



## To flush or not to flush, that is the question

The to flush or not to flush activity helps you and your family investigate the properties of common materials that are used for personal toilet hygiene, so you can discover for yourself what can and cannot be flushed!



20mins



1-3 people

### What do you flush or put down drains?

Start with a quick survey to list all the items that you and your family know about, other than soapy water, that goes down the drains in your home.

Family Member	Bathroom	Laundry	Kitchen	Toilet
Mum / Dad				
Brother / Sister				
Me				

### Equipment required:

- 1 sheet of toilet paper
- 1 tissue
- 1 piece of paper towel
- 1 wet wipe
- 2- 4 jars or containers with lids, of a similar size, to shake your material in
- One cup of water for each material you test
- Sieve or strainer to drain the items at the end
- A stopwatch or kitchen timer
- Marker pen and paper

### Predict:

A good water detective conducts experiments using the scientific method. Before you begin the experiment, write down your prediction of which material you think will be the best to flush.

*I predict...*

**Method:**

**Step 1** Collect all the items listed, find a space in your home where you don't mind a few splashes. Set out your experiment as follows.

**Step 2** Fill each jar or container with one cup of water. If you do not have four similar sized containers, then you can test just one or two and repeat the same steps for each material tested.

**Step 3** Trim each material to roughly the same size as one sheet of toilet paper. Place each material into the water.

**Step 4** Place a label on each jar to remind you which material is inside.

**Step 5** Place the lid on tightly (you might like to do this outside if the weather is fine as drips may get on the floor) and gently shake and swirl your item for 30 seconds.

Use your stop watch, phone or a kitchen timer to keep track of time. Stop at each 30 second interval and record your observations in the activity table. Continue for three minutes.

**Step 6** Repeat for each item.

**Step 7** Once you have concluded your experiment, tip the containers of materials and water through a sieve (do this over a plant to give it a drink). Put all remaining paper left in the sieve in the rubbish bin.

Write or draw your observations below:

Time	Toilet paper	Tissue	Wet wipe	Paper towel
60 seconds				
90 Seconds				
120 Seconds				
150 seconds				
180 seconds				

**Explain**

1. Variables are things which are controlled and measured as part of a scientific experiment.

**In the table below:**

**Tick** the following variables in the experiment that you kept the same. **Circle** the experiment variable you changed and are observing in this experiment.

	The amount of water
	Different types of materials
	Container shape
	Time for swirling/shaking
	Size of materials tested

2. Write a general sentence to state what you observed in this experiment for each material you tested?

- The toilet paper...
- The tissues...
- The paper towel...
- The wet wipes...

3. Which material/s you tested kept its shape the best? Why do you think this is the case?

4. Which material/s did you observe broke down the quickest? Why do you think this is the case?

5. From your results, which material/s should you not flush down the drain? Why is this the case?

6. From this experiment, what else might you like to investigate further?

7. Write a conclusion to this experiment.  
*In conclusion, we found that the best material to flush is .....because .....*

## Discuss

Icon Water's Free the Poo campaign reminds us to only flush the 3 P's. This means that only poo, pee and toilet paper should be flushed down the drain to the sewer, along with all the soapy water that we use for health and hygiene.

Did you notice how the tissue, wet wipes and paper towel held their shape in the experiment? These items might look similar to toilet paper, but they're designed to hold moisture, are more robust and do not easily break down. Many blockages in the sewer network are caused by such items being flushed or put down the drain.

Fats and oils might be in liquid form after cooking because they're still hot, but when they get in the sewer pipes and cool down they solidify and clog up the pipes. When fats and oils meet up with materials like wet wipes, they can lead to a blockage or 'fatberg' forming in the sewerage pipes, creating issues for your home and neighbourhood.

You never want bad toilet flushing habits to come back and visit you or your neighbours. It can create such a mess. It's important that we remember that only the three P's should be flushed.

Recall your survey when you asked your family about what they flush down the drains around the house. Are there any changes your family can put in place to make a positive difference?

Which items on your survey do you now know should not be flushed?

From the experiment, what changes or actions will you and your family make to care for your drains and the ACT sewerage network?

