

Toilets are brilliant!

In the UK we are really lucky, as we all have a toilet that works in our home

- But across the world 2.4 billion people (34% of everyone in the world) do not have access to a safe, clean and hygienic loo of their own.
- The situation is worse in some countries than others. For example, in India 62% of people don't have a safe loo to use. They have a campaign called take the poo to the loo: <https://www.youtube.com/watch?v= Pi4L7C2twl>
- World toilet day is on the 19th of November every year.



A short history of flushing toilets in Britain

- Up until the Romans came to Britain everyone pooped outside.
- The Romans had communal toilets which were flushed with water.
- The flushing loo as we know it was first invented in about 1592 by John Harrington <http://www.thomas-crapper.com/The-History-of-Thomas-Crapper.html> but hardly anyone had one.



What should you flush down the toilet?

- The three Ps only which are: **Pee**, **Poo**, **Paper** (toilet paper that is). But definitely not frogs!

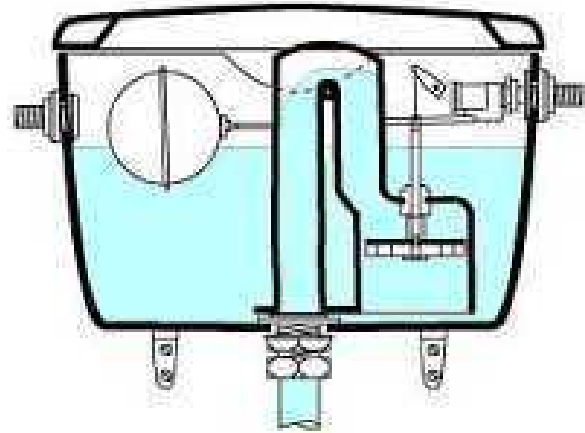
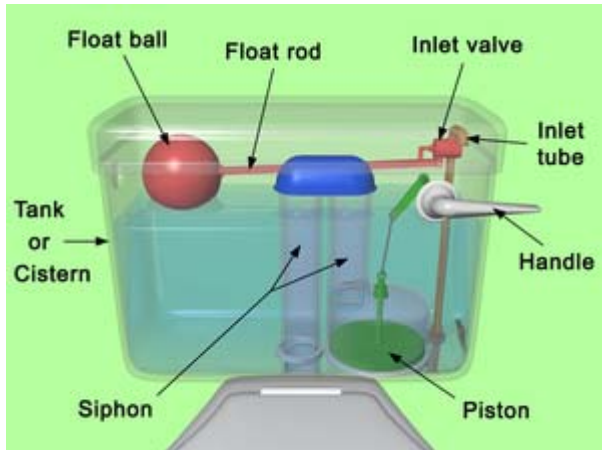
What does flushable mean?

- If you put something into a toilet bowl and press the handle or button and the product has disappeared then in effect it is 'flushable'. But what we really want to ask is, 'What products that are often flushed down the loo lead to problems in the drains, sewers or at the sewage treatment plant?'
- **Pee**, **Poo** and loo **Paper** (the three **Ps**) all break down easily in water. Wet wipes do not. And cause big problems.

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How a toilet cistern with a WC siphon works

- This is what a toilet cistern with a WC siphon looks like inside.
- The WC siphon uses air to make the barrier between the water in the cistern. This is a very effective way of stopping water leaking into the bowl. It was invented in 1898, over 100 years ago! Before that toilet cisterns had a plug in the bottom which was operated by a chain.



- When you press the handle it operates the WC siphon. Water is pushed up from one side of the WC siphon into the other side (the leg of the siphon).
- As water air starts to flow down the leg of the siphon it pushes the air out of the way and creates a partial vacuum. Air hates a vacuum as it wants to get everywhere. So air pressure takes over and forces the rest of the water out of the cistern and into the toilet bowl flushing away whatever is in there.
- As the water level drops the float operated valve drops and opens the inlet valve so that water flows in to the toilet and fills it back up automatically. This type of valve was first mentioned in 1790. It has been used in WC cisterns since 1898.

Using less water to flush the loo.

- Toilets are brilliant but at the same time we don't want to use too much water to flush them.
- In the 1960s toilets used at least 13 litres of water to flush. We have been making them use less water steadily since that time. Now, you can get dual flush loos that if you have had a wee you only need to use 2.5 litres per flush.
- A dual flush toilet means that if you have just had a wee you can press a button that sends less water to flush the loo than if you have a poo.
- They use a flush valve instead of a WC siphon inside the cistern. Some flush valves are not very efficient at stopping water leaking into the WC cistern, and can waste a lot of water when they get older.