

Fat trappers

Background

Blockages in pipes can occur because the wrong things are flushed / poured into them. These blockages can cause untreated sewage (poo!) to run into homes, gardens, streets and even end up in seas, lakes, rivers and on beaches as the system struggles to move water through the blocked pipes and has to overflow.

Often blockages are caused from fats, oils and grease (FOG) and food scraps being poured or washed down the kitchen sink. Blocked sinks and drains are a real pain, inconvenient and smelly and cost time and money to sort out.

We can all help to reduce the number of blockages by being a **fat trapper** by NOT pouring fats, oils and greases down the sink.

Word buster: 'sewage' is what gets flushed down the toilet and dirty water from sinks, washing machines and dishwashers

Aims

- Children understand what blockages are and how they are caused
- Children understand how actions in the home can help to prevent blocked pipes
- Children take the message home and let family and friends know what not to pour!
- Children teach kitchen staff in school what not to pour down the sink

Curriculum links

- The 'fat trapper' activity introduces hands on **Science** [Properties and Changes of Materials] – experiments through the investigation of liquids (oil, water)

demonstrate that dissolving, mixing and changes of state are reversible changes.

- **English** through creative writing and **Art and Design** for poster
- **Media, music** included through the creation of a fat trap rap or jingle
- **Citizenship** through understanding issues that impact on the wider community and gain knowledge and understanding of events that affect the world we live in

Fat trap

Aims to illustrate what happens to oil when it cools and congeals with other nasties in the pipes to form a solid mass. This practical experiment teaches children how fats, oils and grease behave when washed down our drains or poured down the sink and cool and go hard.

Quick chat: How might the blockages occur in our sewers? And what is causing them to build up?

Materials / preparation:

1. An empty jar (rinsed out coffee, jam or sauce jar ideal!)
2. 2 Jugs
3. Funnel
4. 250ml of water
5. 150ml of olive oil
6. 10 droplets of coloured dye (food colouring)
7. 100ml of washing up liquid
8. A clean empty glass or jar



Method:

- Before the experiment: ask the children to write what they think might happen – make predictions.
- Take the clean, empty drinks bottle, coffee or jam jar. Add 250ml of water using a funnel then add 150ml of liquid cooking oil (cheapest brand – sunflower oil or equivalent).
- For additional effect, add 10 drops of coloured dye to the water (food colouring).

- Secure the lid tightly and shake. Leave bottle standing for 10mins and observe.
- Review the findings and ask the children to record what they see.
- Next, add the 100ml of washing up liquid, secure lid and shake once more, leave to stand overnight.
- Pour the olive oil into the glass / jar and put in the fridge overnight

Conclusion: write up a conclusion of what happened and discuss:

- What happened to the olive oil?
- Why did the liquids behave the way they did?
- Could all the oil be completely removed?
- What did you find out about the properties of water, fat, oil and grease?
- Fat and grease – a liquid form when heated – a solid form when cold. What could you do to stop the build-up of fat, oil and grease in the drains?
- Does your family scrape food scraps off roasting tins, plates and pans into a heat resistant jar or container – a fat trap – and then scrape them in the food waste bin when cooled?

Key words: liquid, density, property, weight, air, sewer, blockages

How do these experiments help LOVEmyBEACH? You don't have to live near the beach; everyone can help by making simple changes in the kitchen. Take home the pledge card and find out what is happening in your kitchen. Think before you pour! If we all do these simple actions we can help stop some of the thousands of blockages that happen.

School kitchen check

- Visit the school kitchens – interview your school cook and staff about waste in the kitchen and ask them how they dispose of fats, oils and greases. Tell them about LOVEmyBEACH and how they can help. Write an article for the school website or a community newsletter.



Fat trap rap

- Come up with a rap about what not to pour and why it's important to be a happy fat trapper! You could even compete with each other, if at school in assembly, with a prize for whose rap is voted the best!

Read all about it!

- Ask the children to write a newspaper article to highlight the issues of fats, oils and grease (FOG) down the sink and how they might encourage other people to stop, perhaps through dramatic headlines or persuasive stories.

Quick quiz: around how many blockages are there every year in sewers across the North West?

Answer: 28,000 (United Utilities)

Whole school

- Hold a LOVEmyBEACH day – create a market place for parents to find out more about fats, oils and grease (FOG) and other related LOVEmyBEACH messages – dress for the beach day!
- Encourage children to create their own fat traps out of reused jars and by sticking a 'fat trap' sticker on the pot (pledge card)

More great stuff...

<http://lovemybeach.org/resources/>

www.unitedutilities.com/leaflets

BBC News article (6 August 2013)

“Bus-sized’ fatberg removed from London sewer” <http://www.bbc.co.uk/news/uk-23584833>

Make a fat trap

Save a glass jar once you've eaten all the food and rinse it out.

Design a label below to remind your family to use the jar to throw away your kitchen fats, oils or greases. Glue or tape your label onto your glass jar and place in the kitchen so you can help our seas, lakes and rivers!



I'm a happy fat trapper!

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BEACH**
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