



## POO

Everything we eat and digest eventually ends up as POO! Or 'faeces' if you want to use the proper word. So, how long is the whole journey from mouth to bottom?

- The oesophagus is 25cm long.
- The stomach is 25-27cm long.
- The small intestine is 670-760cm long.
- The large intestine is 150cm long.
- The rectum is 12cm long.

The whole digestive system is around 9m long! Now let's make a fake poo!

### You will need:

- Digestion model from Physoc (or laminated/projected text-book image).
- String or wool, 9m long.
- Small disposable bowls/large mixing bowls to share.
- Empty loo rolls.
- Pairs of tights.
- Press-seal food bags (optional – as stomach, and add more water in), or a smaller bowl.
- Dustbin liners/waterproof table coverings.
- Trays (cat-litter or inbox trays).
- Access to water/bucket of water.
- Measuring jugs/disposable cups.



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### The activity:

- Start off by asking people how many poo'd today! (Should result in an immediate 'Ick Factor' reaction). Explain that everyone has to poo as a way to remove waste.
- Briefly explain the digestive system (and the full length – details given above). You could also show a PowerPoint slide, laminated image of digestive system, or use a digestion model.
- Ask for two volunteers and for each to hold one end of the wool – in order to show everyone how long the length of wool is: 9m – the length of our digestive systems!
- Start at the mouth. Give everyone (or groups), a loo roll and a disposable bowl (or share a large mixing bowl), and a cup of water. You may need to cover the surfaces with dustbin liners or waterproof coverings, or give each group a tray to contain their digestive systems.
- The bowl is the mouth. What do we do to break down our food? We have teeth, and saliva. Ask everyone to break up their loo roll (food) by tearing (as our teeth would), and add some water (saliva).
- Mix it well. Now it's going to go through the digestive system. (Depending on time, you could also use separate tight sections for the oesophagus, and intestines – and use a food bag as the stomach adding in more water as digestive juices, and pour this all out into the next length of the digestive system).
- Food doesn't just fall through our digestive systems by gravity, it needs to be pushed along by muscle movements – the small intestine muscles contract and relax in a wave-like motion, known as 'peristalsis'.



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- Ask the participants to slowly, using their hands, squeeze the loo roll mix together towards the end of the tights - squeezing the water out as they're going along. This is water that is reabsorbed back into the body – and most of this happens in the large intestine section.
- They should now be able to squeeze out the 'poo' at the end, removing as much water as possible. Tell participants that if they don't go to the loo when their rectum is full of faeces, it goes back to the large intestine where even more water is absorbed. Ask them what they think happens then?
- Depending on the audience, you could talk about the 100 trillion microorganisms in our intestines that also help in digestion (a lot of which ends up in our faeces). And about the hormones involved in decreasing and increasing appetite: leptin and ghrelin. Leptin is made by fat cells to suppress hunger and decrease your appetite. Ghrelin secreted by the stomach lining signals to your brain that you need to eat – so increases your appetite).

#### Further information:

- The Physiological Society's poetry competition entry, Ode To Digestion:  
<http://www.physoc.org/winner-under-17-ode-digestion-poetry-competition>
- Your digestive system:  
[http://kidshealth.org/kid/cancer\\_center/HTBW/digestive\\_system.html](http://kidshealth.org/kid/cancer_center/HTBW/digestive_system.html)



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