From Mouth to Bum

To make a fuzzy felt mouth to bum game you will need:

coloured felt; a scouring pad; a marker pen; a pair of scissors; an adult to help

When we eat, our clever bodies start to make food into energy to help us live and grow. You probably already know that we make the stuff that our bodies don’t need into poo - and then get rid of it!

But food has a surprisingly long journey from your mouth to your bum. In fact, by the time you are fully grown, it will have to travel about 8 metres to get there!

Read more below to find out why this is true and to find out how different **body organs** work together.

To make the game

1. Take a piece of felt around A4 size to be your background. Using a dark marker pen, draw a body outline onto it, using up most of the space on the felt. Cut out and draw around one of the templates on pages 3 and 4 or draw your own instead.

   Why not give your person a name?
2. Cut out the body organ templates and use them to help cut out the shapes from some smaller pieces of felt. Make each one from a different colour. Why not make some extra things for your person, such as a hat or some googly eyes?

3. The organs should stick to your background, but if they’re not fuzzy enough to stick, very gently fluff up the fibres using a piece of scouring pad. It’s best to practise on a spare piece.

4. Now try to fit the body organs into the right place in your person’s body. How many do you think you will get right? There’s a picture on the back of this booklet to help you - but have a go yourself first.

Are our body organs really lots of different colours?

No (you knew that already!) If we were able to see inside our bodies, our organs would mostly appear to be different shades of red, pink and brown because they all have red blood in and around them.

To make it even better

To improve your background, use tape to attach the felt to some cardboard. Try to get the felt nice and flat before taping it down but don’t stretch it too much or it might tear.
Cut out this template or the one on the next page. Draw around it onto your background felt to make the outline of your person.
If you don’t want to use a template you could draw your own outline. Make sure it will be big enough for your body organs!
The **PANCREAS** makes a lot of important digestive juices for your small intestine. It also makes messenger chemicals including insulin.

The **BRAIN** detects when you are hungry or about to eat and sends signals to the rest of your body to get ready – your mouth starts to produce saliva, your stomach starts moving more and gastric juices are made. Your body also sends signals back to your brain – telling you when you are full and it's time to stop eating!

Chewing in your **MOUTH** helps to break down food into smaller chunks, and chemicals in your saliva called digestive enzymes start to break down the nutrients.

To get to your stomach, the mashed up food travels down the **OESOPHAGUS** – a long tube that pushes food down.

Your **STOMACH** is filled with acid to break your food down into a liquidy mixture. It also contracts all the time to help move things along – when your belly is empty, this makes it grumble!

Bile produced by the liver is stored in the **GALLBLADDER** and released into the small intestine where it helps with fat absorption.

After nutrients from food are taken up into the bloodstream, they go straight to the **LIVER**. It filters out any unwanted waste and toxins, stores nutrients and makes sure they are delivered to where they are needed.

Cut out the pictures. Use them as templates to make felt body organs.
The **SMALL INTESTINE** is like a special tube all curled up inside you. It’s the light pink bit in our picture. Even though it’s called ‘small’, at about 6 metres it’s pretty long!

Here, your body breaks down the food even more with the help of digestive juices produced by your pancreas and liver. All the energy from your food is then small enough to go into your blood and be taken to wherever it’s needed.

What your body doesn’t need moves into the **LARGE INTESTINE** (the dark pink part around the edge). This part of your gut makes sure you take up all the minerals and water from your food and drink before whatever is left over travels down and is stored in your **RECTUM** until you are ready to go to the loo!

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**Fun facts**

The insides of your guts have so many tiny folds in them that if you flattened them out, they would cover half a badminton court.

It usually takes from 1 day to 3 days to completely digest your food and get rid of the waste.

We can make up to $1\frac{1}{2}$ litres of saliva every day!

This is a real X-ray picture of someone’s insides!
Other organs

You might want to cut out some more body organs and try to squeeze them in?
These ones are not part of the digestive system, but they each have a special job to do.

Everybody knows that their **HEART** is important. It pumps blood all around the body, from our head to our toes, delivering the oxygen and energy that keeps us alive.

Our **LUNGS** take in air as we breathe. They send the part that we need (oxygen) into our blood and send a gas that we want to get rid of (carbon dioxide) back out again.

We have two **KIDNEYS**. They make sure that our blood doesn’t get too watery or too thick and they help to sort out waste that we want to get rid of, such as ammonia. Along with the extra water, this is made into urine (wee).

Urine is stored in our **BLADDER**. When it starts to get full we can feel that we need a wee!

You can download puzzles and pictures to colour in, including one of our major body organs, in the MRC Cambridge Activity Book.

Parents/guardians: Please note that children under 10 years should be supervised by an adult while using scissors.

The game may not be suitable for very young children due to small pieces.

This game comes to you from the IMS-MRL at the University of Cambridge. See lots of other fun stuff on our website at: www.mrl.ims.cam.ac.uk/find-out-more-2

Find more on the Cambridge Festival website: www.festival.cam.ac.uk

If you are pleased with what you make, send us a picture and your first name.

We'll put it on our website!

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