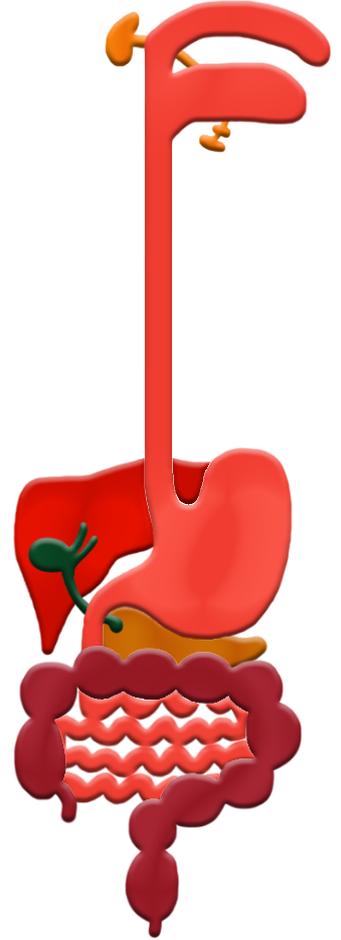


Modelling digestion

Are you ready for some yuckiness? You're going to model how your digestive system works using everyday stuff. This works best with a friend or two to help. You could even film it and show the rest of your class.

You will need:

- Dinner plate
- Two slices of bread
- Banana
- Sandwich spread (for instance chocolate)
- Wheat breakfast biscuit
- Knife, fork and spoon
- Potato masher
- Small plastic travel bottle or cup of water mixed with a tiny amount of washing up liquid. Shake it around to make a foamy saliva substitute.
- Clear plastic sandwich bag
- Small amounts of lemon juice, tomato sauce, yogurt and green food colouring
- Thin plastic party drinks cup
- The foot of a pop sock
- Large bowl
- Scissors
- Soap, water and a towel!



Instructions:

1. Clear a space on a table and cover it with newspapers or plastic – this is going to be messy.
2. Make a goeey sandwich with the bread, banana and sandwich spread. Put your sandwich on your plate together with your wheat breakfast biscuit.
3. Use your knife and fork to cut the food into small pieces. This is like your incisor and canine teeth cutting and tearing the food into manageable chunks.
4. Add your saliva substitute. Careful, not too much.
5. Now take the potato masher and grind the food with the saliva until it is mushy. Notice how the grooves in the potato masher are a bit like the bumps on the flat surface of your premolar and molar teeth.
6. Now you need to use the spoon to transfer your mashed food into a clear plastic sandwich bag. This represents your stomach. Here you can add a splash of lemon juice which is like the acids in your stomach. Keep churning up the food in the plastic bag.
7. Add some other liquids to your stomach mixture now – some tomato sauce can stand in for digestive enzymes and maybe some yogurt can be bile. Colour it green with food colouring for extra vileness.
8. Your food will be on its journey through your intestines now so keep churning it around to mix it really well.

Modelling digestion

9. Now we're in the intestines, small and large. Cut the bottom off a thin plastic cup and insert this into the top of your pop sock. Use it like a funnel.
10. Do the next bit over a large bowl or the kitchen sink. Pour the contents of your sandwich bag through your 'funnel' and into the sock. This represents the intestines. Can you see that liquid will already be seeping through the walls of the sock? This is like the nutrients in your food moving through the walls of the intestines and into your body.
11. Hold the top of the sock tightly with one hand and squeeze out as much of the liquid in the food mixture as you can. Your sock should now have a lump of moist food waste in the bottom.
12. Use the scissors to carefully make a cut in the bottom of the sock. Ready to go to the loo? Then squeeze out the food waste through the hole!
13. Now wash your hands!

Measuring the length of the digestive tract

Note! This activity is useful to carry out in several smaller groups.

You will need:

String
tape measure
scissors

Instructions:

Recreate the length of an 'unravelling' digestive tract using string, bearing the following figures in mind:

- Mouth cavity: 7cm
- Oesophagus: 25cm
- Stomach: 25cm
- Small intestine: 5m
- Large intestine: 1m

First, try to estimate these lengths. Then carry out the experiment again, this time using a tape measure. Was your first estimate correct? Too low? Too high?