

# Unflushables

## Sustainability Goals:



## Subject links:

Science, Citizenship

Ages 7-11

## Curriculum key words:

Human impact, modern world, investigation, environmental responsibility, campaigning, materials and properties

## Ocean Literacy Principles:

6. The ocean and humans are inextricably interconnected

## Learning objectives:

- To learn about the impact of plastic pollution in the ocean
- To conduct an experiment looking at materials and their properties
- To work in small groups to problem solve and share creative ideas for a campaign

## Resources provided:

- [Wet Wipe Fact File](#)
- [Sewer to sea](#)
- [Unflushables Image Reel](#)

## Extra resources needed:

- Sample bottles
- Water
- Wet wipes (e.g. baby wipes) and toilet paper

## Step 1

### Background

Sewage-related litter, including wet wipes, cotton bud sticks and sanitary products, reach the sea by being flushed down the toilet instead of going in the bin. Because of this, these items have earned the nickname, 'unflushables.'

In April 2024, all UK governments announced a ban on plastic in single-use wet wipes. Almost 26,500 wet wipes were found on our beaches in 2024, so this is an exciting development that we hope will reduce this kind of pollution in the future!

Find supporting information for this lesson in our [Wet Wipe Fact File](#).

## Step 2

### Set the Scene

#### 10 minutes – Sewage to sea

Display the [sewer to sea](#) illustration, following the network of pipes, treatment plants, misconnections, and sewage outflows that manage our waste.

Explain that our pipes can become blocked by things that shouldn't be flushed down the toilet, which can cause flooded drains and sewage being released into the sea.

Use the [unflushables image reel](#) to explore the problem with your group. Follow a wet wipe on its journey to the sea and show the images of fatbergs in our sewer system, using the [fact file](#) for further information.

## Step 3

### Activities

#### Activity 1: 15 minutes – Properties of wet wipes

Explain to your group that you'll be running an experiment to find out what happens to a wet wipe when it's flushed down a toilet.

In small groups, pupils should start by comparing the properties of wet wipes and paper. Encourage groups to share their predictions of which one they think will last longer once flushed down a toilet. Which is stronger? Prompt them to write a hypothesis to refer to later.

#### Activity 2: 30 minutes – Experiment

For the experiment, provide each group with two bottles of water, around  $\frac{3}{4}$  full. Each group should add a wet wipe (e.g. baby wipe) to one bottle of water, and a sheet of toilet paper to another. Each group should then screw the lids of their bottles on tightly and take turns shaking them for 30 seconds.

Each group should closely observe their bottles throughout the experiment.

#### 5 minutes – Results

Following the experiment, pupils should draw illustrations of their bottles to show the results. Ask them to write up their methods and compare their results to their original hypotheses.

Which material was most intact? What might be the problems of flushing wet wipes down the toilet?

## Step 4

### Extend

#### 30 minutes – Unflushables campaign

In groups, discuss what kind of messages could help stop people flushing the wrong things down the toilet. Encourage pupils to generate ideas for a campaign in school or the local community to raise awareness of the problem. Could they design posters to show the impact of these items? What about an activism piece?

Each group should present their ideas to the class and vote on one campaign to take forward. Pupils could then run an assembly for the rest of the school to introduce their campaign, explaining what they've learned and what we can all do to tackle the problem.

## Step 5

### Reflect

#### 5 minutes

Revisit the original questions – where does sewage go? What things should go down the toilet? Where should other items go? What is a fatberg? Why are plastic wet wipes in the environment bad?

## Step 6

### Follow up

To learn more about using art to raise awareness and campaign for change, check out our [Artivism](#) resource.

# Wet Wipe Fact File



## The problem

Wet wipes and other 'unflushable' items find their way to our seas when they're flushed down the toilet.

In 2024, almost 26,500 wet wipes were found on beaches cleaned and surveyed by Marine Conservation Society volunteers. Sewage-related litter items were found on 74% of our cleans - the same levels as 2023 - so we know these items still pose a problem to our ocean. (1)

## Plastic pollution

Some wet wipes contain plastic fibres, meaning they won't break down in the same way as toilet paper.

These plastic wet wipes can collect toxic chemicals and bacteria on their journey through our sewerage system, and when they eventually start to break up, they become microplastics. This process unfortunately makes them more easily ingested by marine animals.

UK governments finally announced a **ban on plastic in single-use wet wipes in April 2024**, which marks a major milestone in tackling plastic pollution in our seas.



1. Marine Conservation Society 2020

# Wet Wipe Fact File

## Saturated sewers

In sewers, wet wipes can combine with fat, grease and oil to form giant fatbergs. However, only 5% is actual fat – over 90% is wet wipes! (2) One of the biggest fatbergs found in London was longer than Tower Bridge and as heavy as 11 double-decker buses. (3) Fatbergs cost the UK a staggering £90 million per year to remove. (4)



Whitechapel fatberg sample  
at the Museum of London  
Credit: Seeing Sanitation



An overflow pipe on the beach  
Credit: MCS/Kate Wilson

Wet wipes can reach the ocean from sewerage systems in several ways:

- Fatbergs create blockages in our sewers and can cause untreated wastewater to overflow into our streams, rivers and ocean
- Some wet wipes can pass through sewage treatment works to end up on our beaches
- Drains can overflow after heavy rain when the system cannot cope with the volume of water
- Between 15,000 and 500,000 homes in the UK are thought to have drain misconnections. (5) A misconnection is when household drains are pumped into the wrong external drain. Sewage water that should be transported to wastewater treatment plants, is instead drained into rivers.

2 & 3. BBC 2017

4. Grease Guardian 2017

5. The Rivers Trust 2019

# Wet Wipe Fact File



## The solution

- Don't put oil down the sink after cooking, as this helps create fatbergs! Wait for the pan to cool, wipe the oil off with a tissue, and dispose of in the bin instead.
- We've worked with industries to remove plastics from wet wipes labelled 'flushable,' and to ensure clear 'do not flush' labelling on all wet wipes unless they pass the Fine to Flush standard.
- Helping consumers understand the problem by raising awareness can help to reduce the number of wet wipes being flushed down toilets. Check out the video of [Wallace the wet wipe monster](#) used around the country to highlight the problem.
- Searching for brands that don't use plastic in their products helps consumers make more responsible choices.
- It can be confusing to know which wet wipes are fine to flush. If you're unsure, then pop it in the bin instead and only flush the 3 Ps (pee, poo, and paper) down the toilet!



A wet wipe in sand  
Credit: Natasha Ewins



Fine to Flush logo  
Credit: Water UK

# Sewer to sea

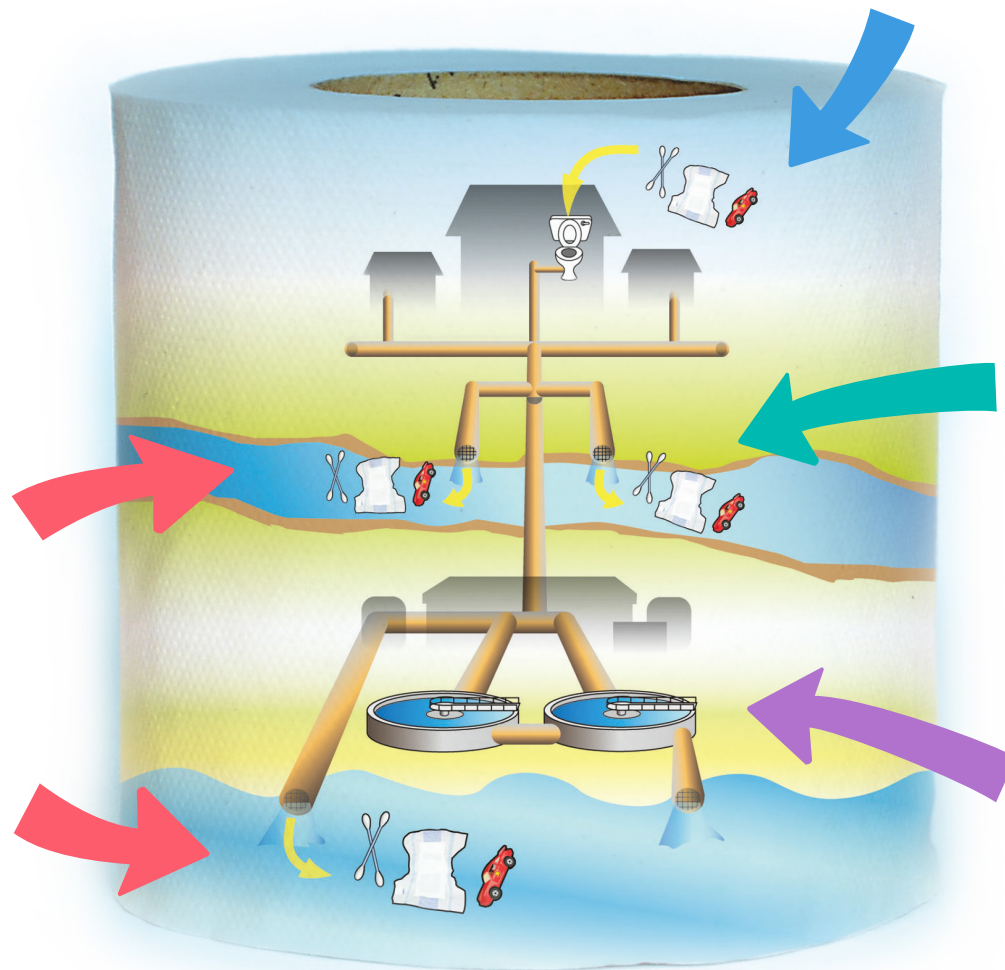
## Sewerage system

Our homes, schools and other buildings are all connected to our sewerage system. This system is made up of a network of pipes designed to manage our waste after it has been flushed down the toilet or washed down our showers and sinks. It's taken to the sewerage treatment works where it's processed to make it safe to humans and animals, and then returned to sea. This system also collects rainwater from drains to prevent our towns and cities from flooding.

## Combined Storm Overflows (CSOs)

These overflows are emergency release valves in our sewer system. During heavy rain, or if the pipes become blocked, these overflows release wastewater into our rivers and seas prevent our homes and streets from flooding, or becoming backed up by sewage.

There are grills in place across the openings of overflow pipes to prevent litter from reaching our environment, but smaller items, like cotton buds and wet wipes, can still pass through and end up in the ocean and on our beaches.



## Misconnections

A sewer misconnection happens when waste from household drains is pumped into the wrong external drain, and raw sewage reaches our rainwater system. This means that sewage that should be transported to wastewater treatment plants is instead drained into rivers.

## Sewerage treatment works

This is where our wastewater and sewage is treated through a series of processes to make sure that it's safe to be released back into our water cycle via rivers and streams. Water treated here is no longer harmful to us. Screening takes place here to remove 'unflushable' items like wet wipes and nappies, but small items can still pass through.