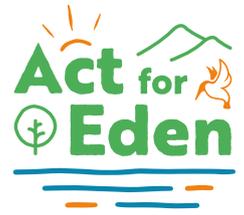


To flush or not to flush?



Teachers' notes

Introduction

If we flush the wrong things down the toilet, blockages can happen, and this can mean sewage comes back up the pipes and into our homes. Yuk!

In this experiment you'll work as a class to compare a number of household items with toilet paper and find out which are safe to flush and which are not.

For maximum impact, this experiment should be carried out BEFORE watching our River Champions Act for Eden! film and using its accompanying resources.



These notes should be read alongside the student worksheet.

Suggested items that are regularly flushed for you to test and compare with toilet roll

- A. Cotton buds
- B. Kitchen roll
- C. Wet wipes, household cleaning wipes or cleansing wipes (plastic based)
- D. Cotton wool pads or balls
- E. Hair (taken from a hairbrush)
- F. Biodegradable wet-wipes or facial cleansing wipes
- G. Dental floss (a short length, as would be used)
- H. Tissues
- I. 'Flushables'* (new type of toilet wipes, marketed with a 'fine to flush' mark)

* we have concerns about 'fine to flush' 'flushables' at this time.

On 'flushing' in this experiment they appear to break down as toilet paper, BUT the broken down/flushed wipes act differently when allowed to settle.

With toilet paper, the solid and liquid separates out, but with the 'flushables', the 'solids' remain suspended in the liquid. In addition to this, most contain chemicals that may cause pollution if discharged into a river from a combined sewage overflow.

We would like to know more before we suggest that they are safe to flush, but have included them as a discussion point, as more children / households are using them.

How to run the experiment with your class

1. As toilet roll is designed to be flushable, demonstrate this first as a class.
We test if an item is 'flushable' by putting it into a bottle half-filled with water and shaking for **90 seconds**.
2. Prepare **2 bottles of toilet paper** and shake/'flush' across the class for **90 secs**.
3. After 'flushing' pass the bottles around the class, so that they can all see the result.

Some classes really enjoy shaking the bottles to a dance or song. We found that singing

"I like to shake it, shake it / flush it, flush it" to the tune of

"I like to move it, move it", which some of them know from the film, Madagascar was pretty popular!

You should find the water looks uniformly opaque and 'milky', with no obvious pieces of toilet paper remaining.

- The children can then make a prediction as to whether or not the other items will disintegrate in the same way during shaking.

You may find it helpful to use something like this table on a whiteboard to help with class involvement and discussion over predictions.

Take an 'average' of class prediction, asking for thumbs up or down to indicate 'flushability'. If the class is split and 'not sure', this can form a helpful part of the discussion.

- Children work in pairs. Each pair to test one item using the method below. Each item to be tested by at least 2 pairs of children. If the class is smaller, a few children will have a bottle each.

Bottle	Item to be 'flushed'	Prediction Flushable? Y/N	Result What it looks like after flushing	Conclusion Flushable? Y/N
A	E.g. cotton buds			
B	E.g wet wipes			

Fair test e.g.:

- Bottles are the same size and shape.
- Same amount of water.
- Shake the bottle for the same length of time.
- Shake the bottle in the same way for the same length of time.

Equipment

(in addition to the items to be tested).

- Clear, clean plastic bottles, with lids:
 - minimum 0.5 L size
 - wide-neck bottles are preferable (it's more difficult to remove some items from narrow-neck bottles afterwards!)
 - similar size and shape to provide a 'fair test'.
- Each bottle should be labelled, You will need two of each letter (so two pairs can conduct the experiment with the same item).
- Measuring jug (if bottles do not indicate volumes).
- Tap water.
- Stopwatch (one per class is fine, but they can do it per pair).
- Item for 'flushing' (as decided above).

Method

- Give each group a labelled bottle and the corresponding item to be tested.
- Half-fill each bottle with water (using measuring jug if desired/needed).
- Add the item to be flushed, screw the top on and carefully turn upside down to check it has been screwed on tightly enough – DO NOT SHAKE YET!
- When every pair is ready, the whole class 'flushes' (shakes) at the same time.

Results and conclusion

You will conclude that only toilet paper is flushable.

KEY MESSAGE: There are only 3 things that are OK to flush. They all start with a P!

**Only Ever Flush...
The '3Ps': Pee, Poo, Paper
(toilet paper)**