



# Welcome to Sewer Soup!

Adult supervision and assistance is required for this activity

Here's a few facts you may want to read before carrying out this activity:

<p>What is waste water?</p>	<p>Waste water is water that is now dirty as it has been used. It could be water from showers, baths, drains and even toilets! <b>It's known as sewage.</b></p>
<p>Where does waste water go?</p>	<p>Waste water goes into your sewage pipes that are brown and under the ground. It travels to our sewage treatment works where we clean it and put it back into rivers.</p>
<p>Can waste water block sewer pipes?</p>	<p>Waste water doesn't block pipes. We do however get blocked pipes because people flush the wrong things down the toilet or even put the wrong things down the sink.</p>
<p>Why are blocked sewer pipes bad?</p>	<p>If your sewer pipe is blocked this means the waste water can't travel through to be cleaned. It can lead to flooding and pollution!</p>
<p>What items block sewer pipes?</p>	<p>We get lots of different things in the sewers. We get wet wipes, mobile phones, nappies and cooking oil along with much more!</p>

**Children can play this activity alone or in a group**

**To carry out the activity you will need:**

**Cleaning items:**

- Plastic tray or towel (*to save spillage whilst group treats 'sewage'*)
- 1 litre jug
- Clear plastic bottle
- Fine sieve
- Colander
- Funnel
- Filter paper x 3
- Plastic beaker
- 2 x plastic cups
- Down the drain / in the bin cards (*can be found in this pack*)

**Sewage items:**

**You'll need 1 set of the following items for each group:**

- 1 large clear container/tank/glass mixing bowl half full with tap water (*to make the sewage in*)
- Piece of poo\*\*
- 4 pieces of toilet paper
- 100ml of wee\*\*
- Shake of salt
- 1 crisp packet
- Handful of cereal
- Small squeeze of toothpaste
- Sprinkling of soap powder
- Couple of leaves
- Squirt of shower gel
- Squirt of washing up liquid

- 1 cotton bud
- 1 plastic goldfish
- Cooking oil (*a tiny squirt into the water to show how oil acts when in water*)
- Small handful of soil
- Short length of dental floss
- False teeth
- 1 wet wipe
- 1 used tea bag
- 1 spoon of coffee
- Washing up liquid
- Cotton wool

**\*\*Instructions for making fake poo and wee:**

- Make the 'poo' by mixing Weetabix with gravy granules and a small amount of water (some sweetcorn can be added if desired). Shape into rough cylinder shapes and wrap loosely in the toilet paper.
- Make the 'wee' by squeezing a used tea bag or adding a small amount of cola into tap water to the desired colour.



### Setting up the activity:

- Place all your ingredients in a big box at the side of the room *(preferably hidden from the group)*
- Place your container/tank full of water on a table with a towel underneath so everyone can see it
- Print out the bin it or flush it cards *(or make your own)* and place these either side of your container full of water
- In a separate space give all groups the items on the cleaning items list *(apart from the bin it / flush it cards)*

**This part of the activity should be lead by an adult:**

1. Ask participants what they think we might find in sewage. Pull out the items as they are called out and, one ingredient add each item to the container/tank of tap water, mixing well after each new ingredient is added. *(Participants can help add items to sewage.)*



2. Look at and discuss what happens to each ingredient. Does it dissolve, disperse, melt, sink, float...? *(Remember to stir well when you add each item so that you can see things like toilet paper breaking up and how wipes and kitchen roll don't.)*
3. After each item is added ask if they think it is ok to be flushed into the sewers and drains or whether it should go in the bin.
4. Place the items on top of or next to the card either bin it or flush it so you can have a visual of things we find in the sewers that should have been put in the bin.
5. Ask what may happen if the item was to reach the sewers. Place the items near the bin it or flush it cards.
6. The liquid in the tank at the end of this part of the activity is your sewage and is now ready to be cleaned.

## Useful info

- It is expected that participants will use the colander, sieve and filter paper in order, straining their sewage to remove solids and using the beaker and plastic cups to collect the partially treated sewage between stages so you can see it getting cleaner and cleaner. Leaving the water still will allow the big bits to sink to the bottom leaving the cleanest water at the top.

## This part of the activity can be actioned by the children

### Aim of the game:

The aim of the game is to make your own sewage and then see if you can clean it and make it clean enough to return to the river.

### Cleaning your sewage:

**All cleaning activity should be done over the trays to collect any spilt liquids and prevent mess!**

1. Collect some sewage from the facilitator using your one litre jug
2. Decide how to clean the sewage using the cleaning items /equipment.
3. Clean the water using the cleaning items/equipment provided.
4. Your final cleaned sample should be put into the clear plastic bottle to see how clean you made it! *(If your in a group you could do this as a competition)*



**We hope you had fun making and cleaning your own sewage!**

Want to find out how we really clean sewage? Watch our short film available on the website [www.stwater.co.uk/education](http://www.stwater.co.uk/education)



**Now you've had a go at cleaning sewage try and answer these questions below:**

- 1. Did you get your water clean enough to be returned to a local river safely?**

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- 2. If not what do you think might have helped? (\*hint watch the film on the website)**

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**3. Name 3 things we shouldn't flush down the toilet:**

**1:**

**2:**

**3:**

**4. Name 3 things we can flush down the toilet:**

**1:**

**2:**

**3:**

**5. Which one of these describes fat, oil and grease that has gone hard in the sewers? (circle the correct answer).**

**Grease Ball**

**Iceberg**

**Oil slick**

**Fatberg**

**6. Why are baby wipes so bad for the sewers?**

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**7. What do you think there are things you and your family can do at home to help your sewers?**

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## Facts to support facilitator

**55K**

is the average number of blockages Severn Trent attends around blockages each year

**70%**

of these blockages are caused by domestic misuse (people putting the wrong things down the sink or toilet!).

Of these blockages, a high percentage go on to cause pollution and sewer flooding. Most incidents are avoidable by simple action by our customers.

## What causes sewer blockages?

### **F.O.G**

F.O.G stands for fats, oils and greases. If liquid fats, oils and grease are disposed down the drain or sink, they quickly solidify on contact with the cool walls of the sewer, sticking to the sides. Other debris flowing down the sewer is then trapped and causes a blockage.

These then create what we call fatbergs and can get very large in size, some have been known to become the size of small family cars, but this depends on the size of the sewer pipe.

### **Flushing the wrong things down the loo!**

Flushing personal and 'disposable' products down the toilet can cause huge problems when they reach the sewage treatment works.

Synthetic materials such as wet wipes, nappies, female sanitary products etc. which are disposed of down the toilet cause over two-thirds of all sewer blockages which may lead to sewer flooding. Wet

wipes are made of up to 80/90% plastic and as such they can take between 5 to 100 years+ to biodegrade.

### Good news!

2020 saw the first wipes that are truly flushable and that can biodegrade quick enough to be flushed down the toilet and the way to tell if they can be is if they carry this “fine to flush” logo.



Why not try the blockage activity sheets or one of our other Wonderful Water activities!

For more information please visit the Severn Trent education web page

<https://www.stwater.co.uk/education>

# BIN IT



WONDERFUL ON TAP



# FLUSH IT



WONDERFUL ON TAP

