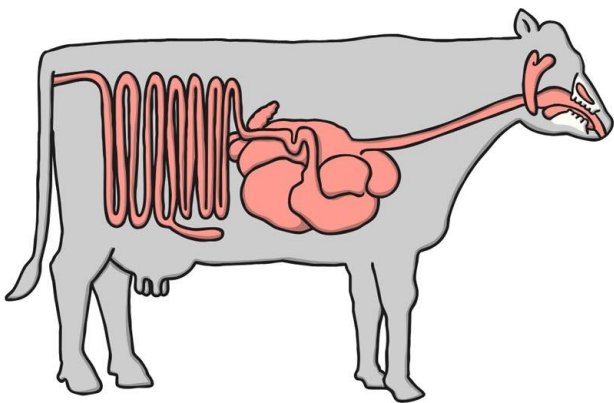


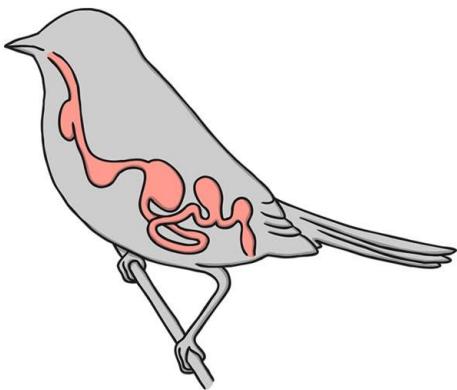


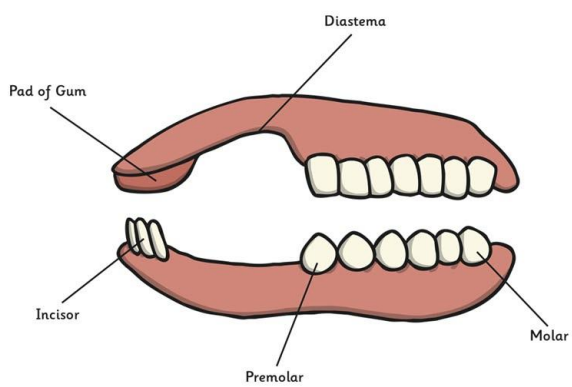


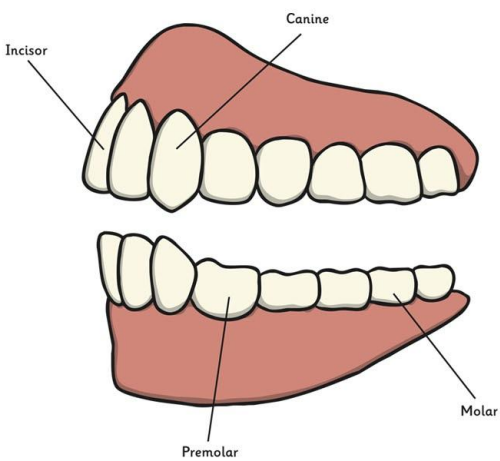


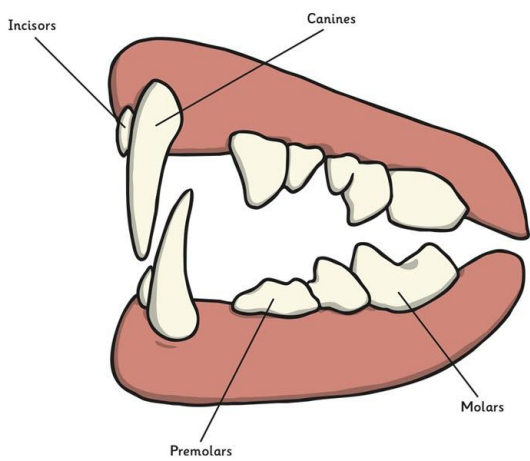


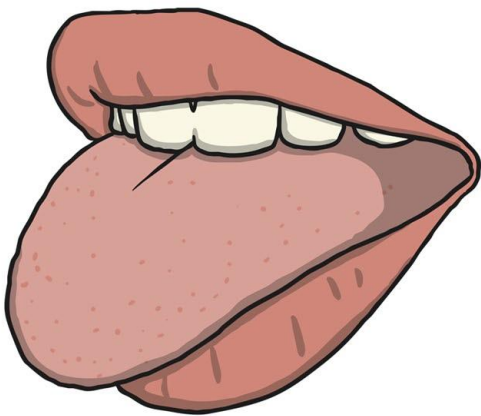




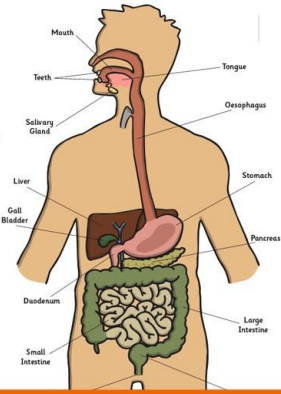




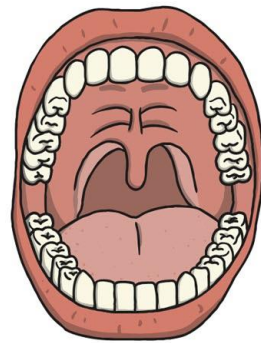




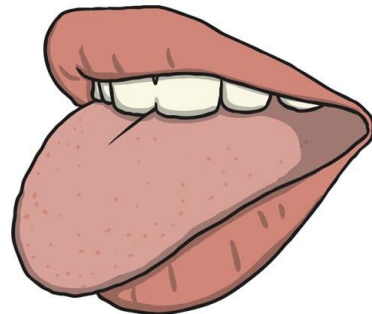
digestive system



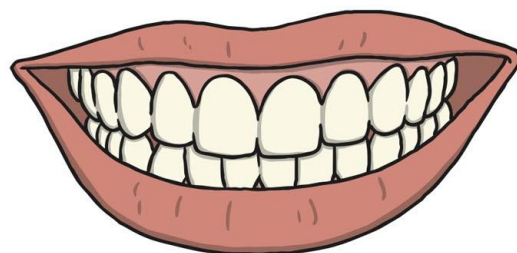
mouth



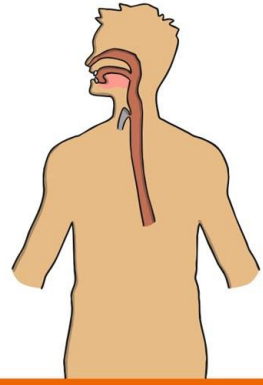
tongue



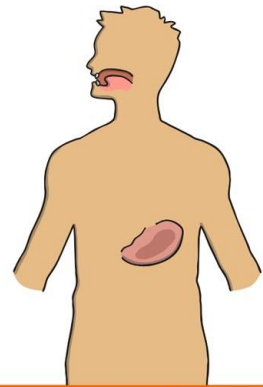
teeth



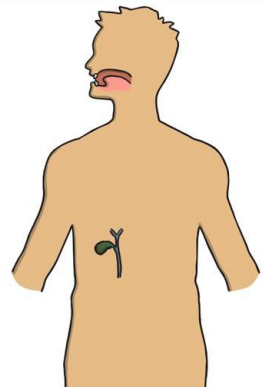
oesophagus



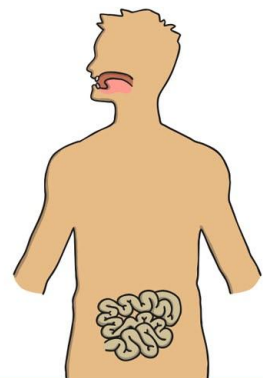
stomach



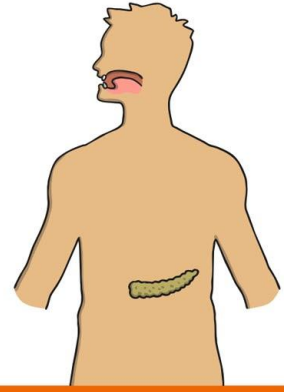
gallbladder



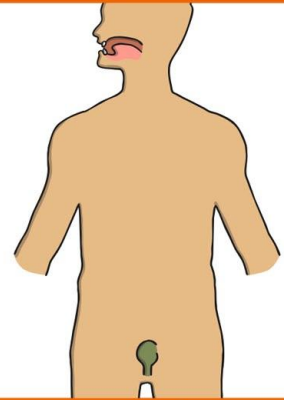
small
intestine



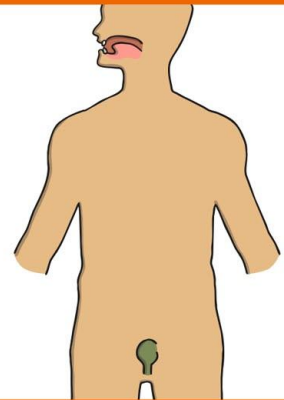
pancreas



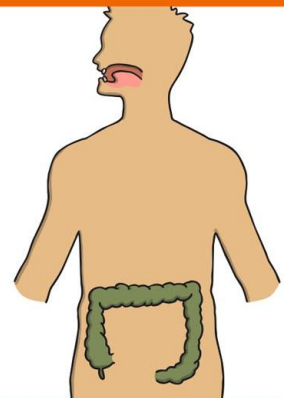
anus



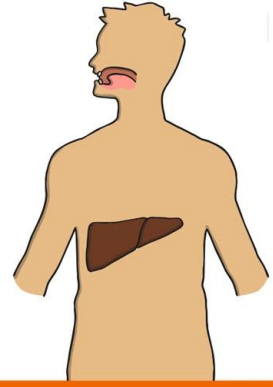
rectum



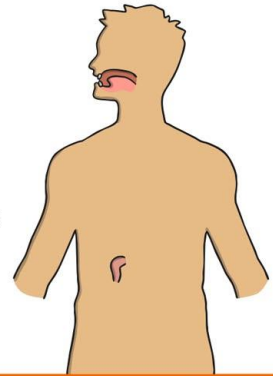
large
intestine



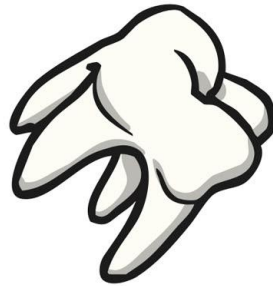
liver



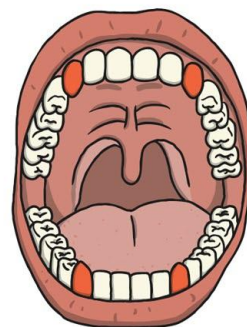
duodenum



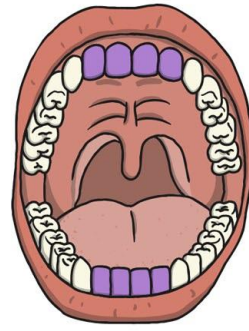
tooth



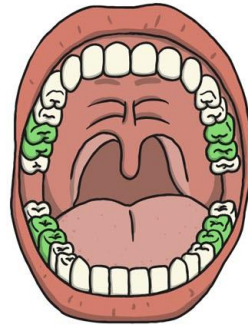
canine



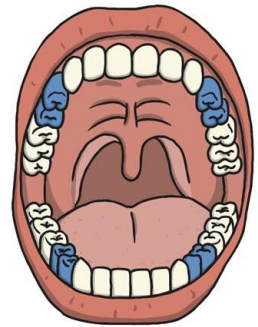
incisor



molar



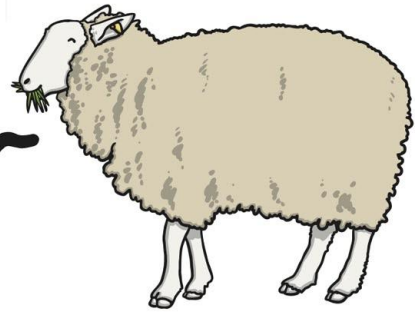
premolars



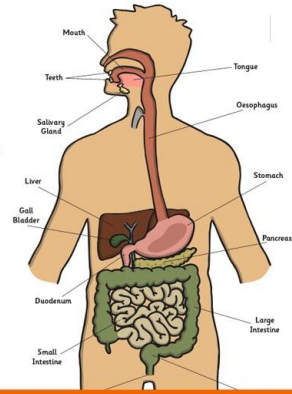
producer



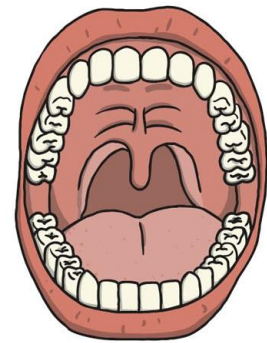
consumer



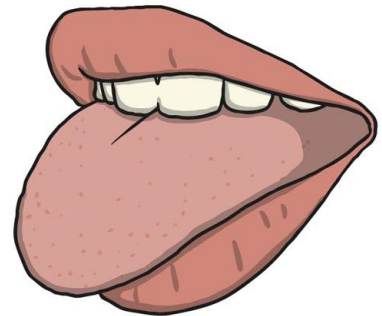
digestive
system



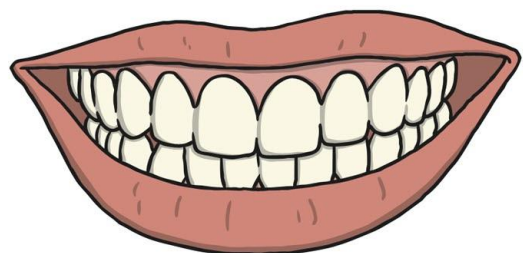
mouth



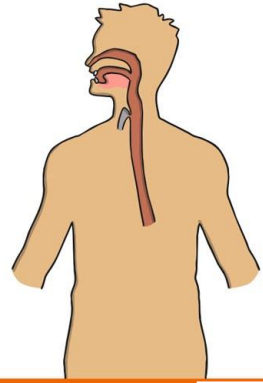
tongue



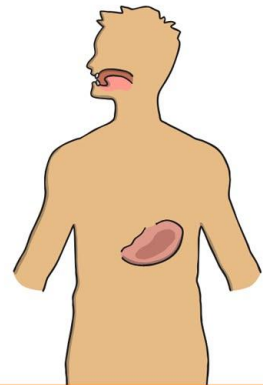
teeth



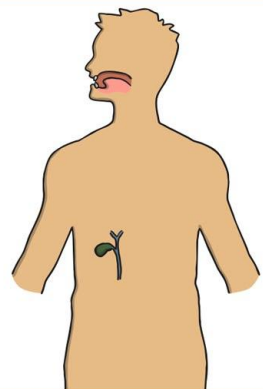
oesophagus



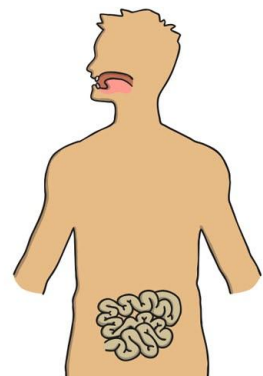
stomach



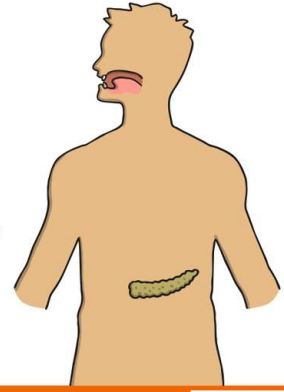
gallbladder



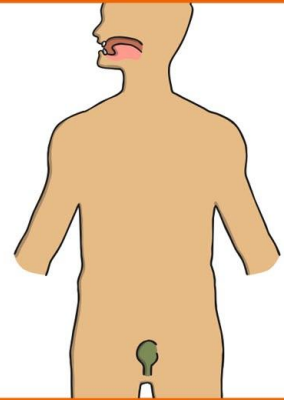
small
intestine



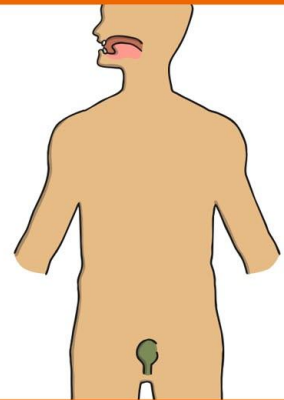
pancreas



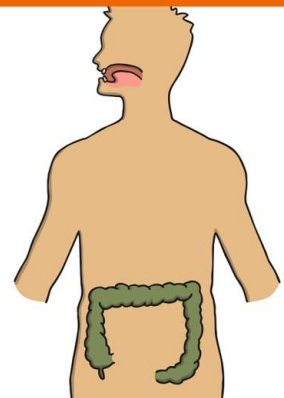
anus



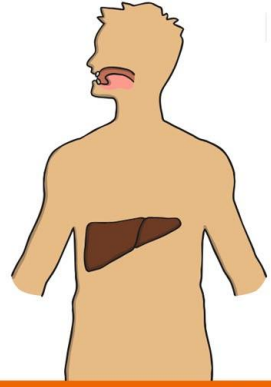
rectum



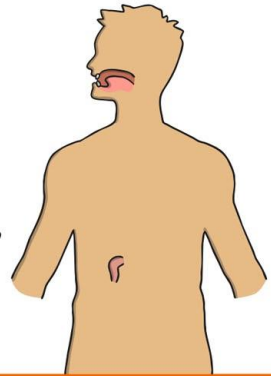
large
intestine



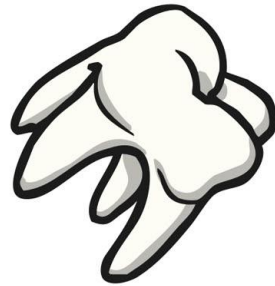
liver



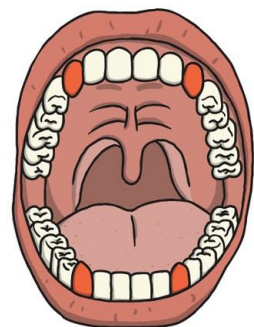
duodenum



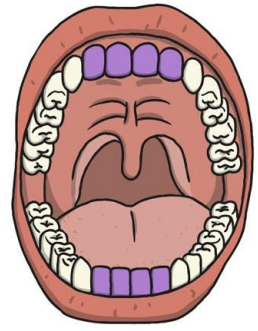
tooth



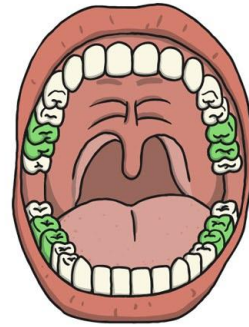
canine



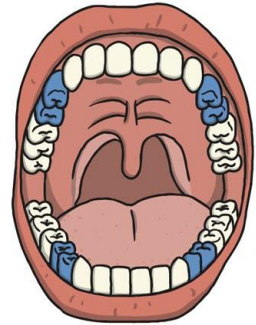
incisor



molar



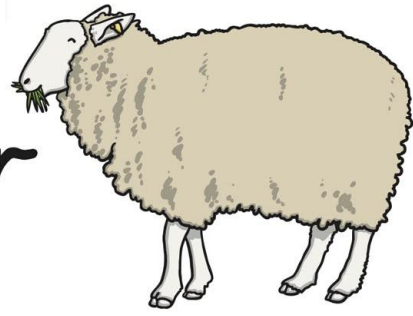
premolars



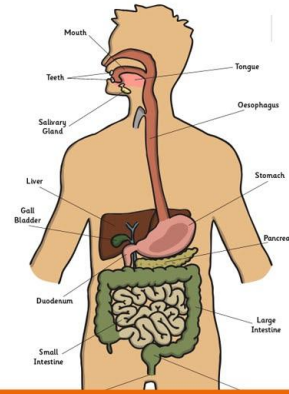
producer



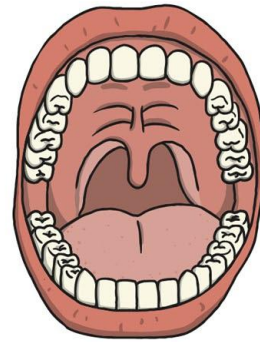
consumer



digestive system



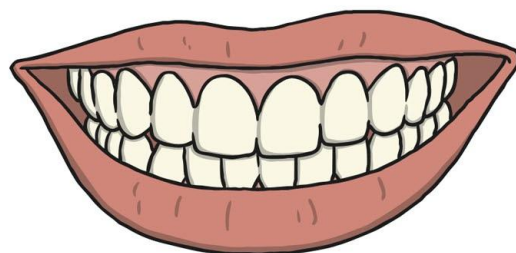
mouth



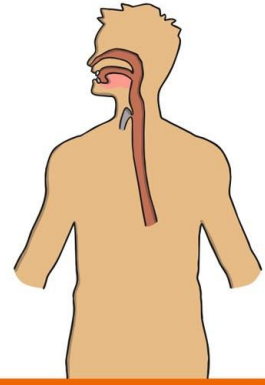
tongue



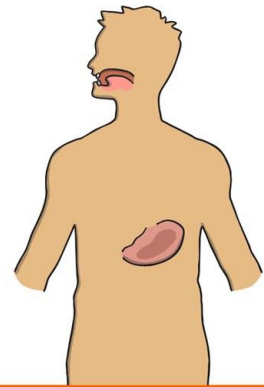
teeth



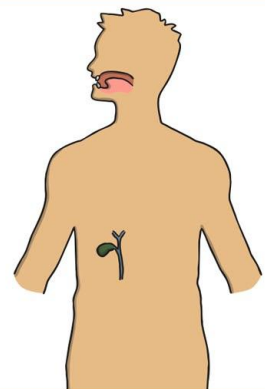
oesophagus



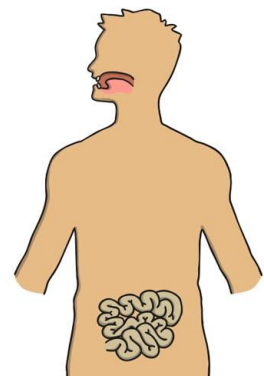
stomach



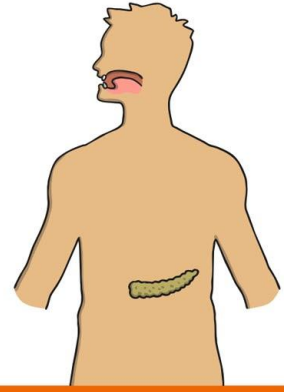
gallbladder



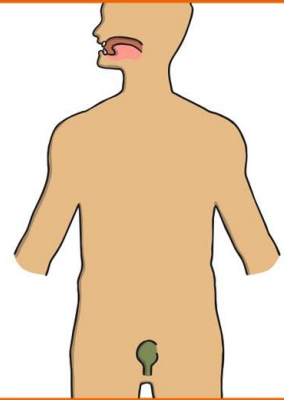
small intestine



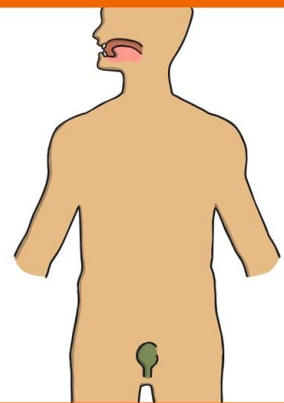
pancreas



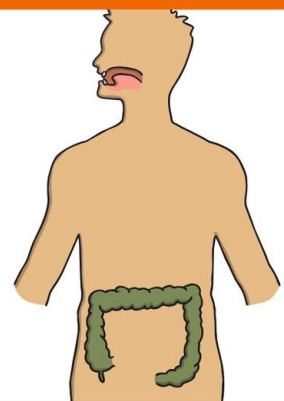
anus



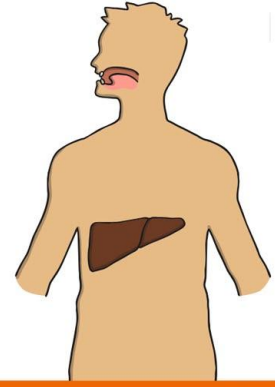
rectum



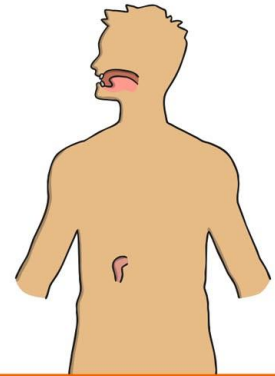
large intestine



liver



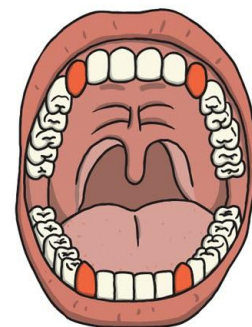
duodenum



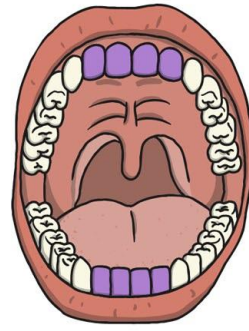
tooth



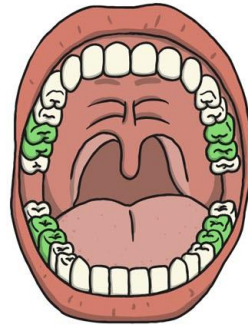
canine



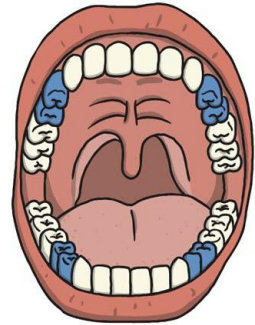
incisor



molar



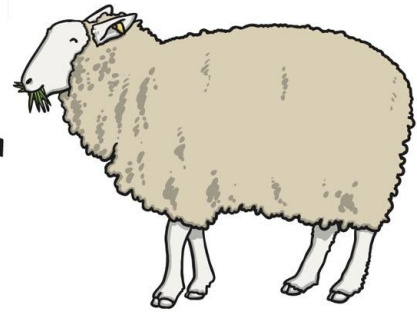
premolars



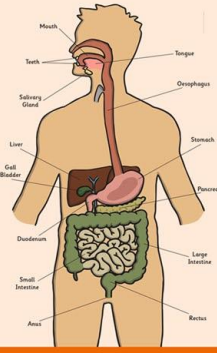
producer



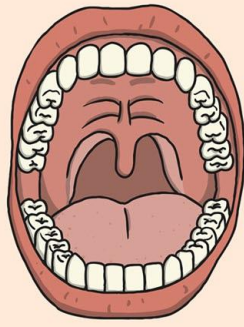
consumer



Animals Including Humans



digestive system



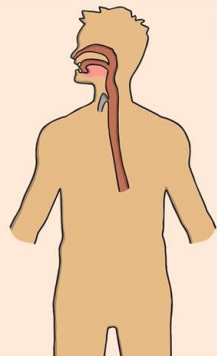
mouth



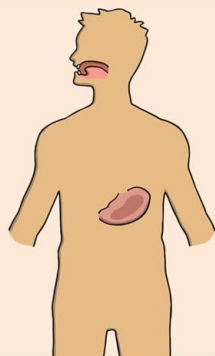
tongue



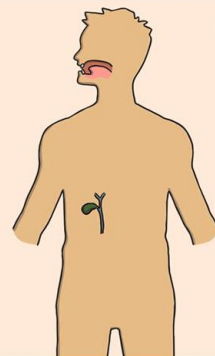
teeth



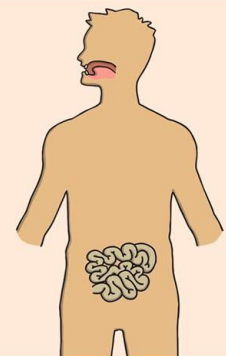
oesophagus



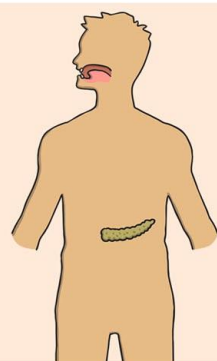
stomach



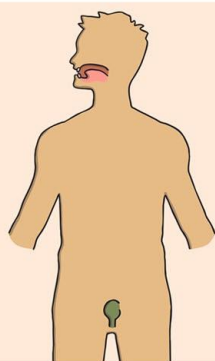
gallbladder



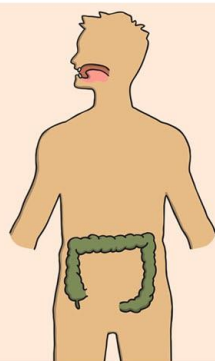
small intestine



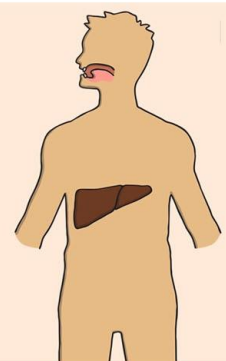
pancreas



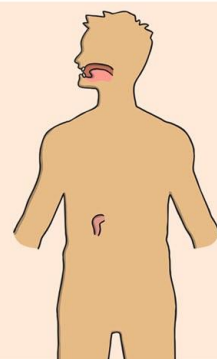
rectum and anus



large intestine



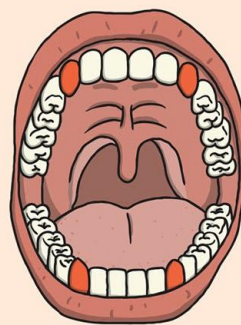
liver



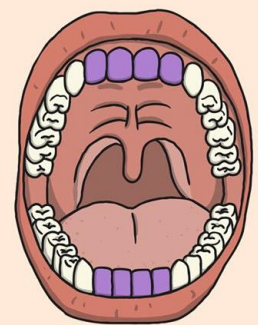
duodenum



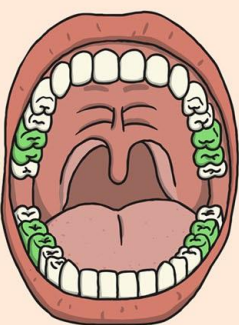
tooth



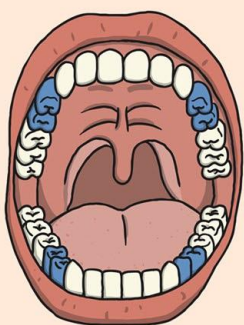
canine



incisor



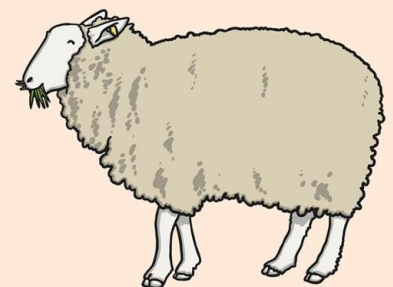
molar



premolar

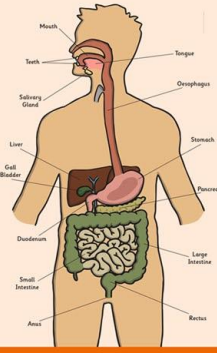


producer

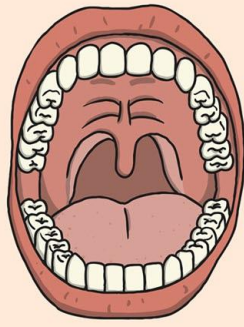


consumer

Animals Including Humans



digestive system



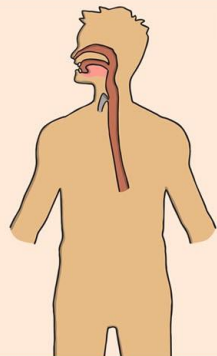
mouth



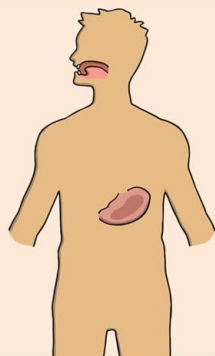
tongue



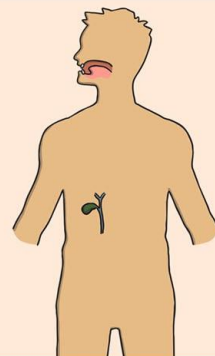
teeth



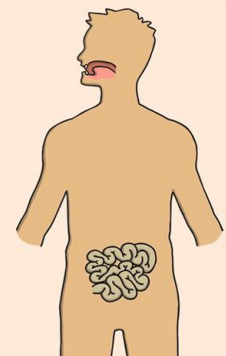
oesophagus



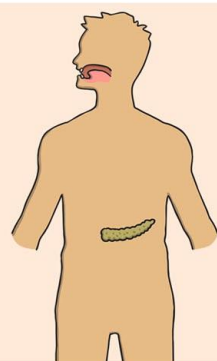
stomach



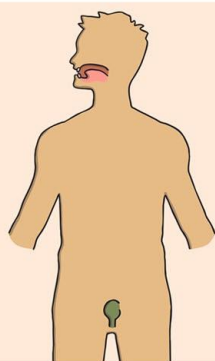
gallbladder



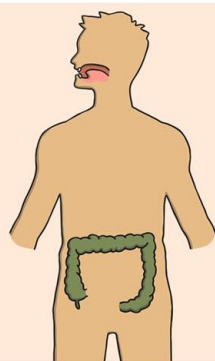
small intestine



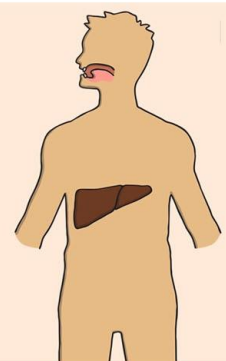
pancreas



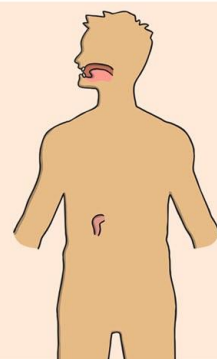
rectum and anus



large intestine



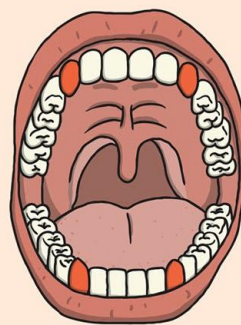
liver



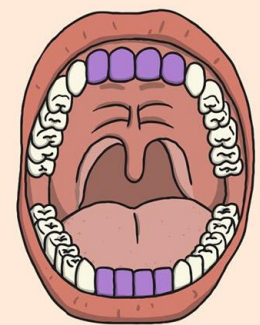
duodenum



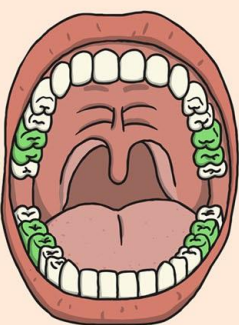
tooth



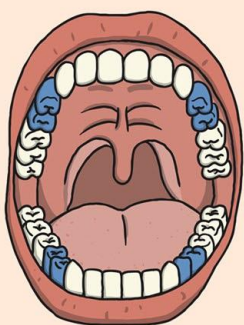
canine



incisor



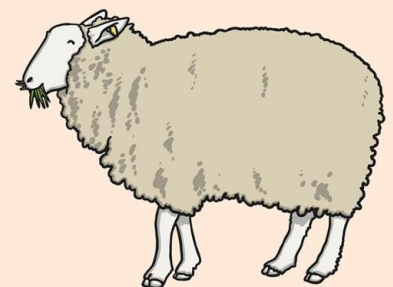
molar



premolar

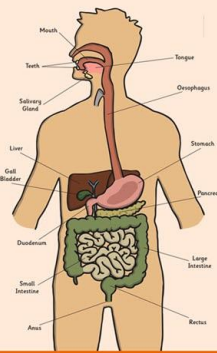


producer

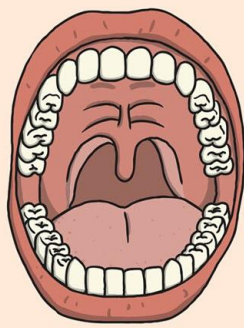


consumer

Animals Including Humans



digestive system



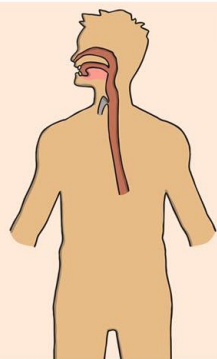
mouth



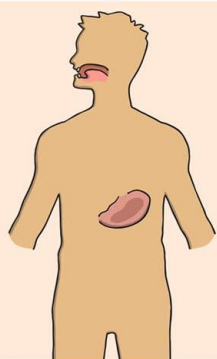
tongue



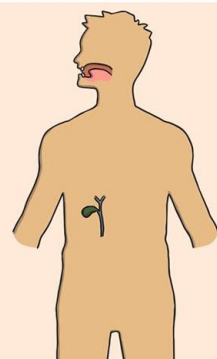
teeth



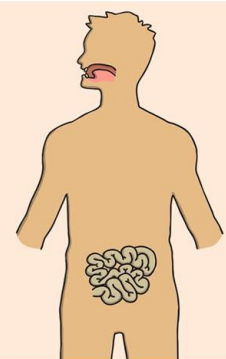
oesophagus



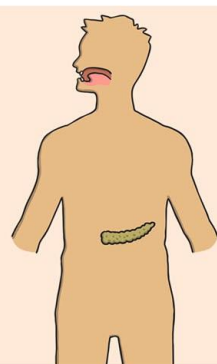
stomach



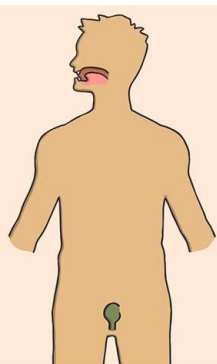
gallbladder



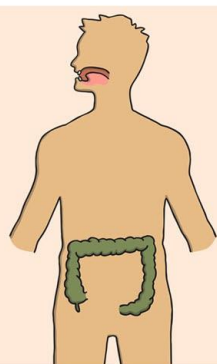
small intestine



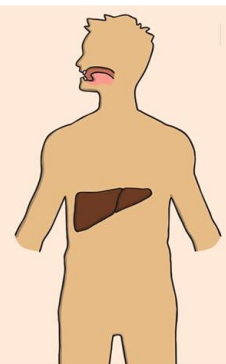
pancreas



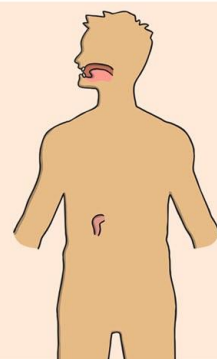
rectum and anus



large intestine



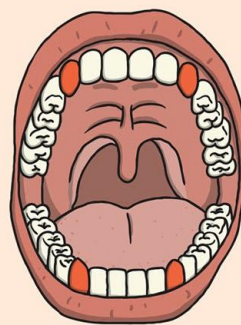
liver



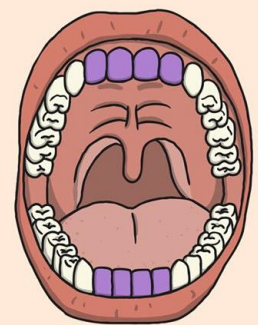
duodenum



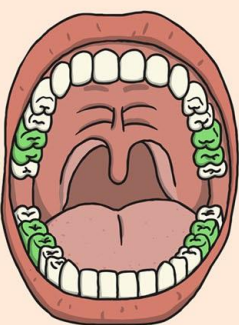
tooth



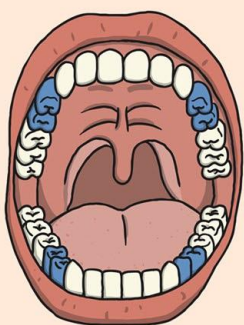
canine



incisor



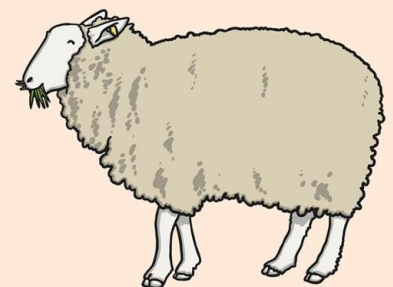
molar



premolar

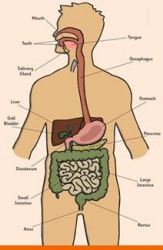


producer



consumer

Animals Including Humans



digestive system



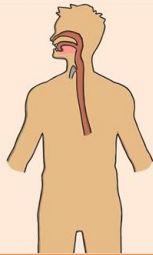
mouth



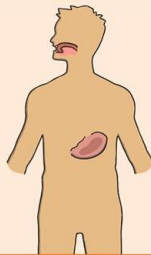
tongue



teeth



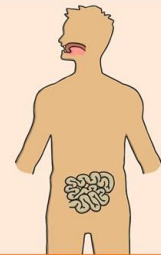
oesophagus



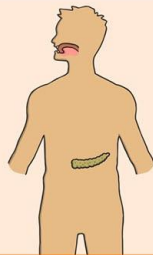
stomach



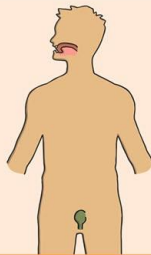
gallbladder



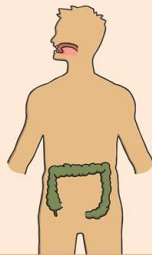
small intestine



pancreas



rectum and anus



large intestine



liver



duodenum



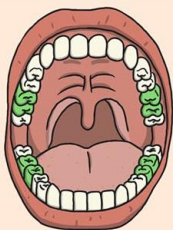
tooth



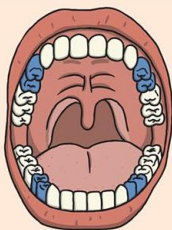
canine



incisor



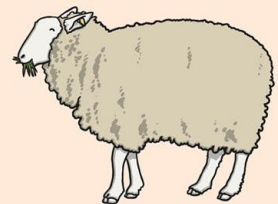
molar



premolar



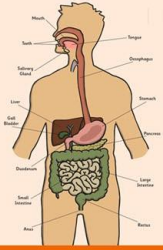
producer



consumer



Animals Including Humans



digestive system



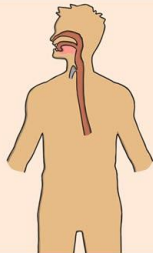
mouth



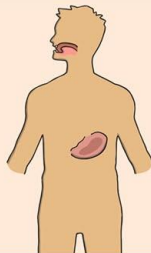
tongue



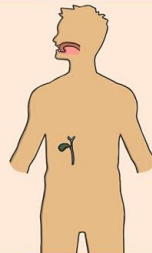
teeth



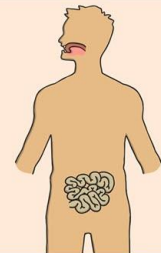
oesophagus



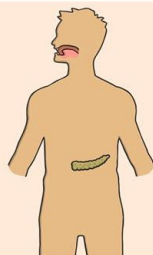
stomach



gallbladder



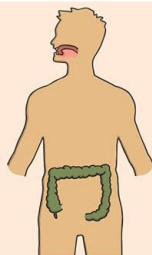
small intestine



pancreas



rectum and anus



large intestine



liver



duodenum



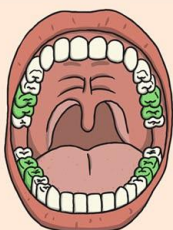
tooth



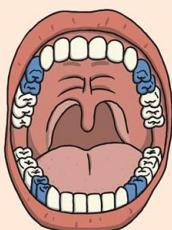
canine



incisor



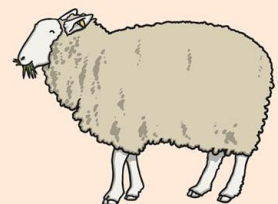
molar



premolar



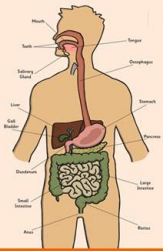
producer



consumer



Animals Including Humans



digestive system



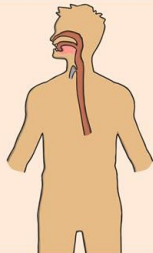
mouth



tongue



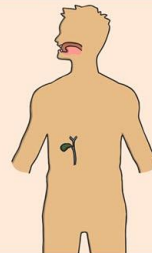
teeth



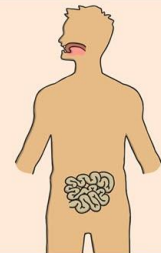
oesophagus



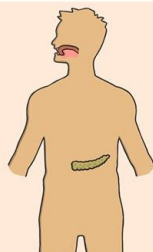
stomach



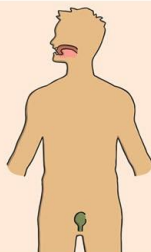
gallbladder



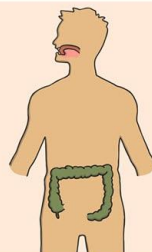
small intestine



pancreas



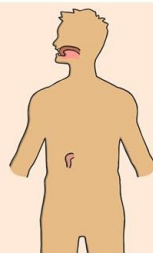
rectum and anus



large intestine



liver



duodenum



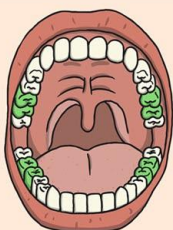
tooth



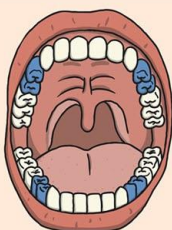
canine



incisor



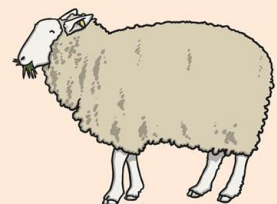
molar



premolar



producer



consumer

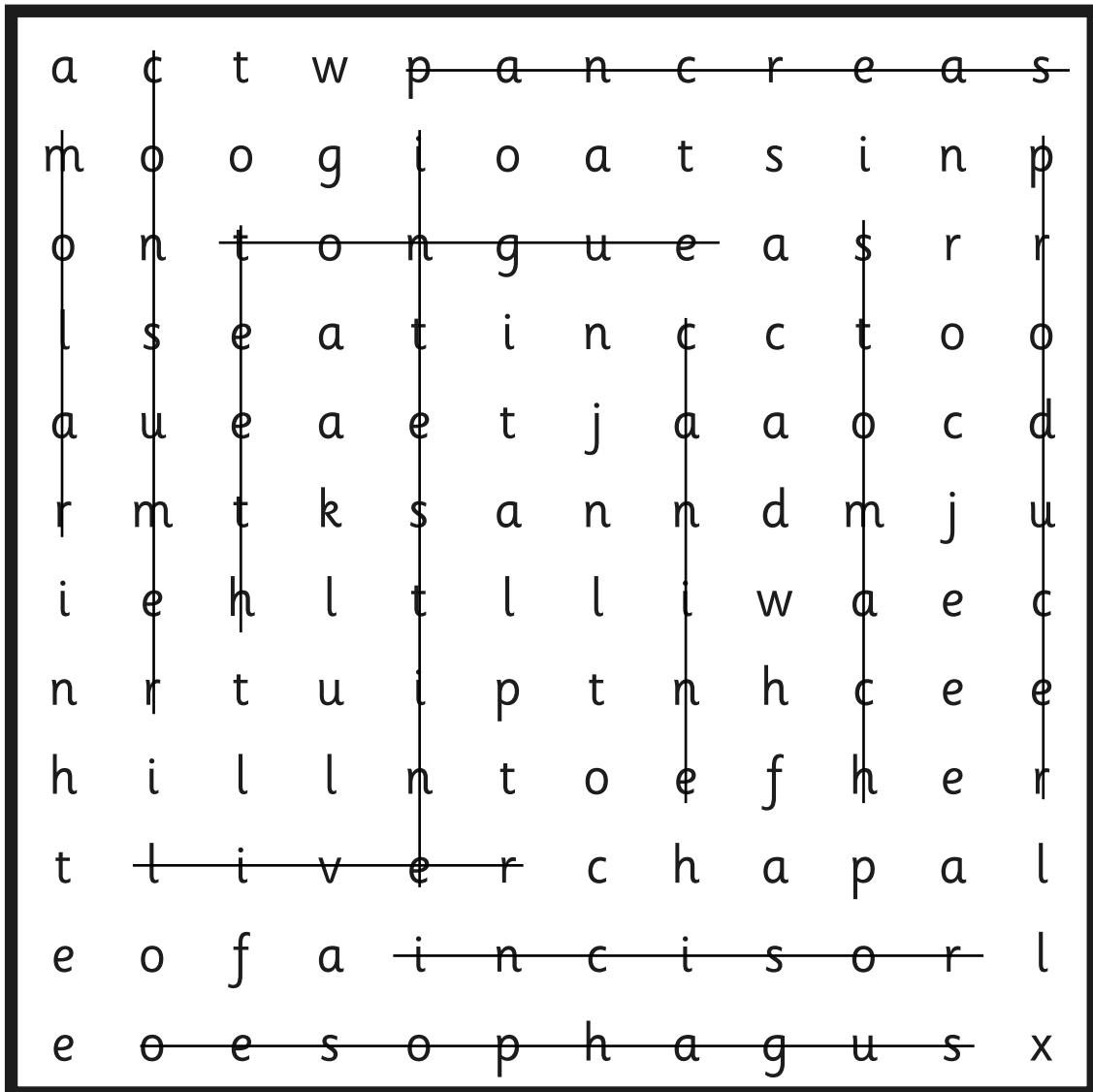


Animals Including Humans

a c t w p a n c r e a s
m o o g i o a t s i n p
o n t o n g u e a s r r
l s e a t i n c c t o o
a u e a e t j a a o c d
r m t k s a n n d m j u
i e h l t l l i w a e c
n r t u i p t n h c e e
h i l l n t o e f h e r
t l i v e r c h a p a l
e o f a i n c i s o r l
e o e s o p h a g u s x

teeth	pancreas
tongue	canine
stomach	incisor
oesophagus	molar
intestine	producer
liver	consumer

Animals Including Humans



teeth	pancreas
tongue	canine
stomach	incisor
oesophagus	molar
intestine	producer
liver	consumer

Animals Including Humans

t o n g u e t h w o g g
o c o a r e c t u m r a
s e o t c a n i n e e l
a i s n m s i n a r c l
e a n o s u n a i m u b
r n t c p u c o o a d l
c s t f i h m l i v o a
n e f u r s a e r y r d
a l l a m r o g r a p d
p r e m o l a r u s w e
i n t e s t i n e s e r
t o o t h n r e v i l t

oesophagus

stomach

liver

gallbladder

intestine

pancreas

rectum

anus

tongue

tooth

canine

incisor

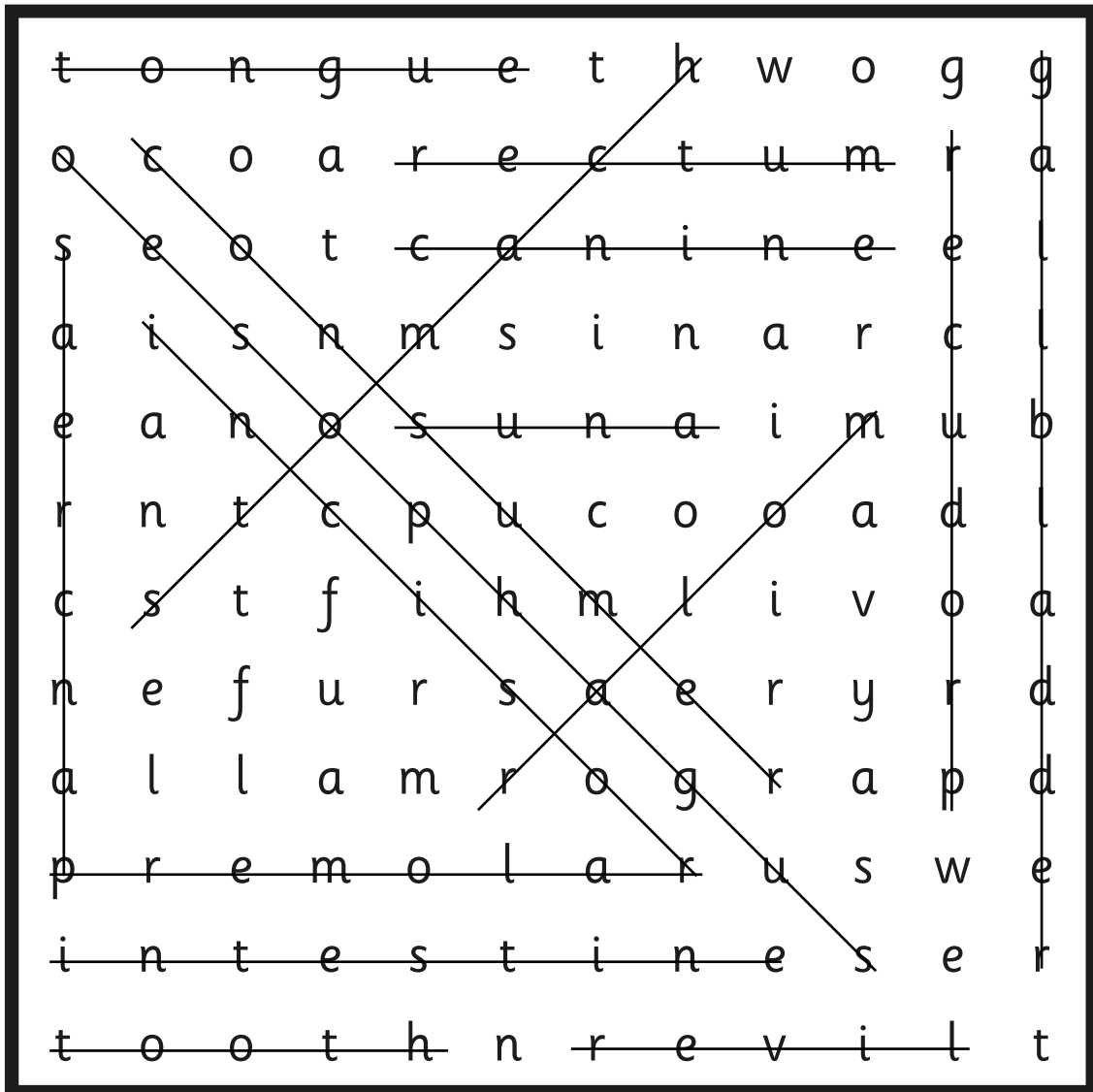
molar

premolar

producer

consumer

Animals Including Humans



oesophagus

stomach

liver

gallbladder

intestine

pancreas

rectum

anus

tongue

tooth

canine

incisor

molar

pre-molar

producer

consumer

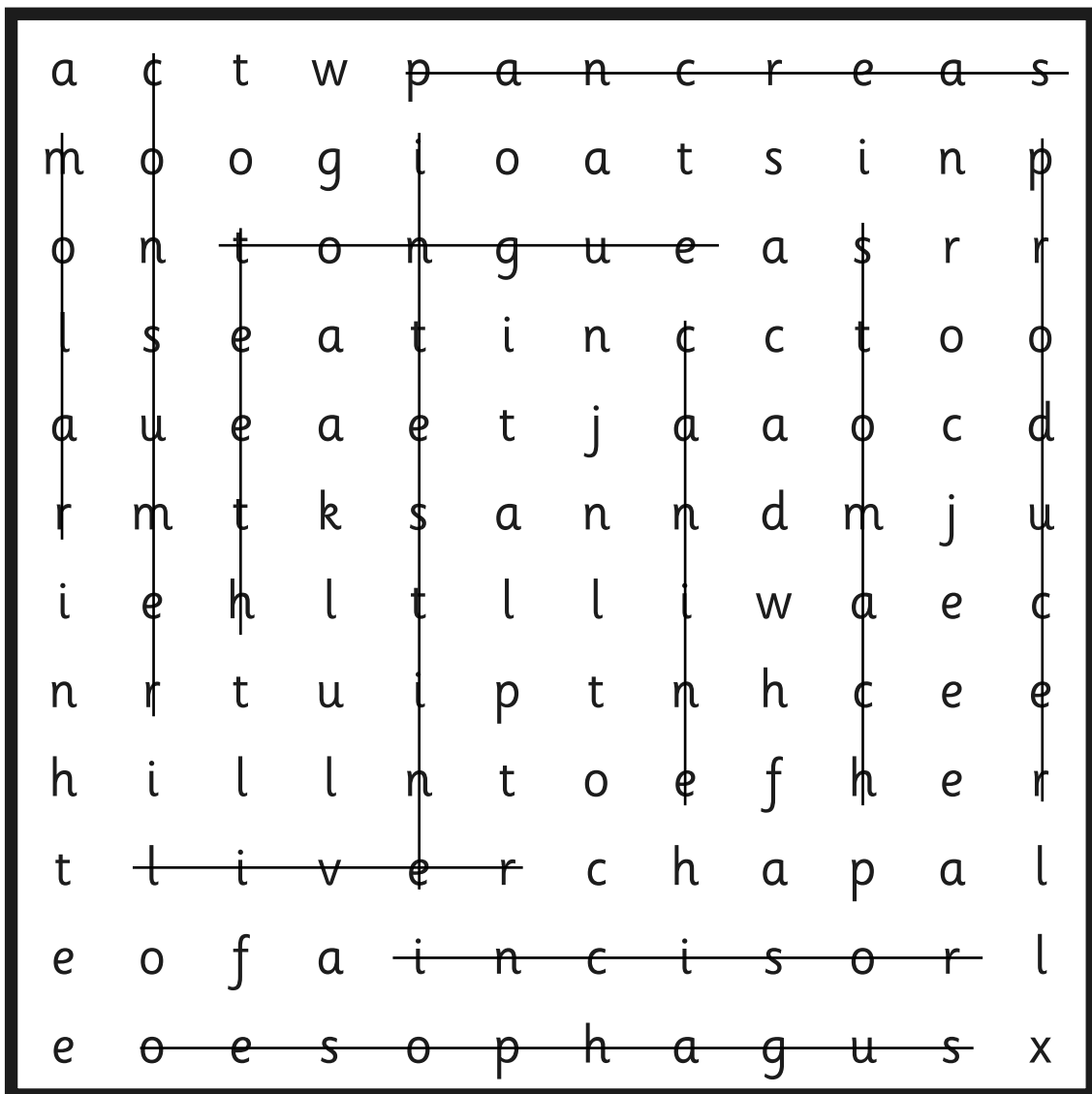
Animals Including Humans

a c t w p a n c r e a s
m o o g i o a t s i n p
o n t o n g u e a s r r
l s e a t i n c c t o o
a u e a e t j a a o c d
r m t k s a n n d m j u
i e h l t l l i w a e c
n r t u i p t n h c e e
h i l l n t o e f h e r
t l i v e r c h a p a l
e o f a i n c i s o r l
e o e s o p h a g u s x

teeth
tongue
stomach
oesophagus
intestine
liver

pancreas
canine
incisor
molar
producer
consumer

Animals Including Humans



teeth	pancreas
tongue	canine
stomach	incisor
oesophagus	molar
intestine	producer
liver	consumer

Animals Including Humans

t o n g u e t h w o g g
o c o a r e c t u m r a
s e o t c a n i n e e l
a i s n m s i n a r c l
e a n o s u n a i m u b
r n t c p u c o o a d l
c s t f i h m l i v o a
n e f u r s a e r y r d
a l l a m r o g r a p d
p r e m o l a r u s w e
i n t e s t i n e s e r
t o o t h n r e v i l t

oesophagus

stomach

liver

gallbladder

intestine

pancreas

rectum

anus

tongue

tooth

canine

incisor

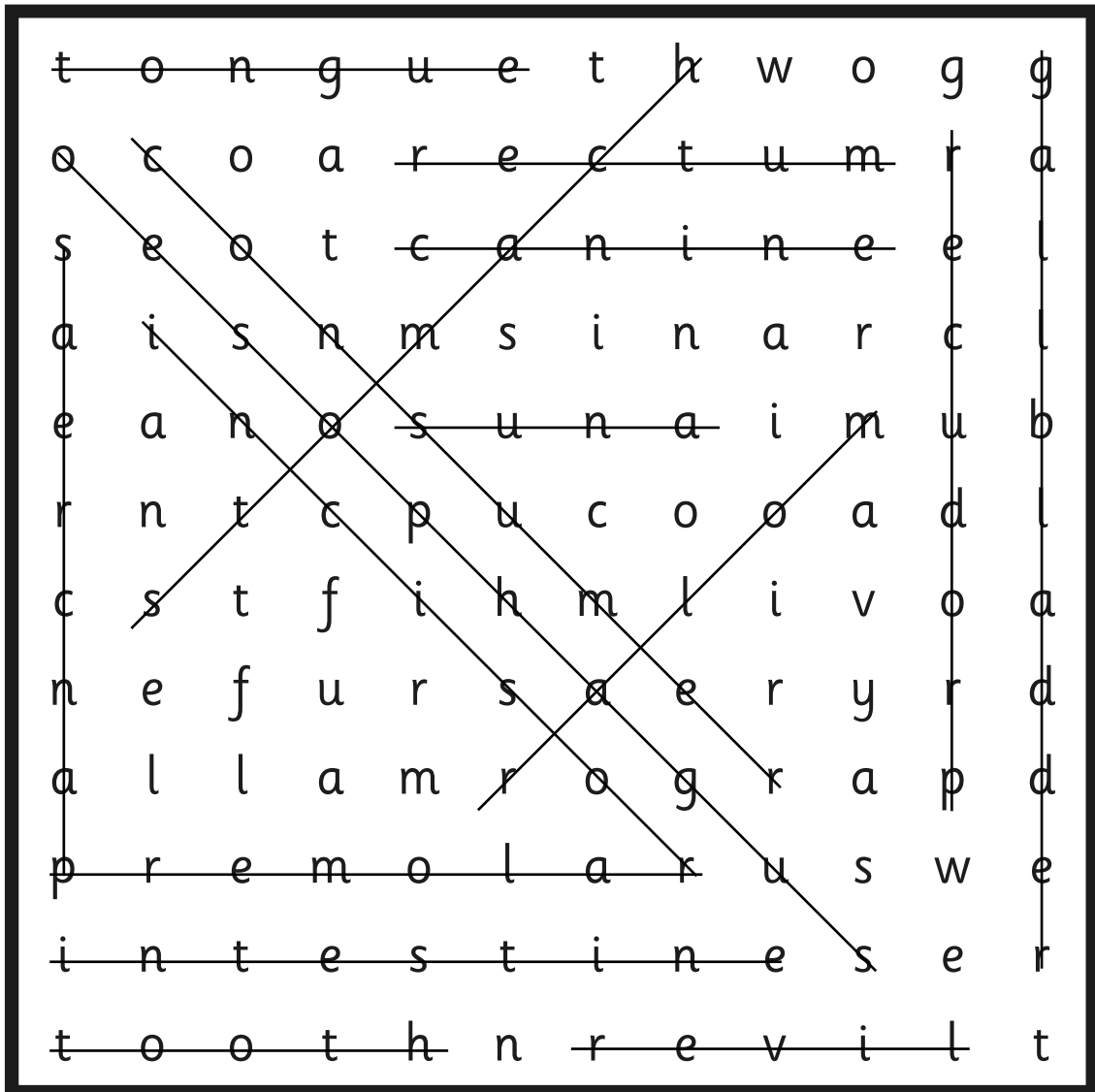
molar

premolar

producer

consumer

Animals Including Humans



oesophagus

stomach

liver

gallbladder

intestine

pancreas

rectum

anus

tongue

tooth

canine

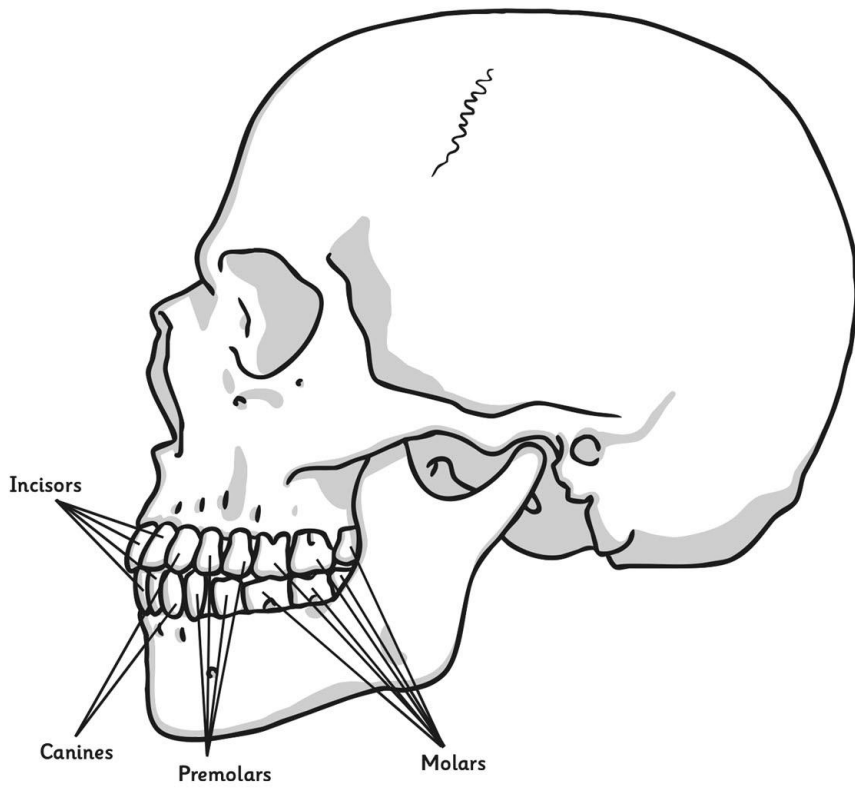
incisor

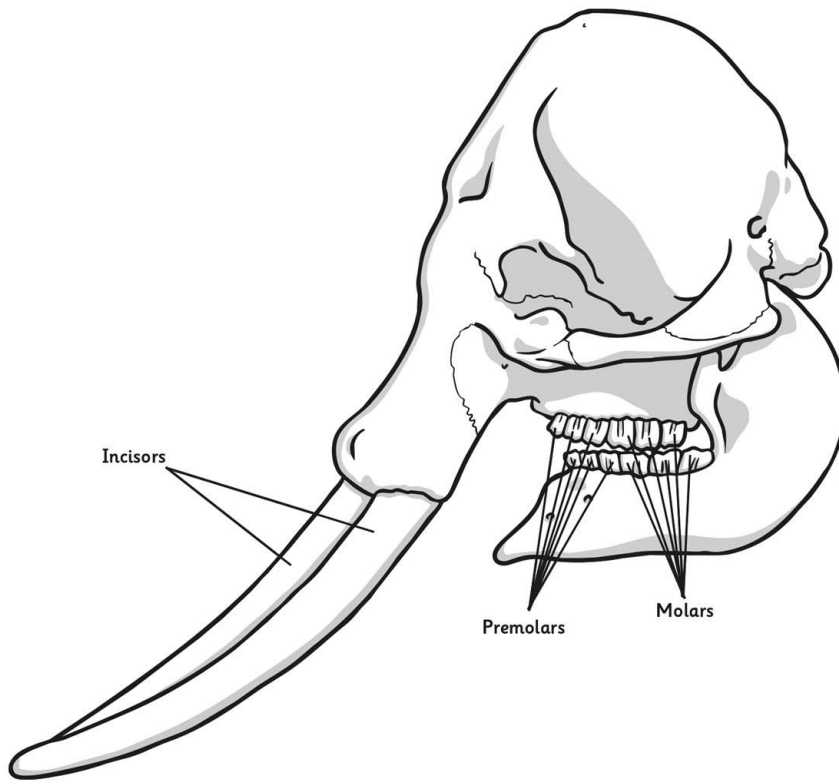
molar

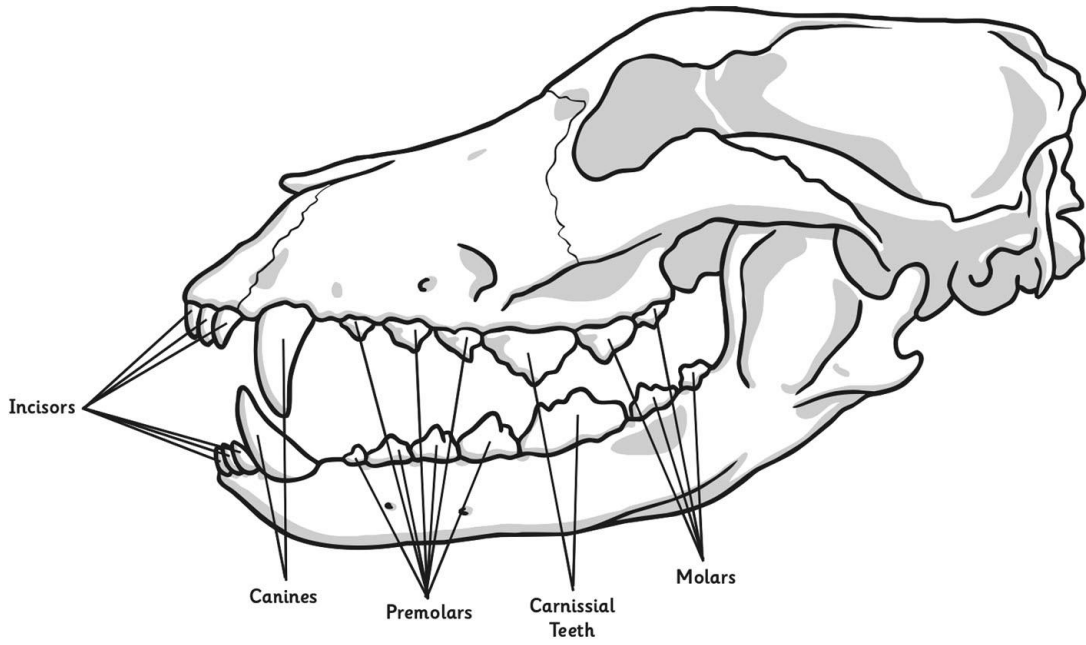
pre-molar

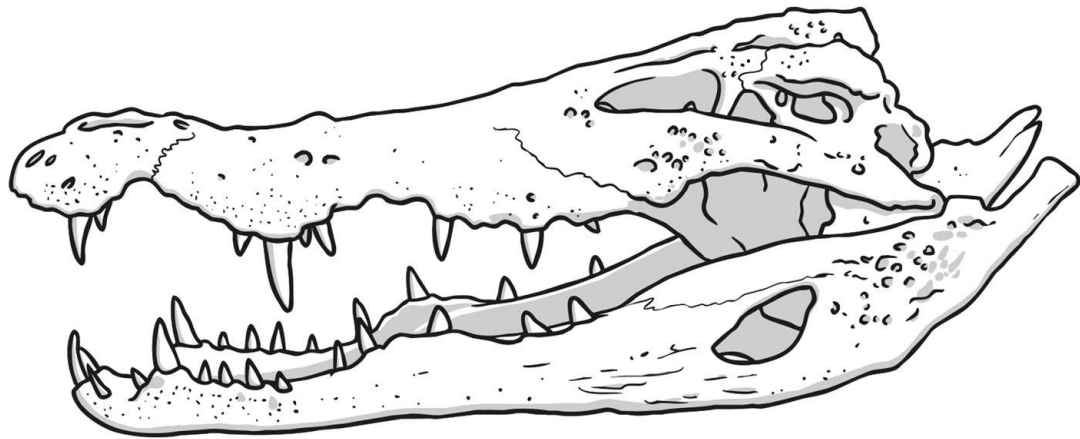
producer

consumer

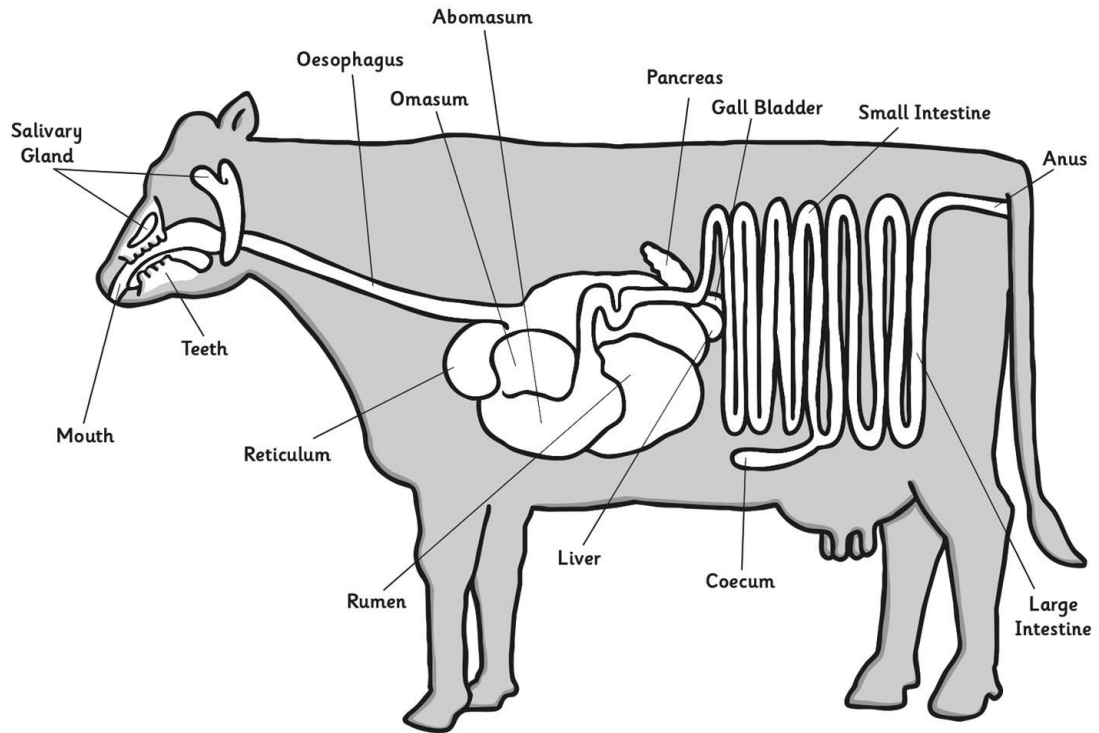


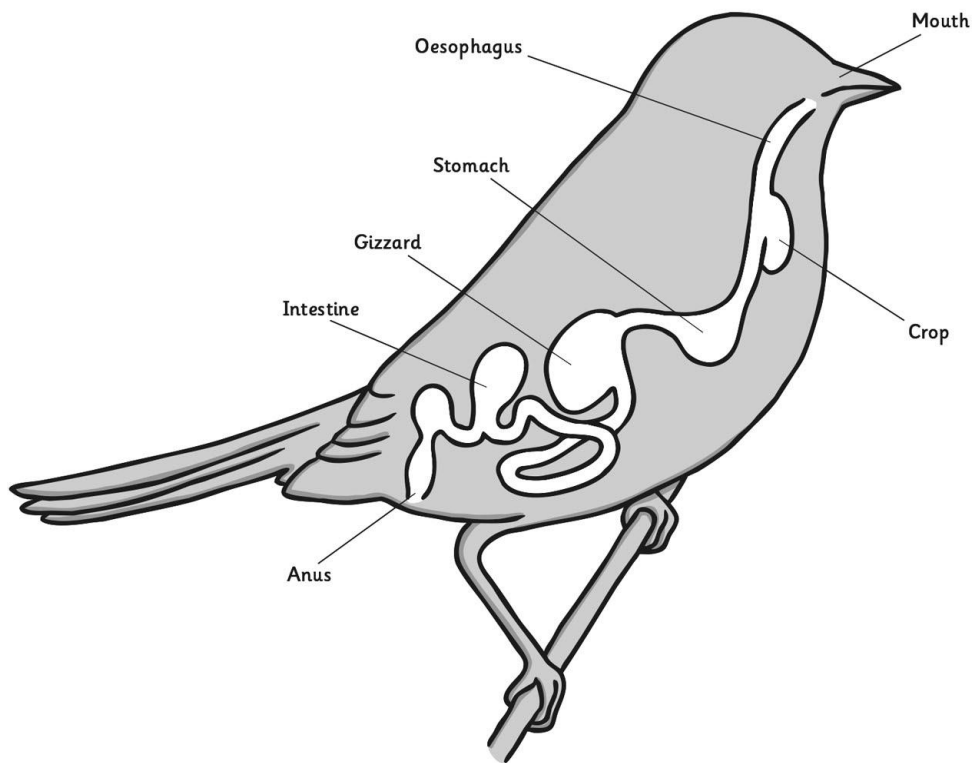


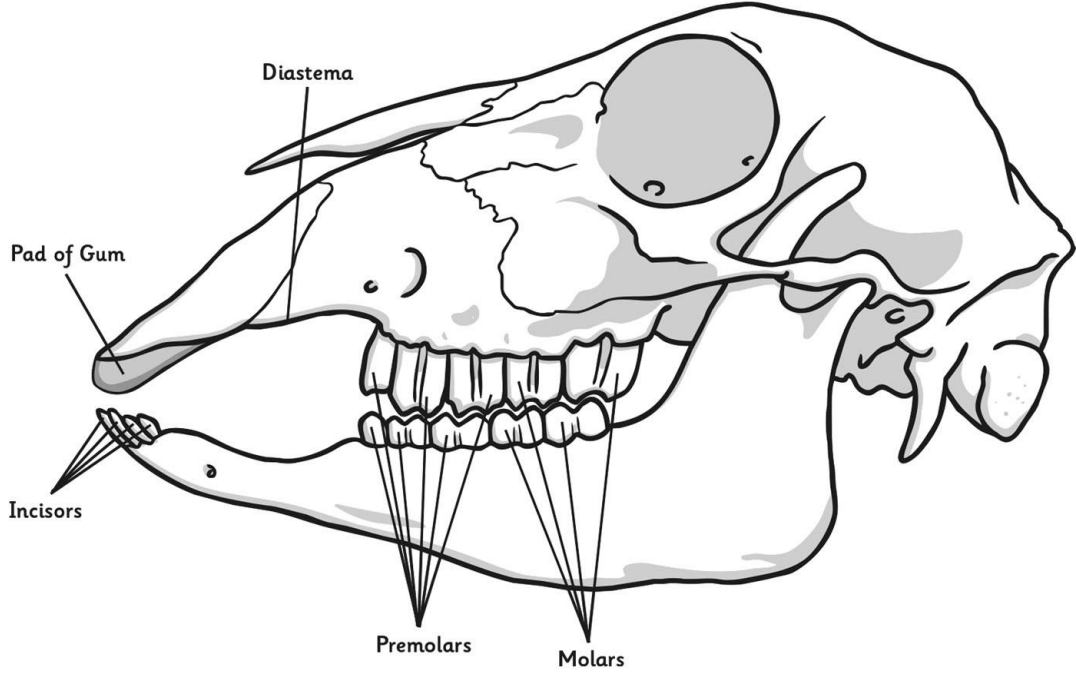


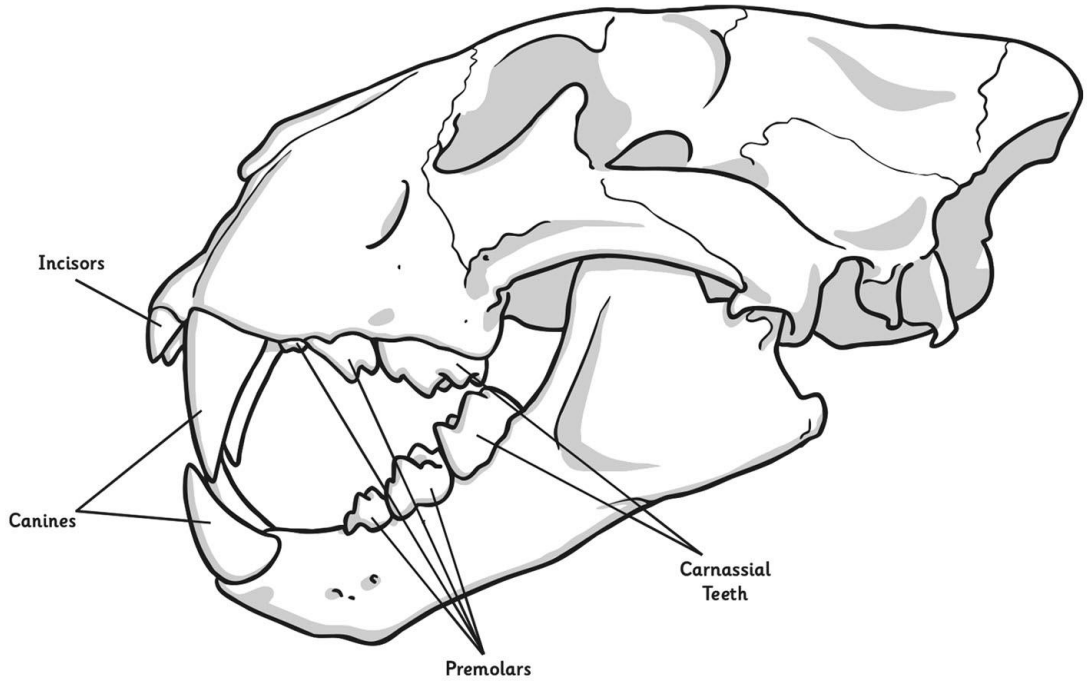


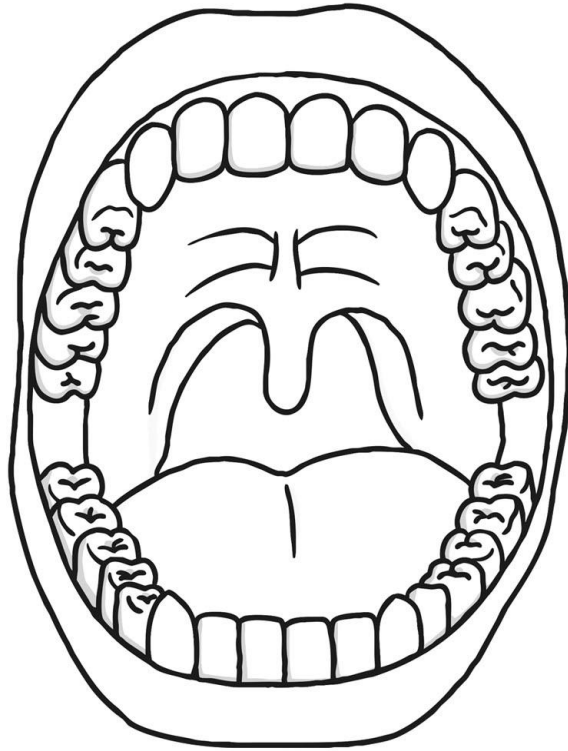
All Crocodile teeth are canines

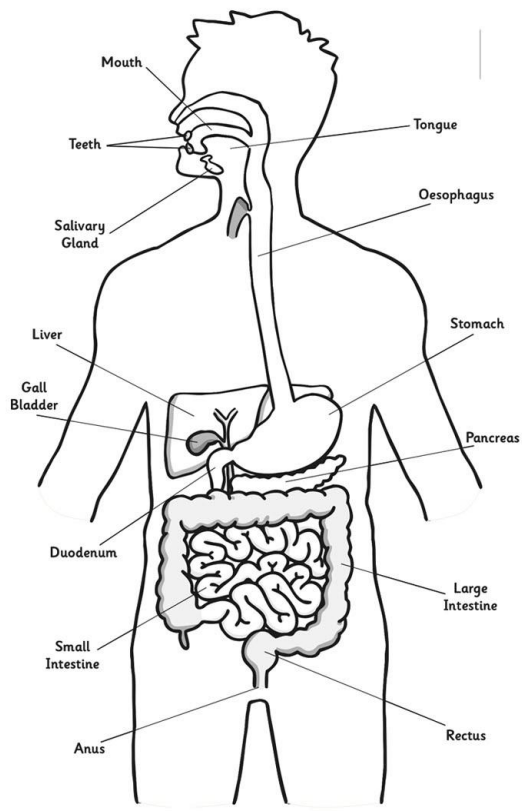


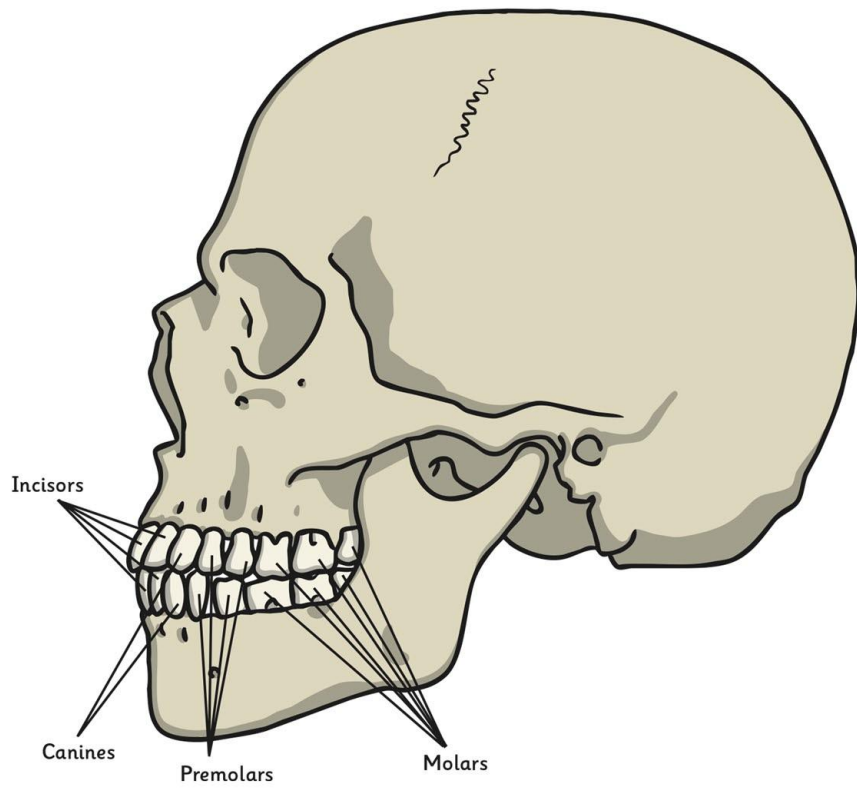


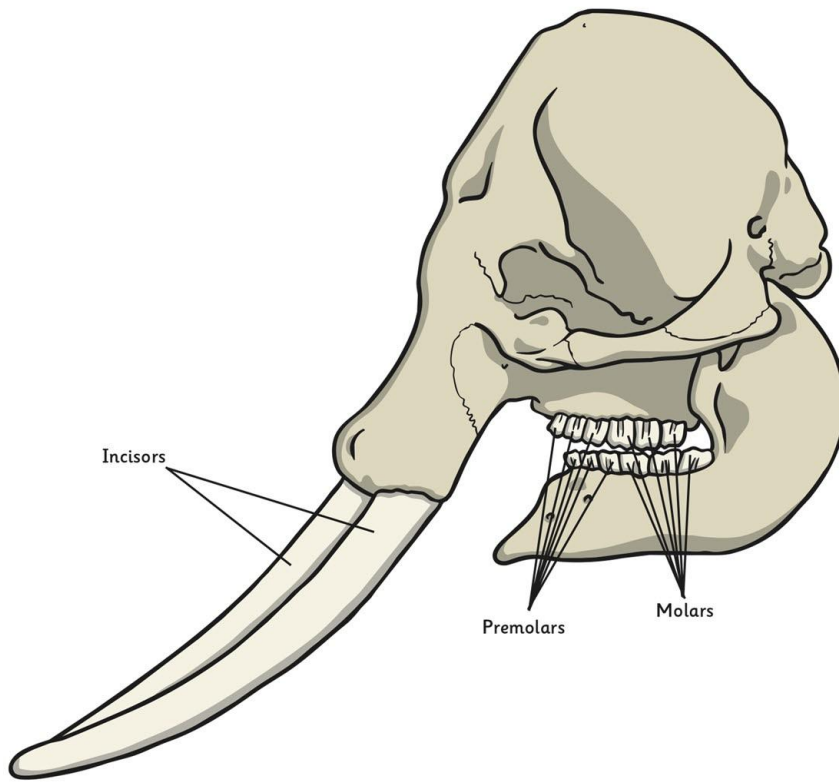


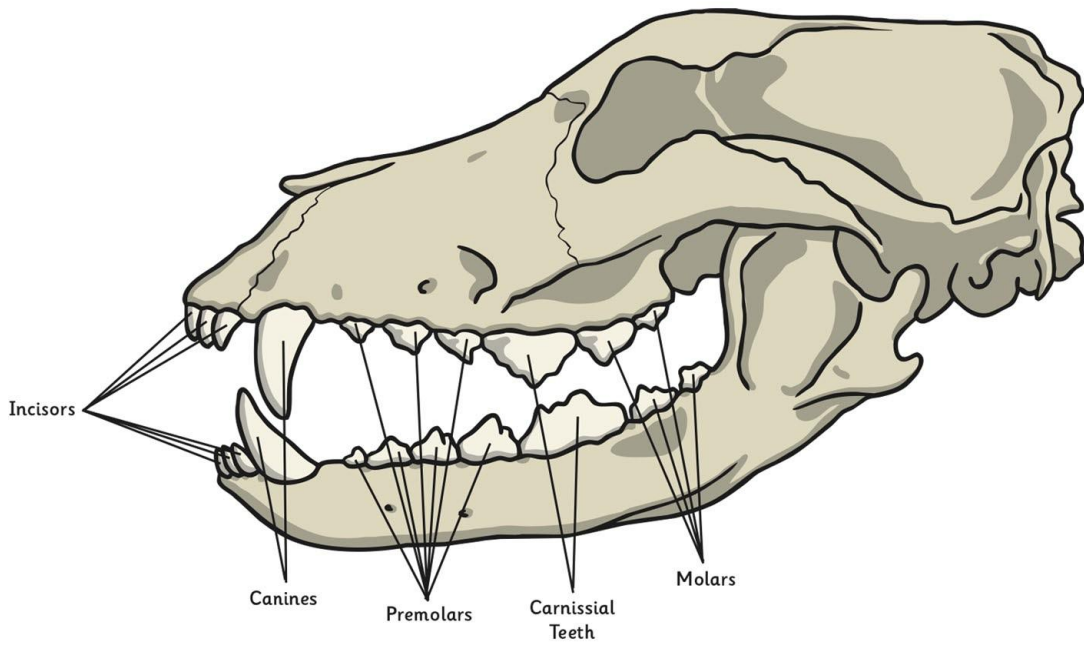


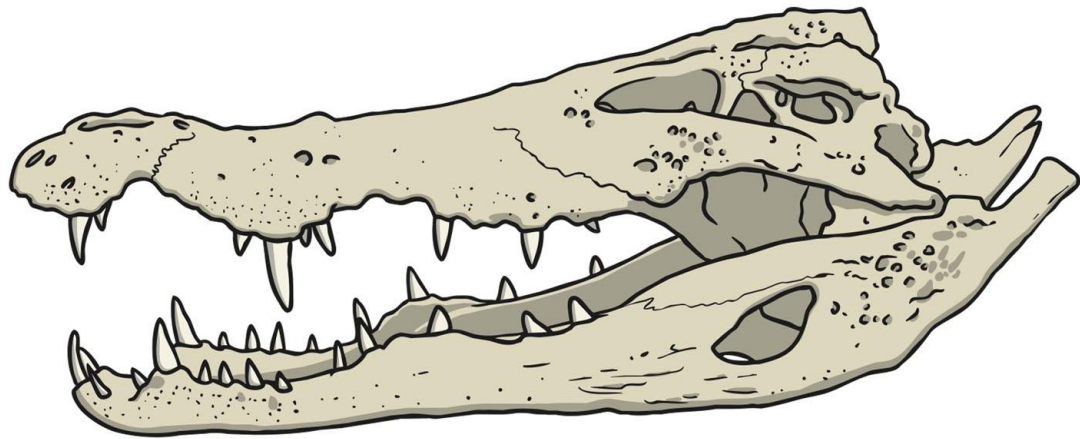




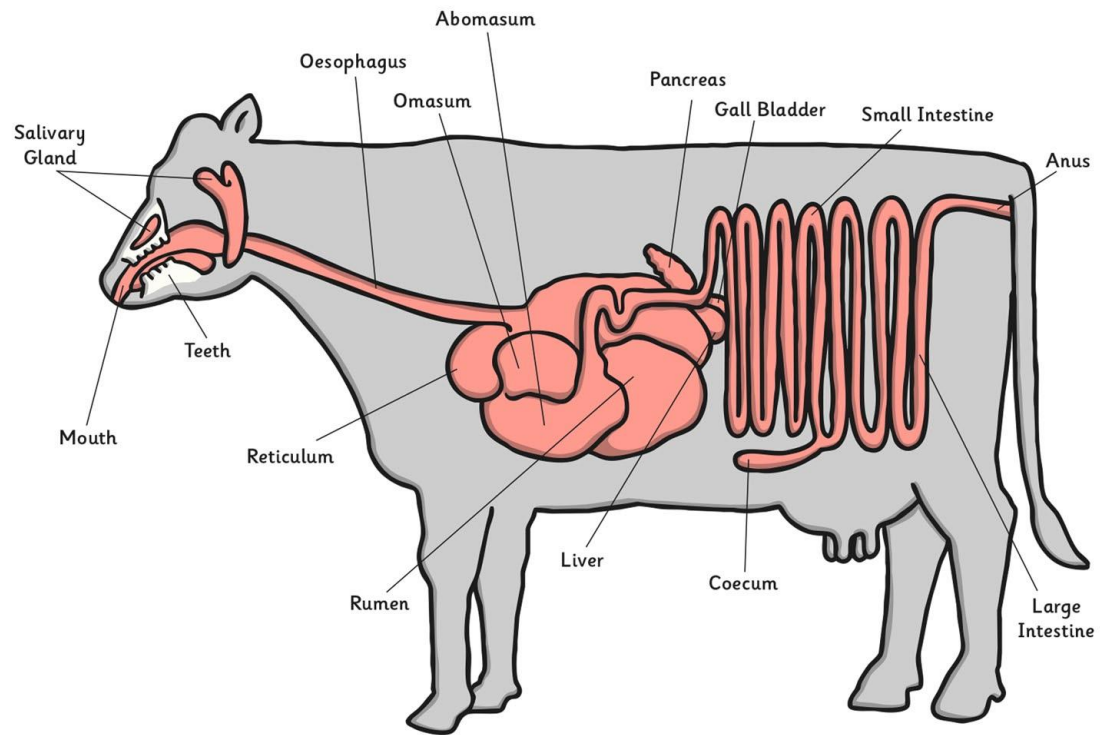


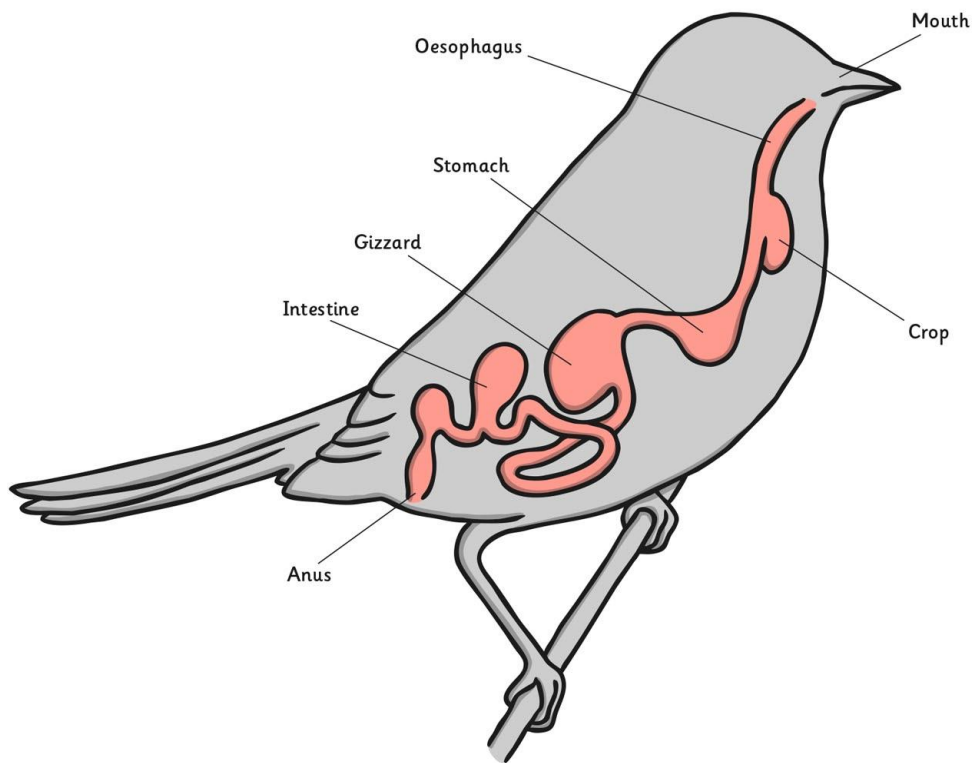


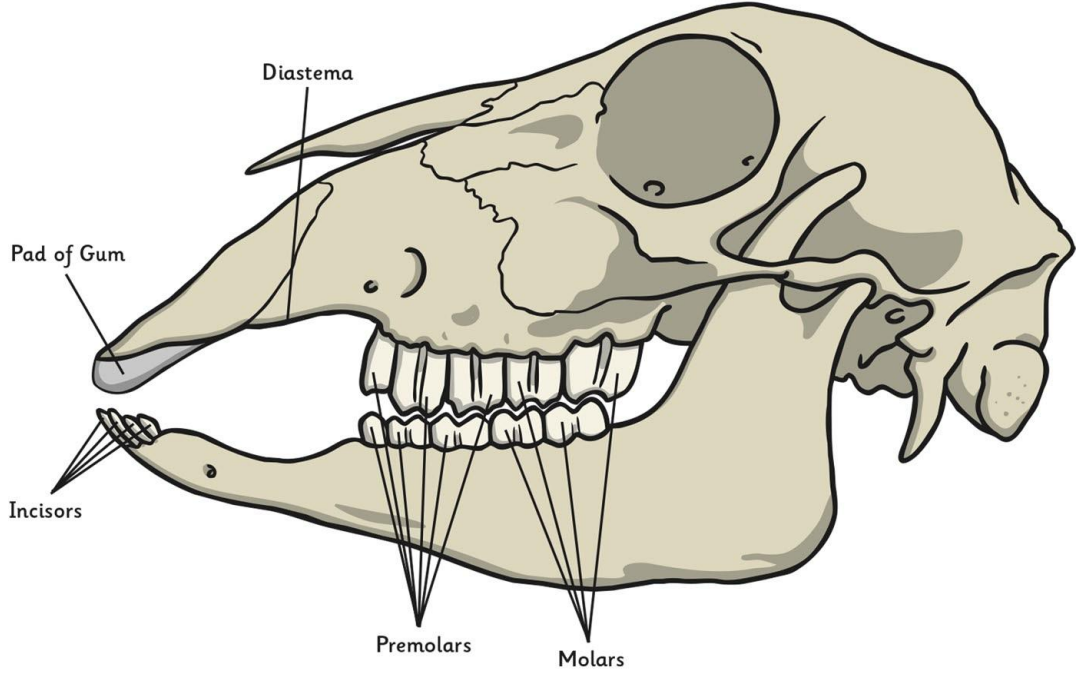


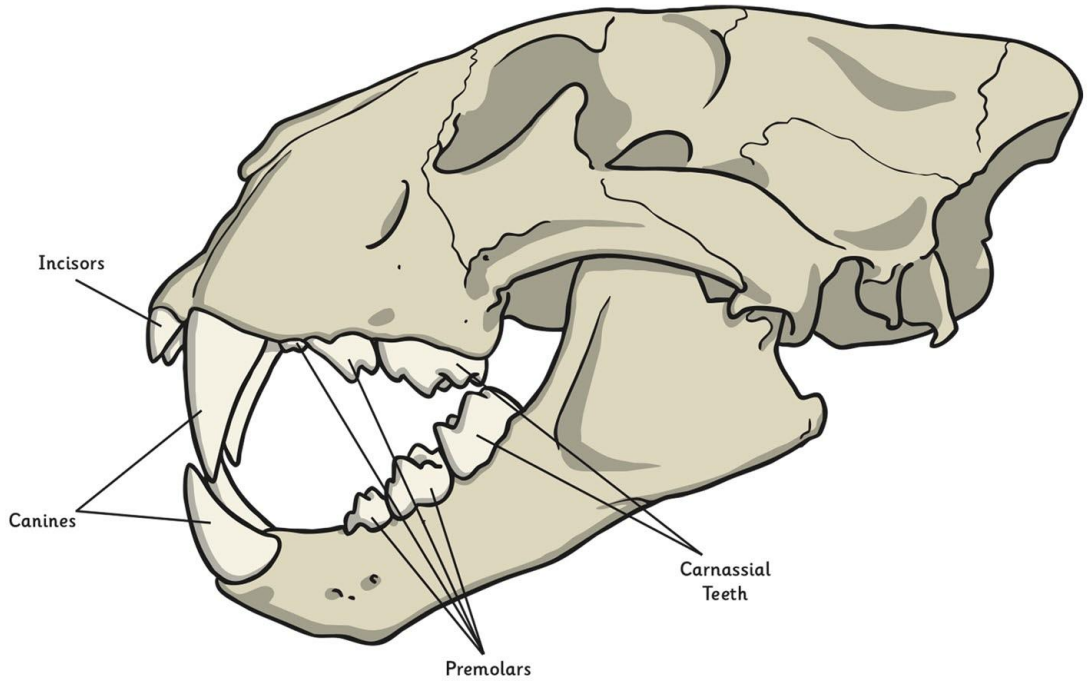


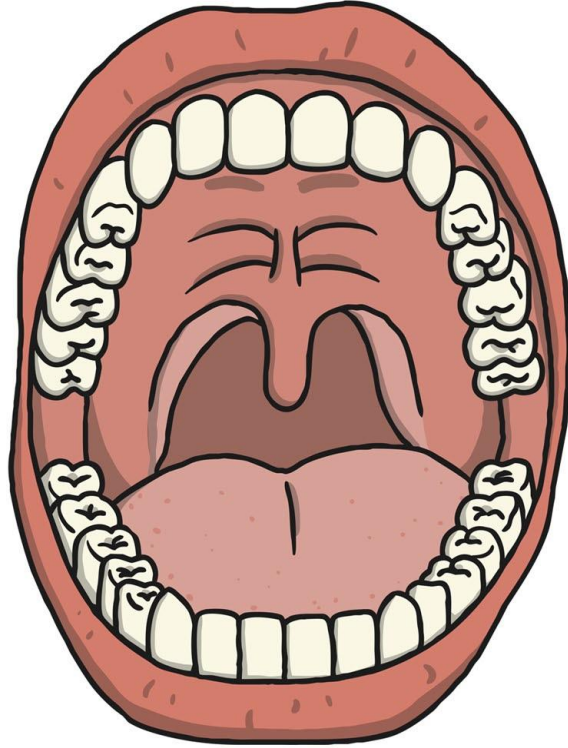
All Crocodile teeth are canines

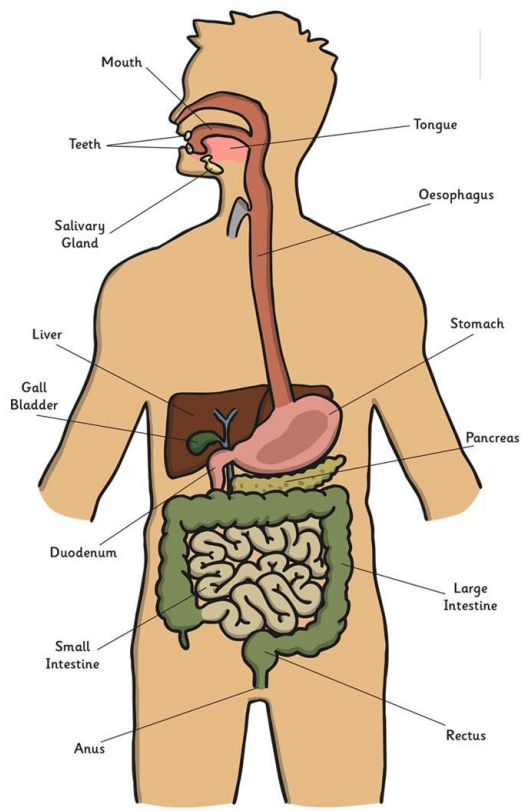


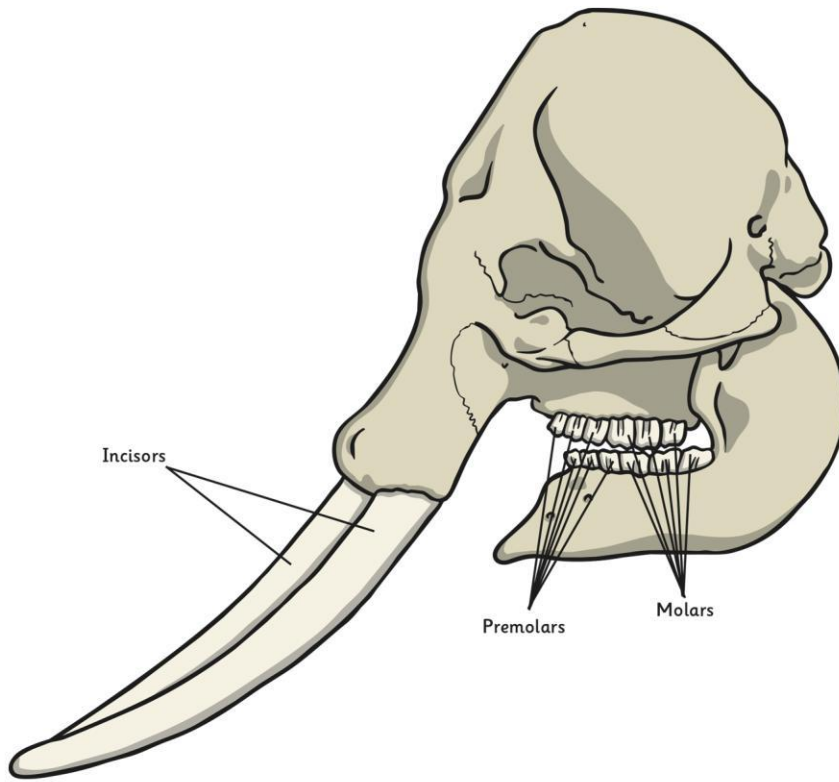




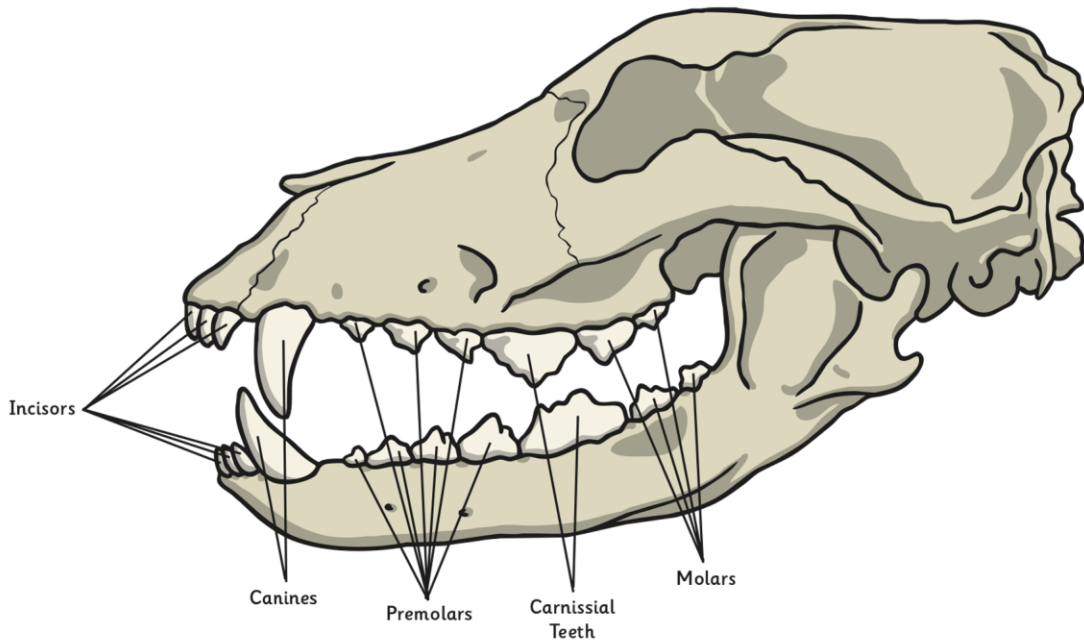




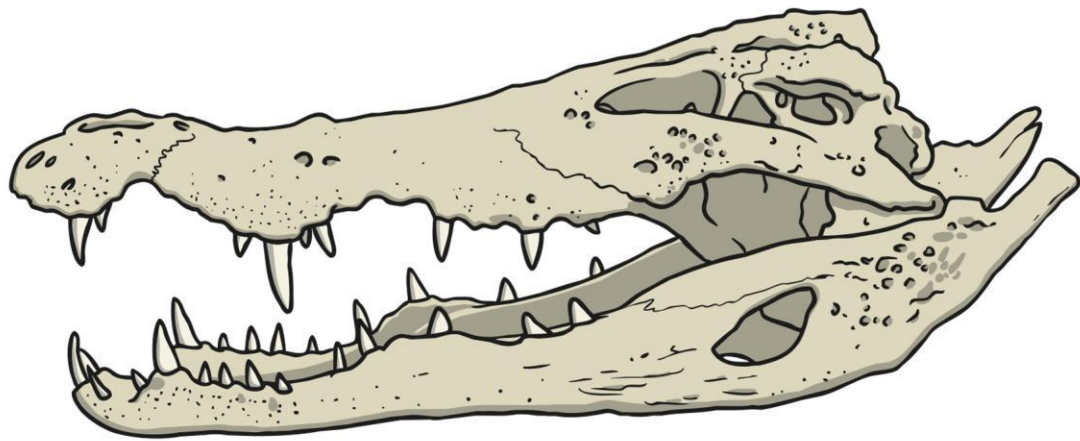




Insert Text Here

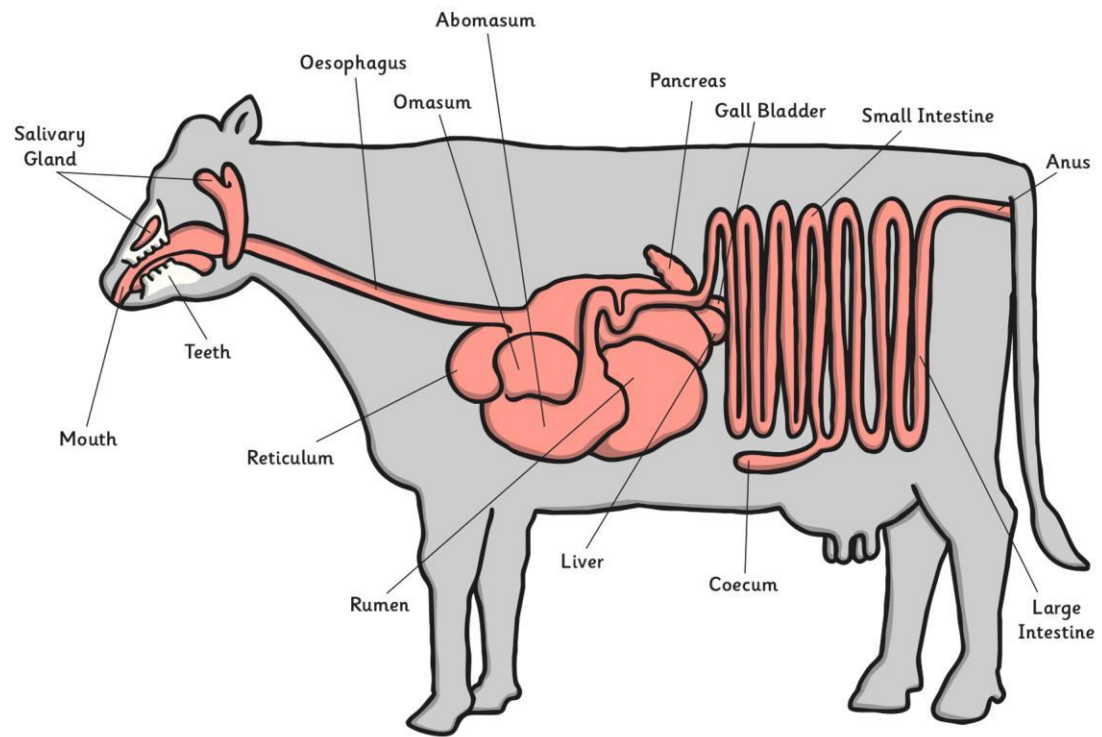


Insert Text Here

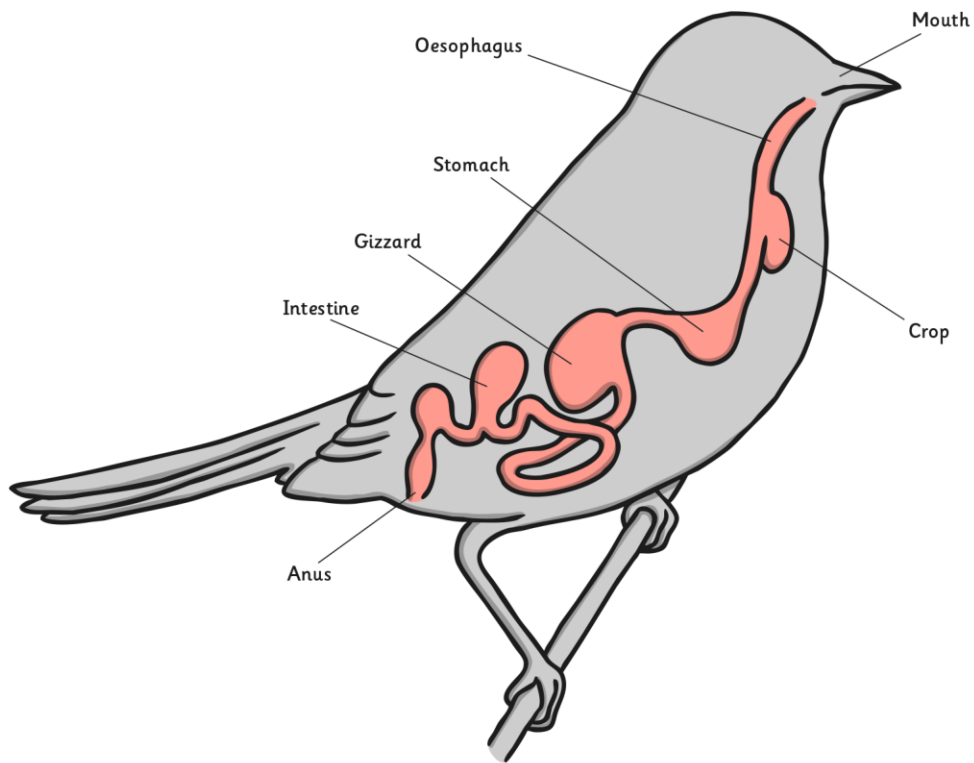


All Crocodile teeth are canines

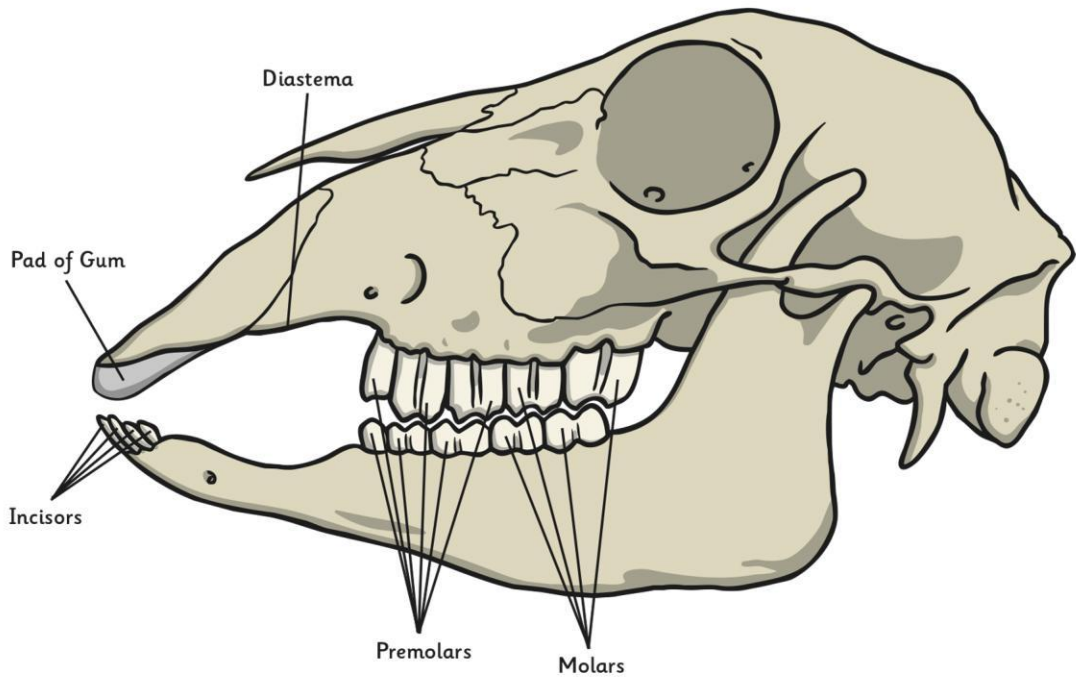
Insert Text Here



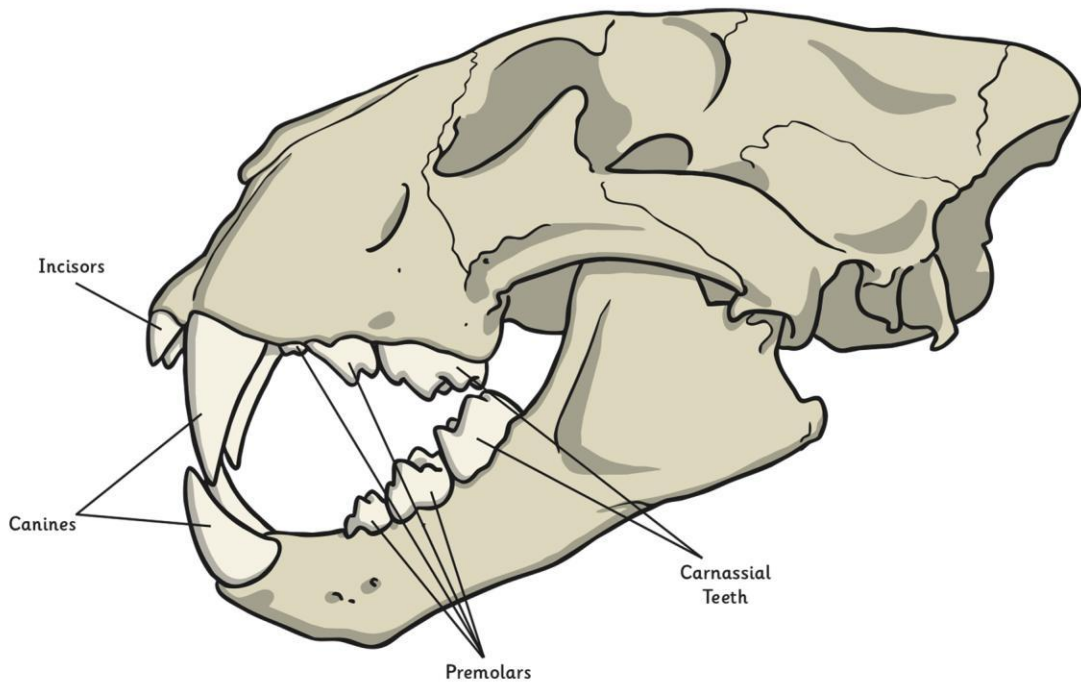
Insert Text Here



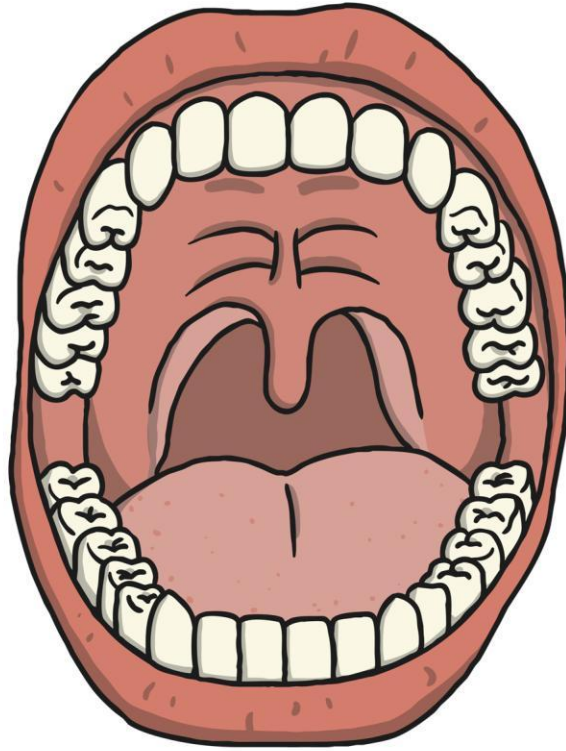
Insert Text Here



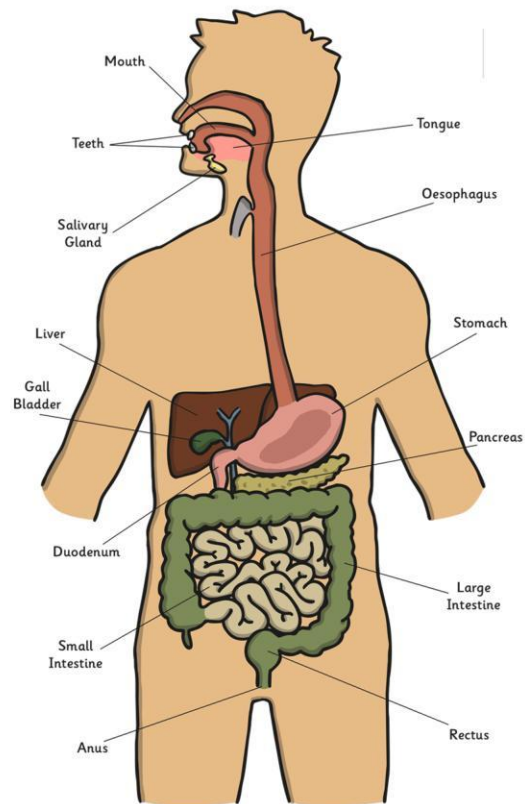
Insert Text Here



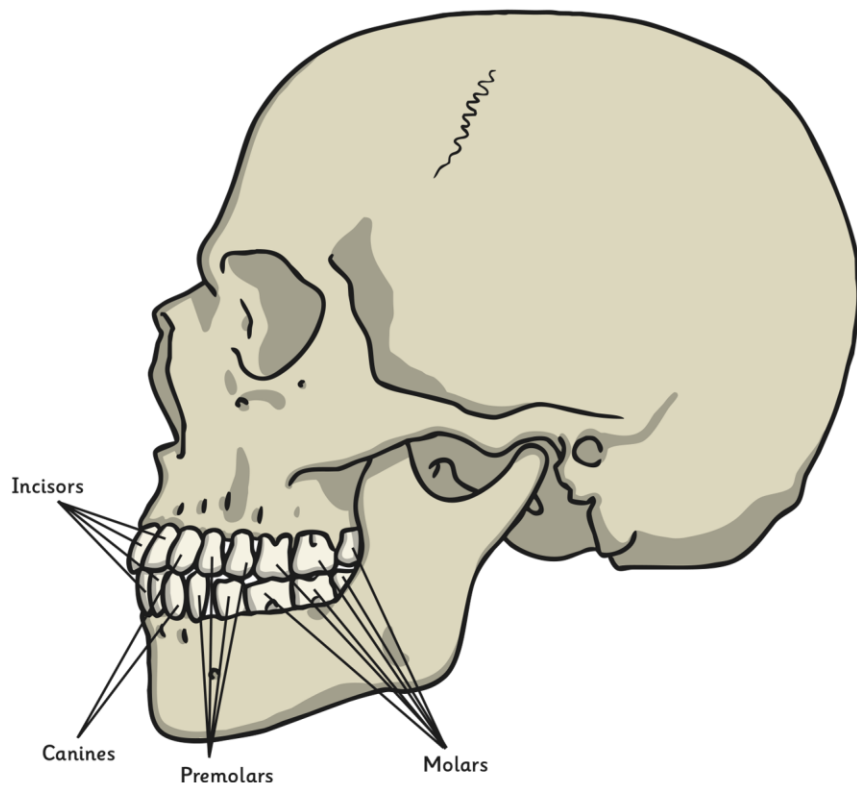
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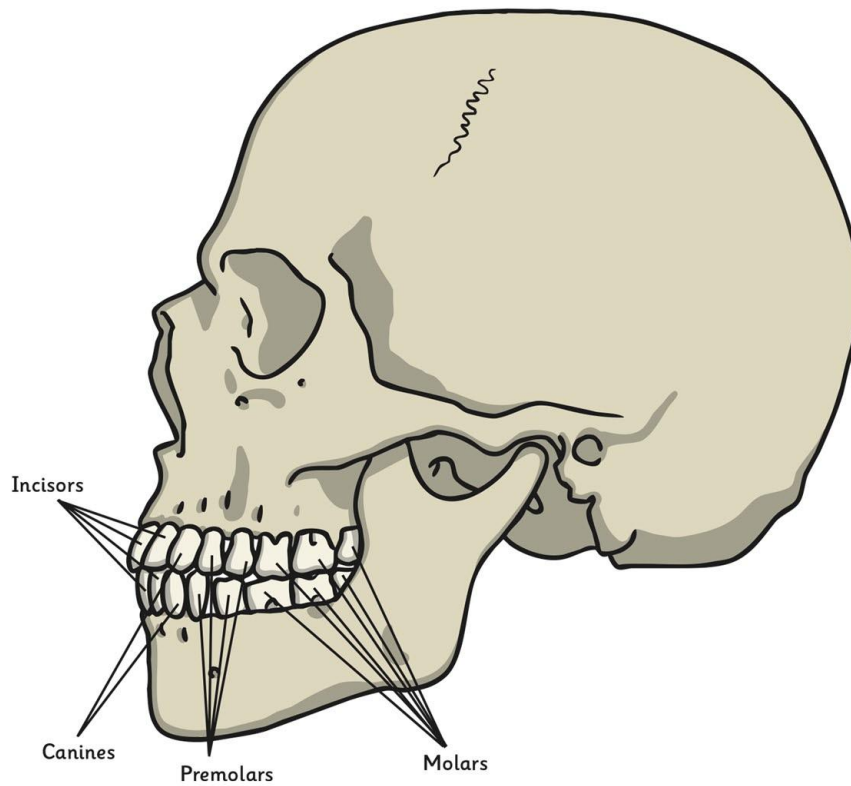
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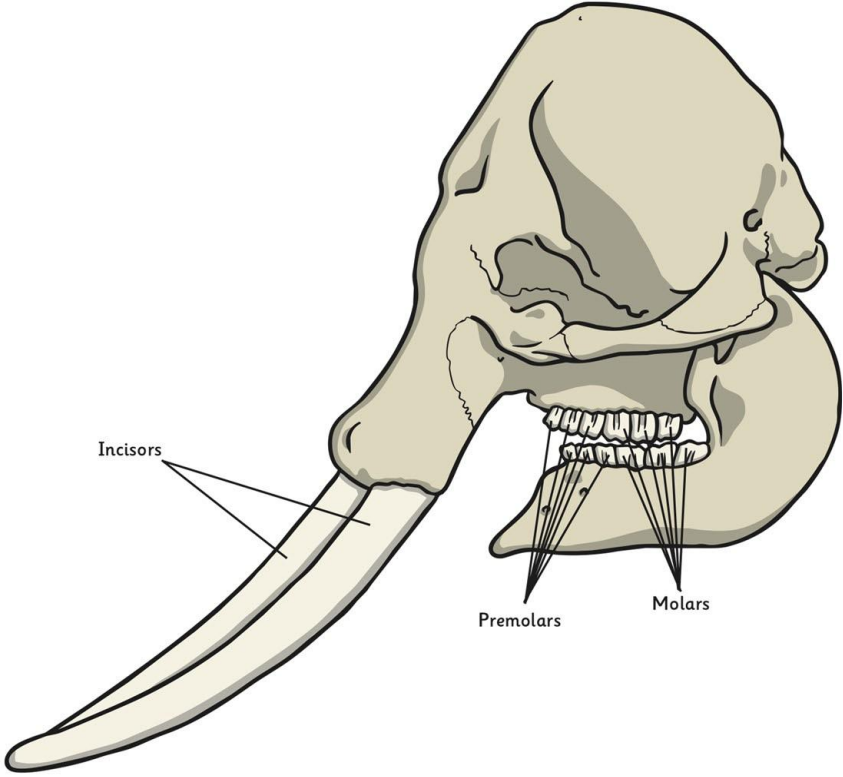


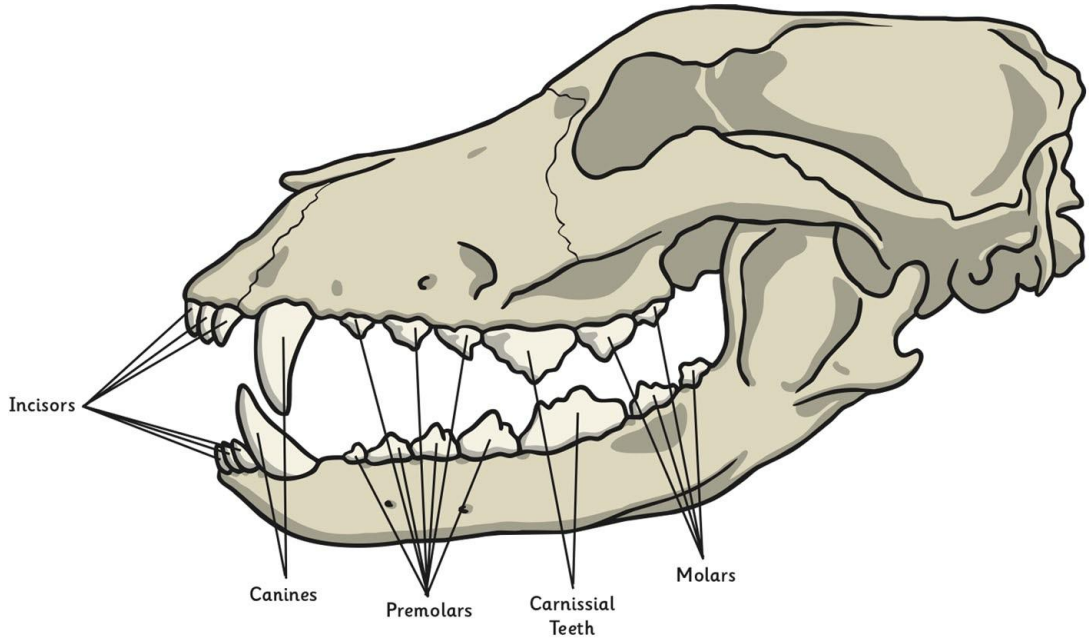
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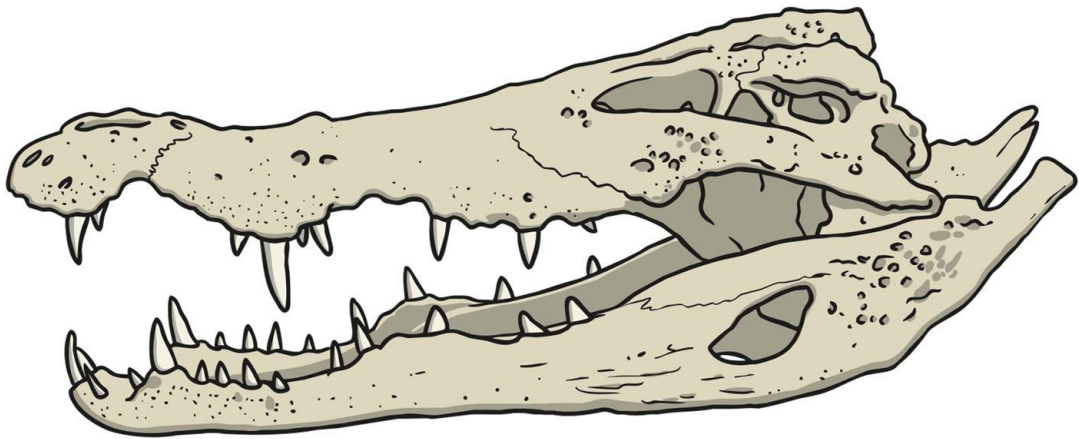


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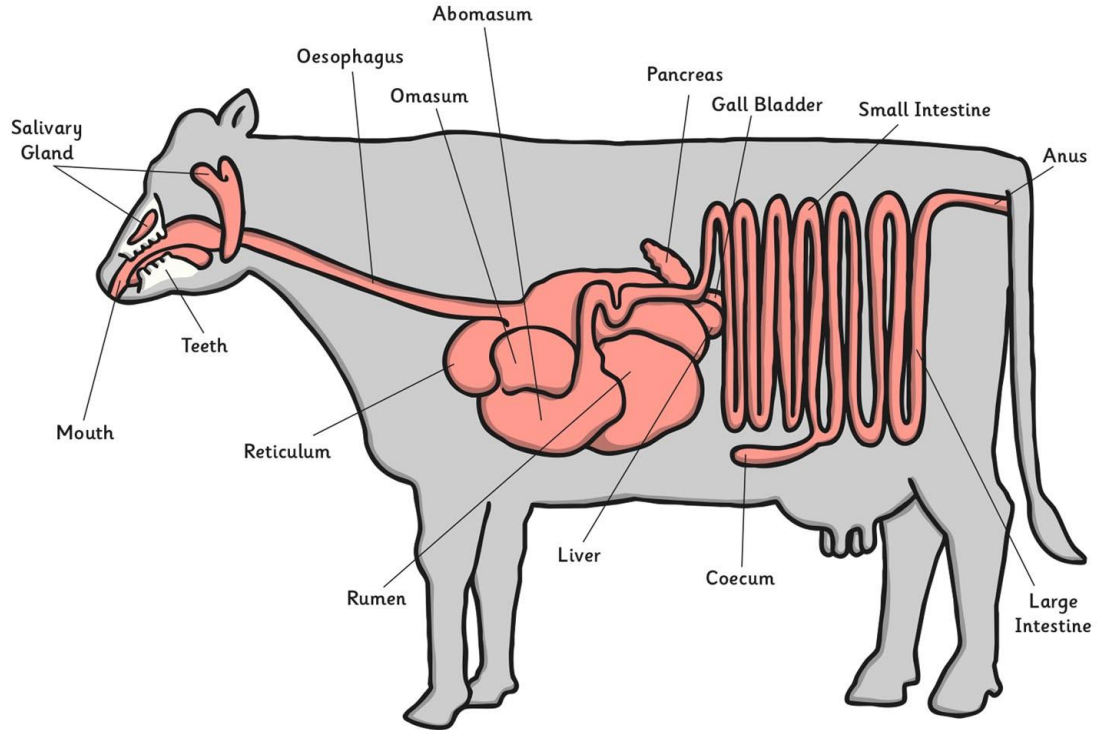


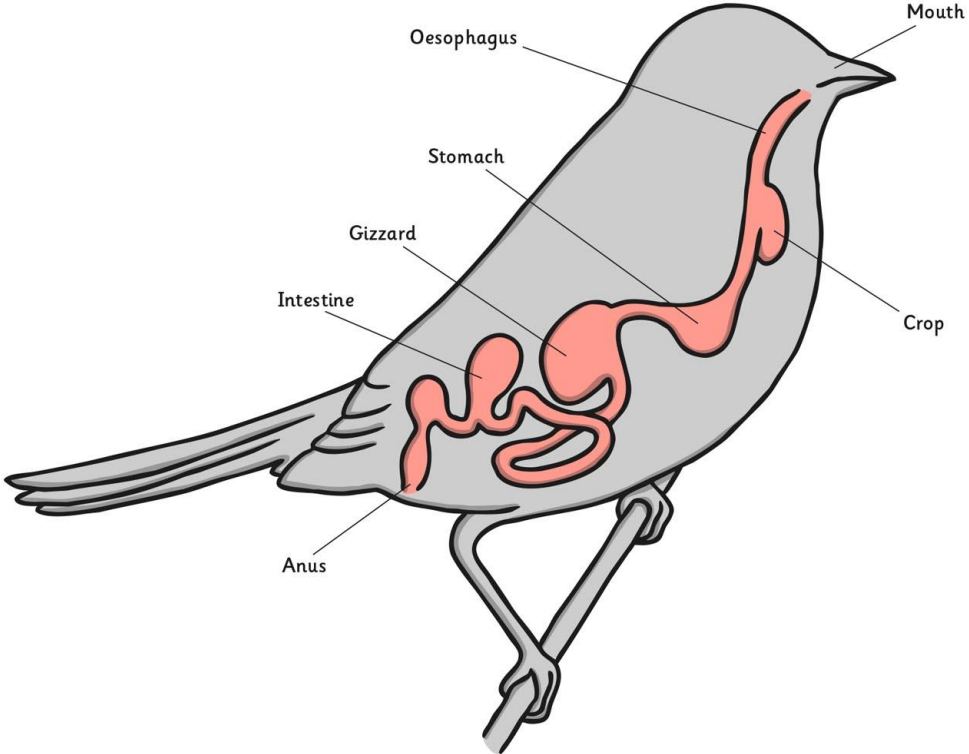


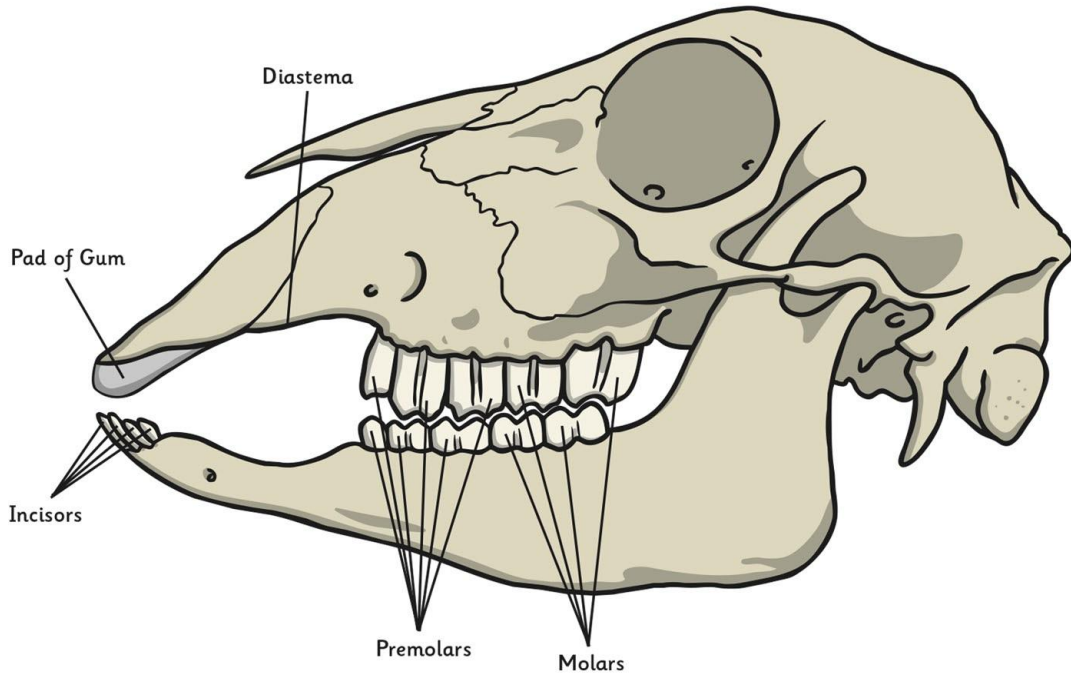


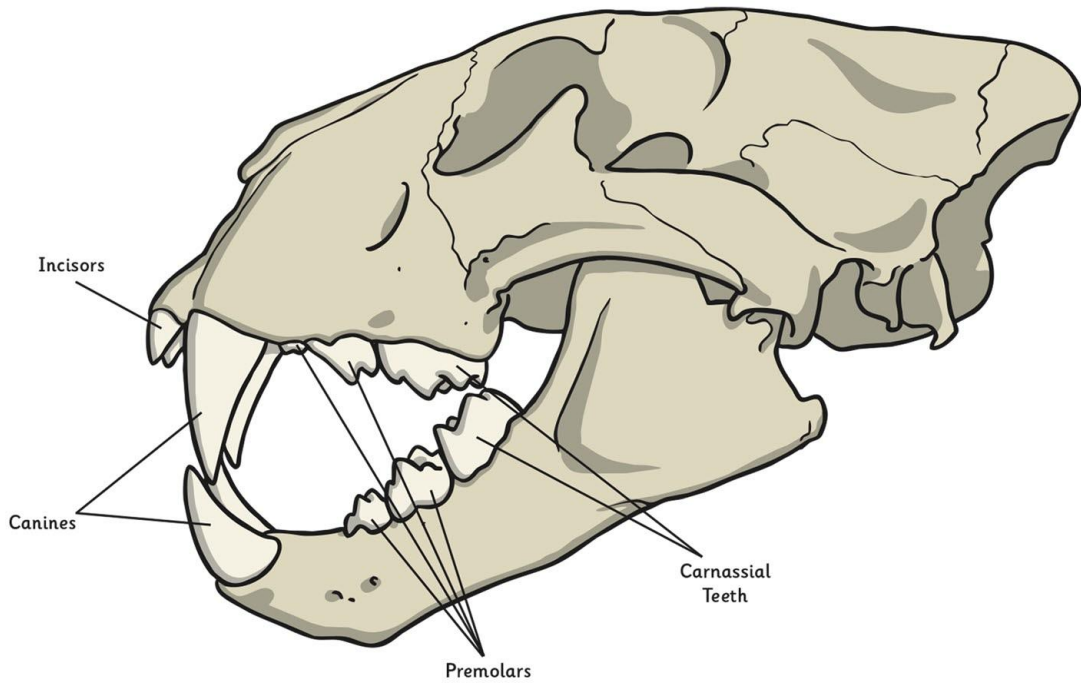


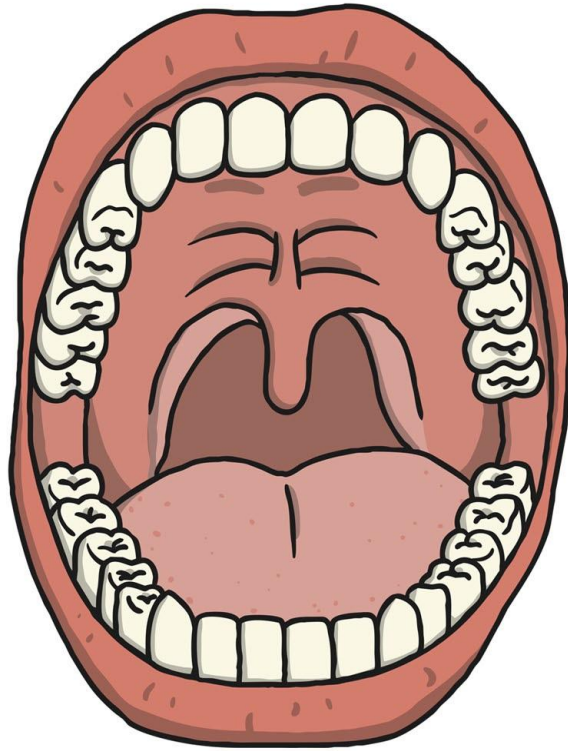
All Crocodile teeth are canines



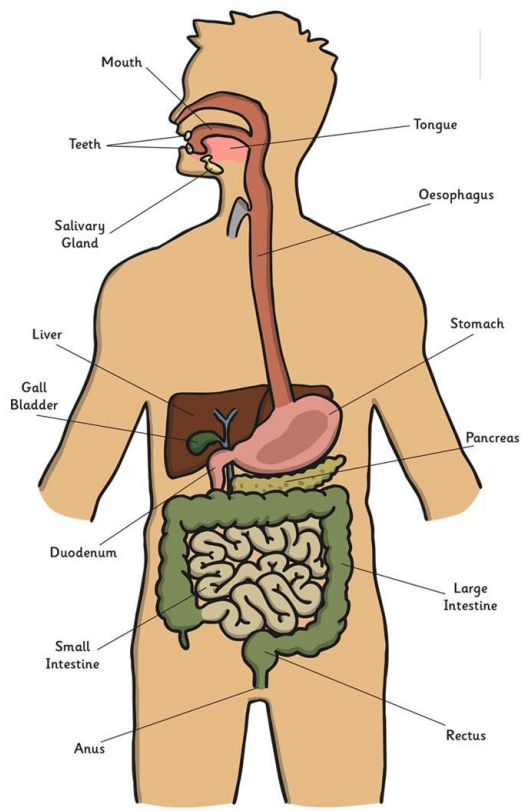


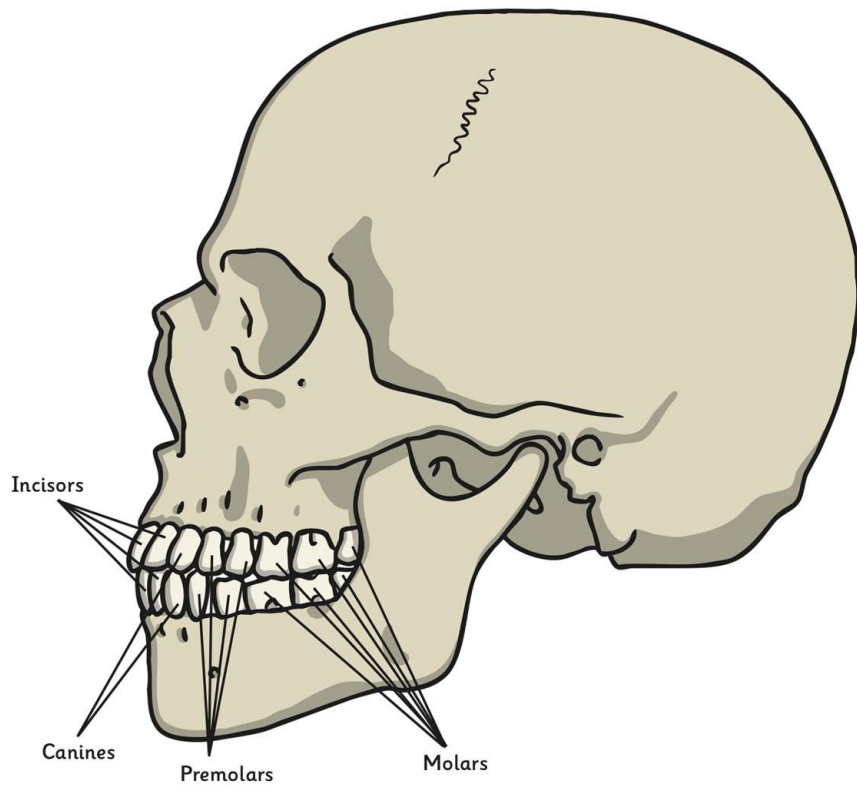


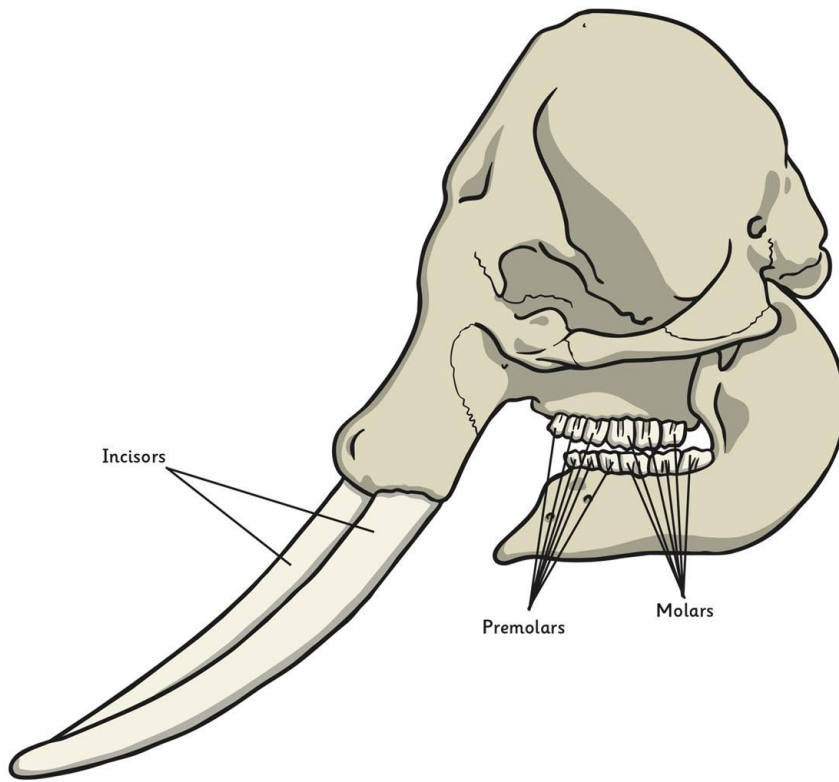


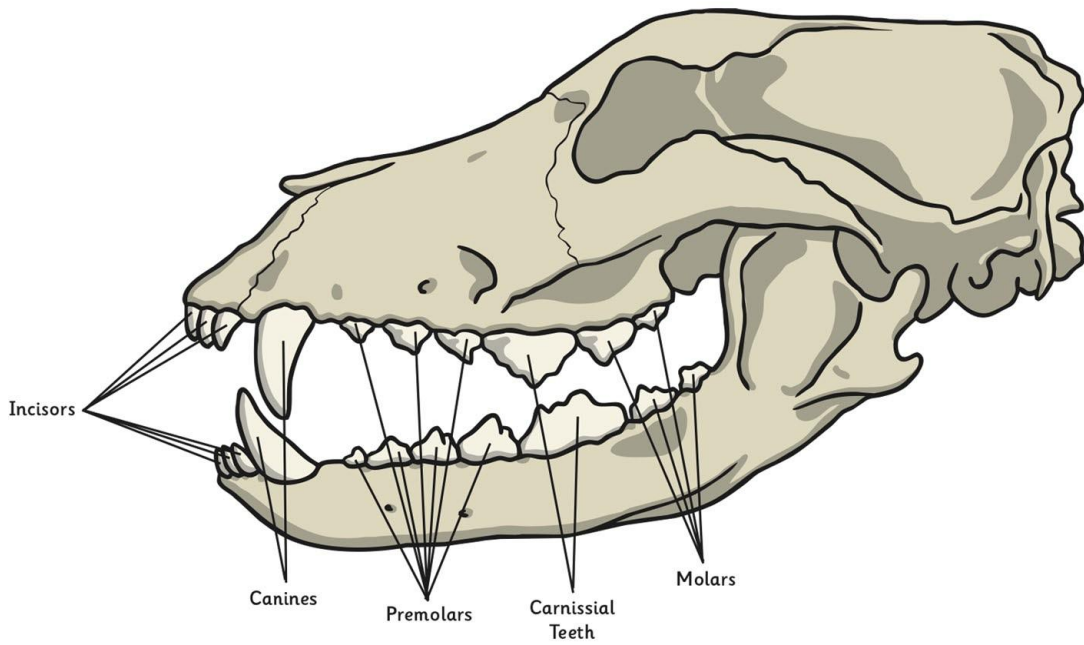


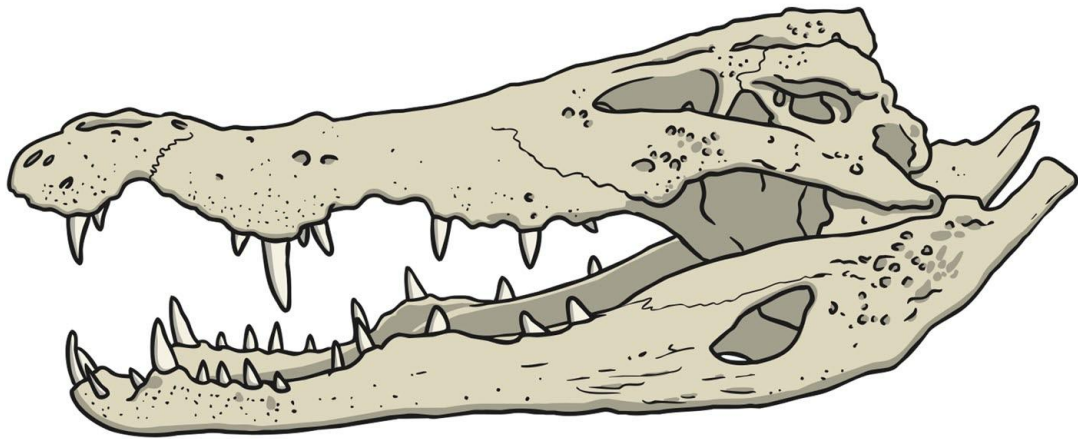




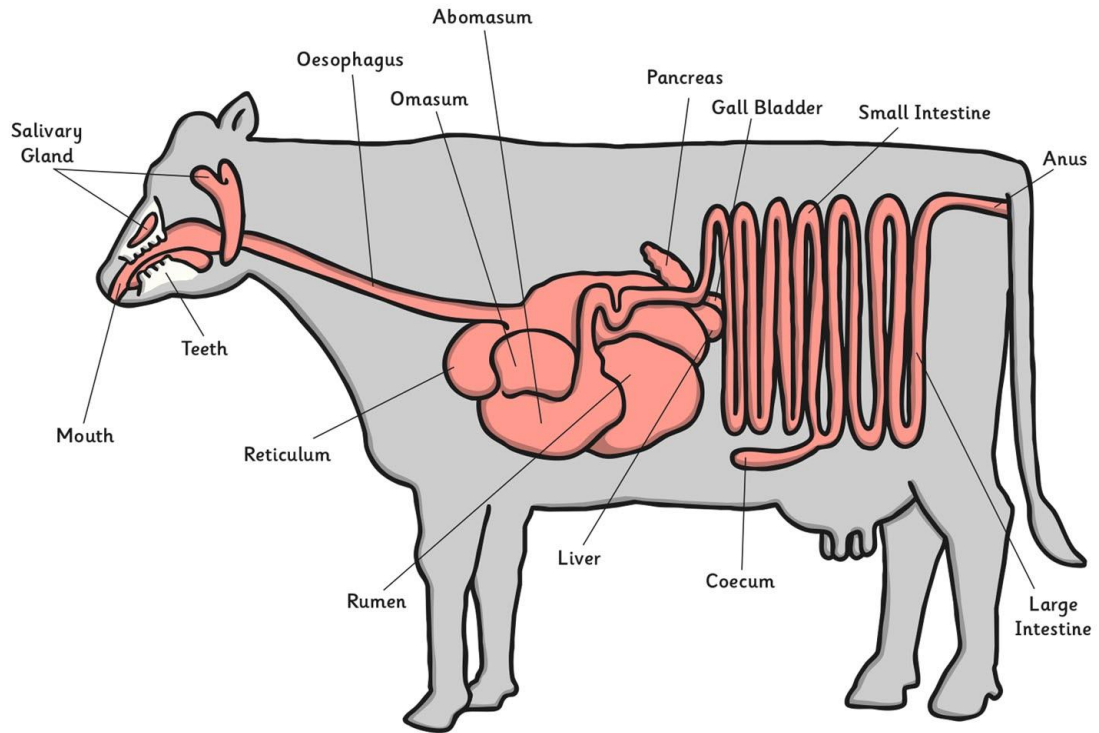


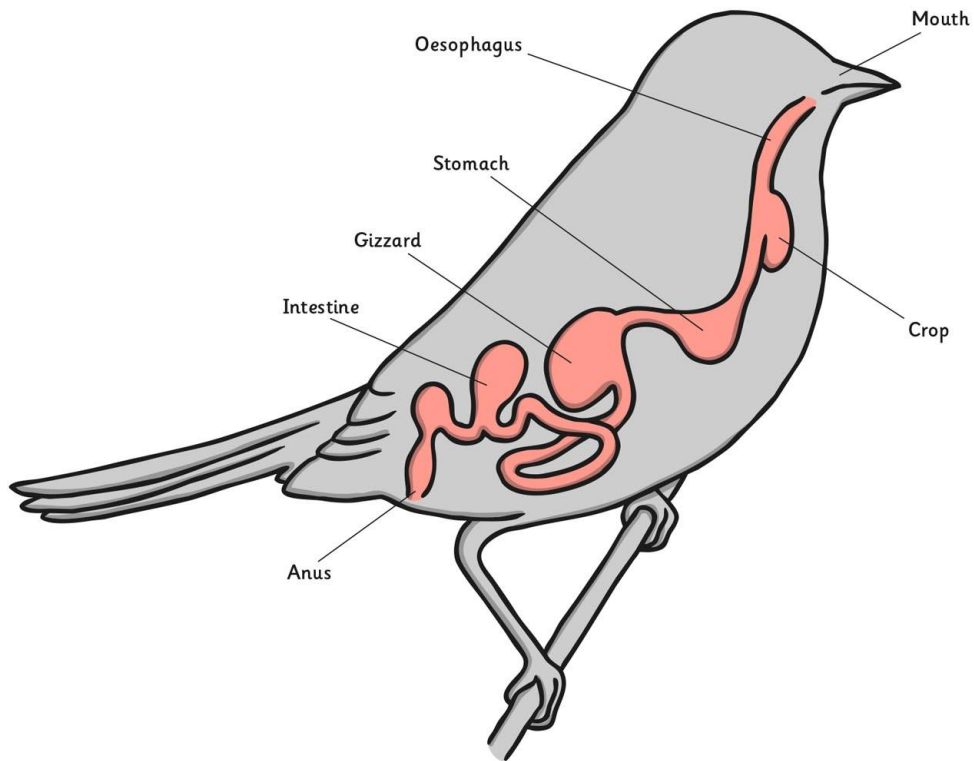


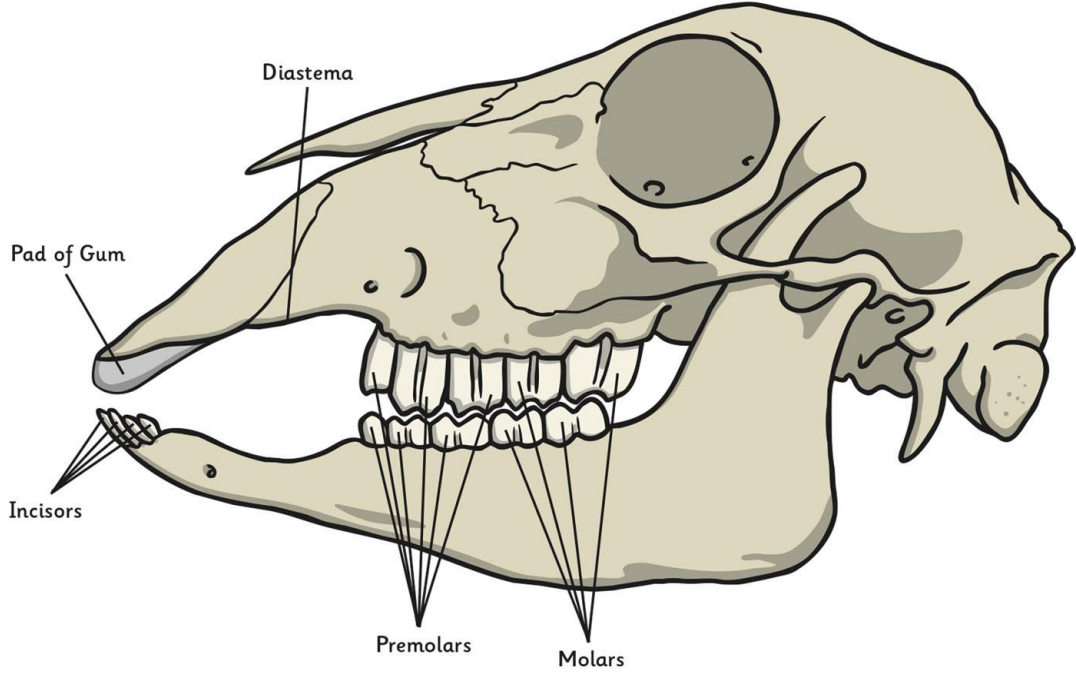


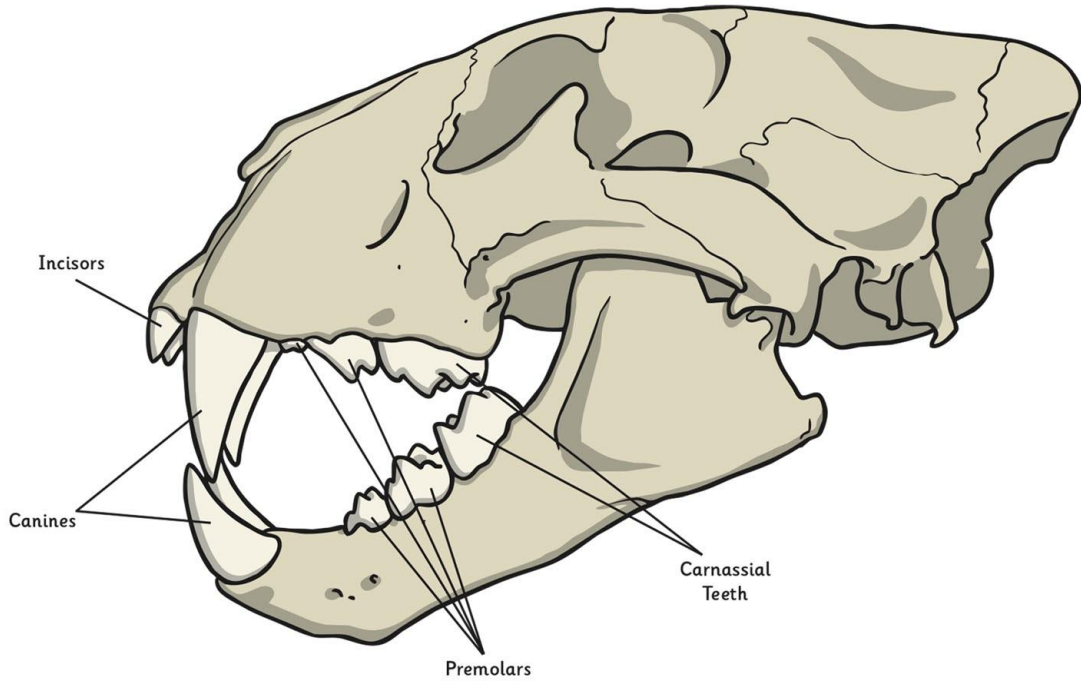


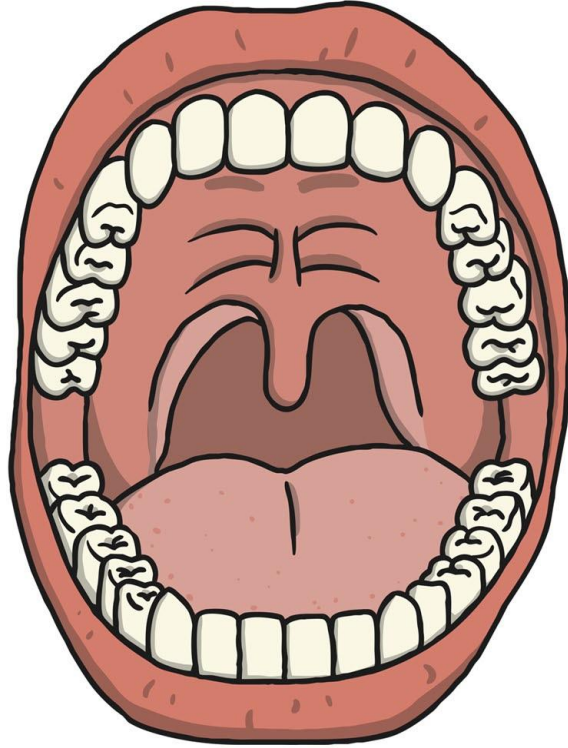
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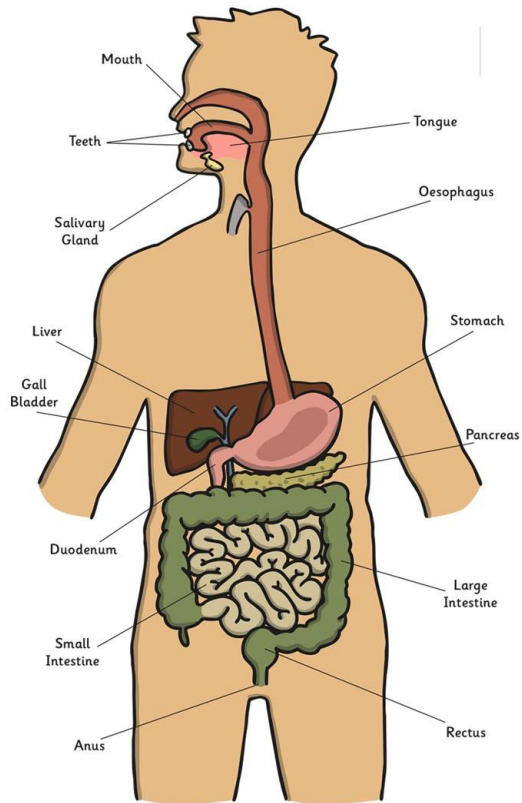


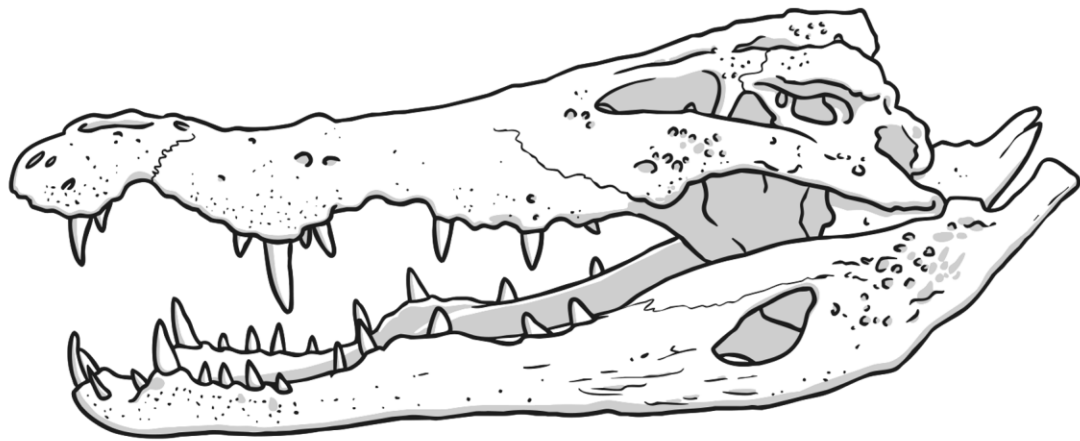






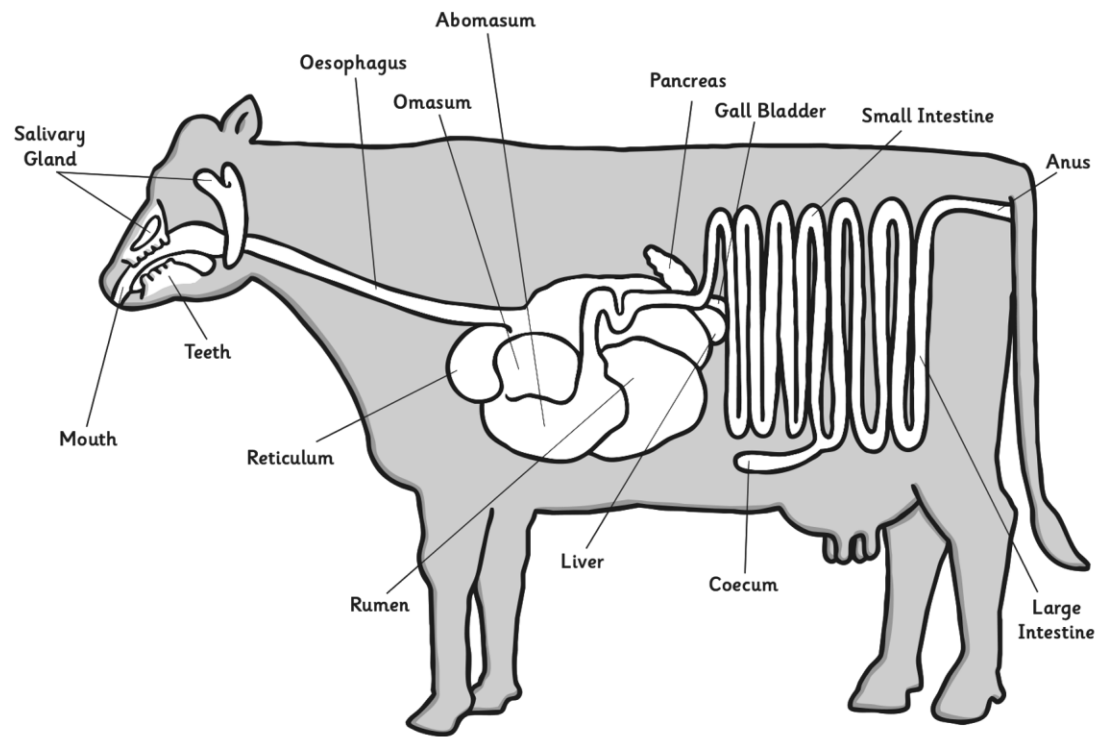




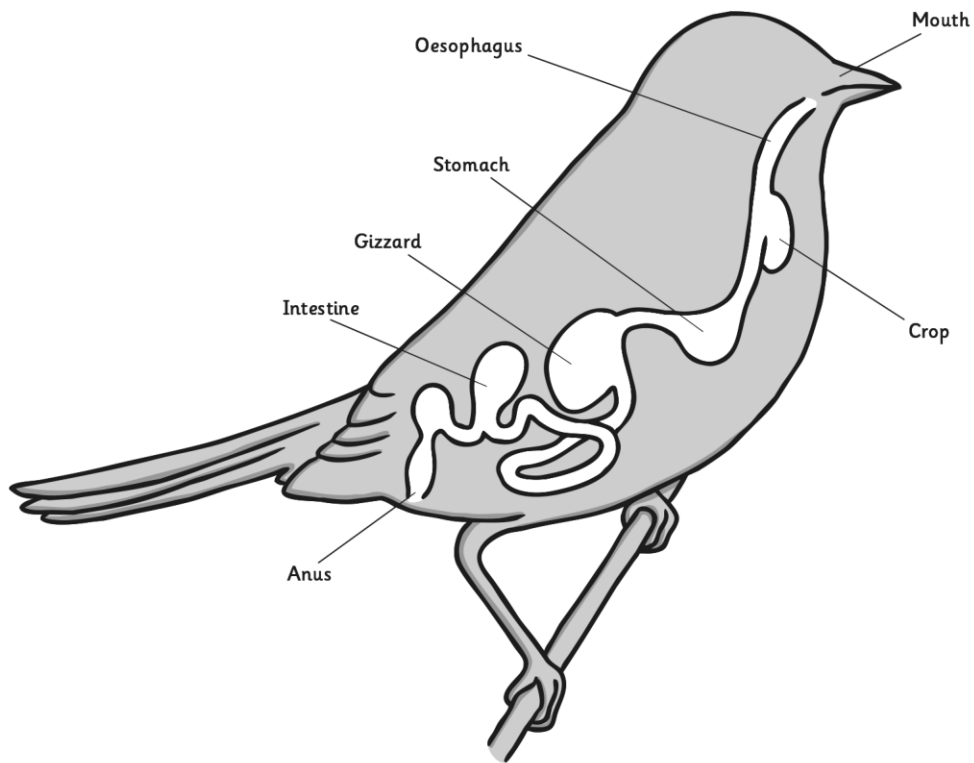


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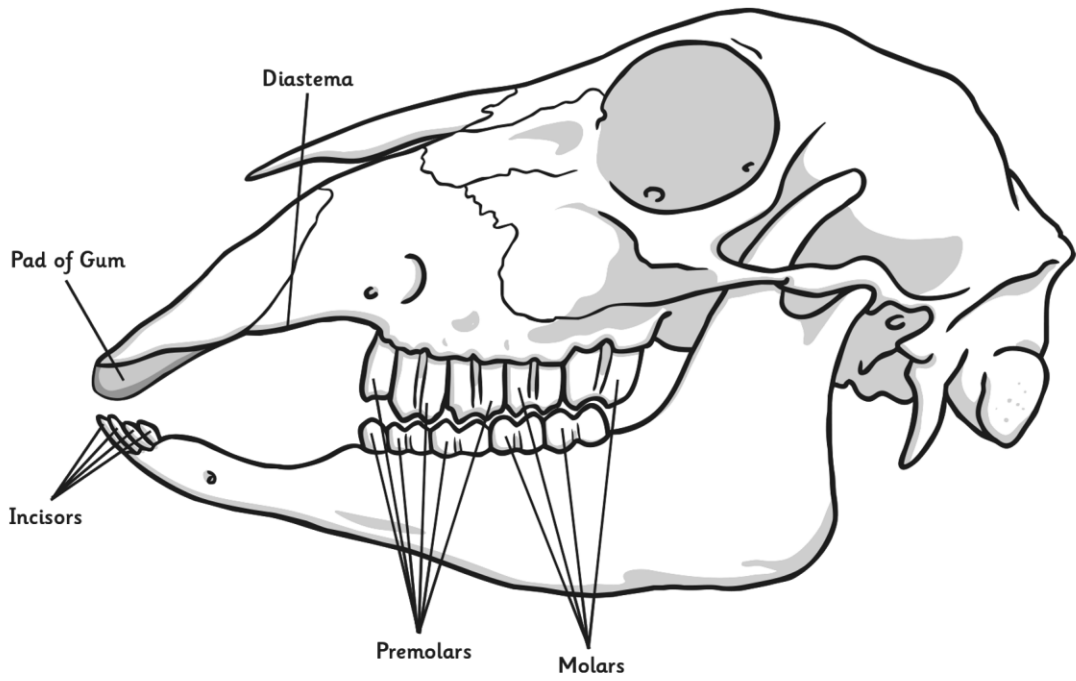
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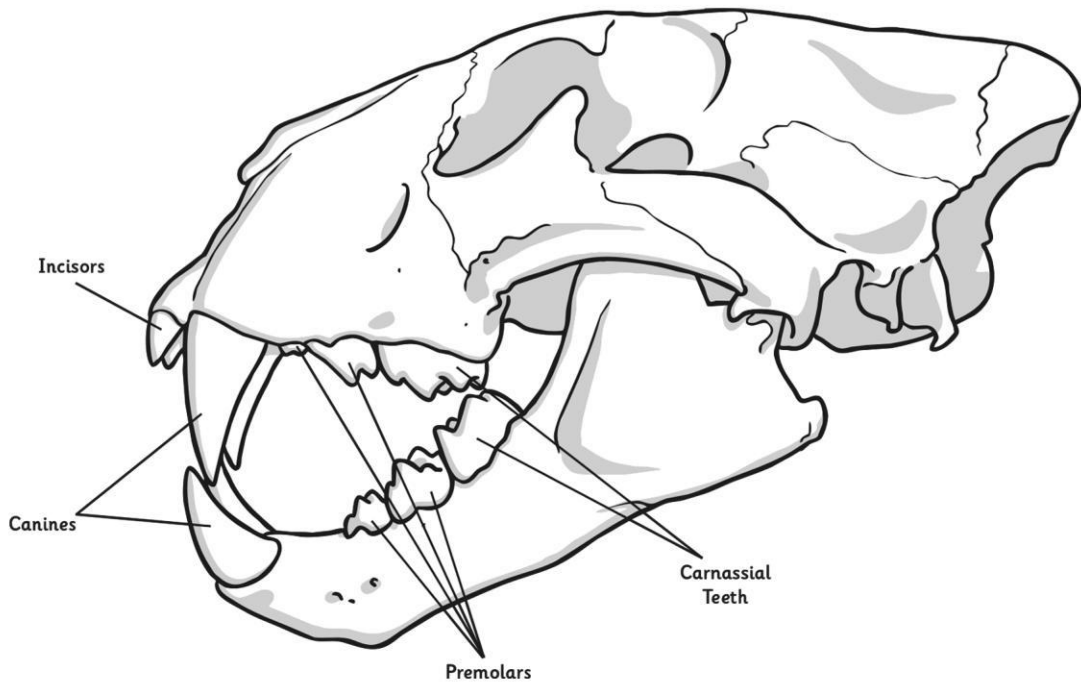
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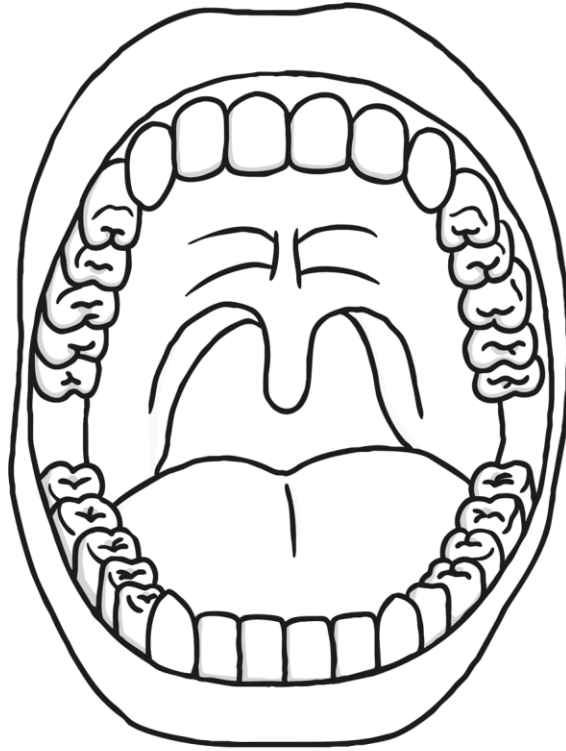
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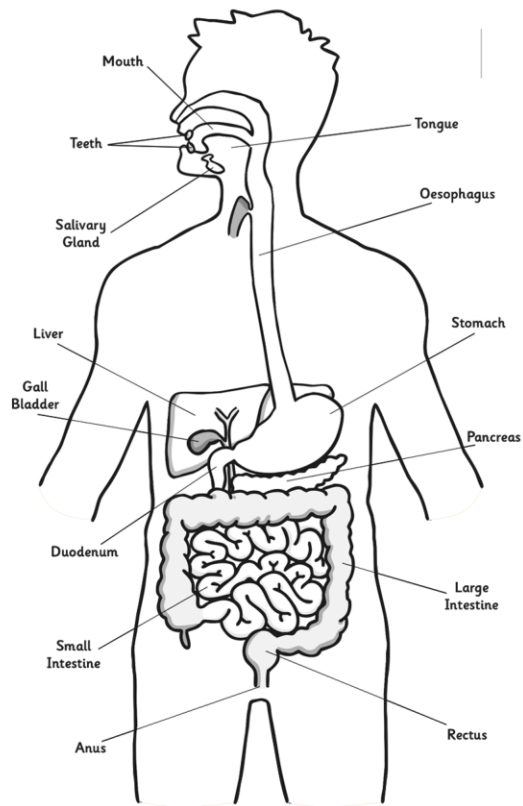
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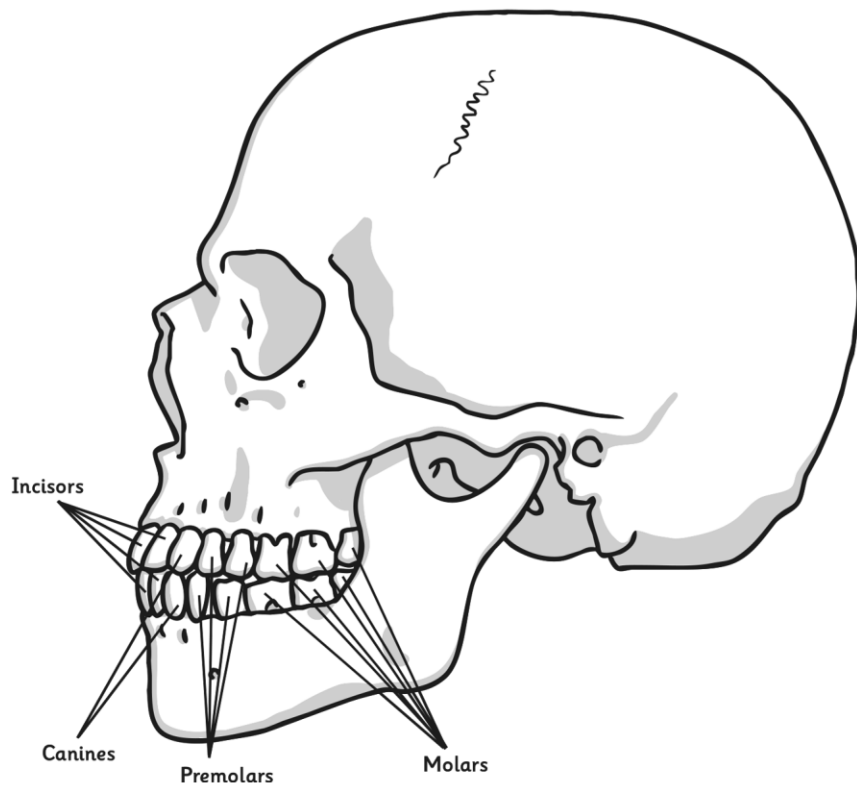
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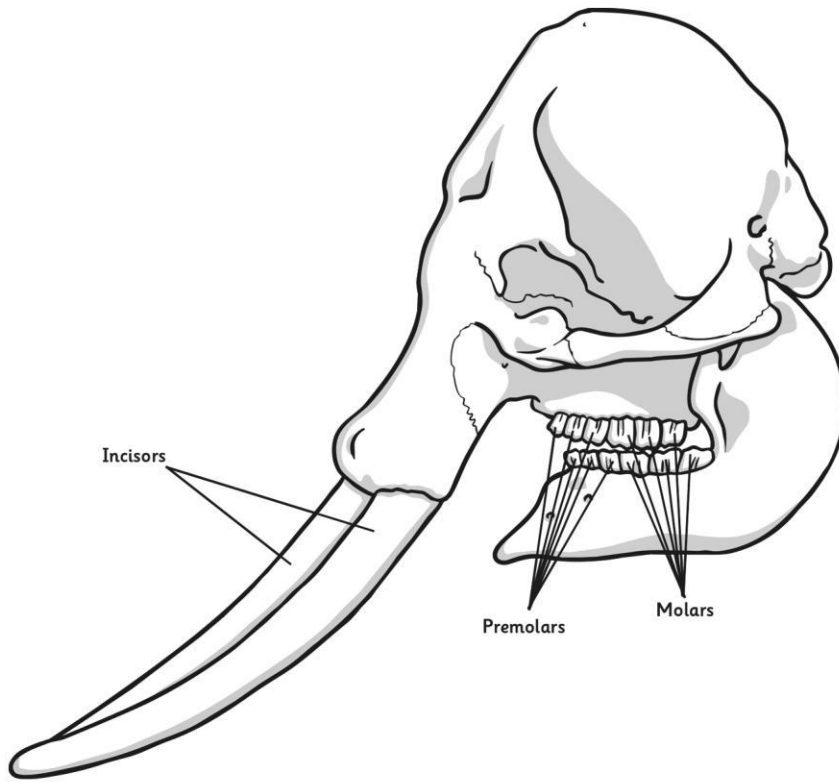
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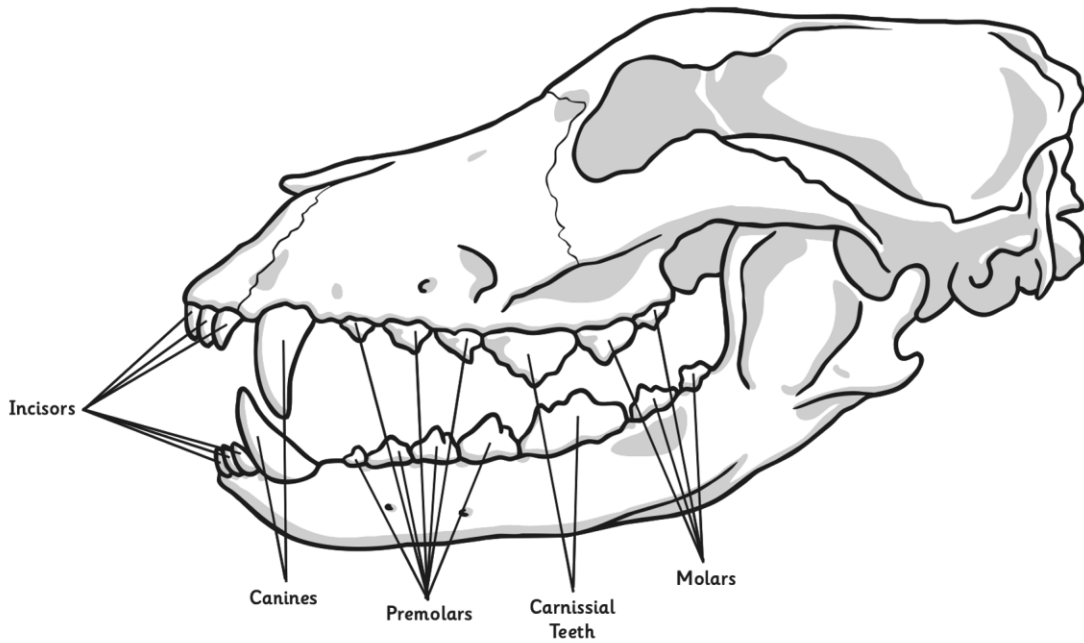
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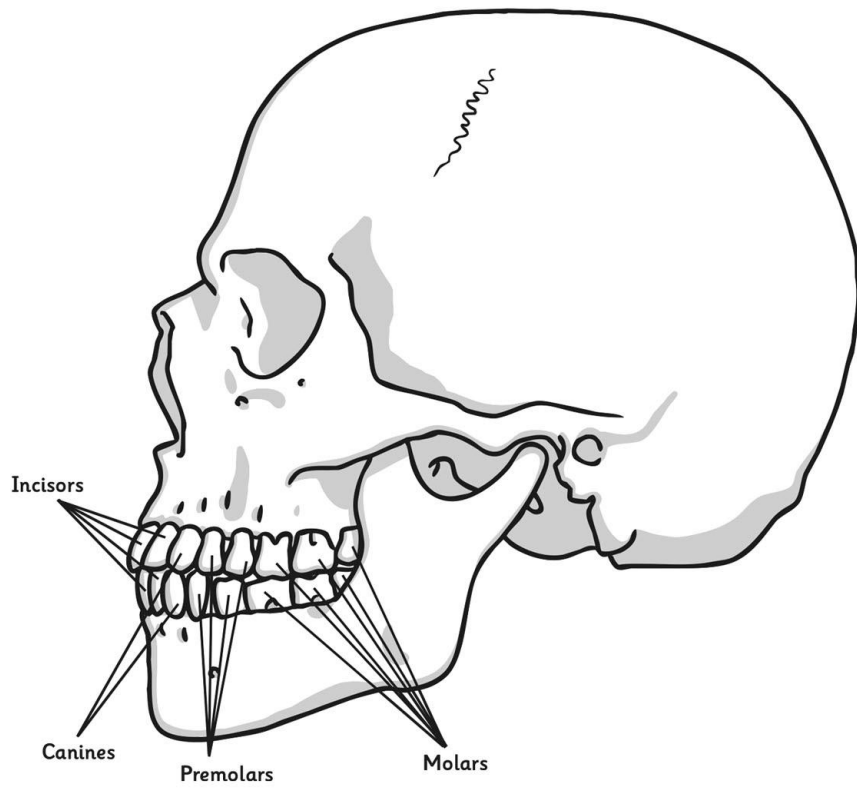
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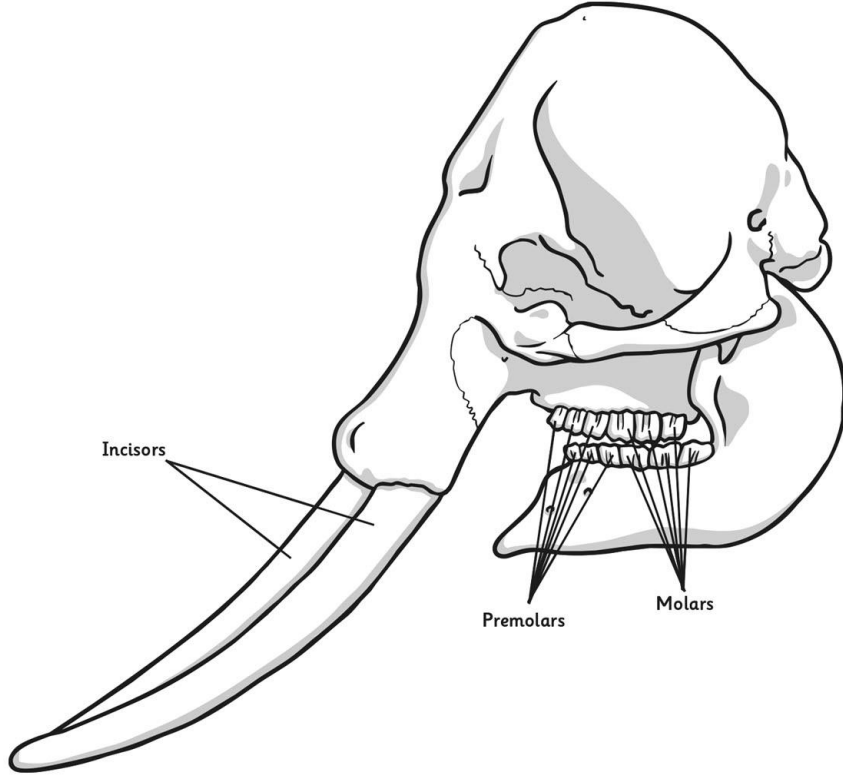


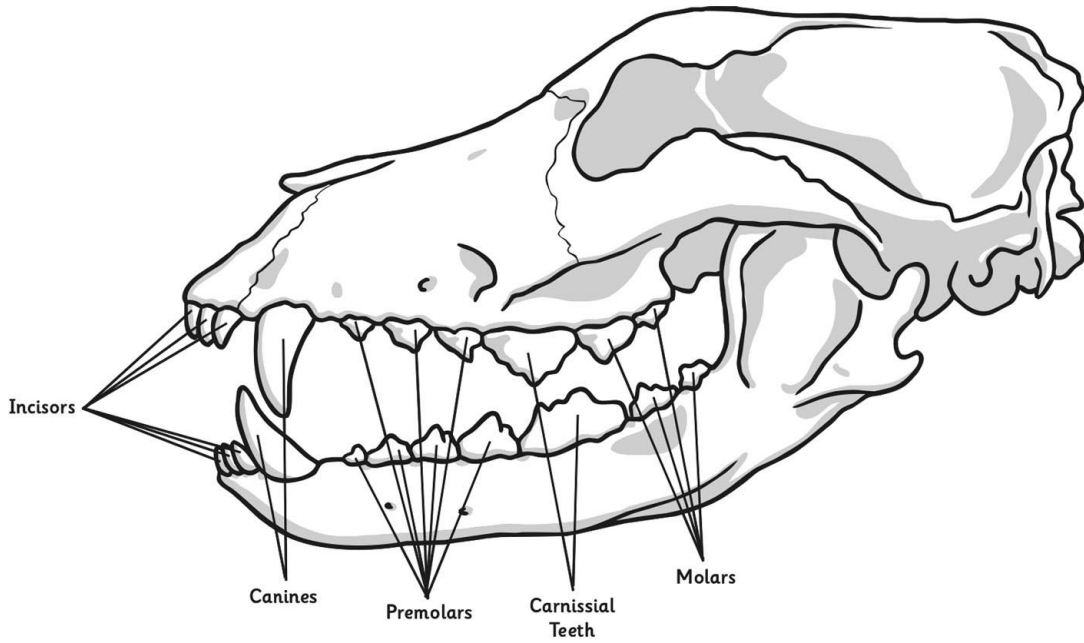
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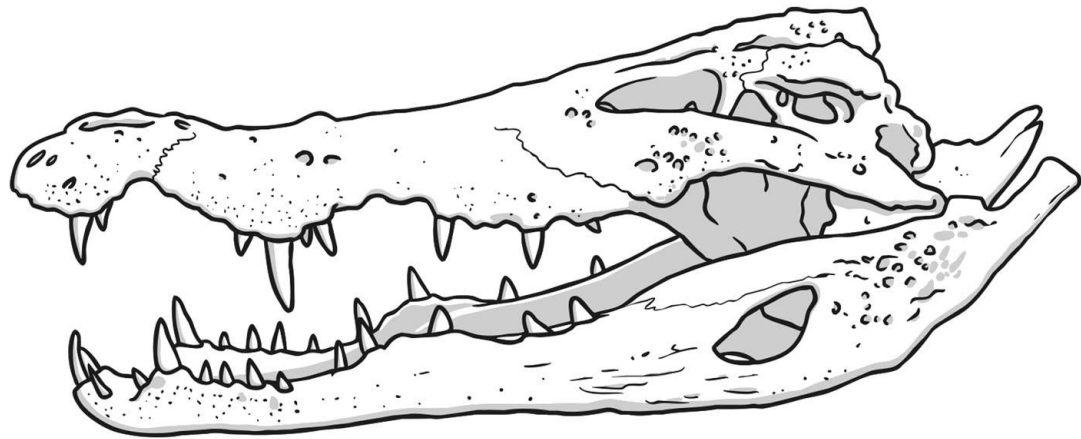


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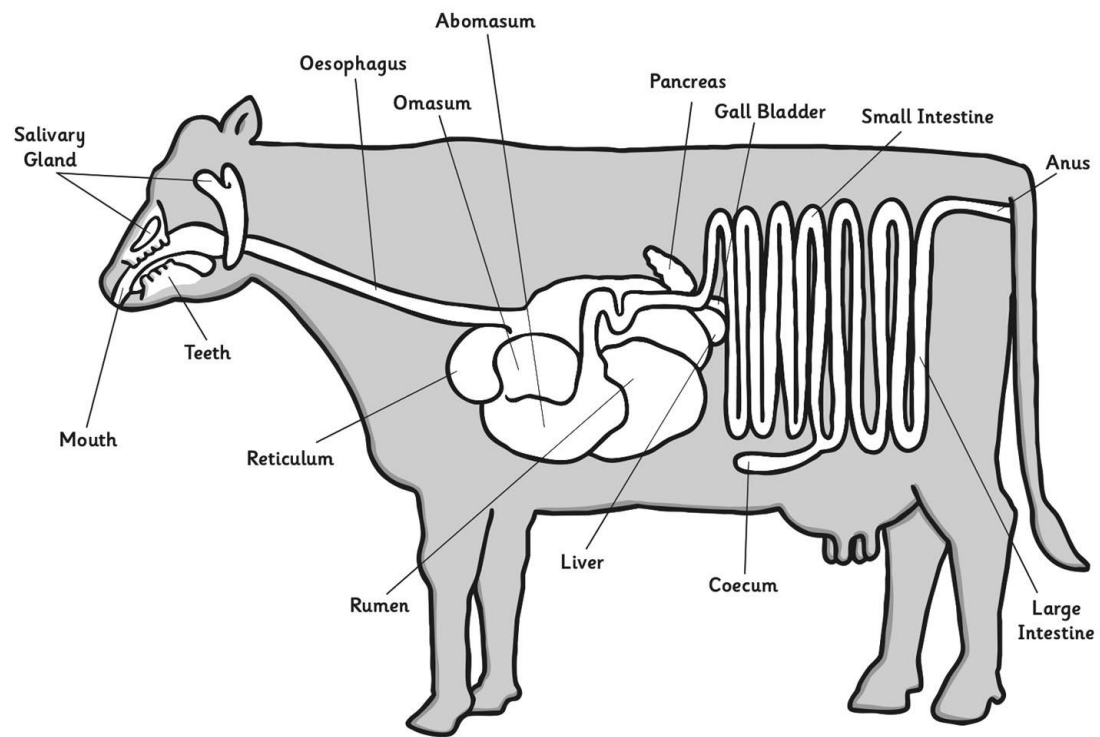


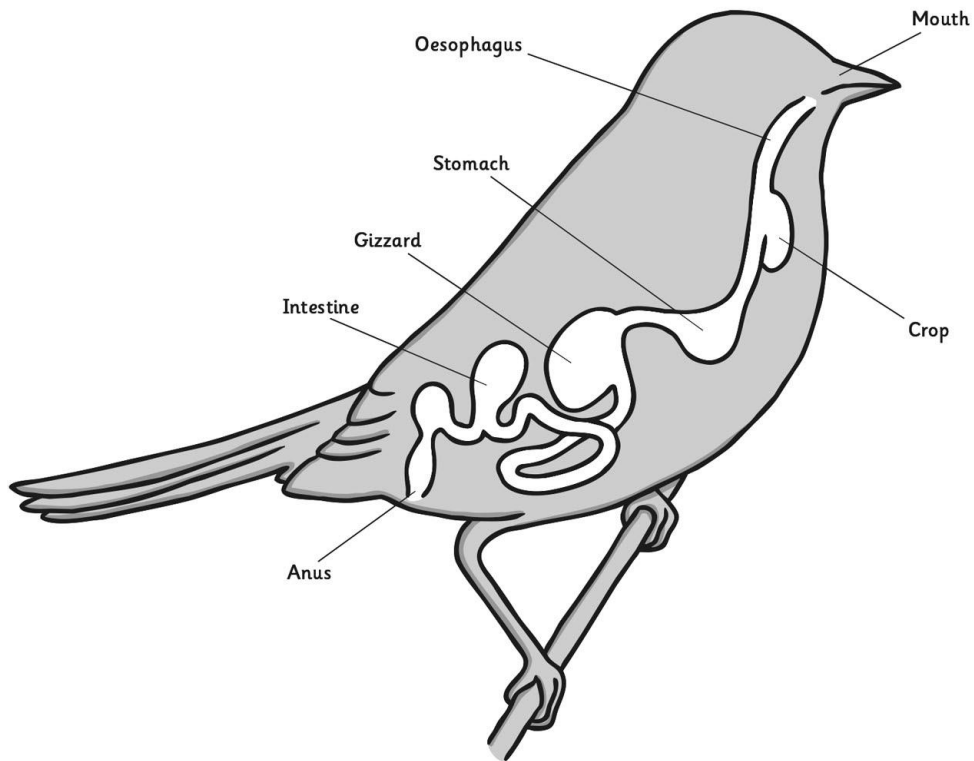


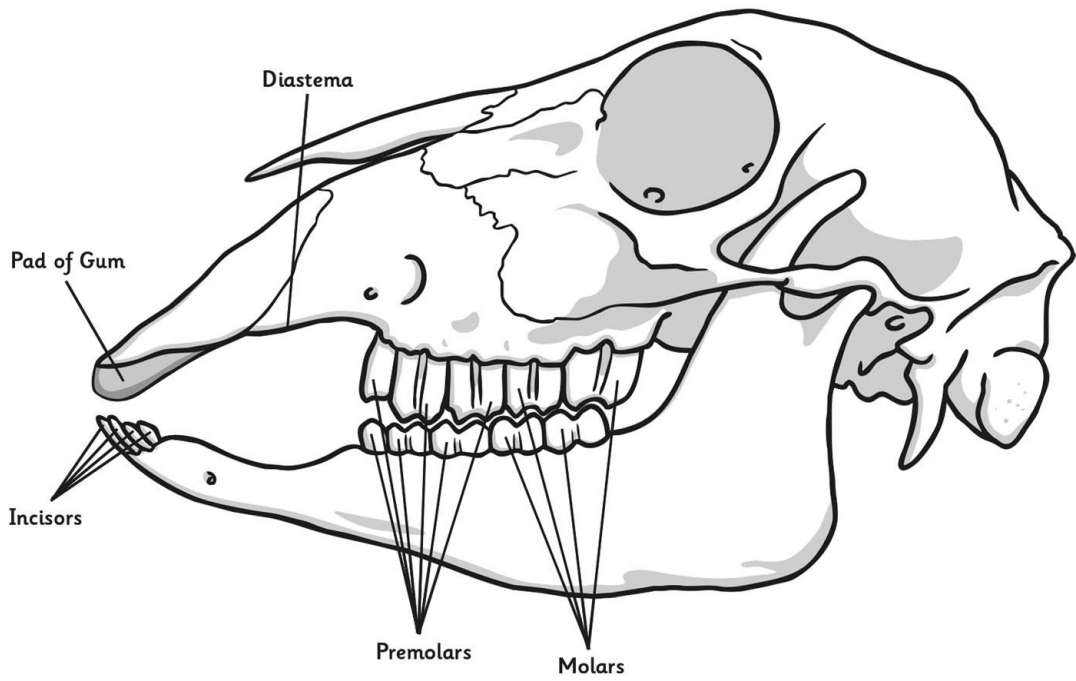


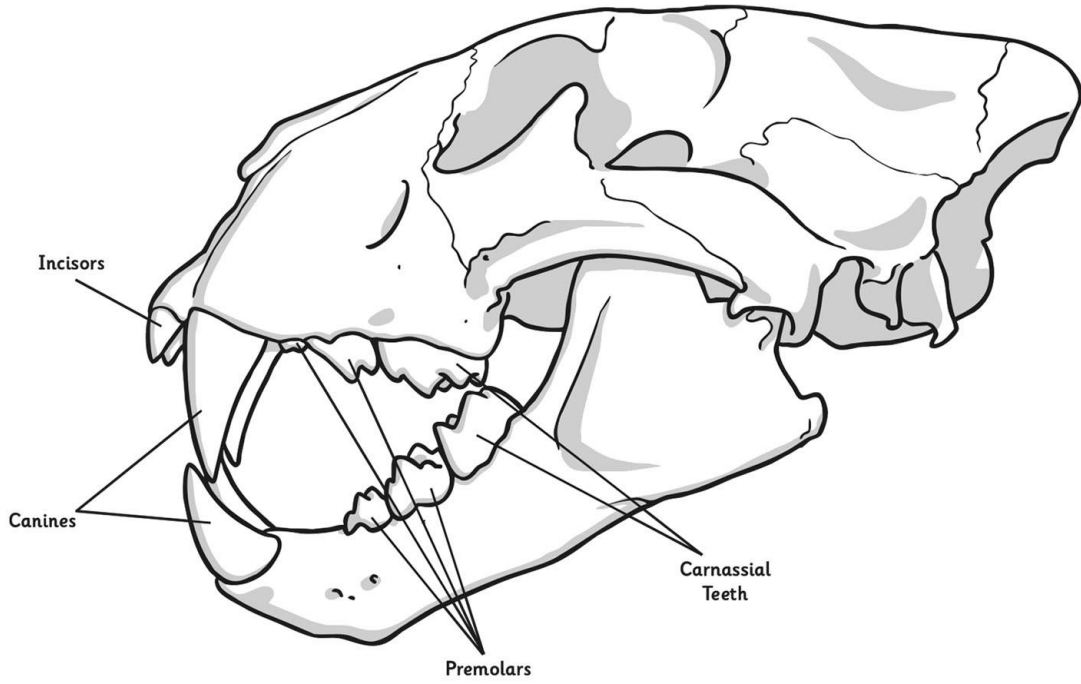


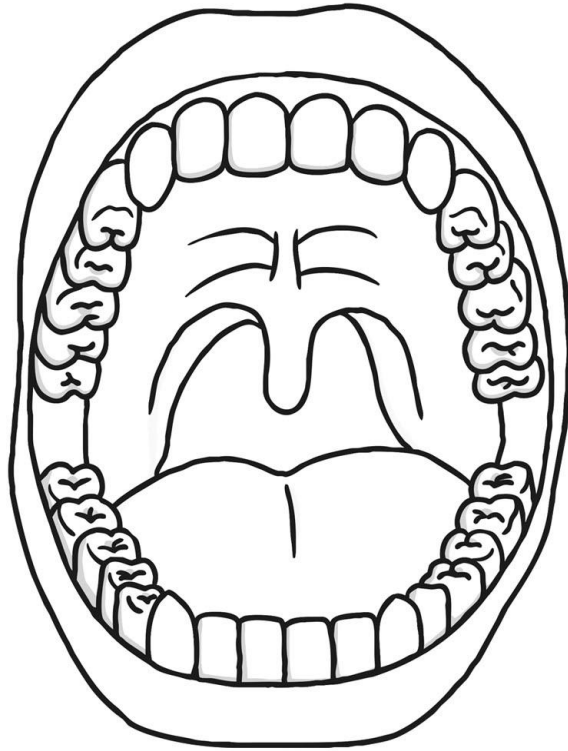
All Crocodile teeth are canines

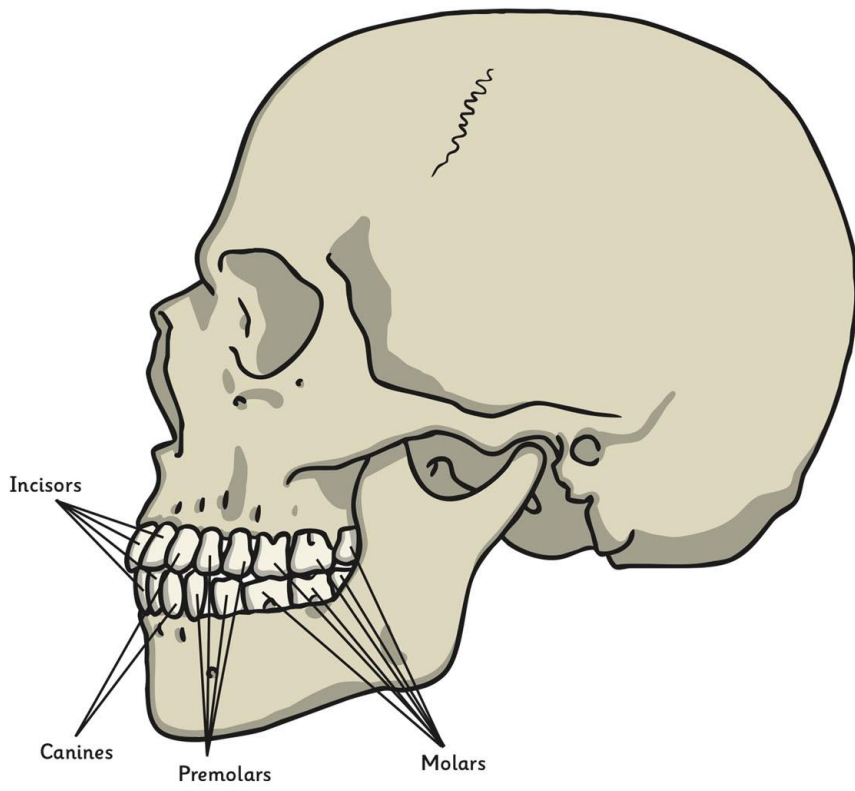


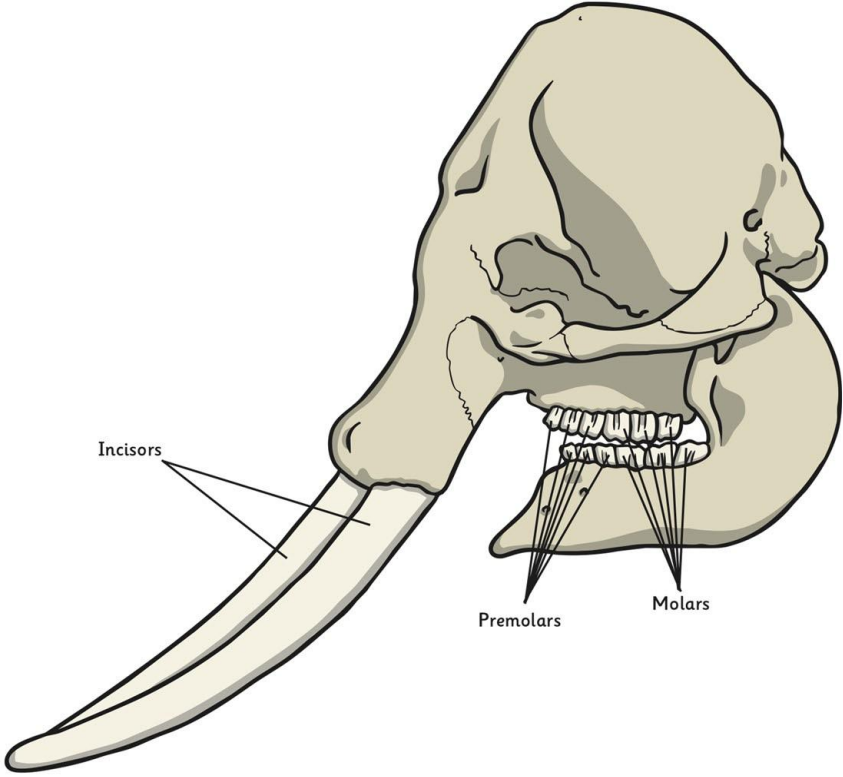


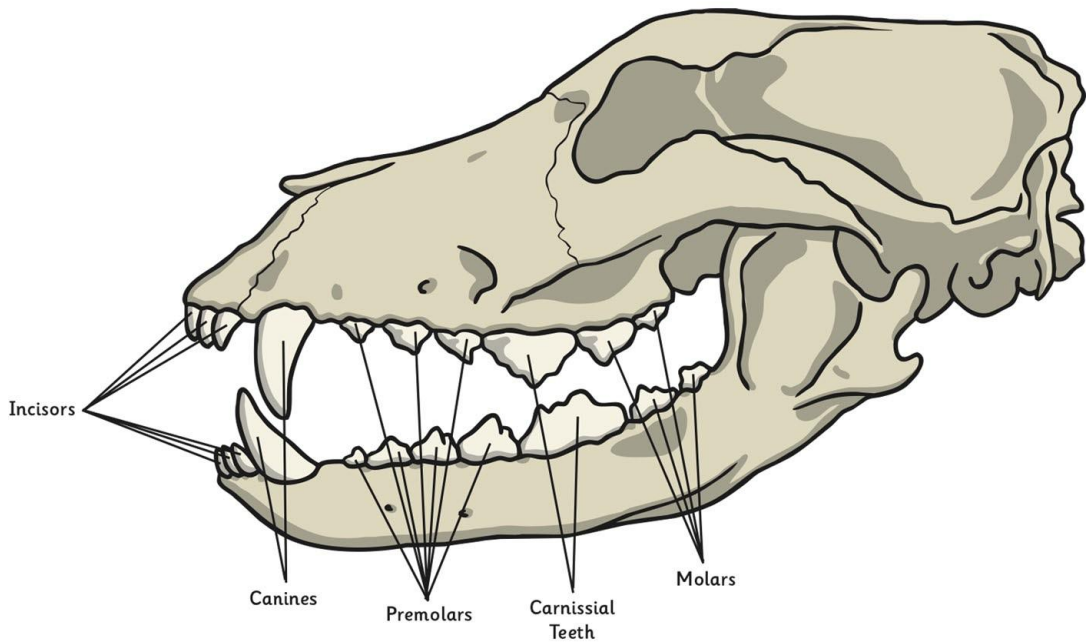


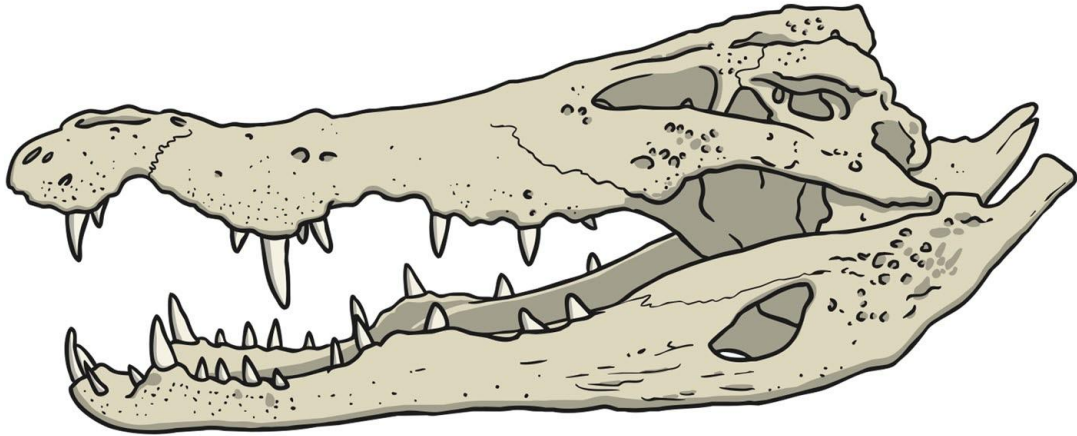




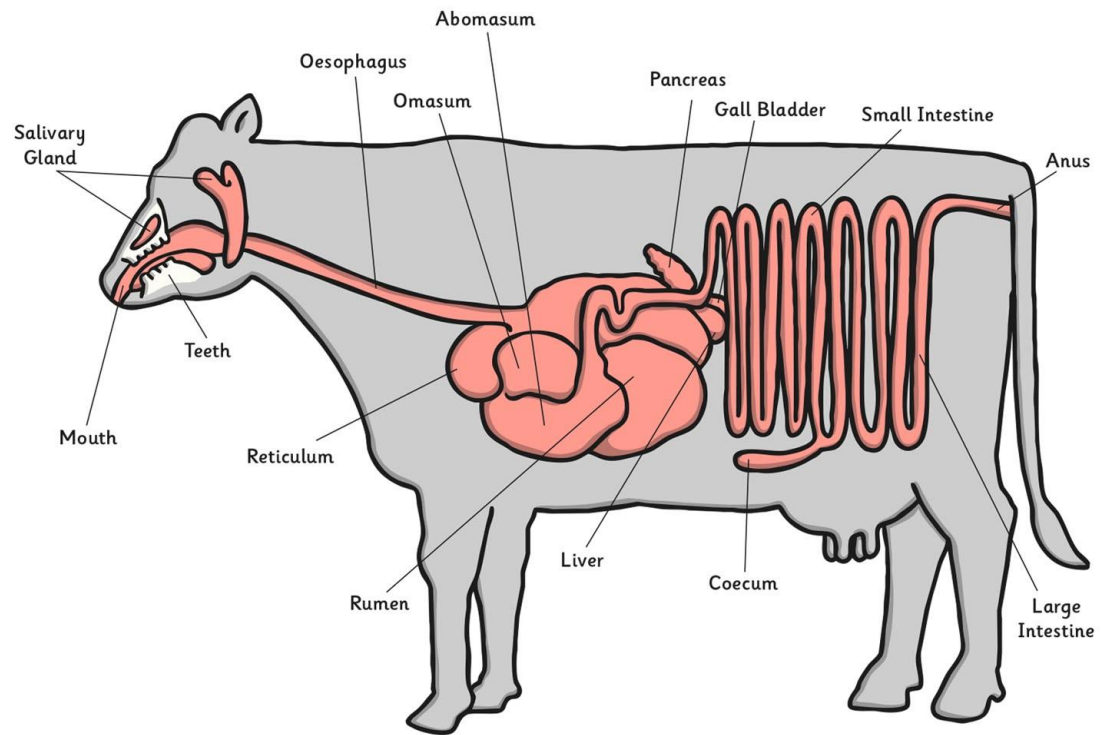


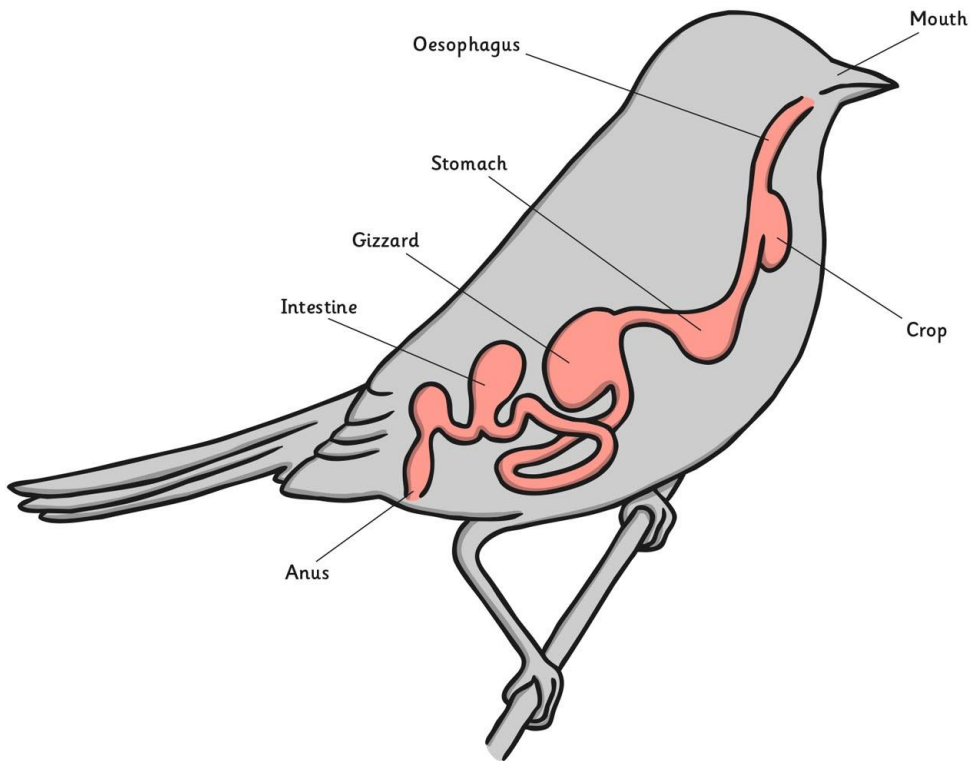


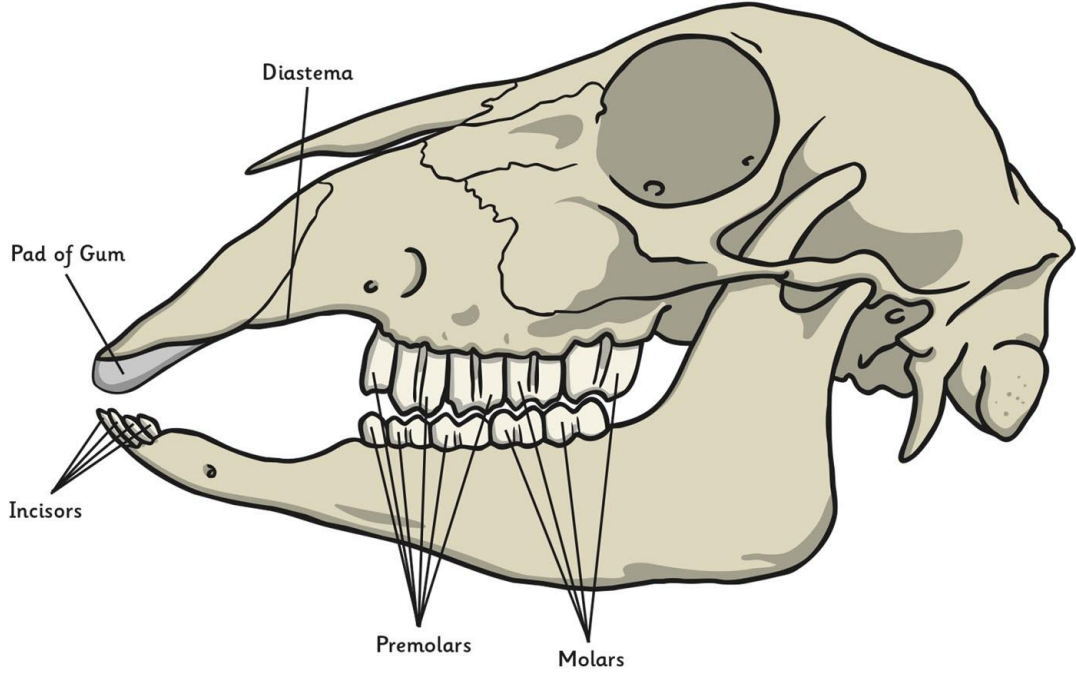




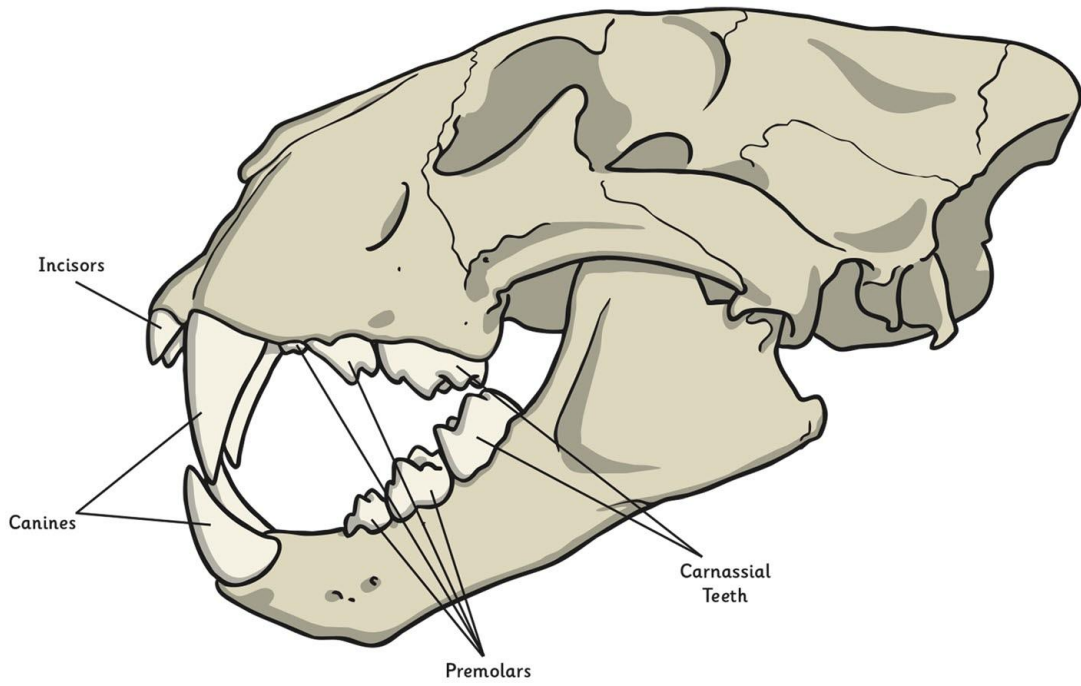
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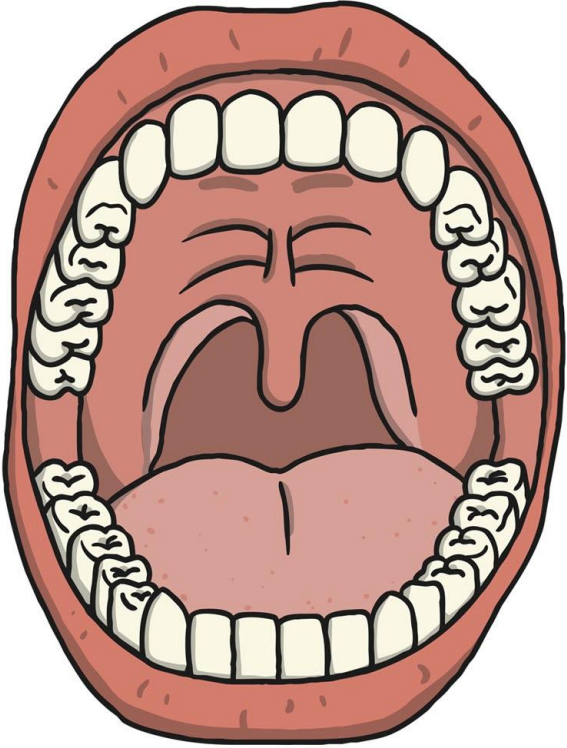




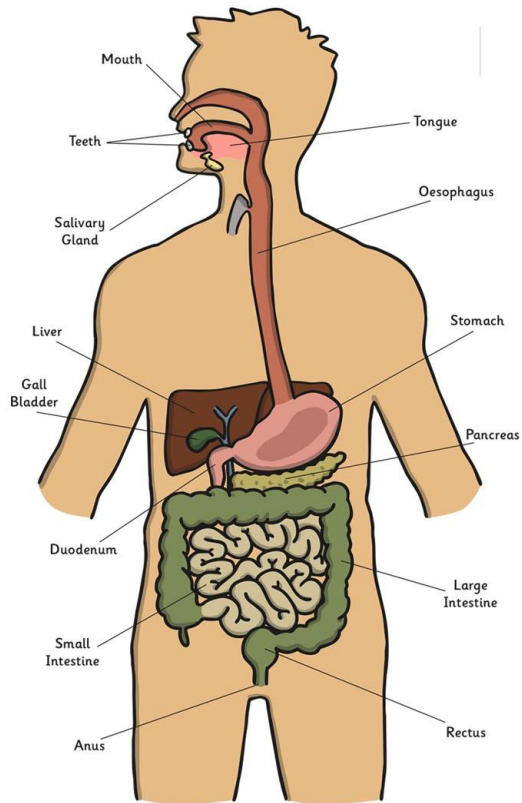


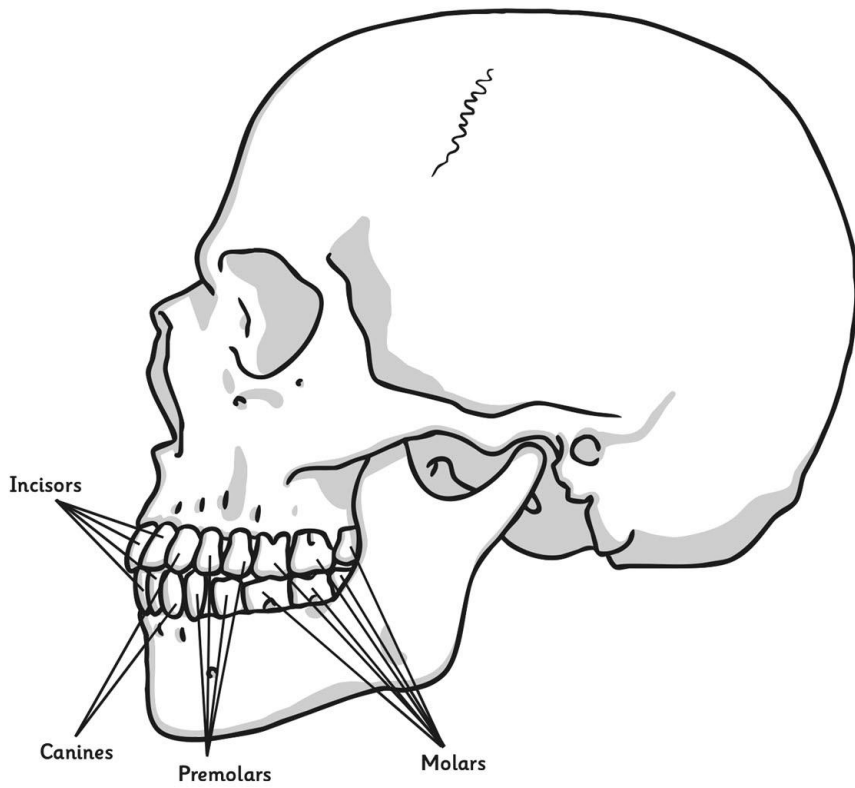


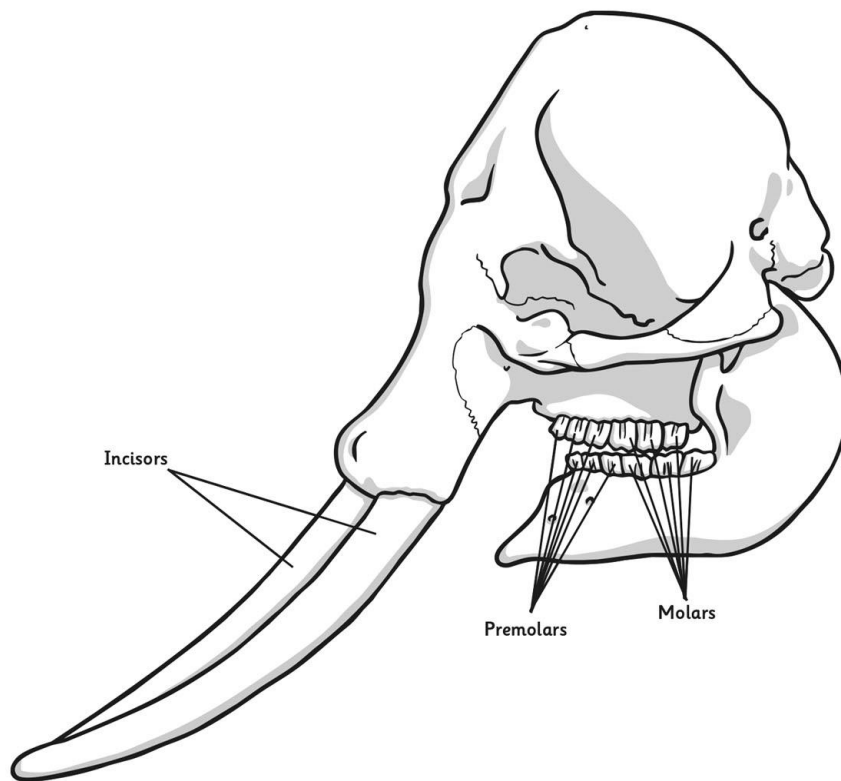








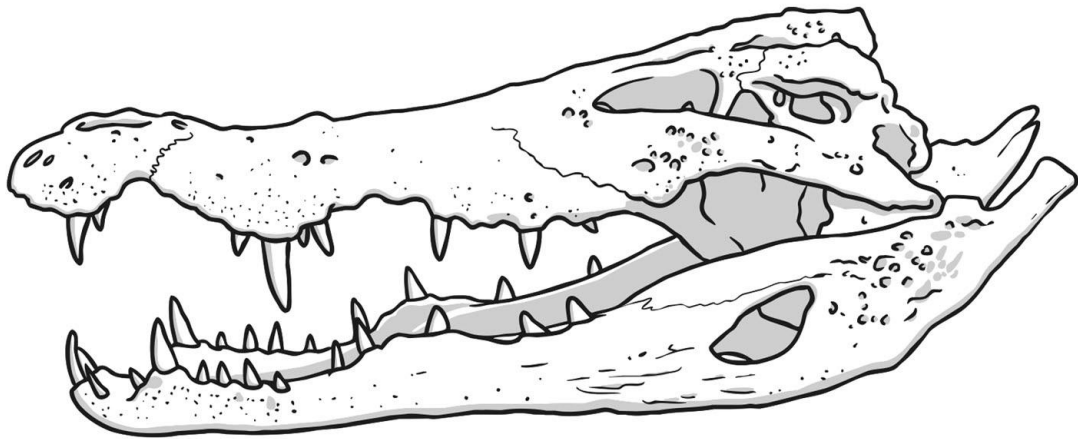




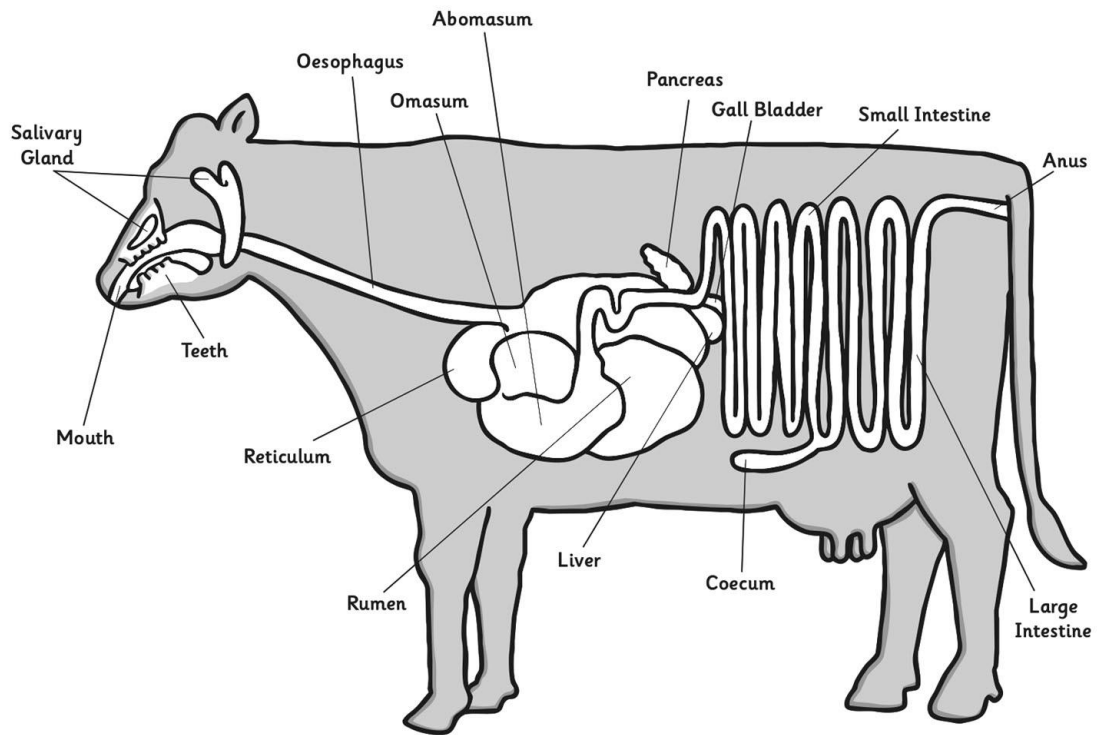
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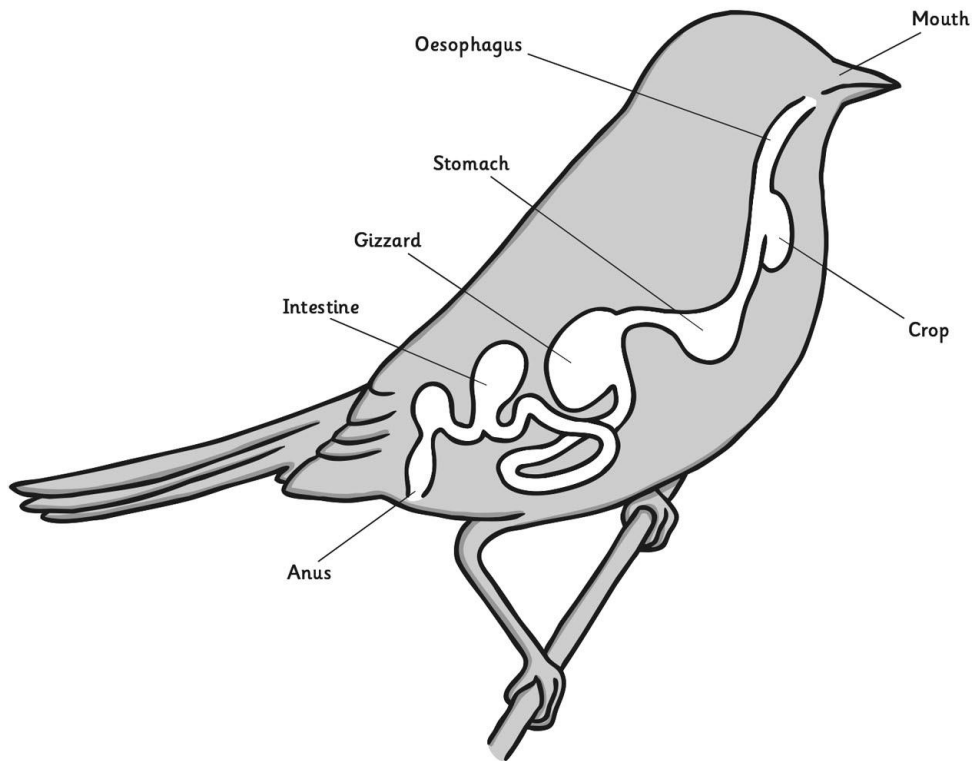
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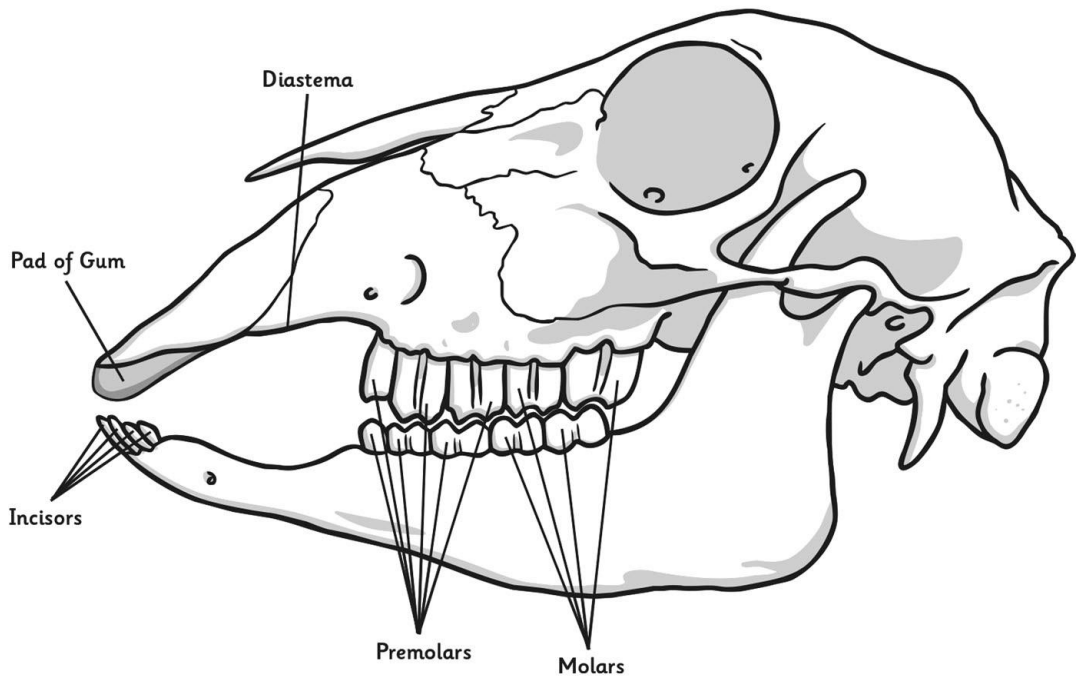
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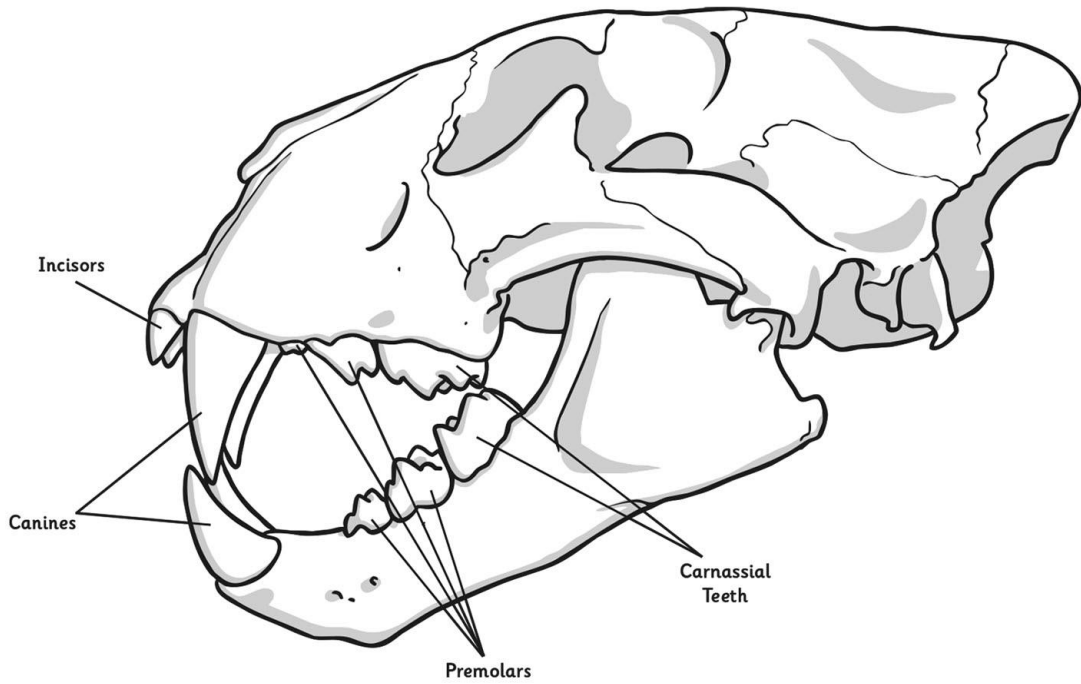


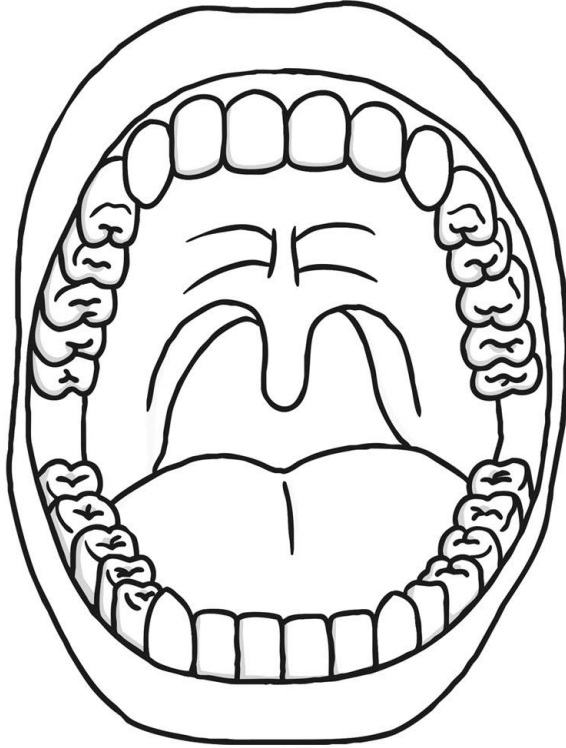
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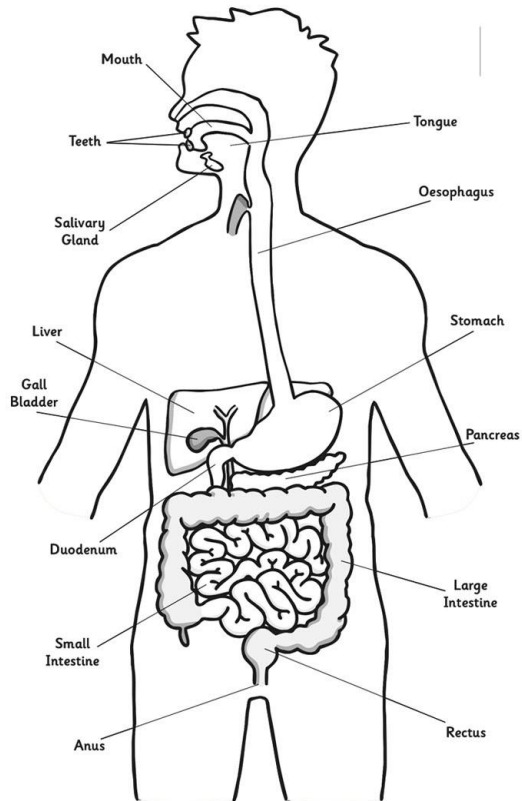


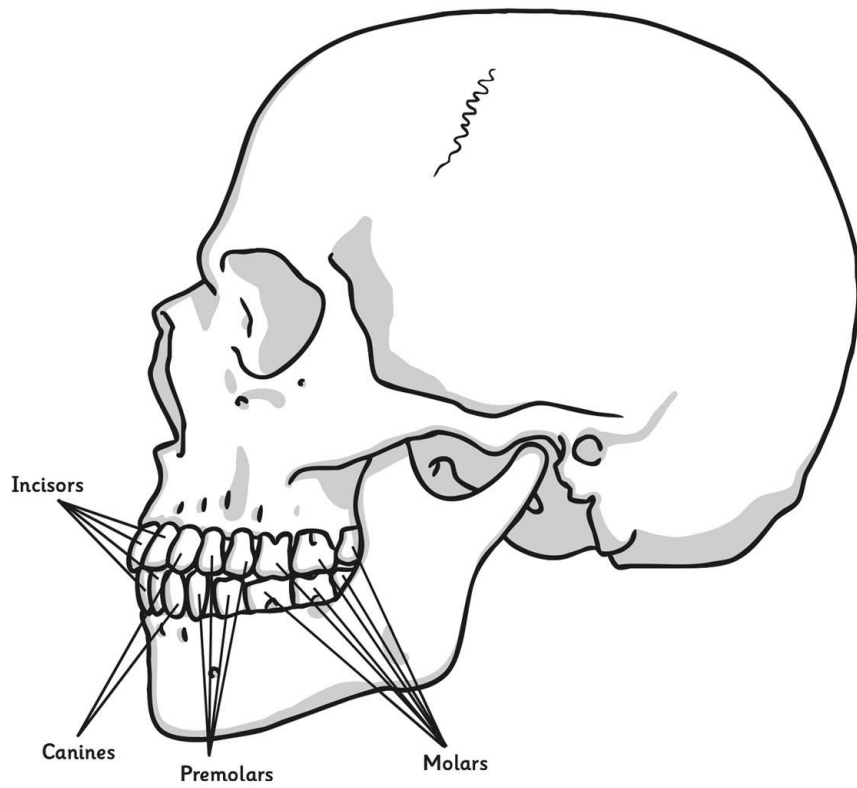


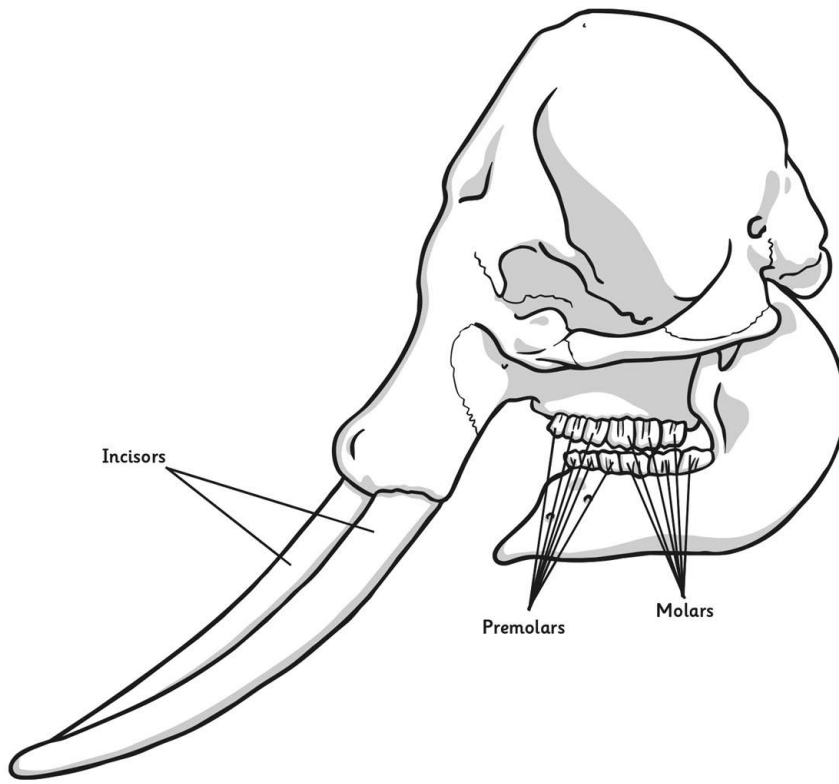




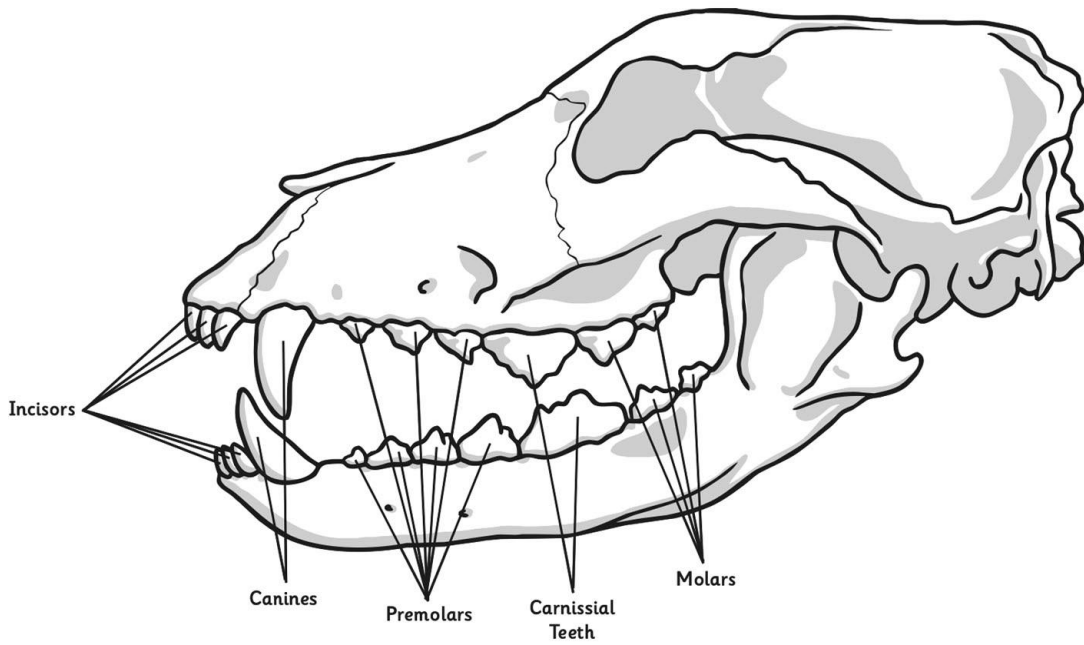




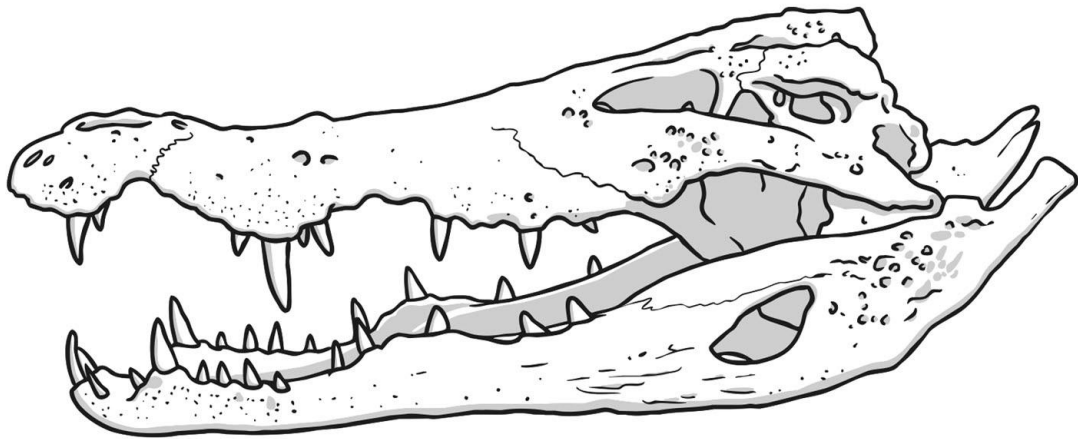






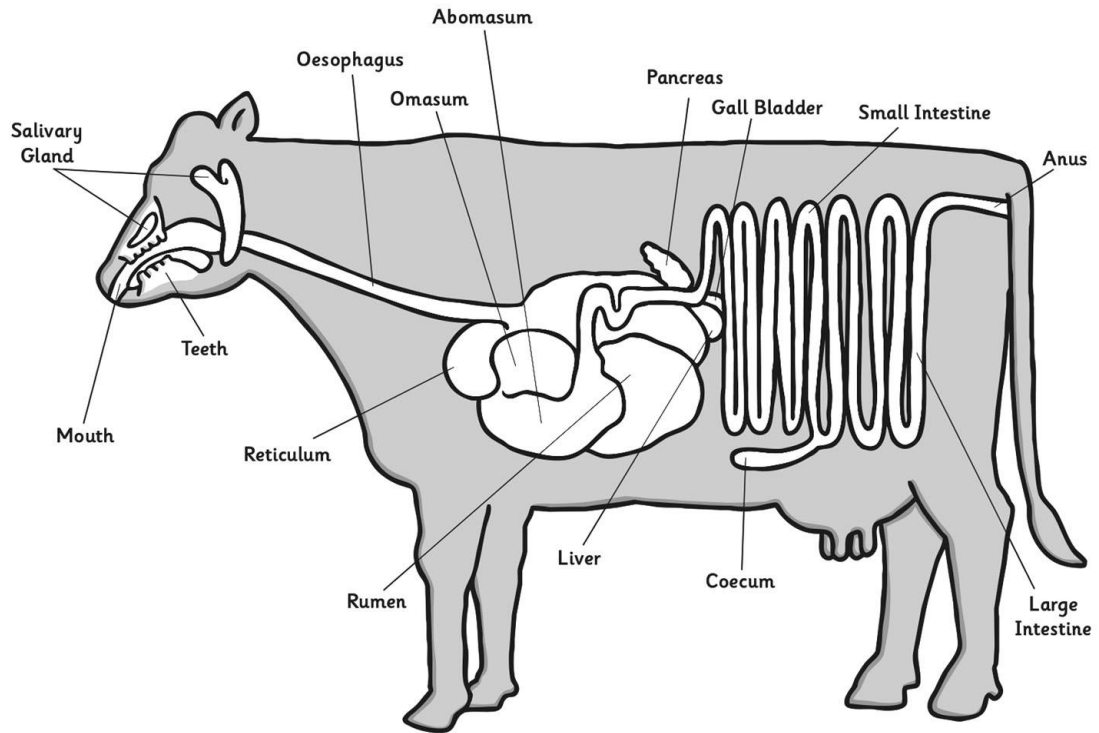


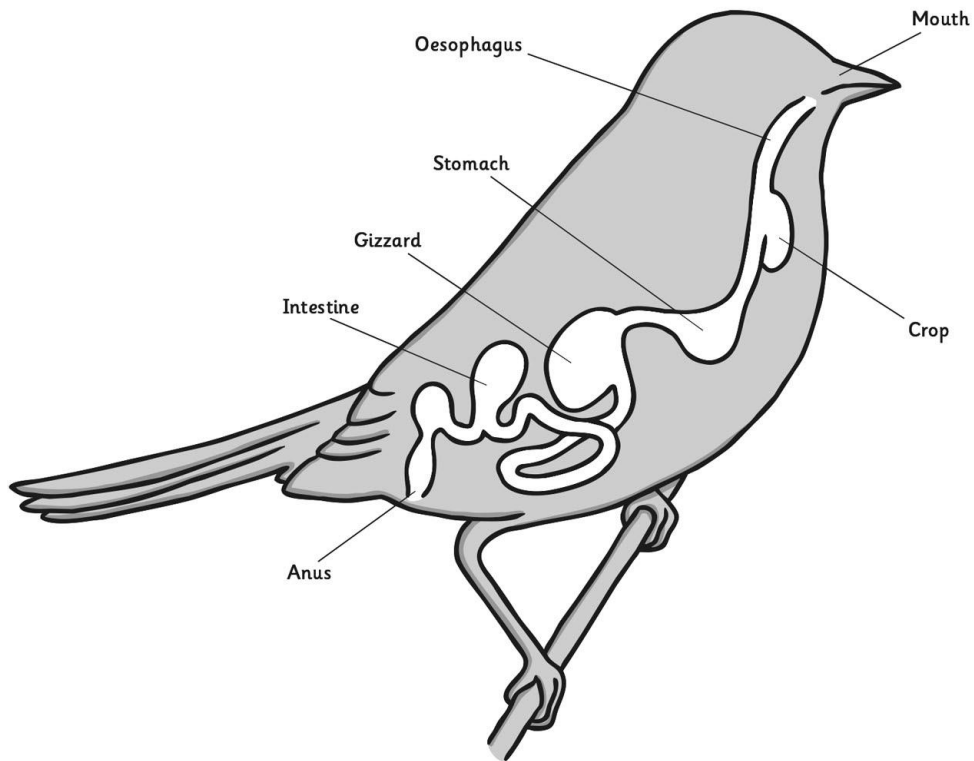




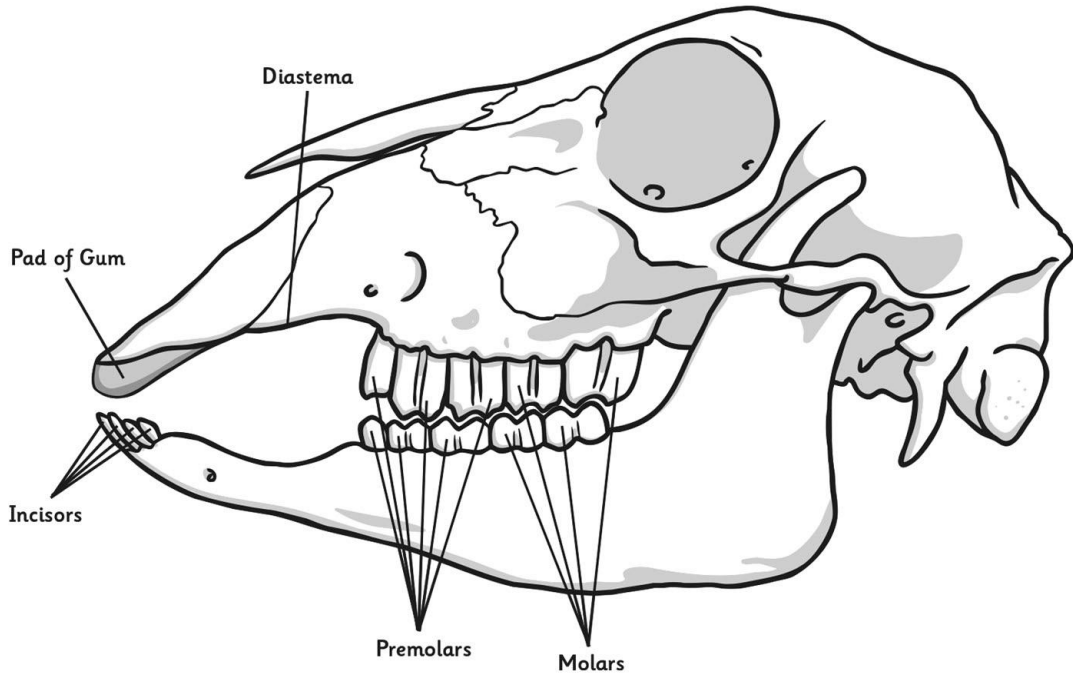
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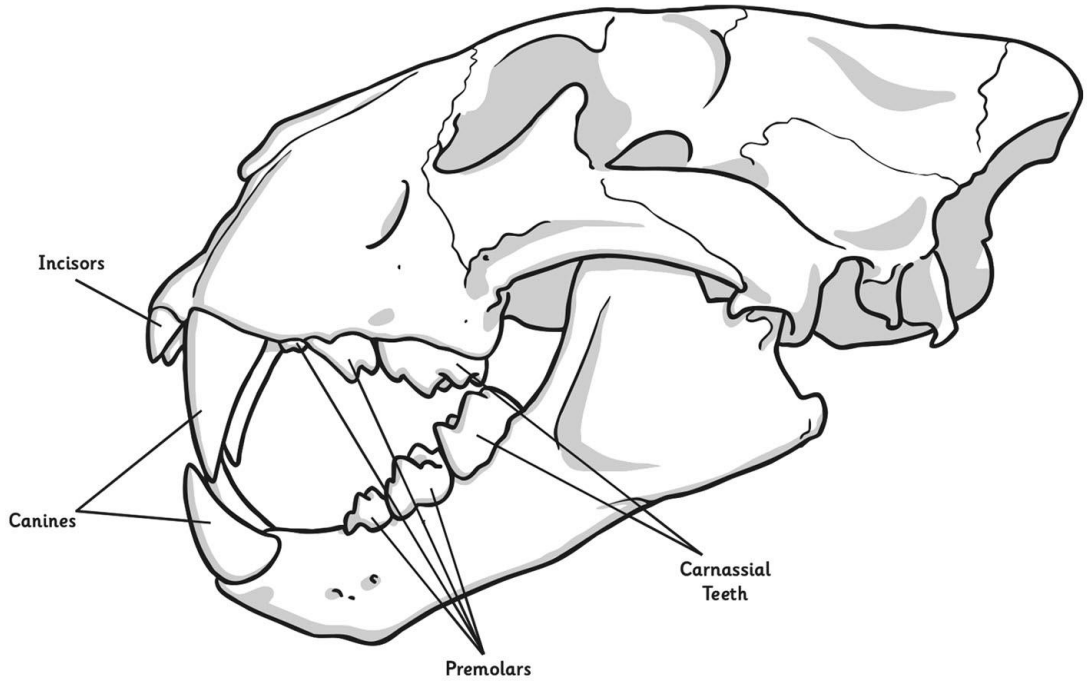


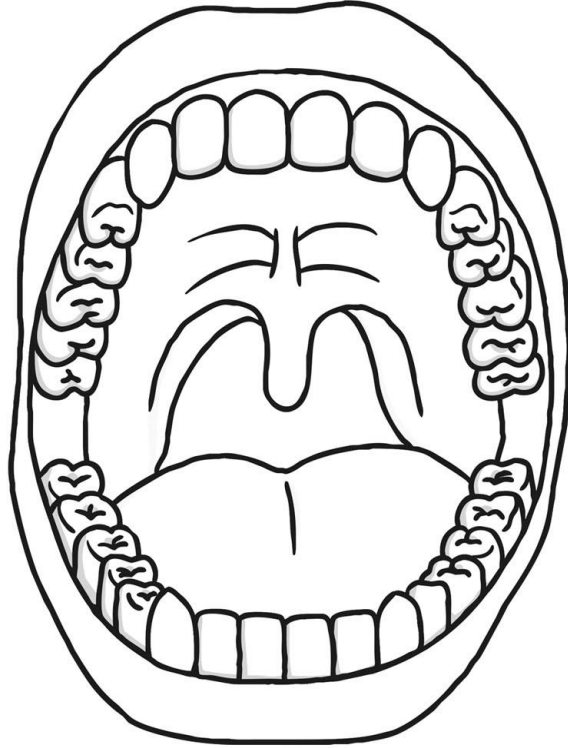




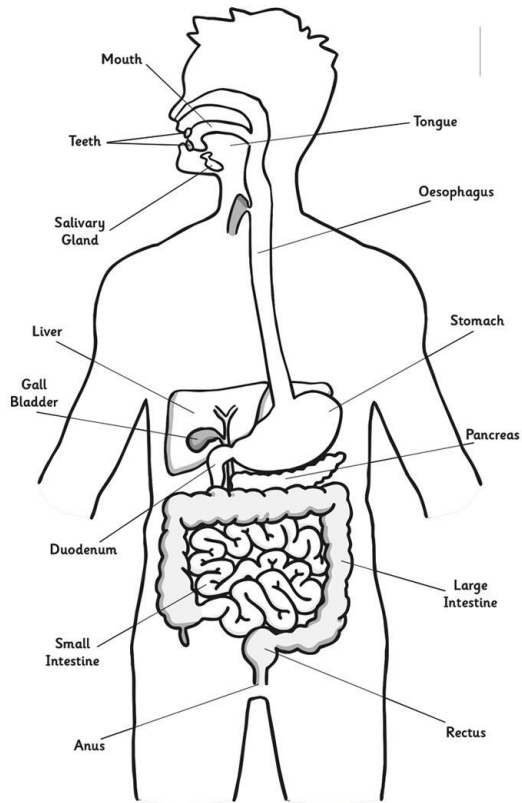












NC Aims Covered in the Unit

To describe the simple functions of the basic parts of the digestive system in humans.

To use straightforward scientific evidence to answer questions.

To identify the different types of teeth in humans and their simple functions.

To identify differences, similarities or changes related to simple scientific ideas and processes.

To ask relevant questions and use different types of scientific enquiries to answer them.

To set up simple practical enquiries, comparative and fair tests.

To make systematic and careful observations.

To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Construct and interpret a variety of food chains, identifying producers, predators and prey.

I can...

Science | Year 4 | Animals Including Humans

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
I can identify and name parts of the human digestive system.	I can explain the functions of the digestive system.	I can identify the types and functions of teeth.	I can ask scientific questions and choose a scientific enquiry to answer them.	I can make careful observations, appropriately record my results and use them to develop further investigations	I can construct and interpret food chains.
I can name parts of the digestive system.	I can add functions to the parts of the digestive system.	I can identify the types of human teeth.	I can generate questions.	I can make systematic observations.	I can construct a simple food chain.
I can identify parts of the digestive system.	I can match the parts of the digestive system with their functions.	I can identify the function of human teeth.	I can generate relevant scientific questions.	I can record my findings using appropriate scientific language.	I can construct and interpret a food chain.
I can construct the digestive system.	I can explain the functions of the digestive system.	I can match the types and functions of teeth.	I can suggest an appropriate type of scientific enquiry to answer my question.	I can use results to make predictions for new values and/or raise further questions resulting from my enquiry/test.	I can construct and interpret a variety of food chains.
	I can use scientific evidence to answer questions.	I can identify similarities and differences related to scientific ideas.	I can create an enquiry or test.		
	I can use scientific evidence I have been given to answer questions.	I can identify similarities related to scientific ideas.	I can set up a simple enquiry with support.		
	I can distinguish between scientific and non-scientific evidence when answering questions.	I can identify differences related to scientific ideas.	I can make predictions and suggest equipment.		
			I can give clear instructions explaining how to perform a test.		

Science: Animals Including Humans

K

What I know

W

What I want to know

L














What I have learnt

Animals Including Humans: Digestive System Functions

<p>Aim: To describe the simple functions of the basic parts of the digestive system in humans by explaining the functions of the different parts of the digestive system.</p> <p>I can explain the functions of the digestive system.</p> <p>To use straightforward scientific evidence to answer questions by reading an explanation text and answering questions.</p> <p>I can use scientific evidence to answer questions.</p>	<p>Success Criteria: I can add functions to the parts of the digestive system.</p> <p>I can match the parts of the digestive system with their functions.</p> <p>I can explain the functions of the digestive system.</p> <p>I can use scientific evidence I have been given to answer questions.</p> <p>I can distinguish between scientific and non-scientific evidence when answering questions.</p>	<p>Resources: Lesson Pack</p> <p>Scissors</p> <p>Glue Sticks</p>
	<p>Key/New Words: Mouth, tongue, teeth, oesophagus, stomach, duodenum, small intestine, large intestine, pancreas, liver, gallbladder, rectum, anus, salivary glands, digestion, digest, digestive system, functions, glands, enzymes, acid.</p>	<p>Preparation: Digestive System Function Ideas Activity Sheet - 1 A3 copy per group.</p> <p>Digestive System Explanation Text and Questions - 1 per child.</p> <p>Interactive Digestive System Activity Sheet - 1 per child.</p>

Prior Learning: Children will have learnt about the parts of the digestive system in Lesson 1.

Learning Sequence

	Digestive System – Parts: What are the parts of the digestive system? Children label the digestives system on IWB.	
	Digestive System - Functions: How do the different parts of the digestive system work? How do they help humans to digest food? Children discuss with partner and jot down ideas on Digestive System Function Ideas Activity Sheet .	
	Parts and Functions: Children to swap with another group and mark their answers as you go through the functions in the Lesson Presentation .	
	<p>The Functions Of The Digestive System: Children match parts of the digestive system and their functions using the Interactive Digestive System Activity Sheets.</p> <p> Children add functions to the parts of the digestive system.</p> <p> Children match parts and their functions.</p> <p> Children read Digestive System Explanation Text and Questions and answer questions.</p>	
	Digestive System Quiz: Children quizzed over parts and functions of the digestive system.	

Taskit

Researchit: Children research what vitamins and minerals are needed to keep different parts of the digestive system healthy.

Advertiseit: Children create poster or video clip advertising enzymes and why they are important.

Wordsearchit: Children to complete _____ containing the names of the parts of the digestive system.

Animals Including Humans: Digestive System Parts

<p>Aim: To describe the simple functions of the basic parts of the digestive system in humans in the context of identifying the parts of the digestive system.</p> <p>I can identify and name parts of the human digestive system.</p>	<p>Success Criteria: I can name parts of the digestive system. I can identify parts of the digestive system. I can construct the digestive system.</p>	<p>Resources: Lesson Pack Model of digestive system - if available Scissors Glue Sticks</p>
	<p>Key/New Words: Mouth, tongue, teeth, oesophagus, stomach, duodenum, small intestine, large intestine, pancreas, liver, rectum, anus, salivary glands, gallbladder, digestion, digest, digestive system.</p>	<p>Preparation: Digestive System Activity Sheet - 1 per child. Naming Parts Of The Digestive System Activity Sheet - 1 per child. Parts Of The Digestive System Activity Sheet - 1 per child. Parts Of The Digestive System Display - 1 per class.</p>

Prior Learning: It will be helpful if children have an understanding of the human need for nutrition.

Learning Sequence

	<p>Digestive System: Children discuss with talk partner the following statements and question: Humans digest food. They have a digestive system that allows them to do this. What do you think digest / digestion means? Children feedback before teacher reveals definition.</p>	
	<p>Digestive System Parts: All children draw the journey of food in the body using differentiated Digestive System Activity Sheet.</p>	
	<p>Check Digestive System Parts: Show illustration and/or model of digestive system. Children tick the body parts on their partners drawing that matches the real digestive system and cross any body parts that are incorrect.</p>	
	<p>Naming Parts Of The Digestive System: Children given differentiated Naming Parts Activity Sheet which they will then stick next to their own drawing on the Digestive System Activity Sheet.</p> <p> Children label digestive system with key words with initial letter provided. Children label digestive system with key words. Children cut out and place the parts in the correct place before labelling using key words. </p>	
	<p>Identifying and Naming: For whole class display. Divide children into groups with one HA, one MA, one LA. Groups given a body part from Parts Of The Digestive System Display – MA child to identify it, LA to write out the name on a piece of card and HA child to place it correctly on the display board.</p>	

Taskit

Compareit: Compare and contrast the human digestive system and that of a cow and a bird on the

Modelit: Create a model of the human digestive system.
















Explainit: Research foods that help you to digest food and write a short explanation text stating why they do.

Animals Including Humans: Food Chains

Aim: Construct and interpret a variety of food chains, identifying producers, predators and prey. Understand food chains and the role of different plants and animals within them. I can construct and interpret food chains.	Success Criteria: I can order a simple food chain. I can identify the producer, predator and prey. I can interpret a variety of food chains.	Resources: Lesson Pack Video Clip
	Key/New Words: Food chain, predator, consumer, prey, producer, construct, interpret, diagram.	Preparation: Food Chain Vocabulary and Definition Cards - 1 per group/child. Food Chains Tubes Activity Sheets - 1 per child. Food Chain Sorting Cards - 1 as required per child. Food Chain Challenge Cards - as required per child.

Prior Learning: It will be helpful if children have basic knowledge of food chains.

Learning Sequence

	Food Chains: What is a food chain? Whole class brainstorm recalling prior knowledge from Key Stage 1. Show children online video clip and add to/refine existing ideas.	
	Interpreting Food Chains: Show a simple food chain which children interpret with their talk partner and feedback. How is a food chain constructed? What do the arrows represent? How should we label the different parts of the food chain?	
	Food Chain Vocabulary: Sort children into groups of 3 based on ability and give each group a set of differentiated Food Chain Vocabulary and Definition Cards Children match the word and its definition. Reveal correct answers on the IWB.	
	Labelling Food Chains 1 and Labelling Food Chains 2: Show different types of food chains which matched the vocabulary with the plant/animal. Clarify any continuing confusion over the use of different vocabulary.	
	Food Chains Activity: Children use Food Chain Sorting Cards to answer questions on Food Chain Challenge Cards . <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Children construct a food chain using Food Chain Tubes Activity Sheets and use the vocabulary cards from the Food Chain Vocabulary and Definition Cards. Children to take photographs as evidence.</p> </div> <div style="text-align: center;">  <p>Children focus on food chains.</p> </div> <div style="text-align: center;">  <p>Children to work with the teacher/ additional adult and focus on food webs.</p> </div> </div>	
	Interpreting Food Webs: Show a food web on the IWB. How are food webs similar/different to food chains? Why are food webs useful?	

Taskit

Makeit: Complete the [Food Chain Pyramid Activity Sheet](#) with producers and consumers. Can you make each side unique?

Bookit: Use your scientific vocabulary to create an interactive flap book using the [Food Chain Interactive Flap Book](#).














Compareit: Create food chains or webs for two different habitats (e.g. jungle and woodland). What similarities and differences do you notice? Is one more likely to have herbivores or carnivores? What about the number of animals who are both prey and predators?

Animals Including Humans: Tooth Decay Enquiry Part 1

<p>Aim: To ask relevant questions and use different types of scientific enquiries to answer them by distinguishing between scientific and non-scientific questions and choosing between types of scientific enquiry.</p> <p>I can ask scientific questions and choose a scientific enquiry to answer them.</p> <p>To set up simple practical enquiries, comparative and fair tests by setting up an enquiry or test to understand what causes tooth decay.</p> <p>I can create an enquiry or test.</p>	<p>Success Criteria: I can generate questions. I can generate relevant scientific questions. I can suggest an appropriate type of scientific enquiry to answer my question. I can set up a simple enquiry with support. I can make predictions and suggest equipment. I can give clear instructions explaining how to perform a test.</p>	<p>Resources: Lesson Pack Strips of paper Sticky notes Felt tips or markers Examples of equipment such as jars, toothpaste, types of drinks to be used to support the LA group to write instructions.</p>
	<p>Key/New Words: Tooth, decay, questions, scientific, nonscientific, practical enquiries, comparative tests, fair tests, variables.</p>	<p>Preparation: Tooth Decay Scientific Enquiry Activity Sheet - per child.</p>

Prior Learning: It will be helpful if children have previous experience of asking simple questions and recognising that they can be answered in different ways.

Learning Sequence

	<p>Tooth Decay: Children discuss tooth decay with their partner and what they think causes tooth decay before feeding back to the class. Explore how the children know what causes tooth decay and highlight any answers that link to tests or research.</p>	
	<p>Questions! Discuss scientific enquiry. Why do scientists ask questions? Why do they carry out enquiries and tests? Address any misconceptions and encourage children to elaborate on vague ideas (e.g. it's their job, they want to find things out). Explain the difference between scientific and non-scientific questions and demonstrate by supporting the children as they classify questions into categories and justify their reasons. Encourage children to generate questions to test tooth decay. Support the refining of questions by asking children to be specific.</p>	
	<p>Types of Enquiries: What types of scientific enquiries are there? Can you give examples of scientific enquiries or tests you have done? Children discuss with partners and feedback to the whole class. Scribe ideas on the board.</p>	
	<p>Practical Enquiries: Read the explanation and example of a practical enquiry. Children identify any questions they generated that could be best investigated using a practical enquiry.</p> <p>Variables: Using the Lesson Presentation, explain that when carrying out fair and comparative tests, children need to change one variable, while keeping all the other variables the same. There is also a variable which will be measured or observed.</p> <p>Carrying Out Fair and Comparative Tests: Using the Lesson Presentation, discuss an example of this kind of scientific enquiry and how it might be planned.</p>	
	<p>Testing Tooth Decay: Sort children into ability groups and state that instead of teeth they will be using boiled eggs with shells on as this is similar to enamel on a tooth (alternatively if children have an allergy to eggs then chicken bones or marble chips can be used). Children decide on the question and the type of enquiry or test they will be using before selecting one of the differentiated Tooth Decay Scientific Enquiry Activity Sheets. (You will need to make sure that the correct version is given as there are differentiated sheets for the different types of enquiry).</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="240 1711 580 1989">  <p>Children select one of the scientific questions generated. Support the children to choose an enquiry, make a prediction, list equipment and write simple instructions to carry out their enquiry or test.</p> </div> <div data-bbox="624 1711 948 1935">  <p>Children select one of the scientific questions generated, make predictions and list equipment. Children write simple instructions for their enquiry.</p> </div> <div data-bbox="1002 1711 1342 2049">  <p>Children can either choose one of the questions generated or create their own. Children make predictions, list equipment, select the type of test they are going to conduct and write instructions explaining how to carry it out.</p> </div> </div>	



Testing Tooth Decay Feedback: Children swap their Tooth Decay Scientific Enquiry Activity Sheets with another group. Using sticky notes, children give two positives and a next step to their partner group. Children revise their enquiry based on the feedback.



Taskit

Diagramit: Create a diagram explaining what you predict will happen when the boiled egg is placed in different types of liquid, using the **Tooth**

Researchit: Research the main causes of tooth decay in humans.

















Animals Including Humans: Tooth Decay Enquiry Part 2

<p>Aim: To make systematic and careful observations by observing the changes that occur in their enquiry or test.</p> <p>To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions By presenting findings, making predictions and raising questions about results.</p> <p>I can make careful observations, appropriately record my results and use them to develop further investigations.</p>	<p>Success Criteria: I can make systematic observations.</p> <p>I can record my findings using appropriate scientific language.</p> <p>I can use results to make predictions for new values and/or raise further questions resulting from my enquiry/test.</p>	<p>Resources: Lesson pack Liquids – water, milk, orange juice, apple juice, coke Hard-boiled eggs Containers Measuring jugs (Any other liquid or equipment that the children suggested on their Tooth Decay Scientific Enquiry Activity Sheets) Completed Tooth Decay Scientific Enquiry Activity Sheet - 1 per child</p>
	<p>Key/New Words: Erode, erosion, test, practical enquiry, fair test, comparative test, time intervals, observe, record, scientific language, conclusion, prediction, questions.</p>	<p>Preparation: Tooth Decay Recording Activity Sheet - 1 per child. Tooth Decay Reporting Activity Sheets - 1 per child.</p>

Prior Learning: Children will have selected and planned their enquiry in lesson 4.

NB: The actual observation and recording will need to be over the course of several days for the children to see any effect, therefore this lesson will need to be taught in more than one part over more than one day. Also containers with milk will need to be kept in fridge to avoid the milk spoiling.

Learning Sequence

	<p>Corrections: Children given their completed Tooth Decay Scientific Enquiry Activity Sheets. Do you need to make any corrections before conducting your enquiry/test? Children given time to amend activity sheets as a group.</p> <p>Tooth Decay Scientific Enquiry: Ensure that all equipment needed is out. Children to collect what they need, follow their instructions and set up their enquiry/test. (Depending on space and equipment it may be that some groups need to set up their enquiry/test together as they are trying to answer the same question or using the same liquids. This can also be done as a whole class enquiry.)</p>	
	<p>Observations: Why do we need to make careful observations and record them accurately? What would happen to our results if we did not do this? Model how to record an observation and the use of terms like erode/erosion. Answer any questions children may have about making observations. Give children the Tooth Decay Recording Activity Sheet to record their first observation.</p>	
	<p>Recording Observations: Over the course of the next 5 days children to record their observations of the eggs on the Tooth Decay Recording Activity Sheet.</p> <p>  Record Observations.  Record observations and label them.  Record observations and label them using scientific language. </p>	
	<p>Reporting Findings: Model how to write a simple conclusion to the whole class, make new predictions based on findings to the MA and HA, and how to raise a further question to the HA. Children complete the differentiated Tooth Decay Reporting Activity Sheets.</p> <p>  Children write a conclusion about their findings.  Children write a conclusion and make predictions based on their findings.  Children write a conclusion, make predictions based on their findings and raise further questions. </p>	
	<p>Changes: What have you learnt from your enquiry/test? What would you do differently next time? Children feedback what they have written on their Tooth Decay Reporting Activity Sheets.</p>	

Taskit

Inventit: Create a new drink that is good for your teeth. Draw it and write a short description of the drink and why it's good for your teeth.

Posterit: Create a poster based on your findings including what they should and should not drink to keep teeth healthy.





















Researchit: Find out about the history of false teeth answering questions on

Animals Including Humans: Types and Functions of Teeth

<p>Aim: To identify the different types of teeth in humans and their simple functions by learning about different types of teeth.</p> <p>I can identify the types and functions of teeth.</p> <p>To identify differences, similarities or changes related to simple scientific ideas and processes by comparing human and animal teeth.</p> <p>I can identify similarities and differences related to scientific ideas.</p>	<p>Success Criteria: I can identify the types of human teeth. I can identify the function of human teeth. I can match the types and functions of teeth. I can identify similarities related to scientific ideas. I can identify differences related to scientific ideas.</p> <p>Key/New Words: Teeth, incisors, canines, molars, premolars, humans, animals.</p>	<p>Resources: Lesson Pack Scissors Glue Sticks</p> <p>Preparation: Types And Functions Of Teeth Activity Sheet - 1 per child Comparing Animal Teeth Activity Sheet - 1 per child</p>
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Prior Learning: It will be helpful if children have learnt the difference between carnivores, herbivores and omnivores.

Learning Sequence

	<p>Types Of Teeth: Children match types of teeth and their names on the IWB. On the next slide, children arrange teeth in an empty mouth on the IWB. Reveal answer and use key to check teeth were correctly placed, if not then ask children to use the diagram to rearrange them.</p>	
	<p>Question Time! Why do we have different types of teeth? What is their purpose? Children discuss with a talk partner and feedback.</p>	
	<p>Read through the explanation of the functions of teeth on the IWB: Functions Of Teeth: Incisors, Canines, Premolars, Molars, Wisdom Teeth</p>	
	<p>Matching Types and Functions: Using the differentiated Types And Functions Of Teeth Activity Sheet, children match the types of teeth to their functions.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="213 1173 580 1281">  Children match the functions of teeth to a labelled diagram of the mouth. </div> <div data-bbox="612 1173 979 1339">  Children match the name and function of teeth before sticking them to the appropriate place on the mouth diagram. </div> <div data-bbox="1011 1173 1378 1281">  Children write the type and function of teeth on a diagram of the mouth. </div> </div>	
	<p>Animal Teeth: Do other animals have the same type of teeth as humans? Why? Why not? Children feedback to the whole class.</p>	
	<p>Food and Teeth: Show pictures of labelled teeth for Herbivores, Carnivores and Omnivores. Read explanation of diet. Does the diet of animals affect the teeth they have?</p>	
	<p>Comparing Teeth: Using the differentiated Comparing Animal Teeth Activity Sheet, children compare similarities and differences between herbivores, carnivores and omnivores.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="213 1680 580 1874">  Children work in a group to focus on the similarities between omnivores and herbivores, and omnivores and carnivores. </div> <div data-bbox="612 1680 979 1874">  Children compare and contrast the teeth of herbivores, carnivores and omnivores, using the activity sheet to explain similarities and differences. </div> <div data-bbox="1011 1680 1378 1874">  Children label the teeth of herbivores, carnivores and omnivores, using the activity sheet to explain similarities and differences. </div> </div>	

Taskit

Modelit: Create a model of the mouth, labelling the types and functions of teeth.

Researchit: Children can research and record facts on the

Imagineit: Children can write an explanation or draw what they think the tooth fairy does with all the teeth she collects using the



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Digestive System Functions



Aim

- I can explain the functions of the digestive system.
- I can use scientific evidence to answer questions.

Success Criteria

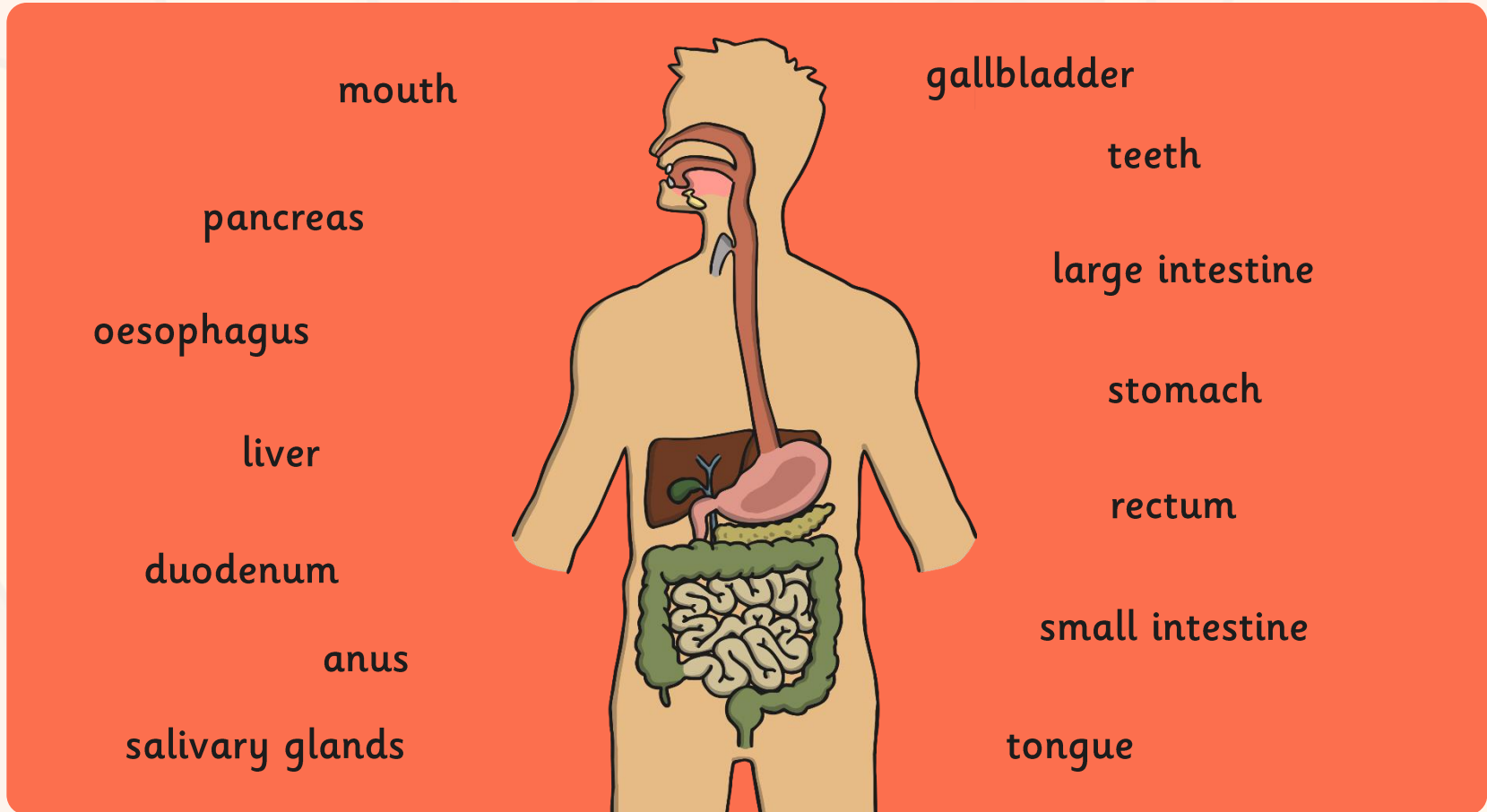
- I can add functions to the parts of the digestive system.
- I can match the parts of the digestive system with their functions.
- I can explain the functions of the digestive system.
- I can use scientific evidence I have been given to answer questions.
- I can distinguish between scientific and non-scientific evidence when answering questions.



Digestive System - Parts



Label the parts of the digestive system



Digestive System - Functions



How do the different parts of the digestive system work?

How do they help humans to digest food?

Discuss with your group and write down ideas next to the part on your sheet.



Digestive System Function Ideas

<input type="text"/>		
Name of digestive system part: Function:	Name of digestive system part: Function:	Name of digestive system part: Function:
Name of digestive system part: Function:		Name of digestive system part: Function:
Name of digestive system part: Function:		Name of digestive system part: Function:
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Glands

You will come across the word **glands** in this lesson so we should find out what they are!

Glands are organs that release fluids to be used in the body.

Tear glands produce tears.

Sweat glands produce sweat.



Enzymes

Similarly, you will come across the term enzymes.

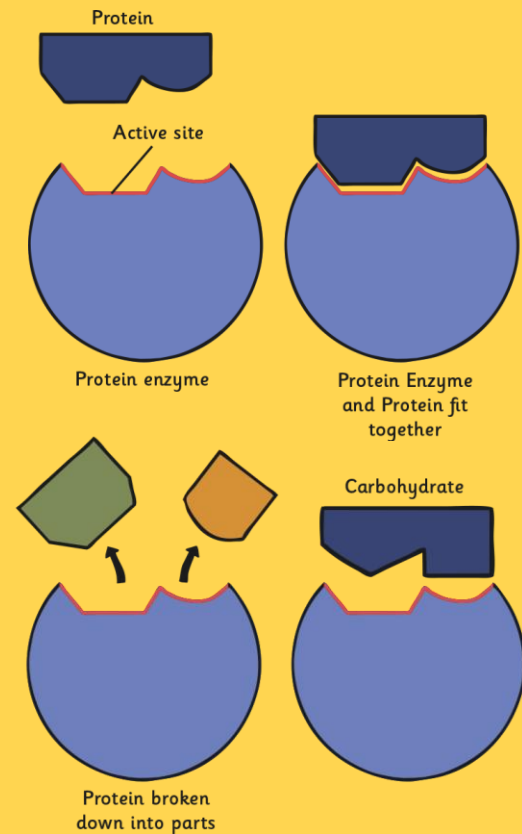
Enzymes are special molecules in the body (molecules make up cells, which make up tissue, glands, organs, etc).

They act to create a chemical reaction.

In the digestive system the reaction they produce breaks down food.

There are lots of **different types of enzymes** as a type of enzyme can only do one thing – so **enzymes** that break down protein can not also break down carbohydrates. You need different enzyme for that!

They are often thought of as a lock – only the right key will fit!



Salivary Glands

Function:

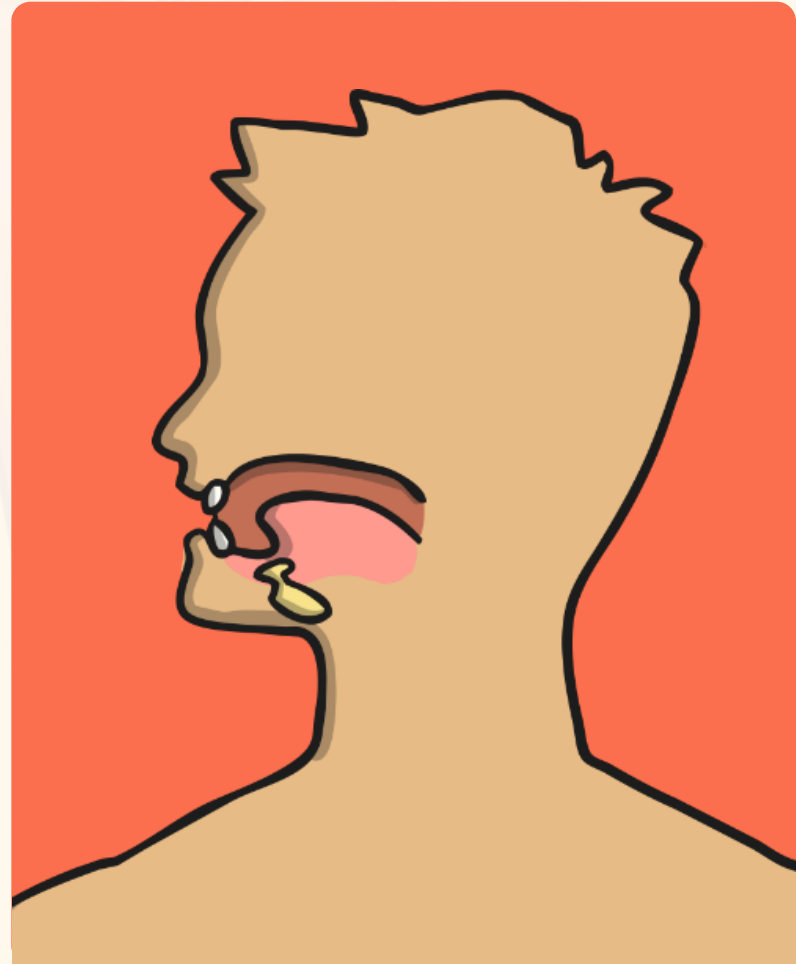
First part of the digestion process starts without you even eating!

The smell of food triggers the salivary glands to produce saliva (some call it your mouth watering).

The amount of saliva increases as you taste the food.

Saliva is mostly made of water and it helps you to chew, taste and swallow food.

Contains enzymes which start to break down the food we eat.



Mouth

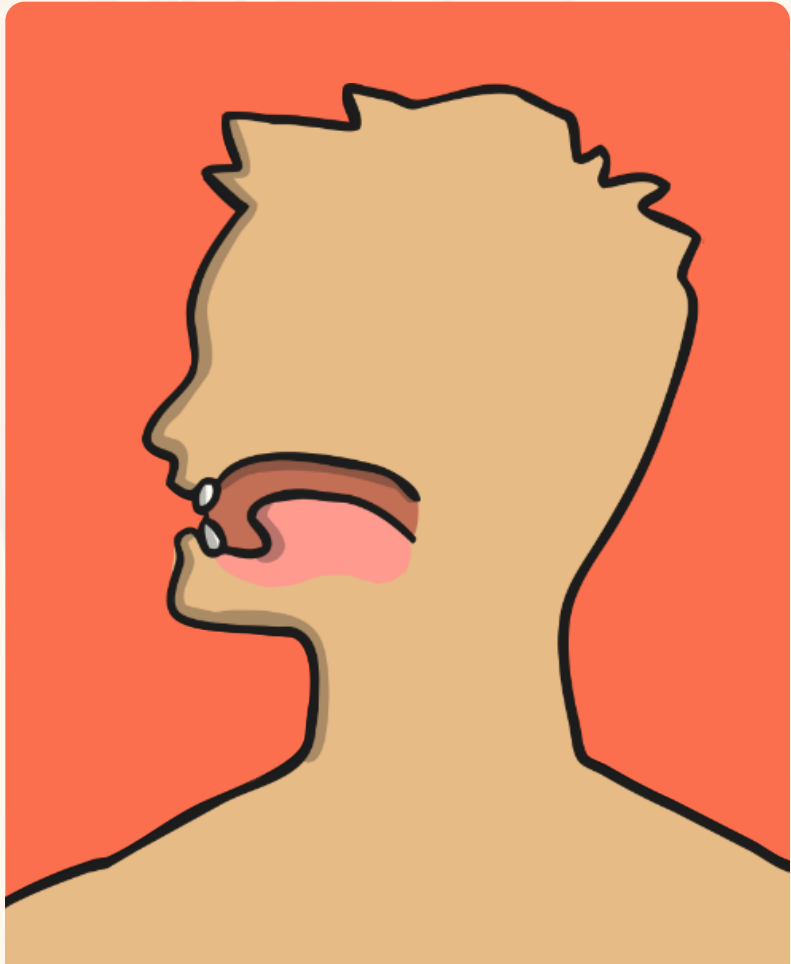
Function:

Entry point for food.

Where saliva mixes with food.

Location of tongue and teeth.

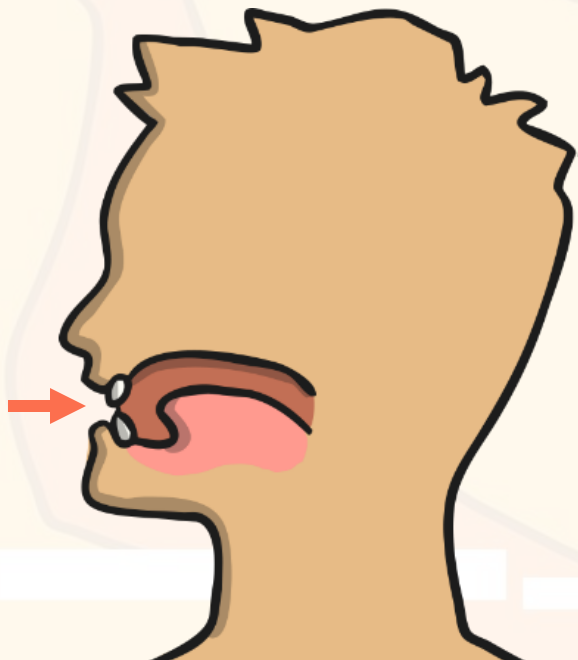
Top part of the mouth (soft palate) helps move food along to the oesophagus.



Teeth

Function:

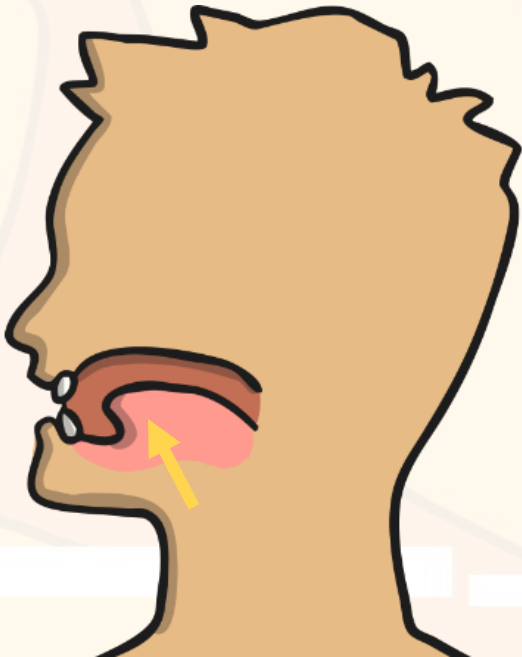
Tear, cut and grind food into smaller pieces.



Tongue

Function:

Helps mix the food and saliva.

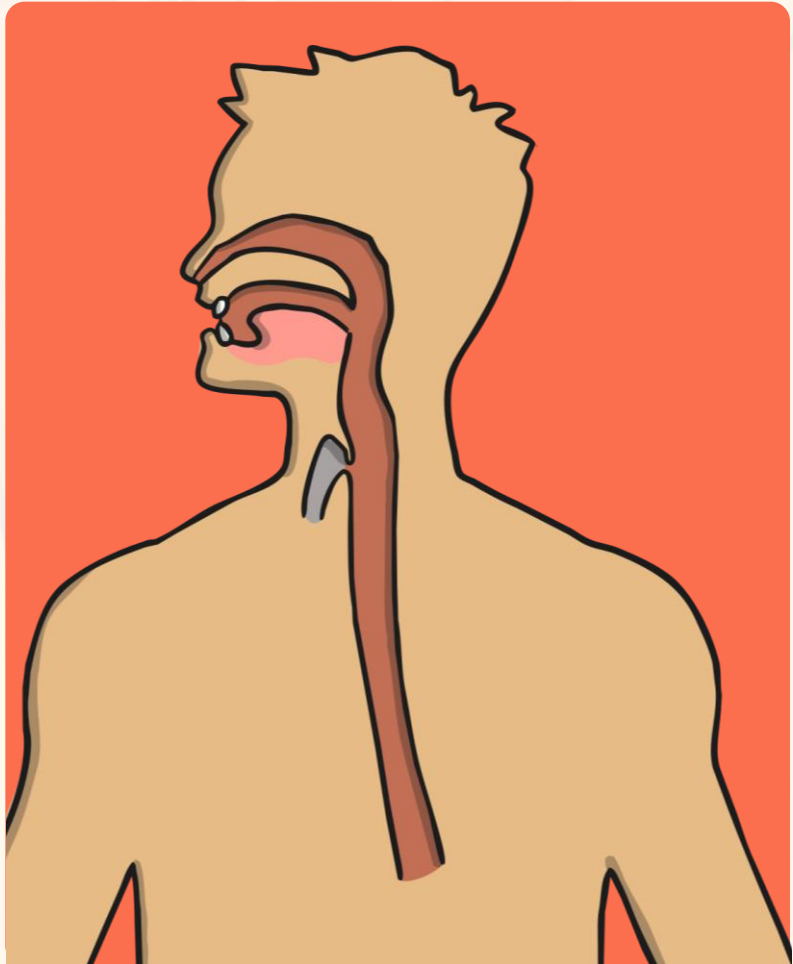


Oesophagus

Function:

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.

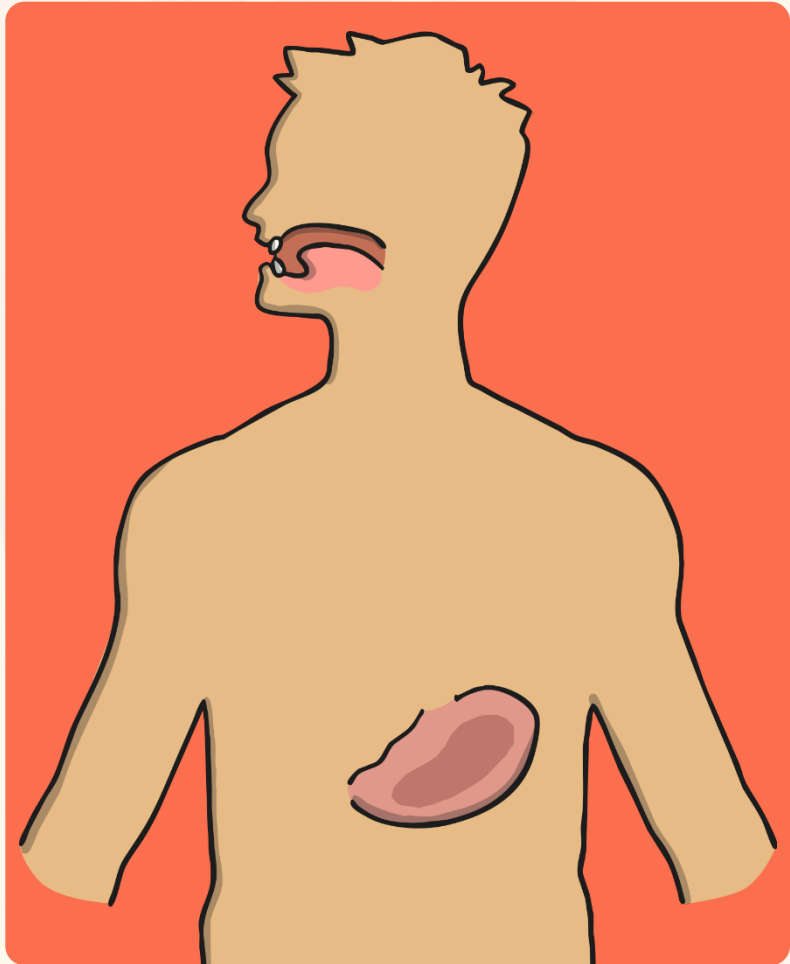


Stomach

Function:

Glands line the stomach produce acid and **enzymes** which breaks the food down further.

Muscles in the stomach mix the food.

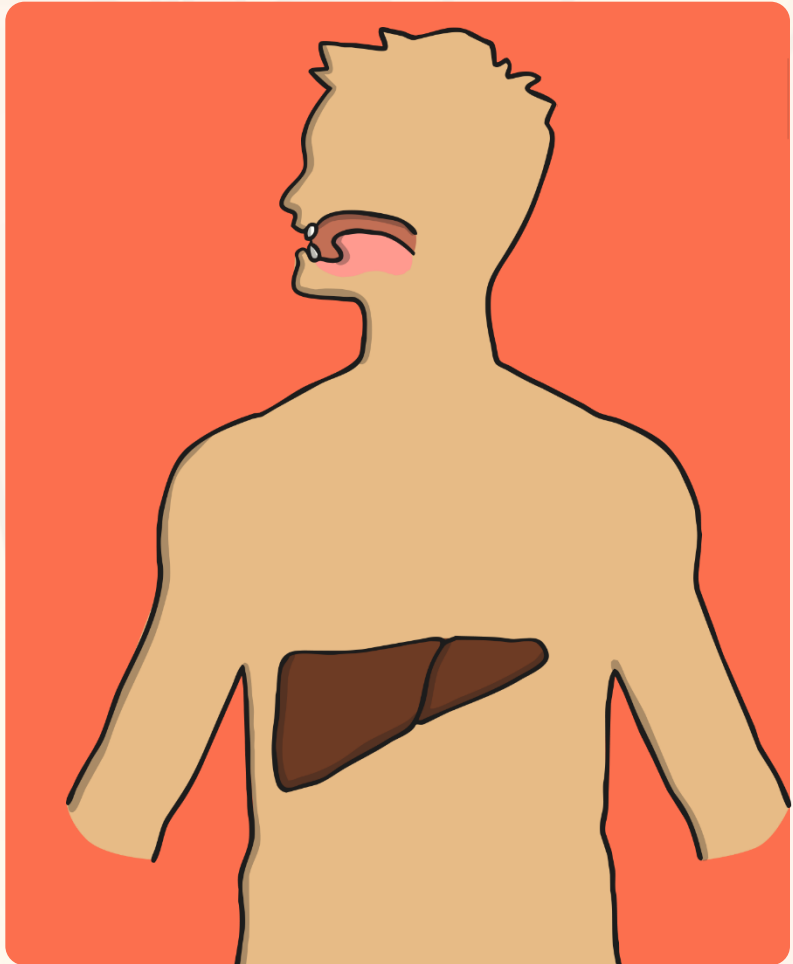


Liver

Function:

Produces bile which helps to absorb fats.

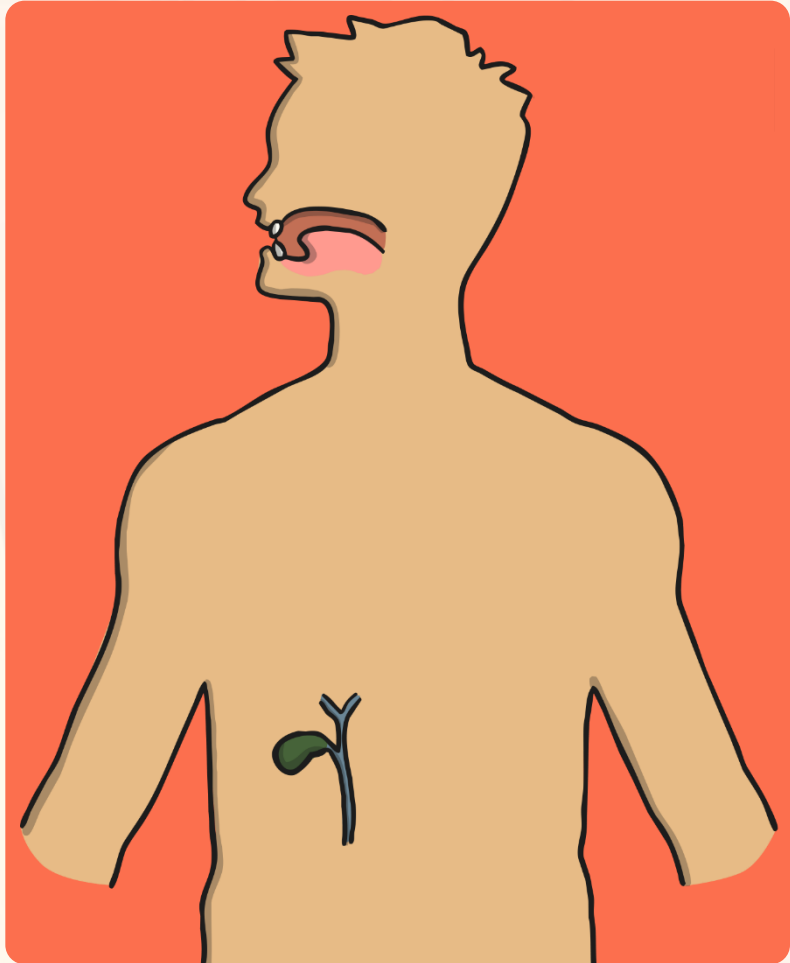
Bile is sent to the gallbladder to be stored.



Gallbladder

Function:

Releases bile into the duodenum when needed.

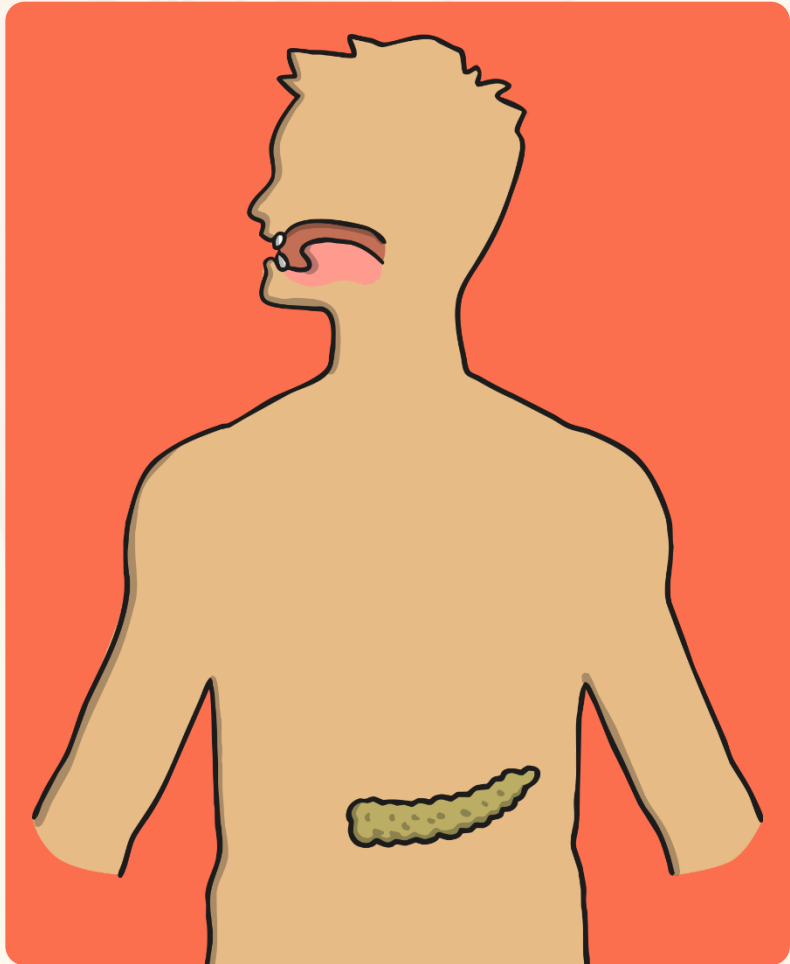


Pancreas

Function:

Produces enzymes to break down fats, proteins and carbohydrates.

Releases them into the duodenum.

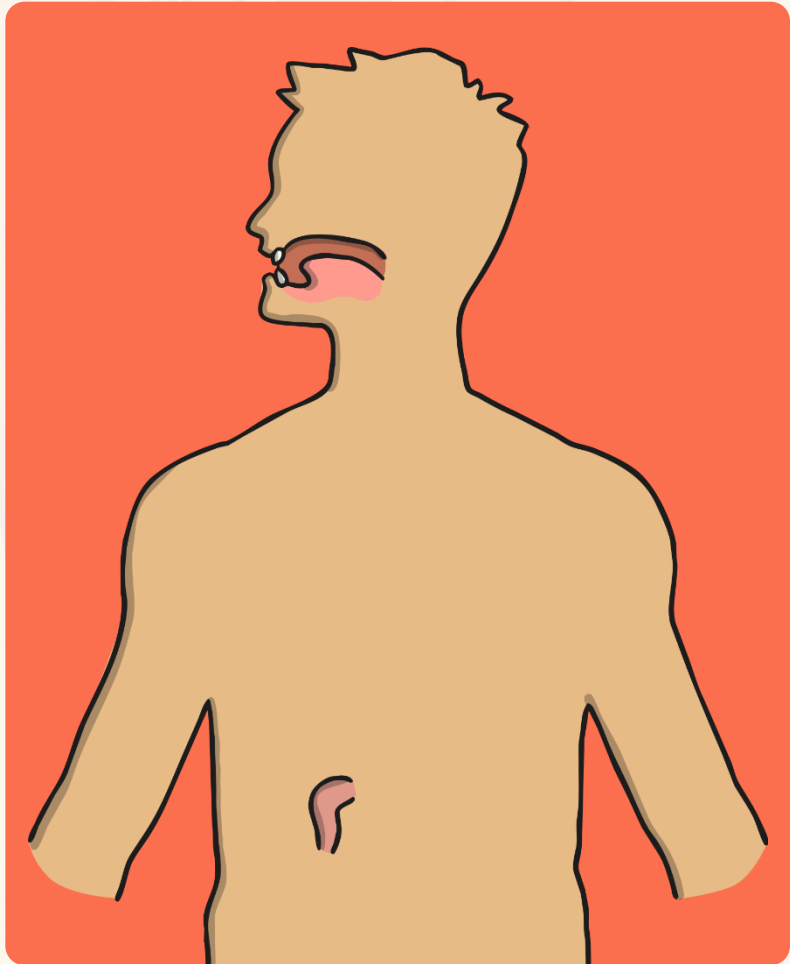


Duodenum

Function:

First part of the small intestine

Food is broken down by bile from the gallbladder and enzymes from the pancreas.

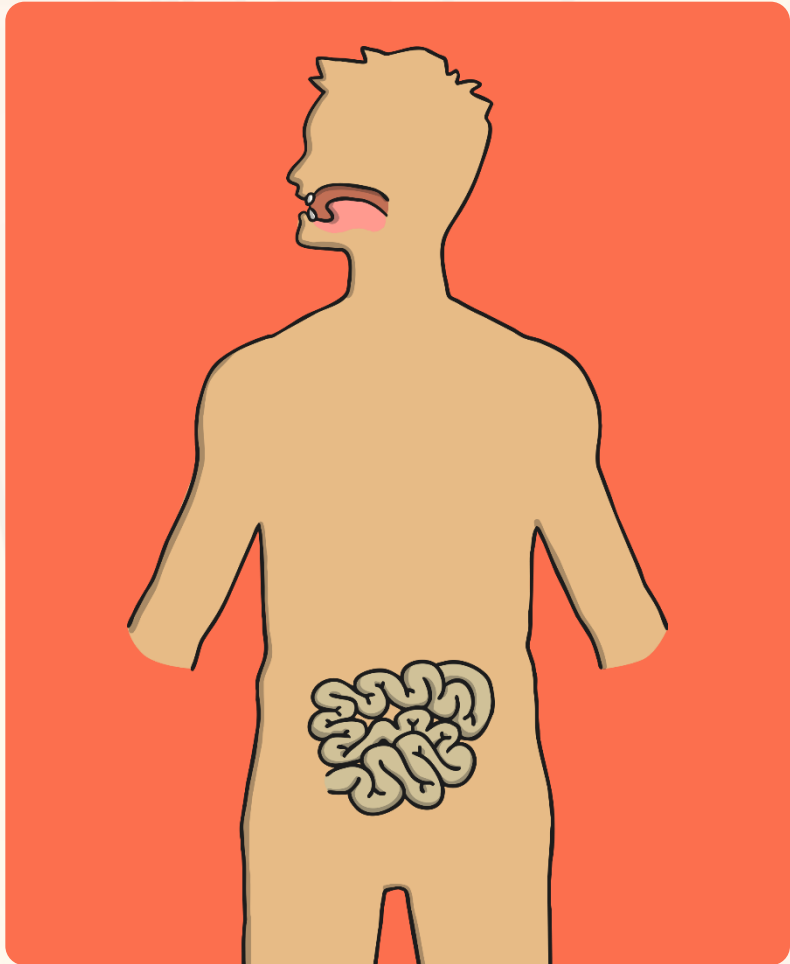


Small Intestine

Function:

The other parts of the small intestine – (jejunum and ileum) absorb nutrients from the food.

Pass any leftover broken down food to the large intestine.



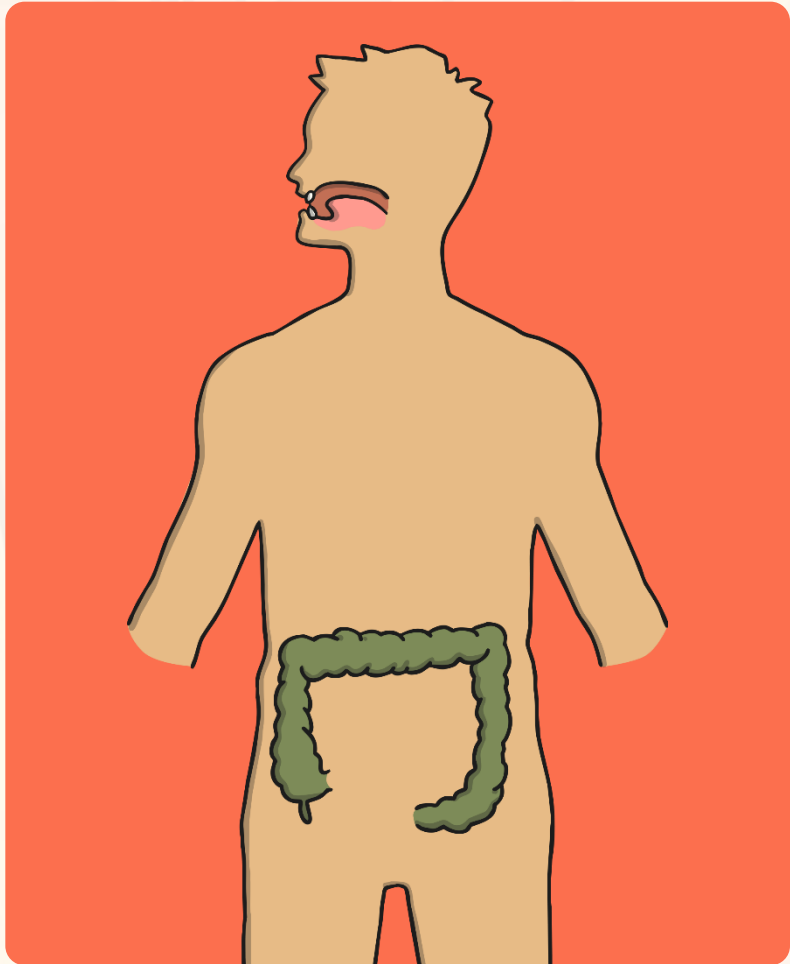
Large Intestine

Function:

Connects the small intestine to the rectum.

Absorbs water from waste food.

Forms stool from waste food.

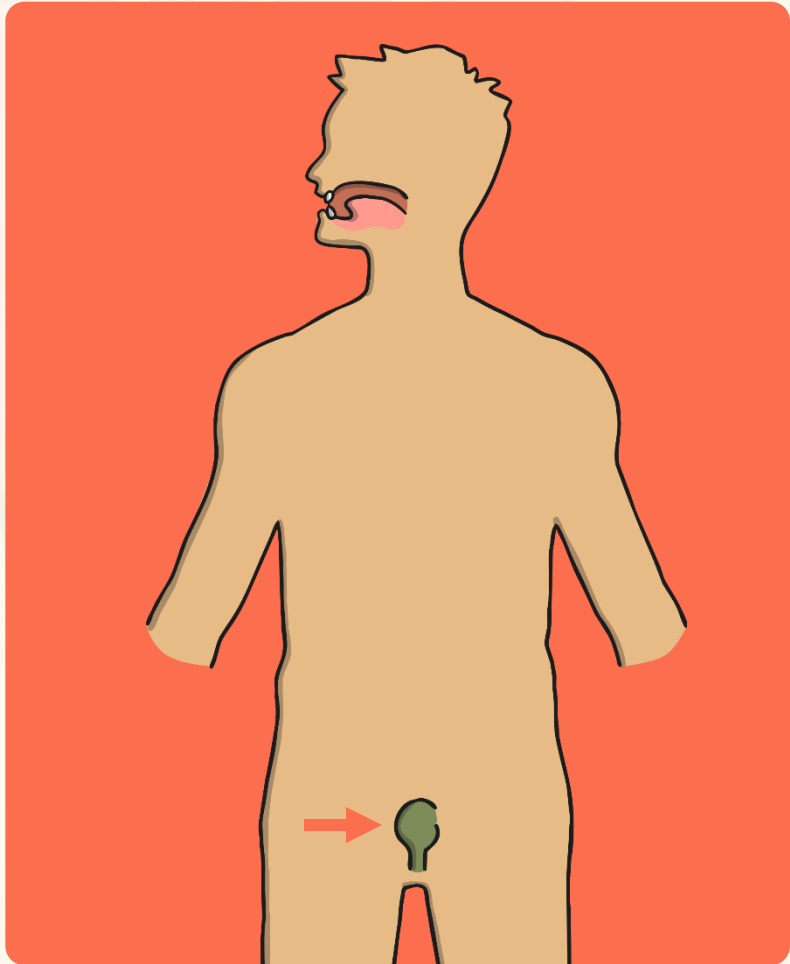


Rectum

Function:

Stores stool passed to it from the large intestine.

Makes brain aware of need to go to the toilet.

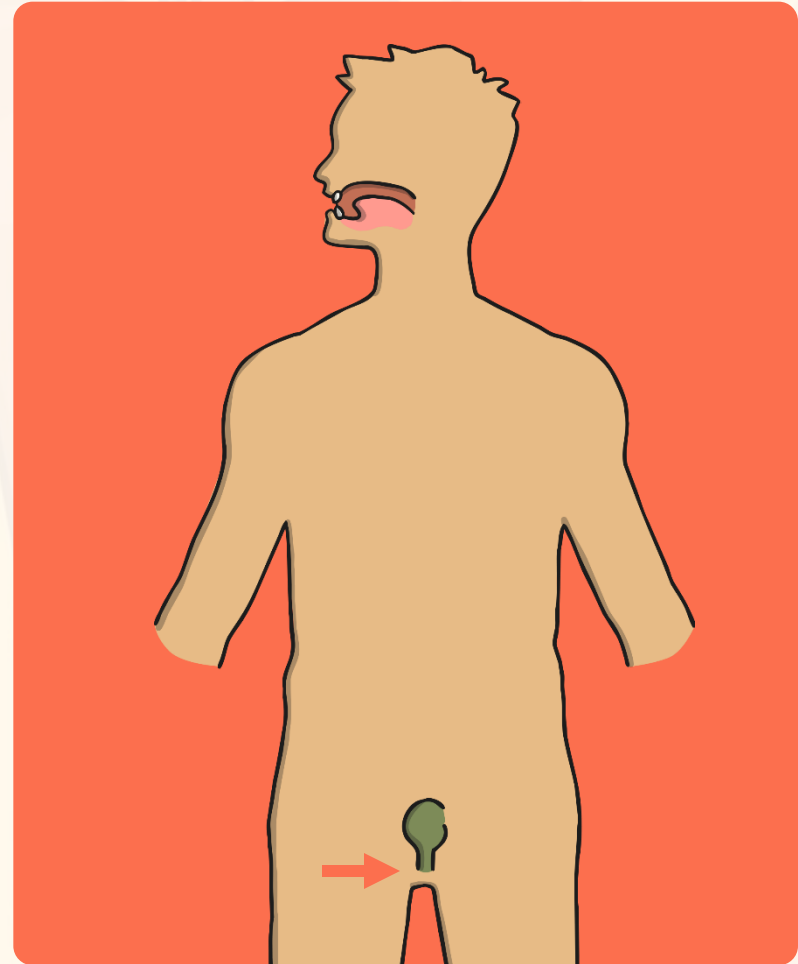


Anus

Function:

Releases the stool.

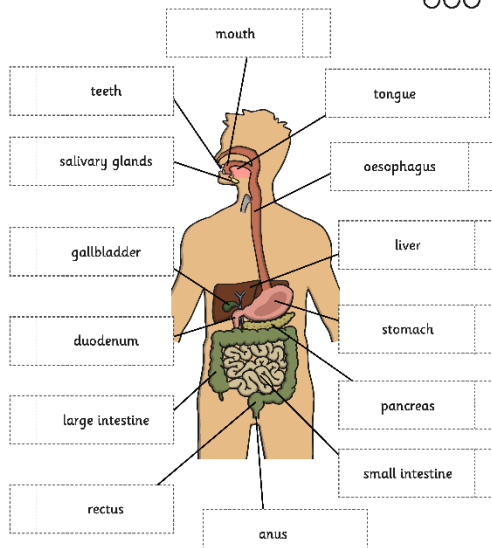
End of the digestive process.



The Functions Of The Digestive System



Interactive Digestive System



body part on the worksheet.

Enzymes break down and mix it up.
Enzymes are released from the end of the digestive system.
Food is passed to the large intestine.

body part on the worksheet.

Enzymes break down and mix it up.
Enzymes are released from the end of the digestive system.
Food is passed to the large intestine.

Digestive System Explanation Text

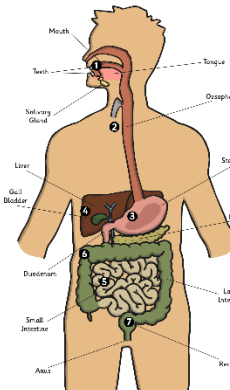
1 The mouth is where food enters the digestive system but the process of digestion starts even before that happens! The salivary glands produce saliva when food is smelt. You may have come across the phrase "mouth-watering", which indicates food that smells so good that your mouth is full of saliva.

Saliva contains an enzyme called amylase (or amylase) which breaks down starch which is a type of carbohydrate. The tongue is important as it mixes the food with the saliva.

Teeth tear, cut and grind food in the mouth so that it can be transported through the body more easily.

2 The next part of the digestive process takes place in the oesophagus. This is a long muscular tube that leads to the stomach. Here the food is moved down by the muscles in synchronised waves (pairs of muscles contracting and relaxing at the same time). This movement is called peristalsis. Muscles in your intestine also work like this.

3 Enzymes and acids are produced in the stomach. Long to break food down. The stomach contains powerful muscles that churn and mix food into smaller and smaller pieces.



7 The large intestine moves the stools to the rectum. The rectum has two functions: firstly, it stores the stools until they are ready to be released. Secondly, it sends signals to the brain that there are stools that need releasing. The final process in the digestive process is when stools move from the rectum are released from the anus.

In order to be healthy, the body needs to absorb nutrients from the food and also get rid of the parts of the food it does not need.

4 The liver, pancreas and gallbladder are vital to the digestive process even though food does not pass through them.

The pancreas produces enzymes to break down fats, carbohydrates and proteins which are released in the duodenum.

The liver produces bile - this is an important fluid which breaks down fats in our diets. It sends the bile to the gallbladder to store, which releases it into the duodenum when it is needed.

6 After the other two parts of the small intestine absorb the nutrients they need, any part of the food that is not needed travels to the large intestine. The large intestine absorbs water from the remaining food and the rest forms into stools.

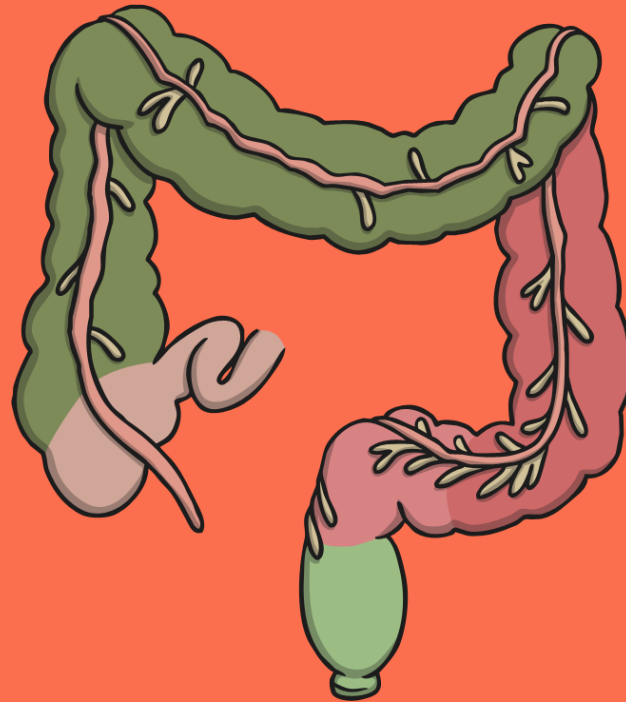
5 The small intestine is split into three parts. The duodenum is the first part of the small intestine and it is here that the food is broken down by enzymes and bile.



Digestive System Quiz



Click on the answer boxes.



Digestive System Quiz



What part of the digestive system tears, cuts and grinds food?

Well done!



stomach

teeth

salivary glands

pancreas



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Digestive System Quiz



?

Which part of the body produces saliva?

Well done!



mouth

gallbladder

salivary glands

liver



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Digestive System Quiz



?

What is the function of the tongue?

Well done!



mixes food with saliva

cuts food

produces saliva

breaks down food



Digestive System Quiz



?

Which part of the digestive system forms stools?

Well done!



rectum

oesophagus

small intestine

large intestine



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Digestive System Quiz



?

Which is the only part of the digestive system which needs to send a signal to the brain?

Well done!



rectum

gallbladder

pancreas

anus



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Digestive System Quiz



?

Which of these is the function of the stomach?

Well done!



produces saliva

produces bile

produces acid

produces stools



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Digestive System Quiz



?

Where is bile stored?

Well done!



stomach

liver

pancreas

gallbladder



Digestive System Quiz



How many parts of the small intestine are used to digest food?

Well done!



two

one

three

none



Digestive System Quiz



?

Which part moves the food to the stomach?

Well done!



small intestine

oesophagus

large intestine

mouth



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Digestive System Quiz



?

What do glands do?

Well done!



break down food

keep the pancreas healthy

produce fluids

send signals to the brain



Digestive System Quiz



?

How many different parts of the digestive system does food enter?

Well done!



eight

ten

thirteen

three



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Digestive System Quiz



?

What are enzymes?

Well done!



cells that break down food

molecules that break down food

glands that break down food

organs that break down food



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Digestive System Quiz



?

What is the name of the top part of the mouth?

Well done!



hard palate

soft pilates

soft palate

hard pilates



Digestive System Quiz



What two substances break down food in the duodenum?

Well done!



acid and enzymes

bile and saliva

acid and bile

enzymes and bile



Digestive System Quiz



?

The name of the wave movement of the muscles in the oesophagus is called...



Well done!



periscope

perisc

peristalsis

periodic



Aim



- I can explain the functions of the digestive system.
- I can use scientific evidence to answer questions.

Success Criteria

- I can add functions to the parts of the digestive system.
- I can match the parts of the digestive system with their functions.
- I can explain the functions of the digestive system.
- I can use scientific evidence I have been given to answer questions.
- I can distinguish between scientific and non-scientific evidence when answering questions.







Science

Animals Including Humans



Digestive System Parts

Aim

- I can identify and name parts of the human digestive system.

Success Criteria

- I can name parts of the digestive system.
- I can identify parts of the digestive system.
- I can construct the digestive system.



Digestive System



Humans digest food. They have a digestive system that allows them to do this.

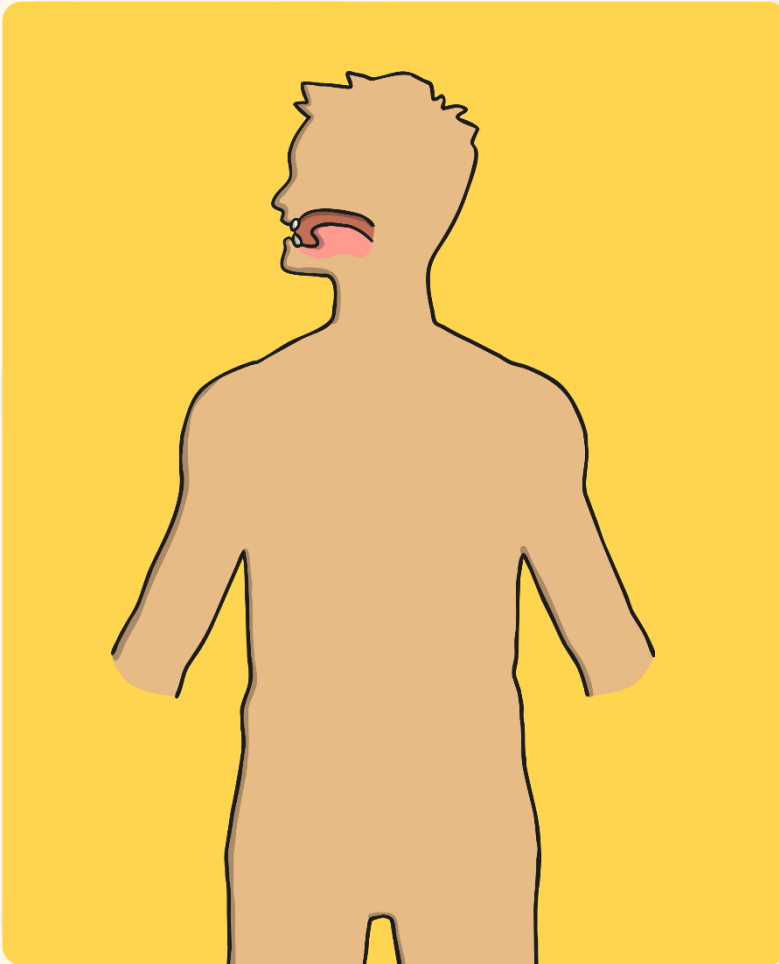
What do you think digest/digestive system mean?

Click here for
a definition of
digest

Click here for
a definition of
**digestive
system**



Digestive System Parts



You are now going to draw and label the body parts that you think are part of the digestive system!

Think about the following to help you:

How do humans digest food?

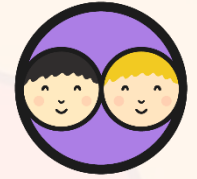
How does food travel through the body?

What parts of the body are involved?

(Hint: it's not just the ones on the outside that you can see!)



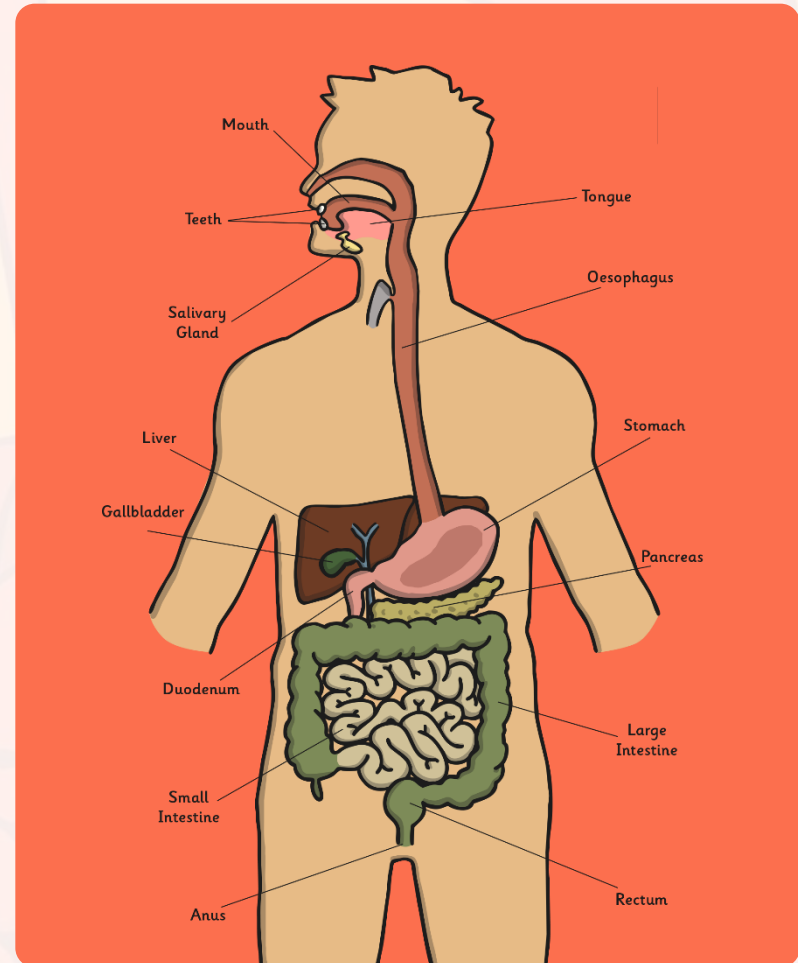
Digestive System Parts



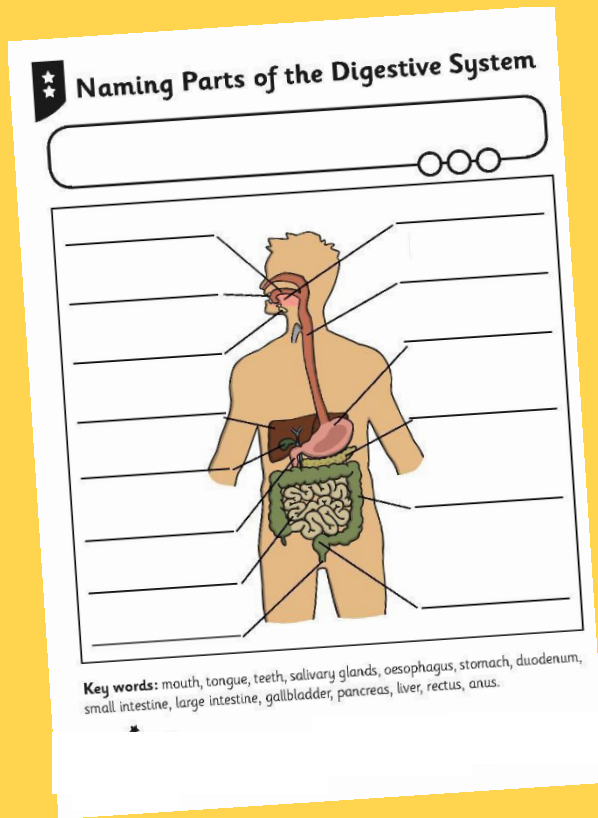
Swap your sheet with your partner.

Peer mark their work:

- Tick any body parts that were correct and cross any that were incorrect.
- Swap back with your partner.
- Were there any obvious body parts you missed out?
- Were there any body parts that you were surprised by?



Naming Parts of the Digestive System



Can you name all the parts of the digestive system?

Task:

You will be given a sheet with key words to name and label the different parts of the digestive system.

When you have finished stick it next to your drawing of the digestive system from earlier in the lesson.



Identifying and Naming



You will work in small groups to help create our class display!

Each group will be given a different part of the digestive system which they will add to the display.



You will be assigned one of the following roles:

- 1) **Identifier** (Identify the part correctly).
- 2) **Namer** (Name the part correctly)
- 3) **Displayer** (Add the body part and name label to the body outline on display)



Aim



- I can identify and name parts of the human digestive system.

Success Criteria

- I can name parts of the digestive system.
- I can identify parts of the digestive system.
- I can construct the digestive system.





[Redacted text]



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Science

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Food Chains



Aim

- I can construct and interpret food chains

Success Criteria

- I can order a simple food chain.
- I can identify the producer, predator and prey.
- I can interpret a variety of food chains.



Food Chains



Whole Class

What is a food chain?

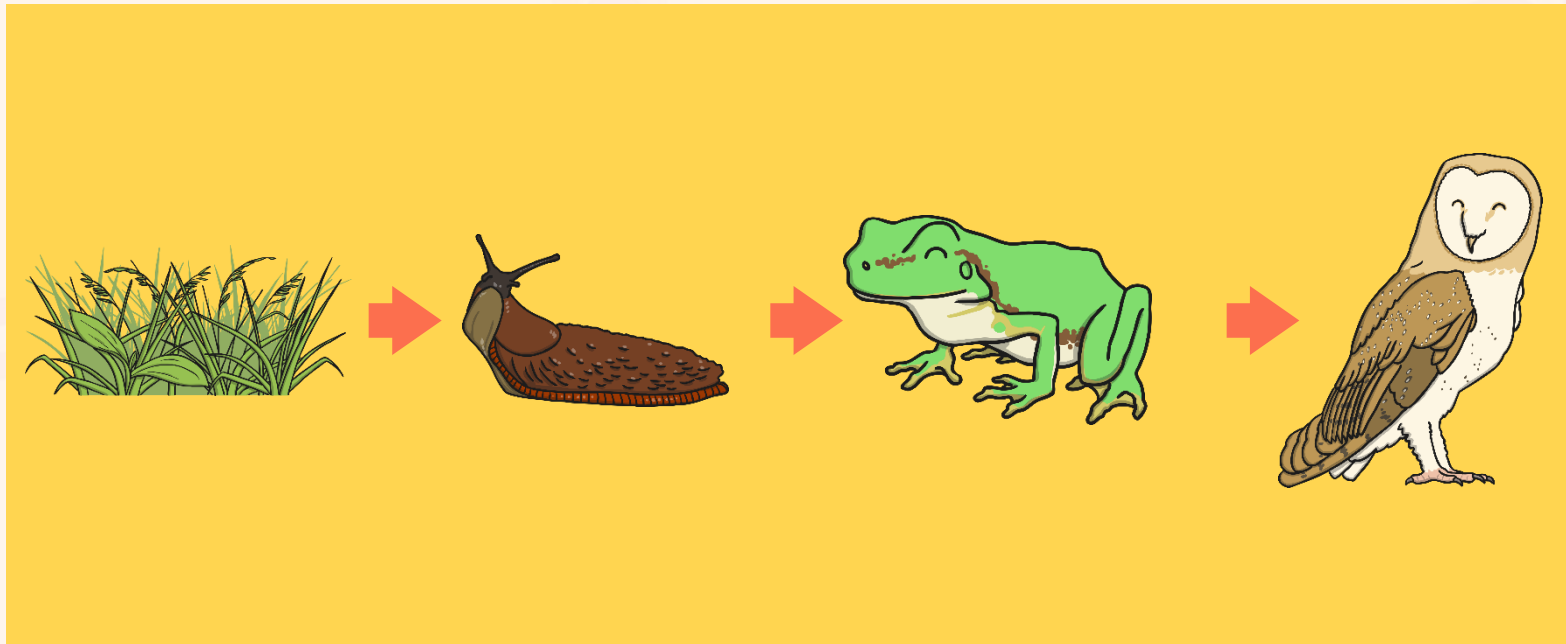


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Interpreting Food Chains



How is this food chain constructed?

What do the arrows represent?

How should we label the different parts of the food chain?

Interpreting Food Chains

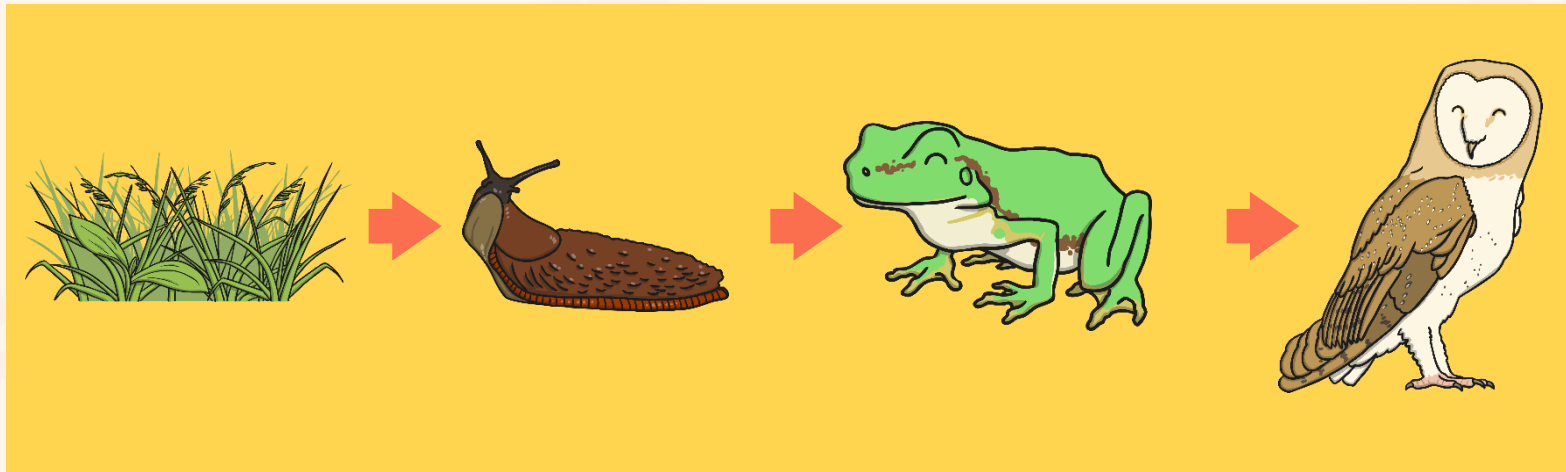


In your groups match the words with their meanings.

Words	
Herbivores	
Carnivores	
Omnivores	
Detritivores	
Producers/Autotrophs	
Consumers	
Primary Consumer	
Secondary Consumer	
Tertiary Consumer	
Prey	
Scavenger	
Predators	
Decomposer	



Labelling Food Chains 1



Producer/Autotroph

Consumer

Consumer

Consumer

Primary
Consumer

Secondary
Consumer

Tertiary
Consumer

Prey

Predator/Prey

Predator

Detritivore

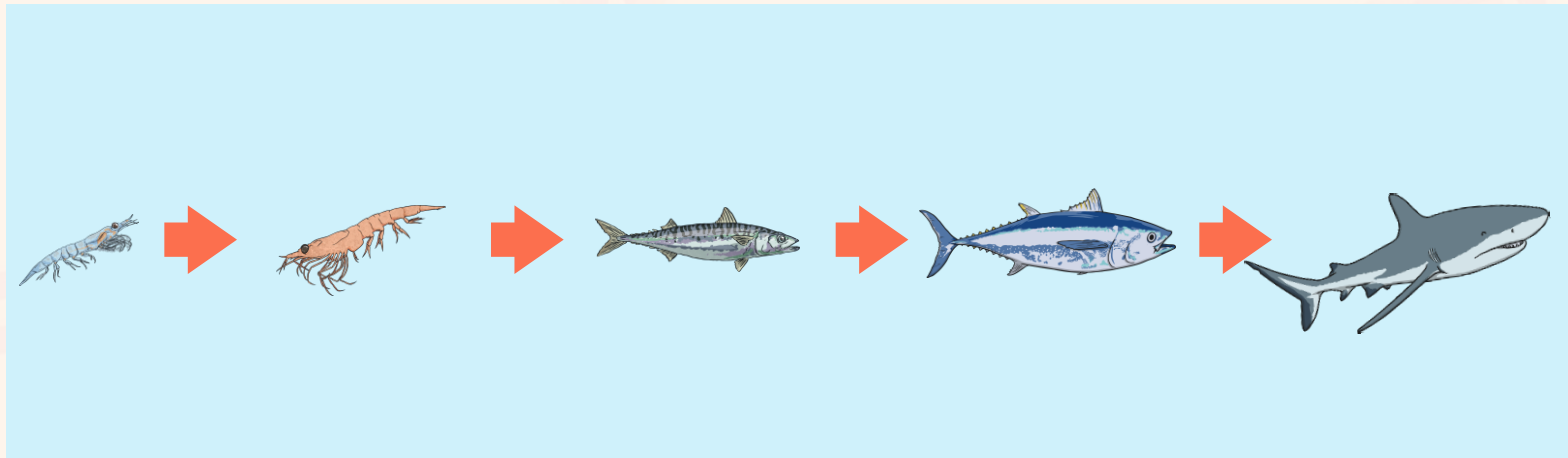
Omnivore

Carnivore



Labelling Food Chains 2

Here is a more complex example:



Producer/ Autotroph	Consumer	Consumer	Consumer	Consumer
	Primary Consumer	Secondary Consumer	Tertiary Consumer	Quaternary Consumer
	Prey	Predator/Prey	Predator/Prey	Predator/ Scavenger
	Herbivore	Carnivore	Carnivore	Carnivore















Food Chains Activity



Food Chain Sorting Cards

Cut out the pictures and use them to answer the questions about food chains on the challenge cards you've been given.

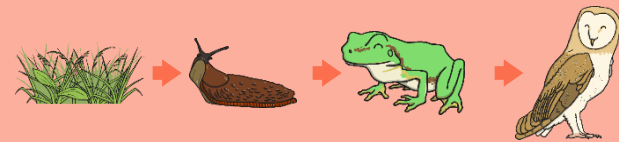
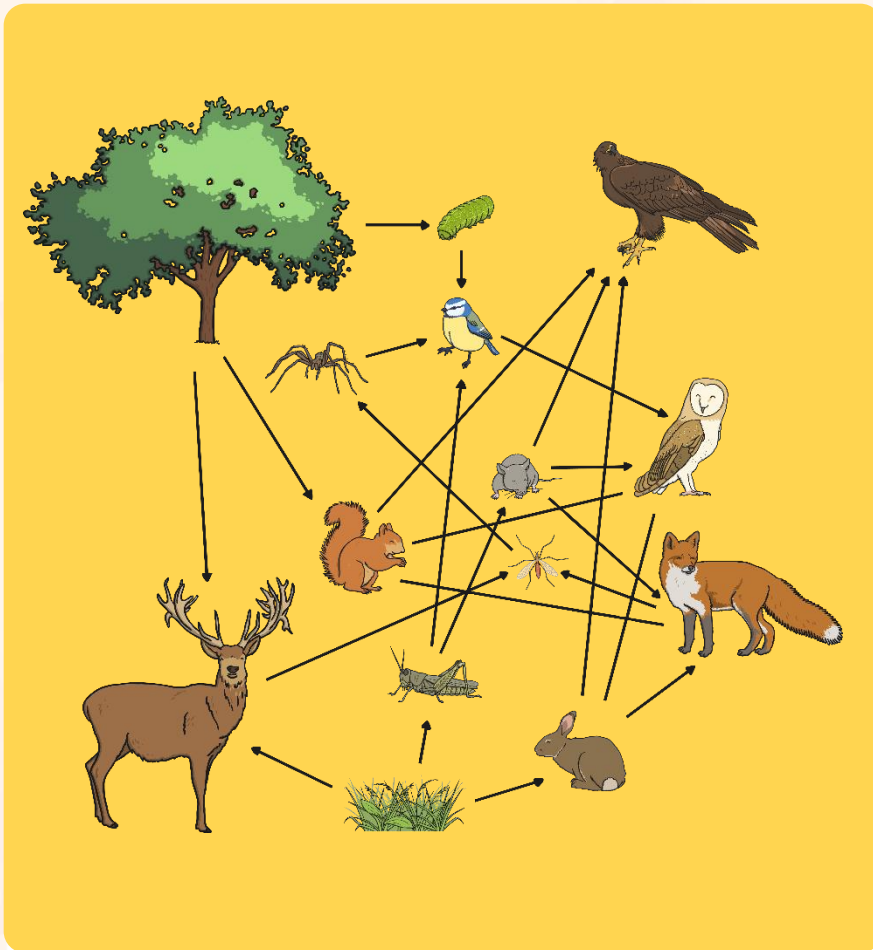
Additional images on the right side of the page: a caterpillar, a tree, a frog, a blue caterpillar, and a green caterpillar.

Food Chain Challenge Cards

Food Chain Challenge Cards



Interpreting Food Webs



How are food webs similar/different to food chains?

When would it be better to use a food chain?

When would a food web be better?



Aim

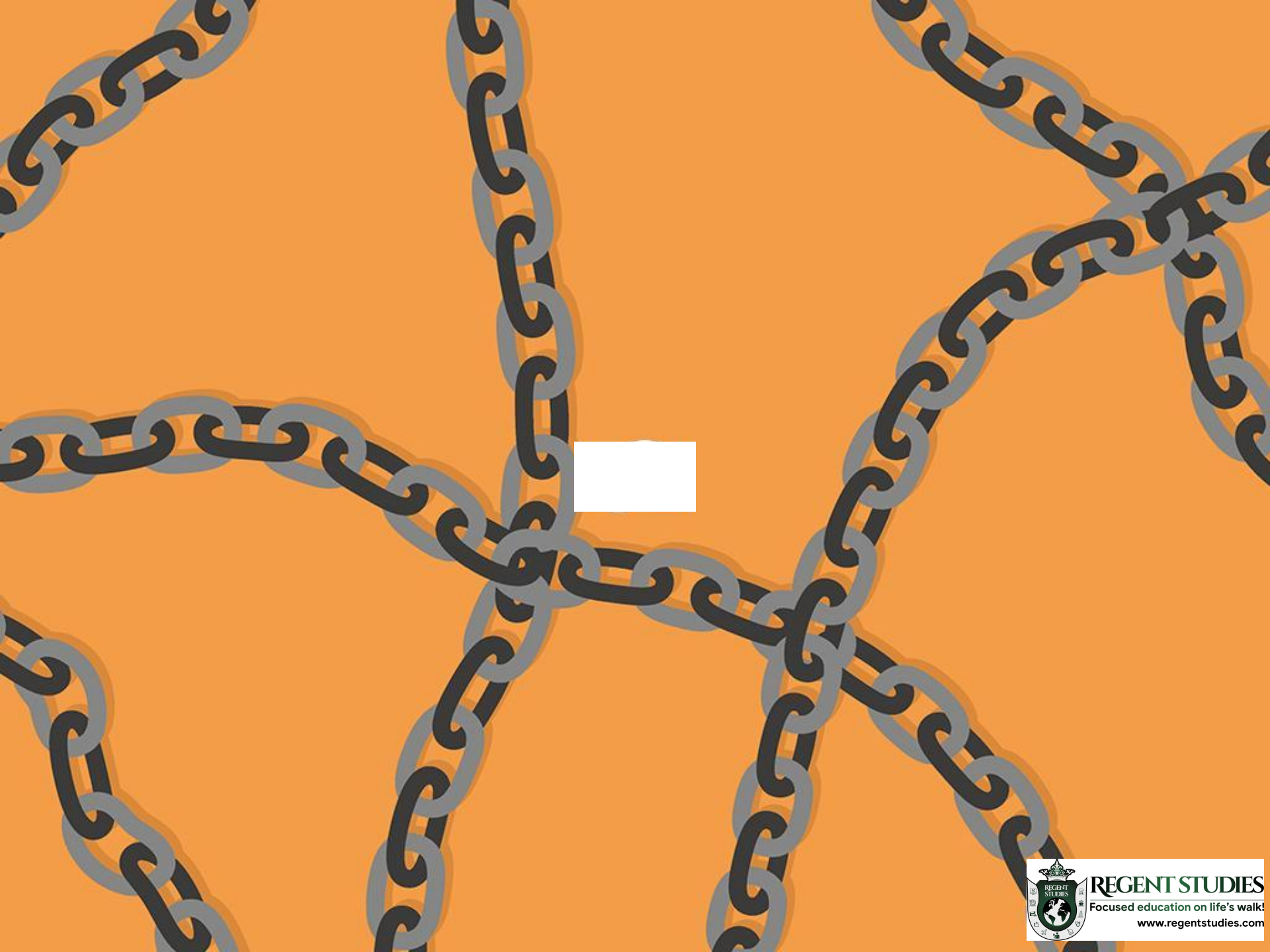


- I can construct and interpret food chains

Success Criteria

- I can order a simple food chain.
- I can identify the producer, predator and prey.
- I can interpret a variety of food chains.



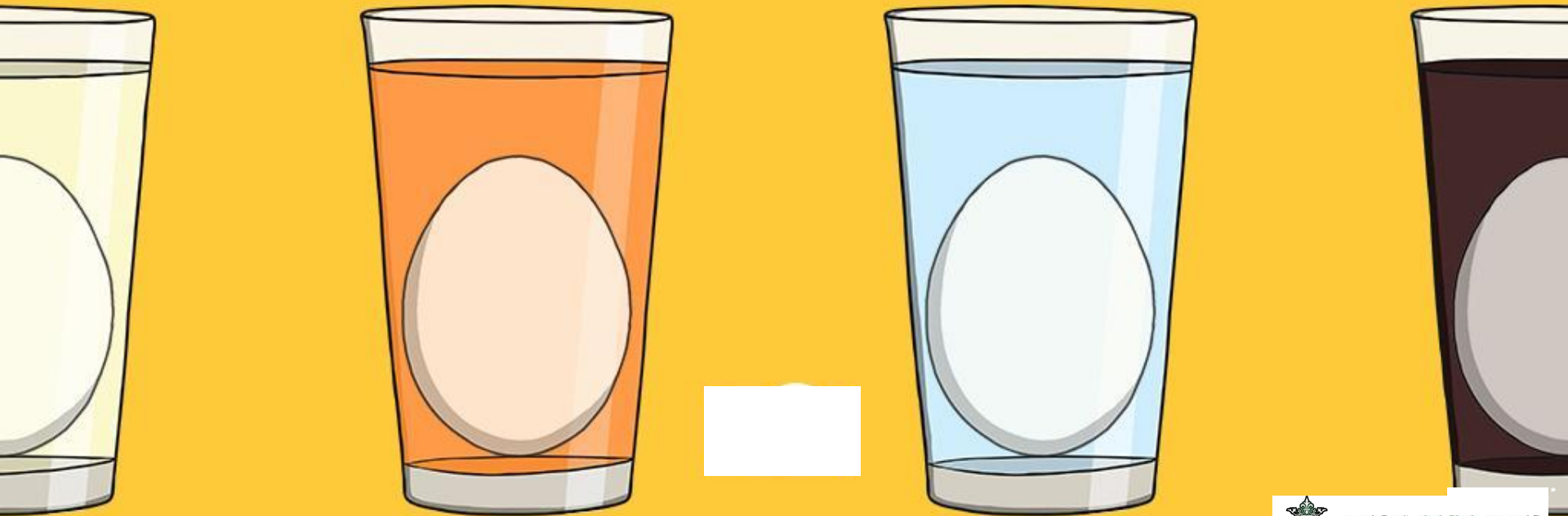




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Tooth Decay Enquiry Part 1



Aim

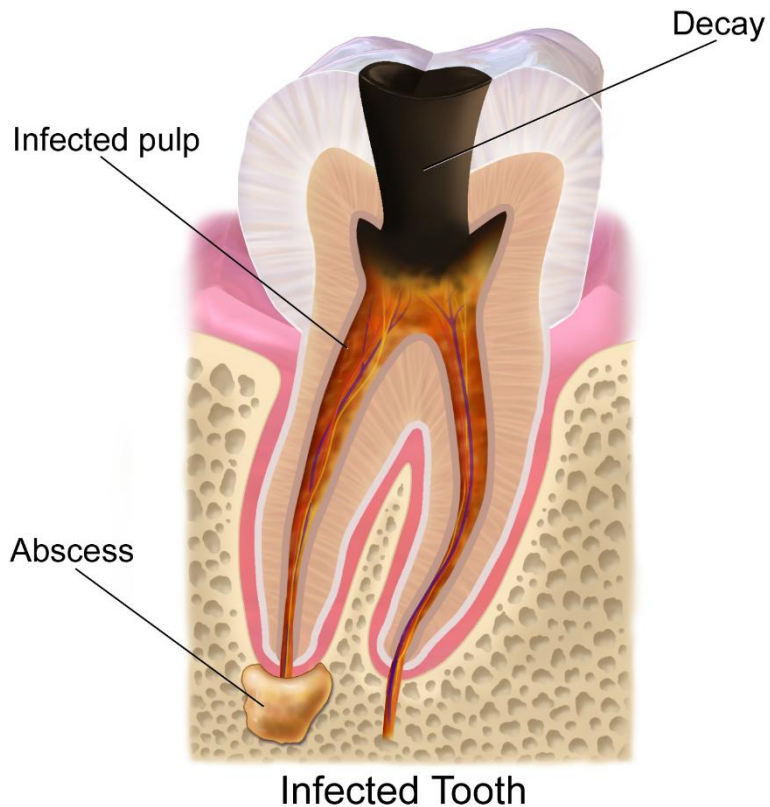
- I can ask scientific questions and choose a scientific enquiry to answer them.
- I can create an enquiry or test.

Success Criteria

- I can generate questions.
- I can generate relevant scientific questions.
- I can suggest an appropriate type of scientific enquiry to answer my question.
- I can set up a simple enquiry with support.
- I can make predictions and suggest equipment.
- I can give clear instructions to perform a test.



Tooth Decay



Discuss the following questions with your talk partner:

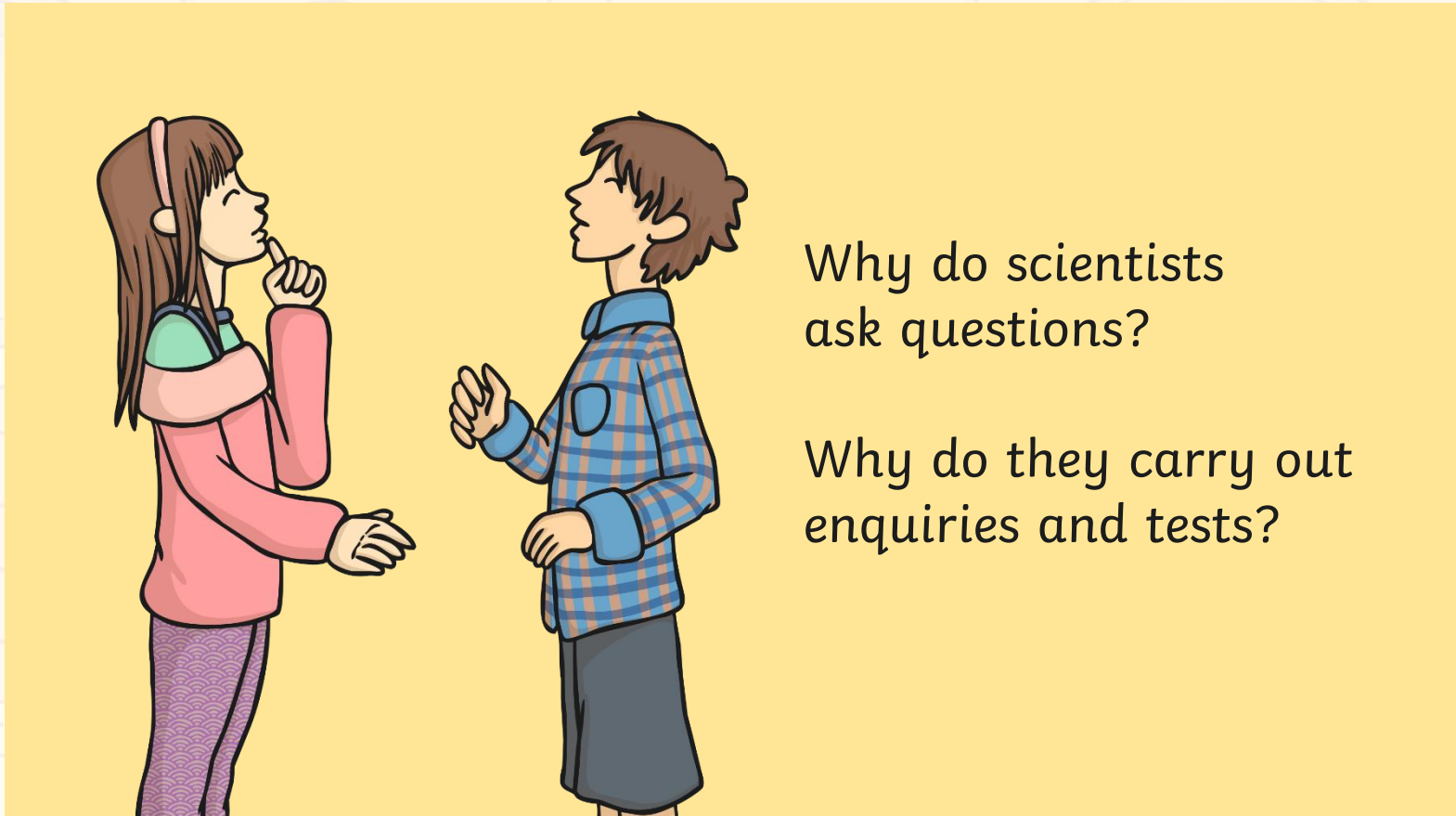
- What is tooth decay?
- What causes tooth decay?
- How do you know?

Image courtesy of BruceBlaus (@Wikipedia.com) - granted under creative commons licence – attribution



Questions!

Scientific Enquiry



Why do scientists
ask questions?

Why do they carry out
enquiries and tests?



Scientific or Not?



Categorise the questions based on whether they are scientific questions that can be tested or whether they are non-scientific questions:

Scientific Questions	Non-Scientific Questions

Does eating fruit keep you healthy?

What time is dinner?

Can you open the lid?

Does sound travel through walls?

How much sleep do rabbits need?

Does water always boil when heated?

When should I do my homework?

Do plants need soil to grow?



Creating Scientific Questions



Now we need to generate some scientific questions about tooth decay.

Remember we need to be able to test them so...

- think about the equipment you would need
- think about how the test would need to be carried out

Our Scientific Questions:



Types of Enquiries



What types of scientific enquiries are there?

Can you give examples of scientific enquiries or tests you have done?

How would you know what type of enquiry to choose?

We are going to look at some examples of questions and the kind of enquiries we could use to answer them.



Practical Enquiries

A simple practical enquiry is when you want to just observe what happens.

So if I want to answer the question:

Question:

What effect does water have on chewing gum?

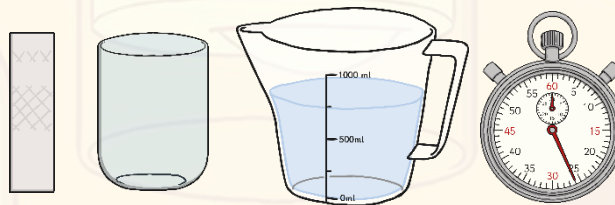
Note: This is a very specific question.

A simple practical enquiry would involve:

- Placing the chewing gum in some form of liquid – for example water.
- Observing what happens to the chewing gum (**does it change colour, grow/shrink, change shape**) either immediately or over time (**what would be sensible time intervals?**).

In this enquiry I would need:

- Chewing gum
- A container
- Water
- A timer/clock (way to measure time)
- A table to record my observations.



Time	Observation

Variables

In the practical enquiry we are interested in the observation and what happens as we are not sure what the results will be.

When we conduct comparative or fair tests we want to test the particular effect of something.

You might ask - Question:
Do different liquids affect the colour of chewing gum?

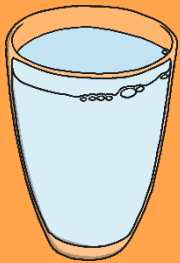


Variables

The variable you are testing is the thing you **change** every time you carry out the test.

In the comparative and fair tests we will look at this, it will be the liquids.

I want to change the **liquids** to see if different **types of liquids** have a particular effect on the chewing gum.



Variables

When you are carrying out a fair test, you need to change only one thing. All other variables should be kept the same so that they don't affect your results.

In my tests I want to know if liquids change the colour of chewing gum but if I use different containers to put the liquid in or put the containers in different parts of the room then it could be the material of the containers that has the effect or the place in the room, not the liquid. These differences would mean I was testing lots of types of variables when I just want to test one type - liquid.

That's why we have to **keep some things the same** throughout so that we know what is having the effect.



Variables

In my tests I would want the following things to be the same:

Containers

Where I place the containers

The amount of liquid in each container

The time between each observation

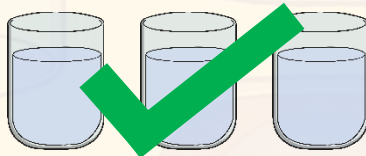
The type of chewing gum

The amount of chewing gum in each container.



Carrying Out Fair and Comparative Tests

Question: Do different liquids affect the colour of chewing gum?



Liquids (milk, water, orange juice)

Colour

Containers

Where I place the containers

The amount of liquid in each container

The time between each observation

The type of chewing gum

The amount of chewing gum in each container.

- 1) Record observations at regular intervals of time.
- 2) Compare the results from different liquids.
- 3) Spot patterns.

Liquid	Observation after 1 day.	Observation after 2 days.



Testing Tooth Decay Feedback



Swap your **Tooth Decay Scientific Enquiry Activity Sheets** with another group.

Read through the sheets carefully as a group.

On post-its write two positives and one next step.

Remember the next step has to be about the enquiry/test not about spelling or handwriting!

Suitable next step: You should include the size of the egg as something that you keep the same.

Unsuitable next step: Spell the word decay properly.

When you get your sheets and feedback – meet your next step by making a change to your enquiry/test.



Aim



- I can ask scientific questions and choose a scientific enquiry to answer them.
- I can create an enquiry or test.

Success Criteria

- I can generate questions.
- I can generate relevant scientific questions.
- I can suggest an appropriate type of scientific enquiry to answer my question.
- I can set up a simple enquiry with support.
- I can make predictions and suggest equipment.
- I can give clear instructions to perform a test.







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Tooth Decay Enquiry Part 2



Aim

- I can make careful observations, appropriately record my results and use them to develop further investigations.

Success Criteria

- I can make systematic observations.
- I can record my findings using appropriate scientific language.
- I can use results to make predictions for new values and/or raise further questions resulting from my enquiry/test.

Corrections



Do you need to make any corrections before conducting your enquiry/test?
If so, do so now before you start your enquiry.

Also:

- Make sure you have listed all the equipment you will need.
- Re-read your instructions and make sure they are clear.
- Ensure that you have completed all sections if you did not do so in the previous lesson.



Tooth Decay Scientific Enquiry



Now we get to the fun part! Setting up the enquiry / test!

Make sure that:
There is the same amount of liquid in each container.

Make sure that:
You follow your instructions. If you find you missed a step – add it in!

Make sure that:
Everyone in the group takes part.

Make sure that:
You remember to include a control group if you are conducting a fair test.

Make sure that:
You are careful when placing the eggs. If they are broken then it will affect your results.

Make sure that:
If you use any equipment you have not listed, add it in!



Observations

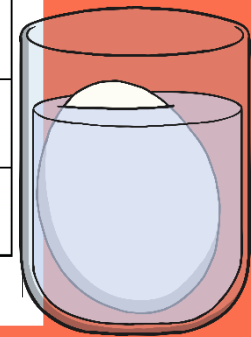
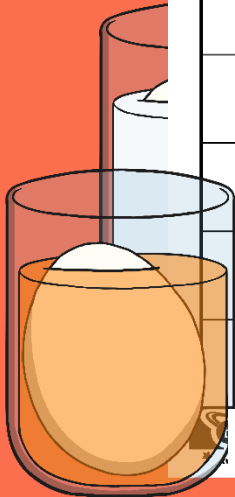
Why do we need to make careful observations and record them accurately?

How would it affect our conclusion if we did not record accurately?

Tooth Decay Recording

Observe carefully and record what is happening to the hard boiled eggs each day:

Day 1	Day 2	Day 3	Day 4	Day 5
	→	→	→	→
	→	→	→	→
	→	→	→	→
	→	→	→	→
	→	→	→	→



Recording Observations



Each day each group will check on their eggs.

We will tick off the days below to keep track:

Day One:

Day Two:

Day Three:

Day Four:

Day Five:



Reporting Findings



Tooth Decay Reporting

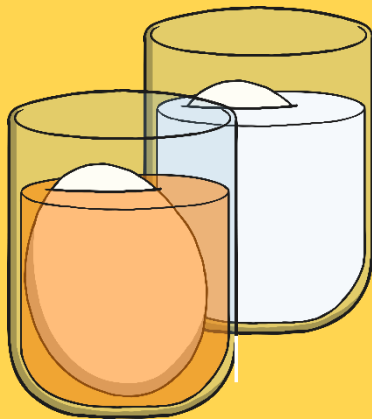
Look at the observations you made on your Tooth Decay Recording Activity Sheet and complete the following:

Was your prediction correct? _____

Conclusion (Write here what you found from your observations, what effect the drink(s) had and what you have learnt from the enquiry/test.)

What further predictions can you make as a result of your findings?

What would you do differently next time?

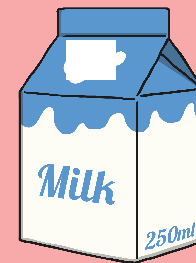
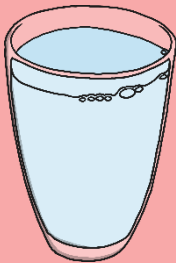
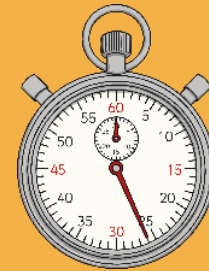




Changes



What have you learnt from your enquiry/test?
What would you do differently next time?



Aim

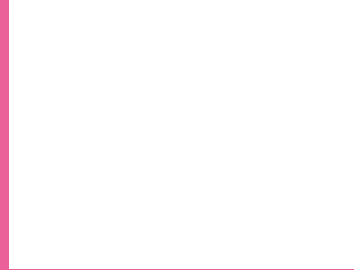


- I can make careful observations, appropriately record my results and use them to develop further investigations.

Success Criteria

- I can make systematic observations.
- I can record my findings using appropriate scientific language.
- I can use results to make predictions for new values and/or raise further questions resulting from my enquiry/test.





Science

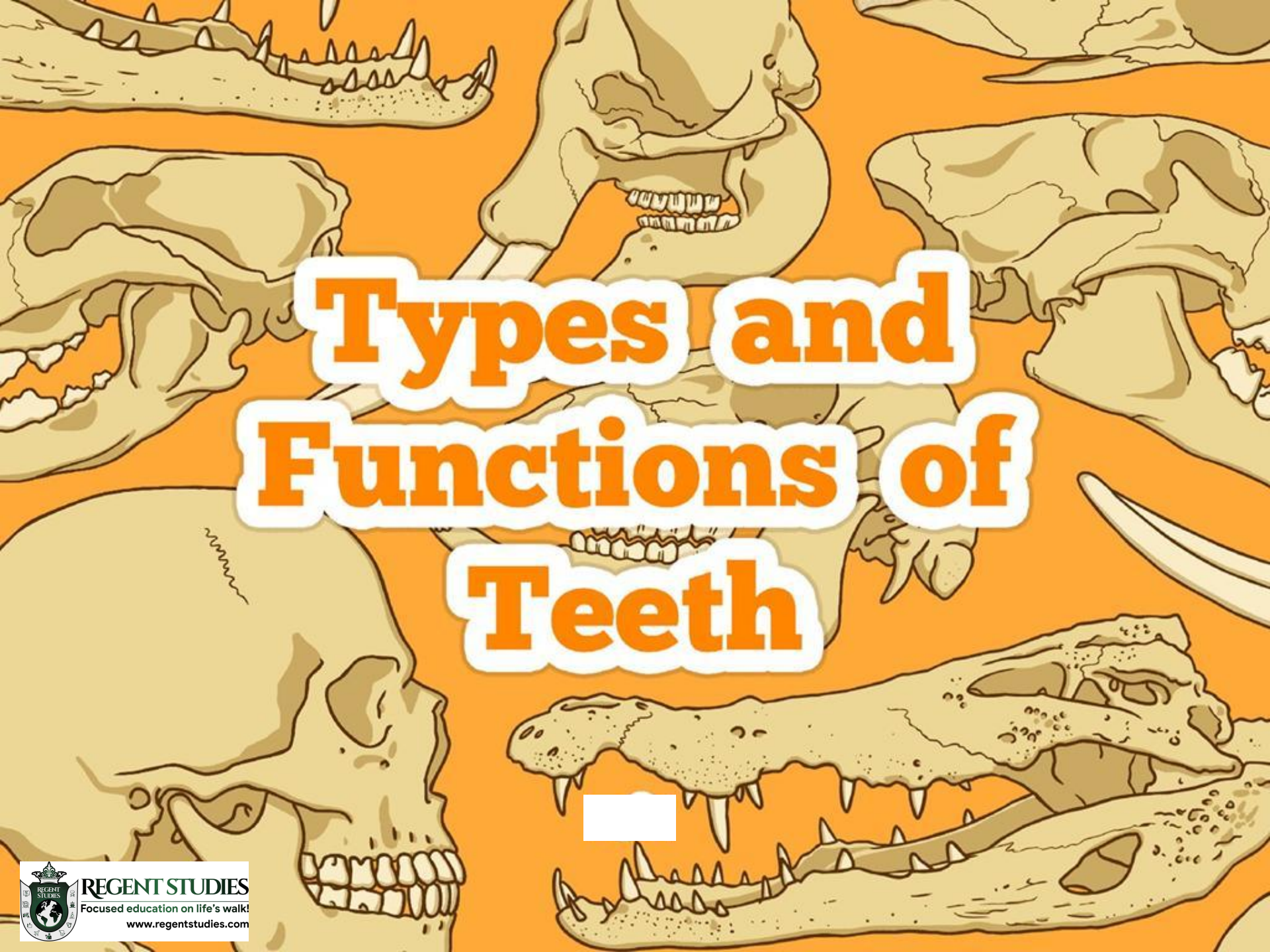
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Types and Functions of Teeth



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Aim

- I can identify the types and functions of teeth.
- I can identify similarities and differences related to scientific ideas.

Success Criteria

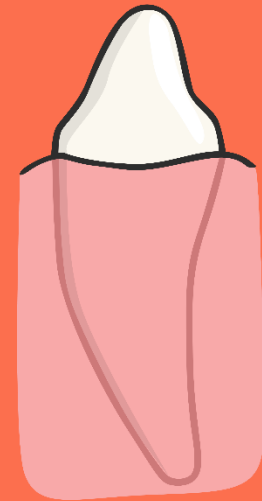
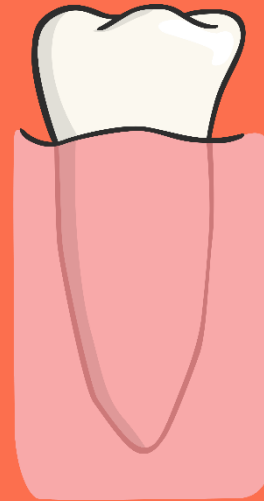
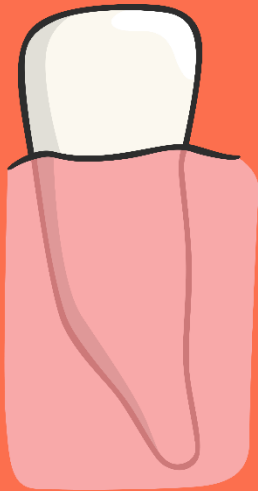
- I can identify the function of teeth in humans.
- I can match the types and functions of teeth.
- I can identify the types and functions of teeth.
- I can identify similarities related to scientific ideas.
- I can identify differences related to scientific ideas.



Types Of Teeth



Match the types of teeth with their names.



Molar

Canine

Incisor

Premolar



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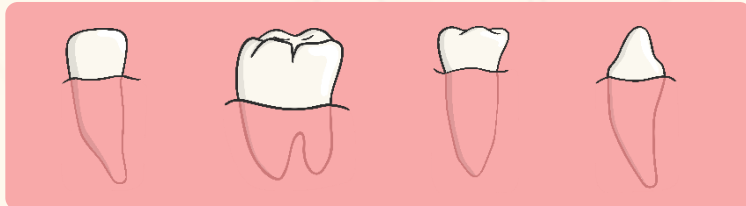
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Where Are They?



Were you correct?



[Click here for answers!](#)



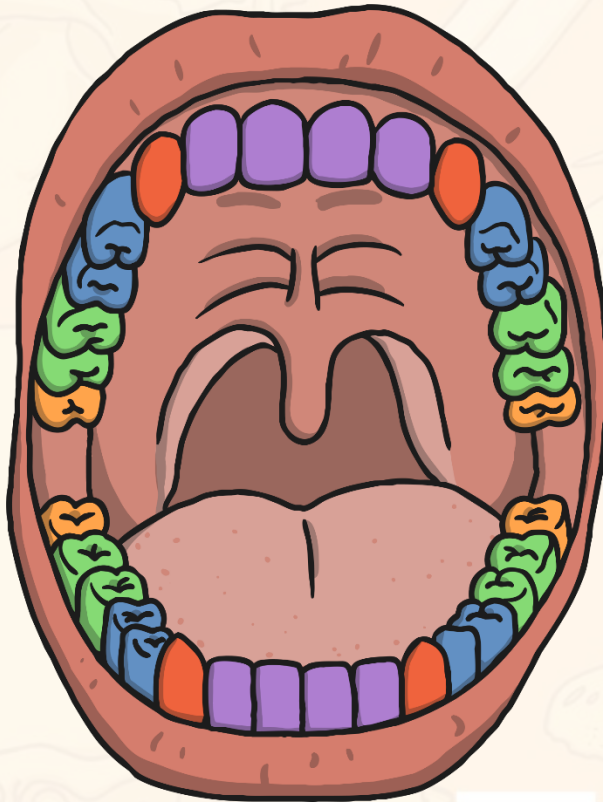
Functions of Teeth





Discuss the following questions with your talk partner:

Why do we have different types of teeth?

What is their purpose?



-  Canine
-  Molars
-  Premolars
-  Incisors
-  Wisdom Teeth



Incisors

How many?

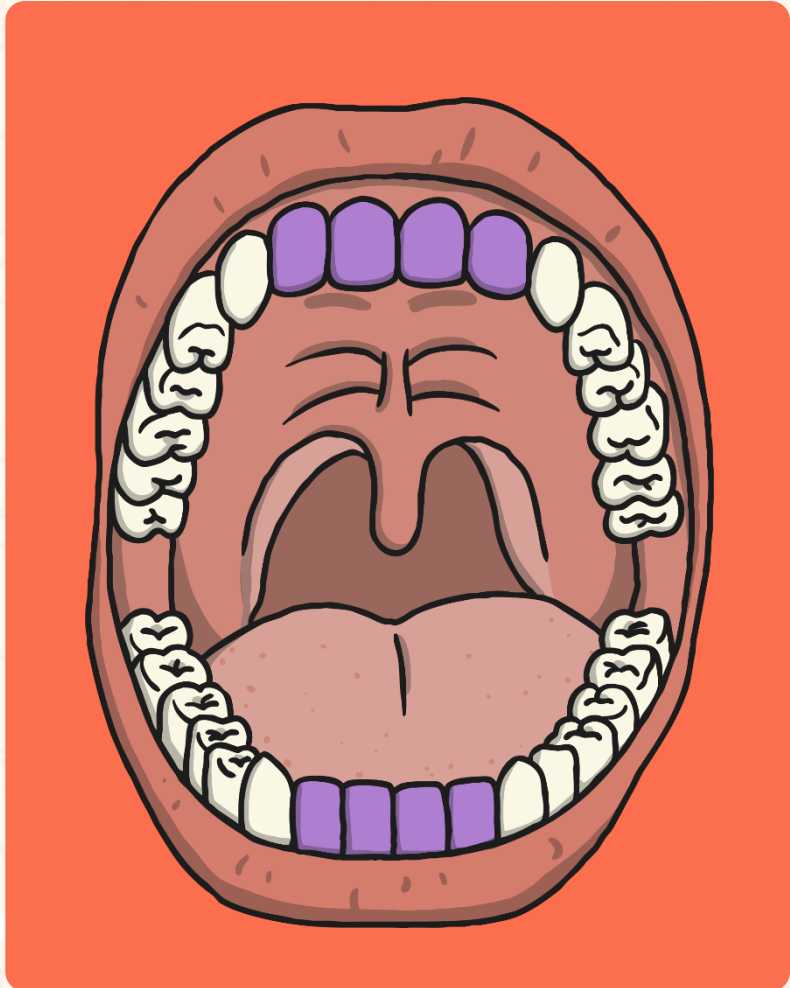
Humans have 8 incisors altogether; 4 in the upper jaw and 4 in the lower jaw.

Shape

Incisors are shovel-shaped.

Function:

Used for biting and cutting food.



Canines

How many?

Humans have 4 canine teeth, one in each quarter of the mouth, on either side of the incisors.

Shape

Canines are pointy.

Function:

Used for tearing and ripping food.



Premolars

How many?

Humans have 8 premolars, two in each quarter of the mouth. They are between the canine tooth and the molars.

Shape

Small and flat

Function:

Holding and crushing food.



Molars

How many?

Humans have 8 molars, two in each quarter of the mouth. They are at the back of the mouth behind the premolars.

Shape

Large and flat

Function:

Grinding food



Wisdom Teeth

How many?

Humans can have up to 4 wisdom teeth, although not everyone has them. There is 1 in each quarter of the mouth behind the molars.

Shape

Large and flat (they are just a third molar)

Function:

Does not have one now! Some scientists think that 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.



Matching Types and Functions



Types and Functions of Teeth

The diagram shows a top-down view of a human mouth with teeth color-coded as follows: Canines (red), Molars (green), Premolars (blue), Incisors (purple), and Wisdom Teeth (orange). Lines connect these teeth to matching boxes for labeling.

Name of tooth: _____
Function: _____

Name of tooth: _____
Function: _____

Name of tooth: _____
Function: _____

Name of tooth: _____
Function: _____

Name of tooth: _____
Function: _____

Key:
■ Canines
■ Molars
■ Premolars
■ Incisors
■ Wisdom Teeth

The boxes below explain the names and function of the types of teeth.

Cut out the boxes and stick them next to the correct arrow.

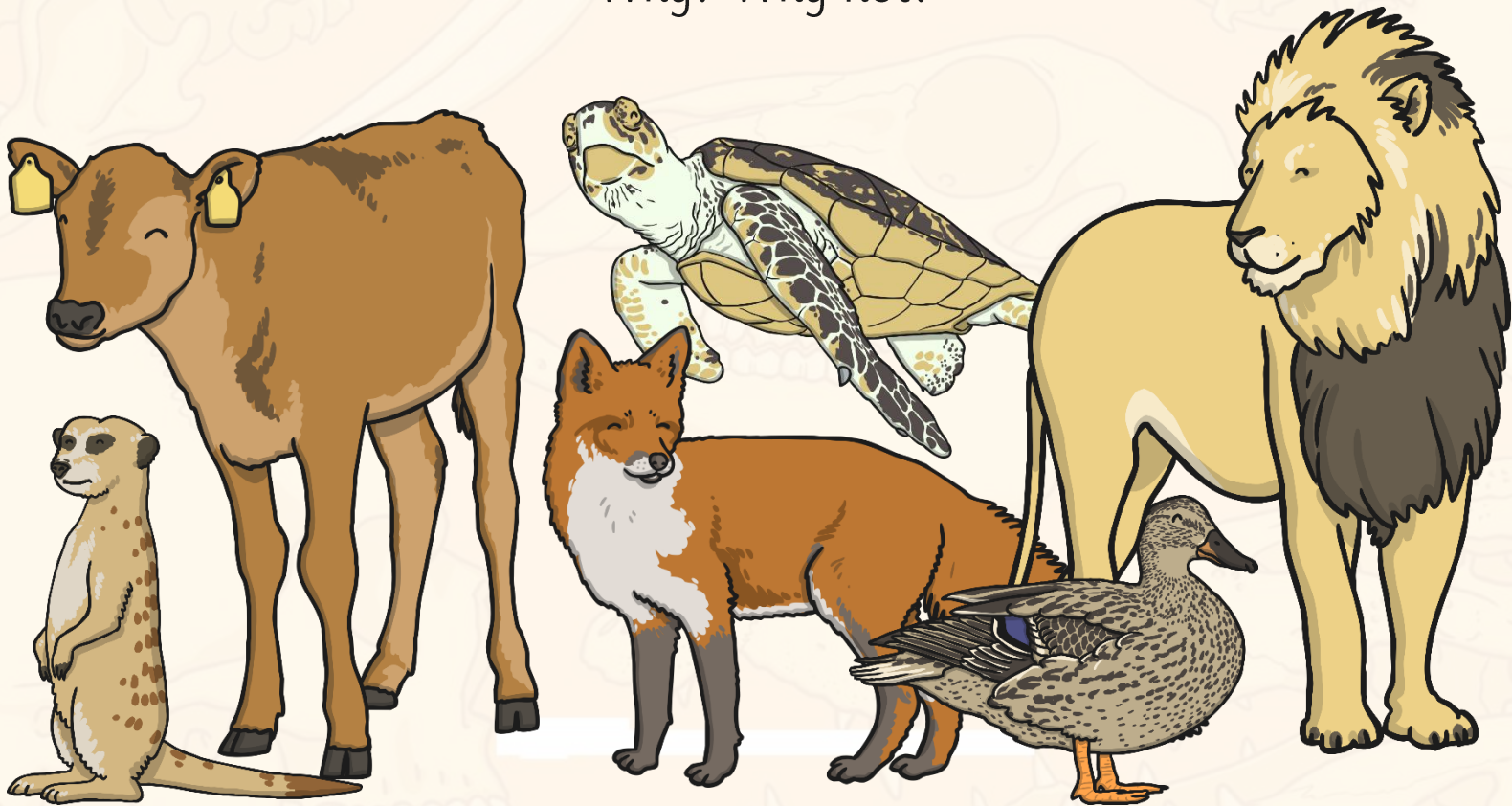
Incisor	Molar	Biting and cutting food	Grinding food
Wisdom Tooth	Canine	Tearing and ripping food	No function anymore
Premolar	Holding and crushing food		

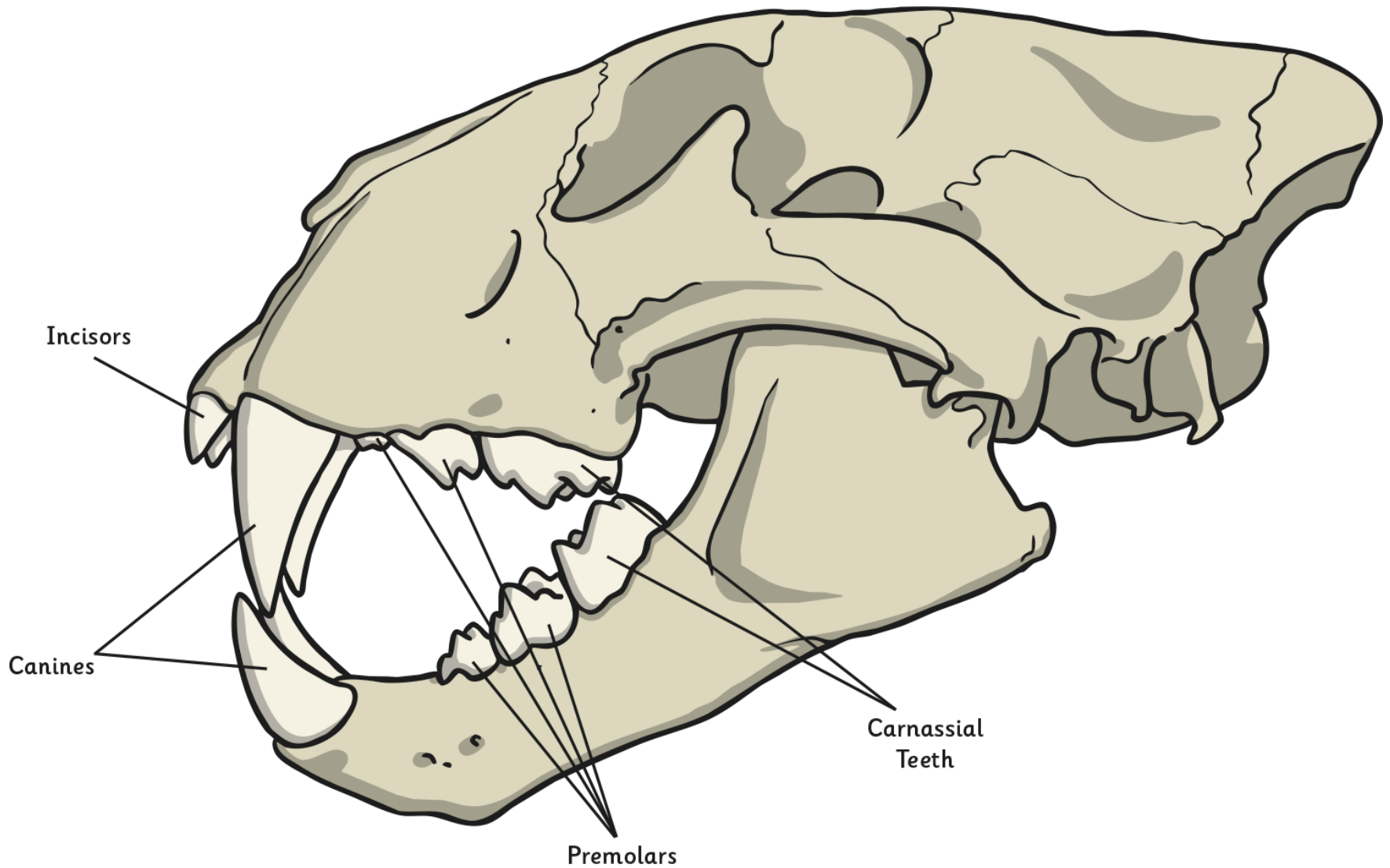
Animal Teeth



Do other animals have the same type of teeth as humans?

Why? Why not?





Lion skull. Click again to go back.



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Comparing Teeth



You will now look at a range of different animals skulls which you will need to compare and contrast.

Read the questions carefully and write down answers.

You are working as a group but you will write your answers on **your own worksheet**.

Discuss ideas with your group and listen to each other. This is really important to your learning and developing your ideas.

However, if you disagree with other members of your group you can write the answer you think is correct. You **do not** all need to write the same answer.



Aim

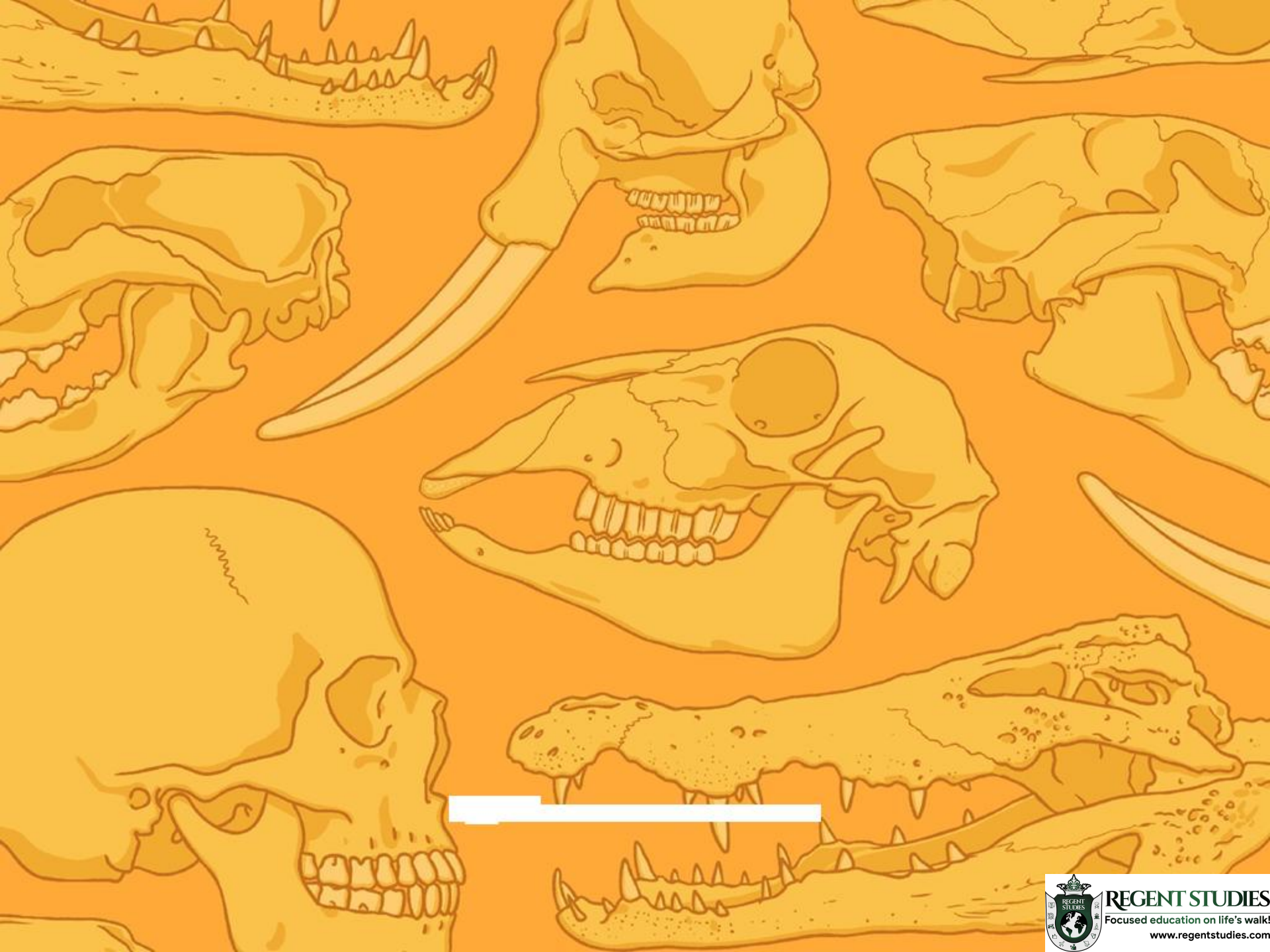


- I can identify the types and functions of teeth.
- I can identify similarities and differences related to scientific ideas.

Success Criteria

- I can identify the function of teeth in humans.
- I can match the types and functions of teeth.
- I can identify the types and functions of teeth.
- I can identify similarities related to scientific ideas.
- I can identify differences related to scientific ideas.





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assessment guidance



Planit Unit Assessment Suggestions

Each **planit** unit has the following assessment tools included.

Spreadsheet

Various assessment options have been provided in a spreadsheet to offer maximum flexibility and opportunity for editing to suit your needs.

Assessment One

This sheet lists the 'all/most/some' statements related to what children will learn during the unit. Children's names can be entered in the appropriate column and the spreadsheet will calculate the proportion of the class at each stage.

Assessment Two

This sheet splits down the 'all/most/some' statements on the previous sheet in a class grid, allowing a more detailed picture. The spreadsheet will calculate the proportion of the class at each stage as well as the percentage of statements achieved by each child.

Assessment Three

This sheet lists the aim and success criteria for each lesson across the unit in a class grid. The spreadsheet will calculate the percentage of statements achieved by each child. If you would prefer to focus purely on the aims or success criteria alone, the relevant rows can easily be deleted.

Assessment Four

This sheet simply lists the elements of the National Curriculum addressed by the unit for you to cut and paste if required.

Child Led Assessment

Success Criteria Grids *(per lesson)*

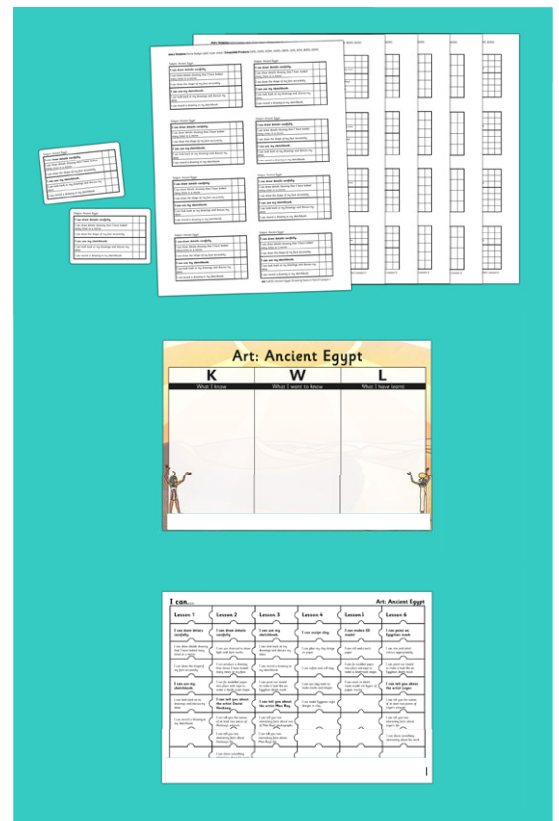
These individual grids listing the aims and success criteria with check boxes can be given out at the start of the lesson so that children have them to refer to during their learning. At the end of the lesson children can self or peer assess against the criteria. A second box is provided for teachers to then record their assessment.

KWL Grid

These grids can be done individually or as a class at the start and end of a unit to record what children **know**, what they **want** to know, and what they have **learnt**.

Jigsaw Target

These sheets list the aims and success criteria for each lesson across the unit in a child friendly jigsaw grid. These could be stuck in books and coloured in before/during/after the unit as a continuous assessment document to show progression, or used at the end of each lesson or the unit to record learning.



Assessment Ideas within Lessons

Some handy ideas from our **Planit** teaching team on how you could assess within a lesson.

Planit Success Criteria Grids

These individual grids are provided for each lesson and will print out on label templates for convenience.

Planit Activity Sheets

Our activity sheets have three circles below the aim box for optional assessment, using the traffic light system or colouring 1, 2 or 3 circles as appropriate.

Whiteboards

Useful throughout the lesson, whiteboards give you the opportunity for individual feedback and a quick way to spot misconceptions.

Traffic Light, Smiley Face Fans or Thumbs Up/Thumbs Down

A fun way for children to show their confidence and understanding at different points throughout the lesson.

Stimulus and Card Response

Useful in a variety of lessons, children can be given a word or a statement and they respond using a relevant card from the pack they have been given. This could be saying a word and children showing the correct picture card, or reading a statement and children showing true or false. These could also be A/B/C/D cards to be used as multiple choice responses to a quiz on the IWB.

Lesson Reflection

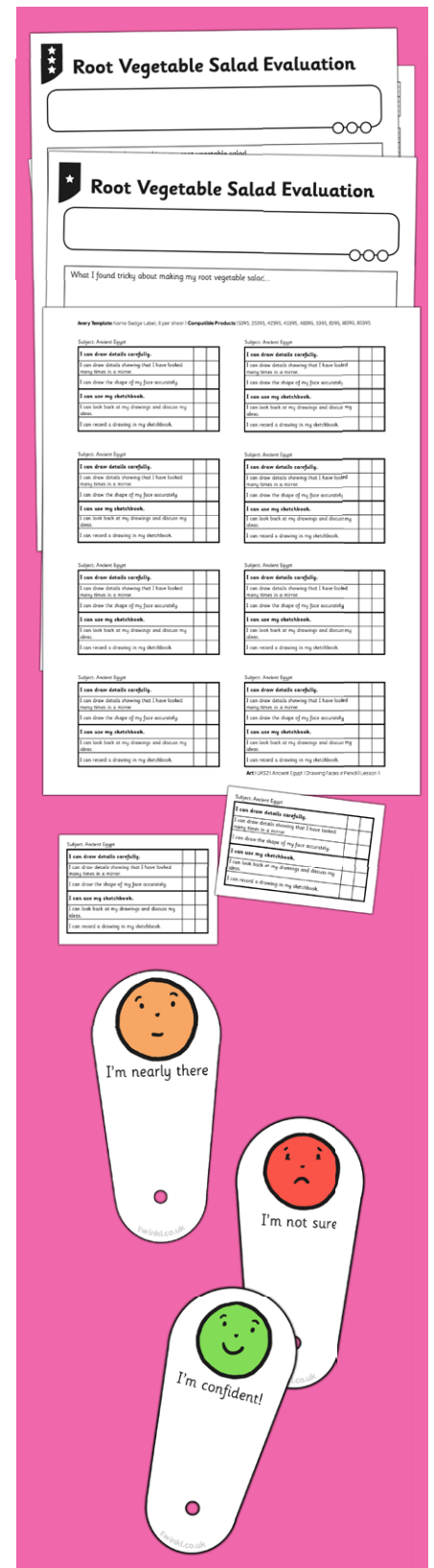
Children record how they felt about the lesson, what their next steps should be and any questions they have. Suggestions within this include:

- Using colour coded pens (e.g. tickled pink, polishing purple, green for growth)
- Smiley faces to indicate enjoyment and understanding of the lesson
- Peer assessment
- Traffic light system to indicate understanding

At the beginning of the next lesson children could be given time to respond to any feedback.

Bookending

A question could be set at the start of the lesson and repeated at the end to show progression.





Be kind to yourself, you're doing wonderfully.



Plant Subject Overviews

Year group	Subject	Science Year 1 Subject Overview					
		Animals Including Humans	Seasonal Changes (Autumn and Winter)	Everyday Materials	Plants	Seasonal Changes (Spring and Summer)	Scientists and Inventors
<p>Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and in-depth units, children will foster a love of science and ensure complete curriculum coverage.</p>							
<p>Children should be taught to:</p>							
				ask simple questions and recognising that they can be answered in different ways			
4				observe closely, using simple equipment	1		
			5	perform simple tests	6		
3			5	identify and classifying			6
4,6				use their observations and ideas to suggest answers to questions	4		2
			5	gather and record data to help in answering questions	6		1
3	2,5			identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	2	2,5	3,4
				identify and describe the basic structure of a variety of common flowering plants, including trees	2,3,4		3
				identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals	1,5		
4				identify and name a variety of common animals that are carnivores, herbivores and omnivores			2,5
6				describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)			2,5
5				identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense			
1,2				distinguish between an object and the material from which it is made			
				identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock	2,3		1
				describe the simple physical properties of a variety of everyday materials	1		1
				compare and group together a variety of everyday materials on the basis of their simple physical properties	4		1
				observe changes across the 4 seasons	6		6
		1,3,4,6		observe and describe weather associated with the seasons and how day length varies.		1,3,4	
		1,2,4,5				1,2,4,5,6	4

The Units

Each subject area has been split into a minimum of six different units for coverage of the 2014 National Curriculum throughout the school year.

These units contain an overview, lessons packs, an assessment pack, additional resources and corresponding home learning packs.

Aims

These aims are taken directly from the 2014 National Curriculum.

Introduction

This explains how the units have been written, the skills that the units plan to develop as well as the thinking behind each planning pack.

Numbers

These numbers identify which lessons in the unit build upon the National Curriculum aim.

Science

Year 1 | Subject Overview



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Animals Including Humans	Seasonal Changes (Autumn and Winter)	Everyday Materials	Plants	Seasonal Changes (Spring and Summer)	Scientists and Inventors
Children should be taught to:					
		ask simple questions and recognise that they can be answered in different ways			
4			1		
		observe closely, using simple equipment			
		5	6		
		perform simple tests			
3		5			6
		identify and classify			
4,6			4		2
		use their observations and ideas to suggest answers to questions			
		5	6		1
		gather and record data to help in answering questions			
3	2,5		2	2,5	3,4
		identify and name a variety of common wild and garden plants, including deciduous and evergreen trees			
			2,3,4		3
		identify and describe the basic structure of a variety of common flowering plants, including trees			
			1,5		
		identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals			
4					2,5
		identify and name a variety of common animals that are carnivores, herbivores and omnivores			
6					
		describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)			
5					2,5
		identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense			
1,2					
		distinguish between an object and the material from which it is made			
		2,3			1
		identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock			
		1			1
		describe the simple physical properties of a variety of everyday materials			
		4			1
		compare and group together a variety of everyday materials on the basis of their simple physical properties			
		6			6
		observe changes across the 4 seasons			
	1,3,4,6			1,3,4	
		observe and describe weather associated with the seasons and how day length varies.			
	1,2,4,5			1,2,4,5,6	4

Science

Year 2 | Subject Overview



Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and indepth units, children will foster a love of science and ensure complete curriculum coverage.



Children should be taught to:

			ask simple questions and recognise that they can be answered in different ways		
3	4	4,6			
			observe closely, using simple equipment		
6		1,5		1,6	1,5
			perform simple tests		
2		1,5		2	
			identify and classify		
1	2	2,4		2	
			use their observations and ideas to suggest answers to questions		
4	1	2,3		3,5	2,3
			gather and recording data to help in answering questions		
5	3	3		2	4
			explore and compare the differences between things that are living, dead, and things that have never been alive		
	1				
			identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other		
	4,5				
			identify and name a variety of plants and animals in their habitats, including microhabitats		
	2,3				
			describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food		
	6				5
			observe and describe how seeds and bulbs grow into mature plants		
				2,3,6	
			find out and describe how plants need water, light and a suitable temperature to grow and stay healthy		
				4,5	1
			notice that animals, including humans, have offspring which grow into adults		
1,2					
			find out about and describe the basic needs of animals, including humans, for survival (water, food and air)		
3					
			describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene		
4,5,6					2,3
			identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses		
				1,3	4
			find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		
				4,5	



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Animals Including Humans	Plants	Light	Rocks	Forces and Magnets	Scientists and Inventors
Children should be taught to:					
		ask relevant questions and using different types of scientific enquiries to answer them			
	2				5
		set up simple practical enquiries, comparative and fair tests			
6	2,4	2,5,6		2,4	5,6
		make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers			
	4	6	2,6		5,6
		gather, record, classify and present data in a variety of ways to help in answering questions			
		6		2,4	5,6
		record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables			
6	3,4	2,5,6		2,4	5,6
		report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions			
	4	2,5,6	6		5,6
		use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions			
	4,5	2,5,6		2,4	5,6
		identify differences, similarities or changes related to simple scientific ideas and processes			
2			4		2
		use straightforward scientific evidence to answer questions or to support their findings			
	3				3
		identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers			
	1				1
		explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant			
	2,3				1
		investigate the way in which water is transported within plants			
	4				
		explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			
	5,6				
		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			
1,2					
		identify that humans and some other animals have skeletons and muscles for support, protection and movement.			
3,4,5,6					2

Science

Year 3 | Subject Overview



Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and indepth units, children will foster a love of science and ensure complete curriculum coverage.

Animals Including Humans



Plants



Light



Rocks



Forces and Magnets



Scientists and Inventors



Children should be taught to:

	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	1,2	4
	describe in simple terms how fossils are formed when things that have lived are trapped within rock	3	3
	recognise that soils are made from rocks and organic matter.	5	
	recognise that they need light in order to see things and that dark is the absence of light	1	
	notice that light is reflected from surfaces	2,3	5
	recognise that light from the sun can be dangerous and that there are ways to protect their eyes	4	
	recognise that shadows are formed when the light from a light source is blocked by a solid object	5,6	
	find patterns in the way that the size of shadows change	6	
	compare how things move on different surfaces		2
	notice that some forces need contact between two objects, but magnetic forces can act at a distance		1,3
	observe how magnets attract or repel each other and attract some materials and not others		3,4,5,6
	compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials		6
			3
	describe magnets as having two poles		5,6
	predict whether two magnets will attract or repel each other, depending on which poles are facing		5,6

Science

Year 4 | Subject Overview



Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and indepth units, children will foster a love of science and ensure complete curriculum coverage.



Children should be taught to:

ask relevant questions and using different types of scientific enquiries to answer them					
4	5				
set up simple practical enquiries, comparative and fair tests					
4	5	3,5			1,6
make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers					
1,5	3,5	3,5	4		1,4
gather, record, classify and present data in a variety of ways to help in answering questions					
	3,5	3		1,4	1
record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables					
5	3,5	3	6	5	
report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions					
	5	3,5	6	6	2
use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions					
5	5		3		
identify differences, similarities or changes related to simple scientific ideas and processes					
3				2	1,3,5
use straightforward scientific evidence to answer questions or to support their findings.					
2	5	3,5	1	3	1,6
recognise that living things can be grouped in a variety of ways					
				1	
explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment					
				2,3,4	
recognise that environments can change and that this can sometimes pose dangers to living things					
				5,6	1
describe the simple functions of the basic parts of the digestive system in humans					
1,2					
identify the different types of teeth in humans and their simple functions					
3					6

Science

Year 4 | Subject Overview



Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and indepth units, children will foster a love of science and ensure complete curriculum coverage.



Children should be taught to:

		construct and interpret a variety of food chains, identifying producers, predators and prey.		
6				
		compare and group materials together, according to whether they are solids, liquids or gases		
			1,2	3
		observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)		
			3,4,5	4
		identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature		
			5,6	
		identify how sounds are made, associating some of them with something vibrating		
	1,2,3,4,6			
		recognise that vibrations from sounds travel through a medium to the ear		
	2,4,5,6			
		find patterns between the pitch of a sound and features of the object that produced it		
	2			
		recognise that sounds get fainter as the distance from the sound source increases		
	4			
		recognise that sounds get fainter as the distance from the sound source increases.		
			2	5
		construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers		
			3,4,5,6	
		identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery		
			3	
		recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit		
			5	
		recognise some common conductors and insulators, and associate metals with being good conductors		
			4	

Science

Year 5 | Subject Overview

Welcome to Planit Science! These units have been created to develop children's enthusiasm for and knowledge and understanding of science. With a key emphasis on hands-on learning, children will develop their investigation skills while securing their grasp of key scientific principles. Children will have the opportunity to discover more about famous scientists and their discoveries, deepening their own understanding as they do so. Through these engaging and indepth units, children will foster a love of science and ensure complete curriculum coverage.

Animals Including Humans



Properties and Changes of Materials



Earth and Space



Forces



Living Things and their Habitats



Scientists and Inventors



Children should be taught to:

plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

2,3,4

3,5

4

take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

1,2,3,4

2,3,4,5

record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

2,6

2,3,4

2,3,5

use test results to make predictions to set up further comparative and fair tests

4

report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

2,5,6

2,3

3,5,6

2,3,4,5

identify scientific evidence that has been used to support or refute ideas or arguments.

1,3,4

2,3

2,6

describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

1,2,3,4,5,6

5

describe the life process of reproduction in some plants and animals

1,2,3,4,5,6

describe the changes as humans develop to old age

1,2,3,4

compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets

1

know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution

4,5

Science

Year 5 | Subject Overview

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Animals Including Humans



Properties and Changes of Materials



Earth and Space



Forces



Living Things and their Habitats



Scientists and Inventors



Children should be taught to:

use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

5

2

give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

1,2,3

demonstrate that dissolving, mixing and changes of state are reversible changes

4,5

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

6

describe the movement of the Earth, and other planets, relative to the Sun in the solar system

2,3

describe the movement of the Moon relative to the Earth

6

describe the Sun, Earth and Moon as approximately spherical bodies

1

use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

4,5

explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

1,2

identify the effects of air resistance, water resistance and friction, that act between moving surfaces

1,3,4,5

recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

6

Science

Year 6 | Subject Overview



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Animals Including Humans	Light	Evolution and Inheritance	Electricity	Living Things and their Habitats	Scientists and Inventors

Children should be taught to:

plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary					
5			4		
take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate					
5					
record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs					
5	5		5		4
use test results to make predictions to set up further comparative and fair tests					
				6	
report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations					
5	5		5		1
identify scientific evidence that has been used to support or refute ideas or arguments					
6	6	3,4,5	1		3
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					
				1,2,3,4,5,6	
give reasons for classifying plants and animals based on specific characteristics.					
				1,2,3,4,5,6	2
identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood					
1,2					
recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function					
4,6					
describe the ways in which nutrients and water are transported within animals, including humans					
3					

Science

Year 6 | Subject Overview



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Animals Including Humans	Light	Evolution and Inheritance	Electricity	Living Things and their Habitats	Scientists and Inventors

Children should be taught to:

		recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago			
	4,5				5
		recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents			
	1				
		identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution			
	2,3,6				
		recognise that light appears to travel in straight lines			
	1,2,3,4,5,6				
		use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye			
	1,2,3,4,5				
		explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes			
	1,2,3,4,5				
		use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.			
	6				
		associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit			
			3		
		compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches			
			4,5,6		
		use recognised symbols when representing a simple circuit in a diagram			
			2		6

Animals Including Humans | Digestive System Parts

I can identify and name parts of the human digestive system.		
I can name parts of the digestive system.		
I can identify parts of the digestive system.		
I can construct the digestive system.		

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I can identify parts of the digestive system.		
I can construct the digestive system.		

Animals Including Humans | Digestive System Parts

I can identify and name parts of the human digestive system.		
I can name parts of the digestive system.		
I can identify parts of the digestive system.		
I can construct the digestive system.		

Animals Including Humans | Food Chains

I can construct and interpret food chains.		
I can order a simple food chain.		
I can identify the producer, predator and prey.		
I can interpret a variety of food chains.		

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Animals Including Humans | Food Chains

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I can order a simple food chain.		
I can identify the producer, predator and prey.		
I can interpret a variety of food chains.		

Animals Including Humans | Tooth Decay Enquiry Part 1

I can ask scientific questions and choose a scientific enquiry to answer them.		
I can generate questions.		
I can generate relevant scientific questions.		
I can suggest an appropriate type of scientific enquiry to answer my question.		
I can create an enquiry or test.		
I can set up a simple enquiry with support.		
I can make predictions and suggest equipment.		
I can give clear instructions explaining how to perform a test.		

Animals Including Humans | Tooth Decay Enquiry Part 1

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I can suggest an appropriate type of scientific enquiry to answer my question.		
I can create an enquiry or test.		
I can set up a simple enquiry with support.		
I can make predictions and suggest equipment.		
I can give clear instructions explaining how to perform a test.		

Animals Including Humans | Tooth Decay Enquiry Part 1

I can ask scientific questions and choose a scientific enquiry to answer them.		
I can generate questions.		
I can generate relevant scientific questions.		
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Animals Including Humans | Tooth Decay Enquiry Part 2

I can make careful observations, appropriately record my results and use them to develop further investigations.		
I can make systematic observations.		
I can record my findings using appropriate scientific language.		
I can use results to make predictions for new values and/or raise further questions resulting from my enquiry/test.		

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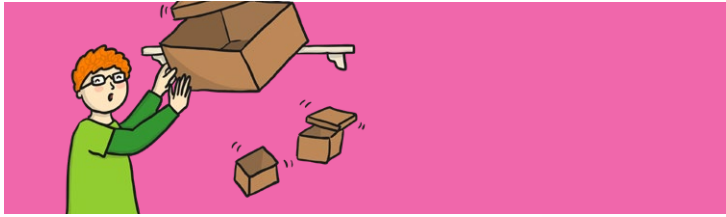
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Introduction

This unit focuses on the digestive system in humans and animals and the functions of teeth. Children will learn more about herbivores, carnivores and omnivores in the context of teeth, digestion and the food chain. In addition, they will extend their understanding of food chains to more complex chains and food webs.



Health & Safety

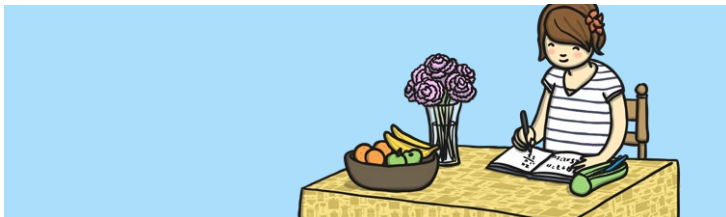
Ensure that children wash their hands before and after handling drinks and hard-boiled eggs.

Any liquid that will go off should be kept refrigerated.

Check use by dates on drinks and eggs.

Ensure that children wear gloves and/or use tongs when handling eggs.

For children who have egg allergies – use chicken bones or marble chips as substitutes for egg shells.



Home Learning

Activity Sheet Homemade Digestive System: Children create their own model of a human digestive system.

Teeth Labelling Activity Sheet: Children label the different types of teeth as a reinforcement activity for learning in the class.

Assessment Statements

By the end of this unit...

...all children should be able to:

- Generate questions and use scientific evidence that is given to answer questions.
- Identify similarities related to scientific ideas.
- Set up a simple enquiry with support.
- Make observations, record findings and use results to draw simple conclusions.
- Name parts of the digestive system.
- Add functions to the parts of the digestive system.
- Identify the function of teeth in humans.
- Construct a simple food chain.

...most children will be able to:

- Generate relevant scientific questions.
- Identify differences related to scientific ideas.
- Make predictions and suggest equipment.
- Make careful observations, record findings using labelled diagrams and use results to make predictions for new values.
- Identify parts of the digestive system.
- Match the parts of the digestive system with their functions.
- Match the types and functions of teeth.
- Construct and interpret a food chain.

...some children will be able to:

- Distinguish between scientific and non-scientific evidence and select the best type of enquiry to answer a question.
- Identify similarities and differences related to scientific ideas.
- Give clear instructions to perform an enquiry.
- Make systematic observations, record using scientific vocabulary and raise further questions based on their results.
- Construct the digestive system.
- Explain the functions of the digestive system.
- Identify the types and functions of teeth.
- Construct and interpret a variety of food chains.

Lesson Breakdown

Resources

1. Digestive System Parts

To describe the simple functions of the basic parts of the digestive system in humans in the context of identifying the parts of the digestive system.

- I can identify and name parts of the human digestive system.

- Scissors
- Glue sticks
- Model of digestive system - if available

2. Digestive System Functions

To describe the simple functions of the basic parts of the digestive system in humans by explaining the functions of the different parts of the digestive system.

- I can explain the functions of the digestive system.

To use straightforward scientific evidence to answer questions by reading an explanation text and answering questions.

- I can use scientific evidence to answer questions.

- Scissors
- Glue sticks

3. Types and Functions of Teeth

To identify the different types of teeth in humans and their simple functions by learning about different types of teeth.

- I can identify the types and functions of teeth.

To identify differences, similarities or changes related to simple scientific ideas and processes by comparing human and animal teeth.

- I can identify similarities and differences related to scientific ideas.

- Scissors
- Glue sticks

4. Tooth Decay Enquiry Part 1

To ask relevant questions and use different types of scientific enquiries to answer them by distinguishing between scientific and non-scientific questions and choosing between types of scientific enquiry.

- I can ask scientific questions and choose a scientific enquiry to answer them.

To set up simple practical enquiries, comparative and fair tests by setting up an enquiry or test to understand what causes tooth decay.

- I can create an enquiry or test.

- Strips of paper
- Sticky notes
- Felt tips or markers
- Examples of equipment such as jars, toothpaste, types of drinks to be used to support the LA group to write instructions.

5. Tooth Decay Enquiry Part 2

To make systematic and careful observations by observing the changes that occur in their enquiry or test.

To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions By presenting findings, making predictions and raising questions about results.

- I can make careful observations, appropriately record my results and use them to develop further investigations.

- Liquids – water, milk, orange juice, apple juice, coke
- Hard-boiled eggs
- Containers
- Measuring jugs
- (Any other liquid or equipment that the children suggested on their Tooth Decay Scientific Enquiry Activity Sheets)
- Completed Tooth Decay Scientific Enquiry Activity Sheet - 1 per child

6. Digestive System Parts

To construct and interpret a variety of food chains, identifying producers, predators and prey by understanding food chains and the role of different plants and animals within them.

- I can construct and interpret food chains.