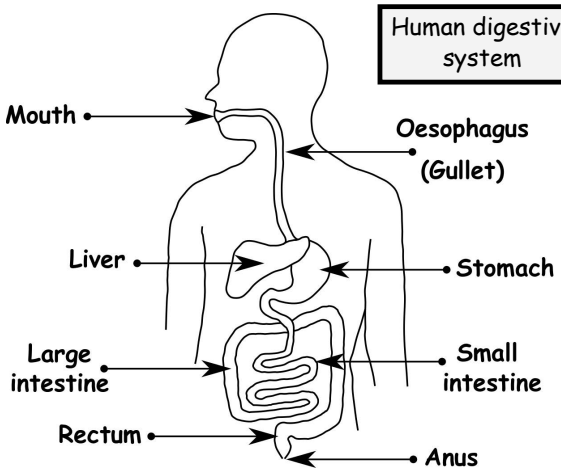
# The Human Digestive System

We can 'think' of the digestion process as starting on your plate, here food is cut into smaller pieces.
The purpose of digestion is to turn large insoluble pieces of food into the smaller soluble molecules that it is made from. This provides nutrition and energy for our bodies. Digestion really starts in our mouths where the food is broken up, ground down and digestive juices from saliva are added. It ends with our faeces (waste matter) in the rectum, where this indigestible food is stored. Finally, our waste is excreted (the process of expelling waste) from the anus.

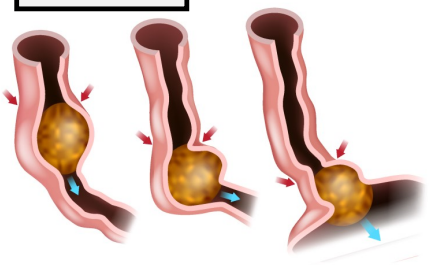
Human digestive system




## The Order of Events

1. Food is chewed in our mouth and the digestive juice **saliva** is added before being swallowed.
2. The food passes down the gullet where it is helped on its way by **peristalsis** (muscle contractions pushing the food along the gullet). This is similar to squashing toothpaste out of a tube.
3. On entering the stomach, the food is churned (squashed and mixed through contractions) with strong hydrochloric acid (pH 1-2). The acidic conditions kill bacteria and help the digestive juices to work well.
4. In the **small intestine** more digestive juices are added, also **bile** from the **liver** to help break down fats. The broken down food is absorbed into the blood here.
5. The food (now mostly undigestible waste) then passes into the **large intestine** where the only thing left to **absorb** is **water**.
6. After the water is absorbed, our waste faeces (poo) is more solid. The faeces passes to the rectum for storage before we go to the toilet and excrete it through the anus.

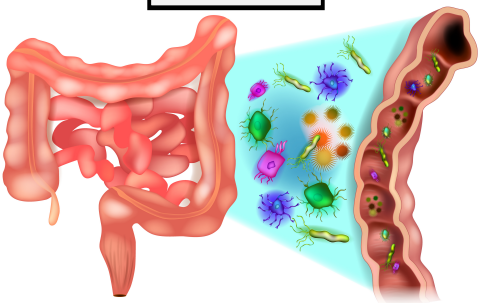
Peristalsis



## Bacteria are Important too

Our digestive system contains trillions of micro-organisms, living organisms so small you need a microscope to see them. So many they would weigh about 1kg. The waste **they** produce makes up about half of our faeces. They help us produce some important vitamins and absorb some nutrients. A healthy digestive system needs these bacteria and foods that boost gut bacteria are called **probiotics**.

Gut bacteria



Probiotic yogurt


WHAT?

Your entire digestive system is about 10 metres long! Food takes about 5 seconds to reach your stomach. Peristalsis means if you ate upside down food would still get to your stomach. Our mouths make about one litre of saliva every day. The digestive system contains about 500 different bacteria all playing their part.

# Questions on the Human Digestive System

1. Why can we 'think' of digestion as starting on the plate?

2. What is the purpose of digestion?

3. Where does digestion really start?

4. Where does digestion end?

5. What does excretion mean?

6. What is saliva an example of?

7. Where does food go after entering the mouth and before reaching the stomach?

8. What helps it on its way and what is it similar to?

9. What does churned in the stomach mean?

10. How are the acidic conditions useful?

11. What does bile do and where does it come from?

12. What happens to the broken down food in the small intestines?

13. How could the food be described in the large intestine?

14. What is the only thing left to absorb in the large intestine?

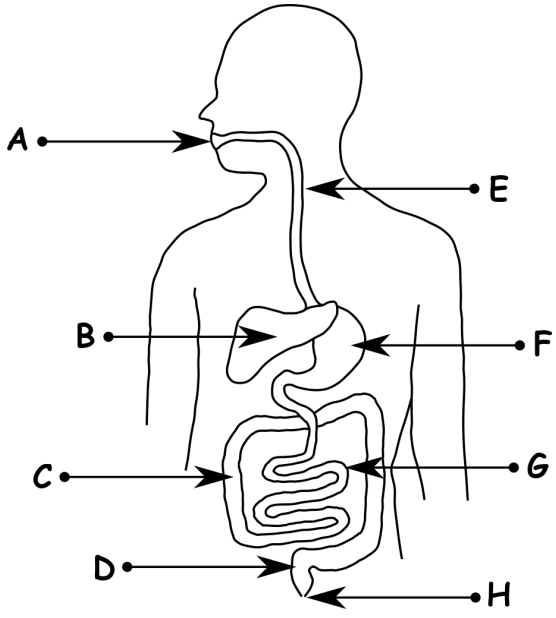
15. What is another word for waste faeces?

16. Why is it more solid at this stage?

17. What is the name for the part of the digestive system where faeces is stored?

18. Where are faeces finally excreted?

**Name and memorise the organs of the human digestive system shown below**




A. _____ E. _____

B. _____ F. _____

C. _____ G. _____

D. _____ H. _____