



Reducing flooding through the catchment (Part 2)

Lesson aim:

- To understand how we can reduce flooding using natural flood management and by looking after watercourses

Lesson objectives:

- Learn what natural flood management is
- Learn the importance of looking after watercourses and drainage



Recap...

Ways to reduce flooding

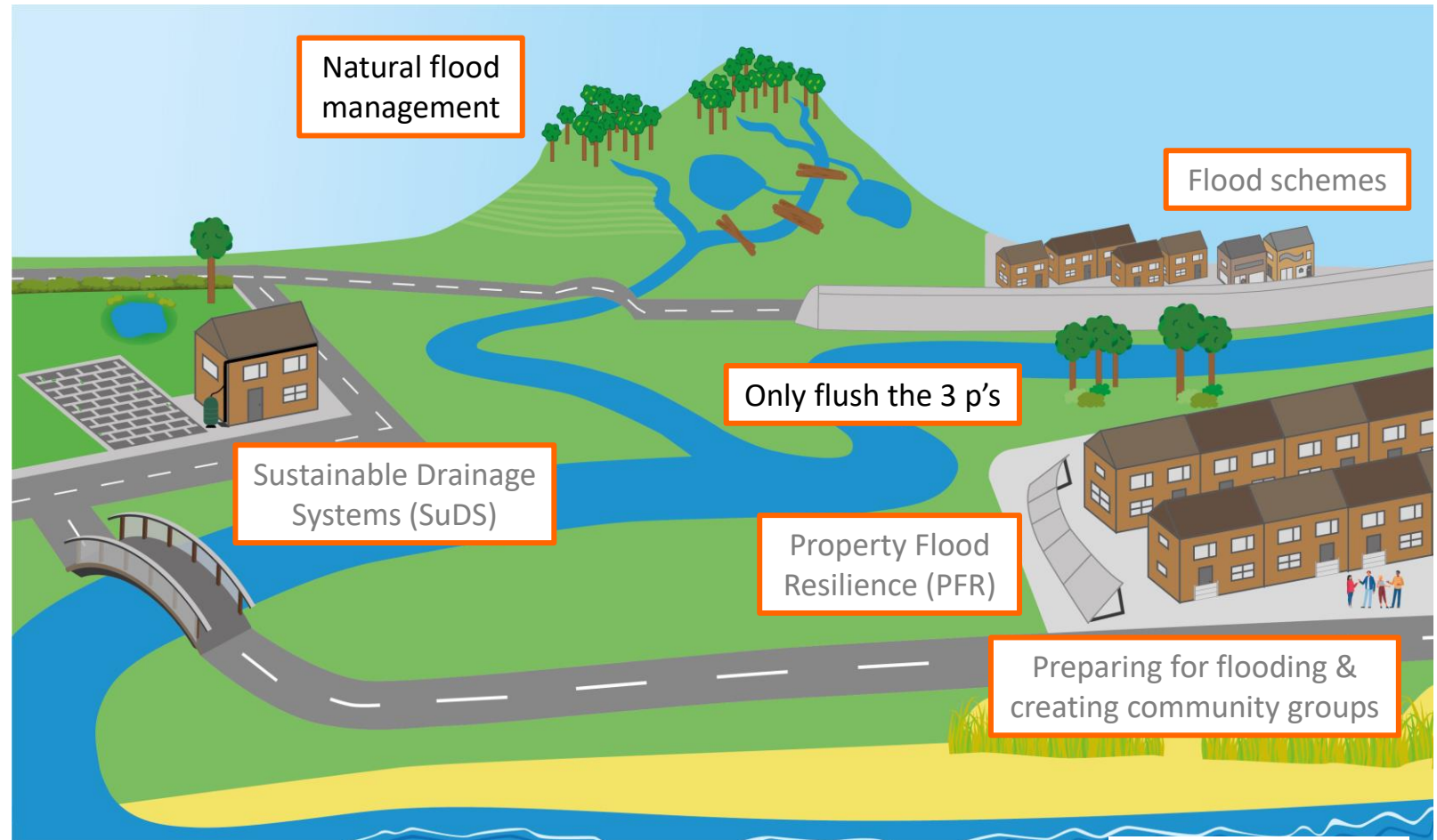
- PFR = **Property Flood Resilience**. This stops water getting into your home and damaging things.
- SuDS = **Sustainable Drainage Systems**. These catch rainwater, release it slowly and stop it from flowing over roads and into drains.
- **Flood schemes** are built to protect big parts of towns and villages from flooding where the risk of flooding is high for many homes and businesses.



Reducing Flooding

Already covered...

What other ways can we reduce flooding?





Natural flood management (NFM)

What does it do?

Uses natural materials and processes to help slow the flow of water and reduce the risk of flooding to communities downstream.



<https://catchmentbasedapproach.org/learn/what-is-natural-flood-management/>



Natural flood management (NFM)



Leaky woody dams

These hold back water but let it through small gaps to slow the flow of the stream



Tree planting

Catches some rain before it reaches the ground, and roots help to soak up water



Meandering rivers

Bendy streams and rivers slow the flow of water and can connect it to floodplains



Moorlands

Healthy **peatland** soaks up more water before it reaches streams



Farmland management

This will help to stop **soil compaction** so rain soaks into the ground more easily



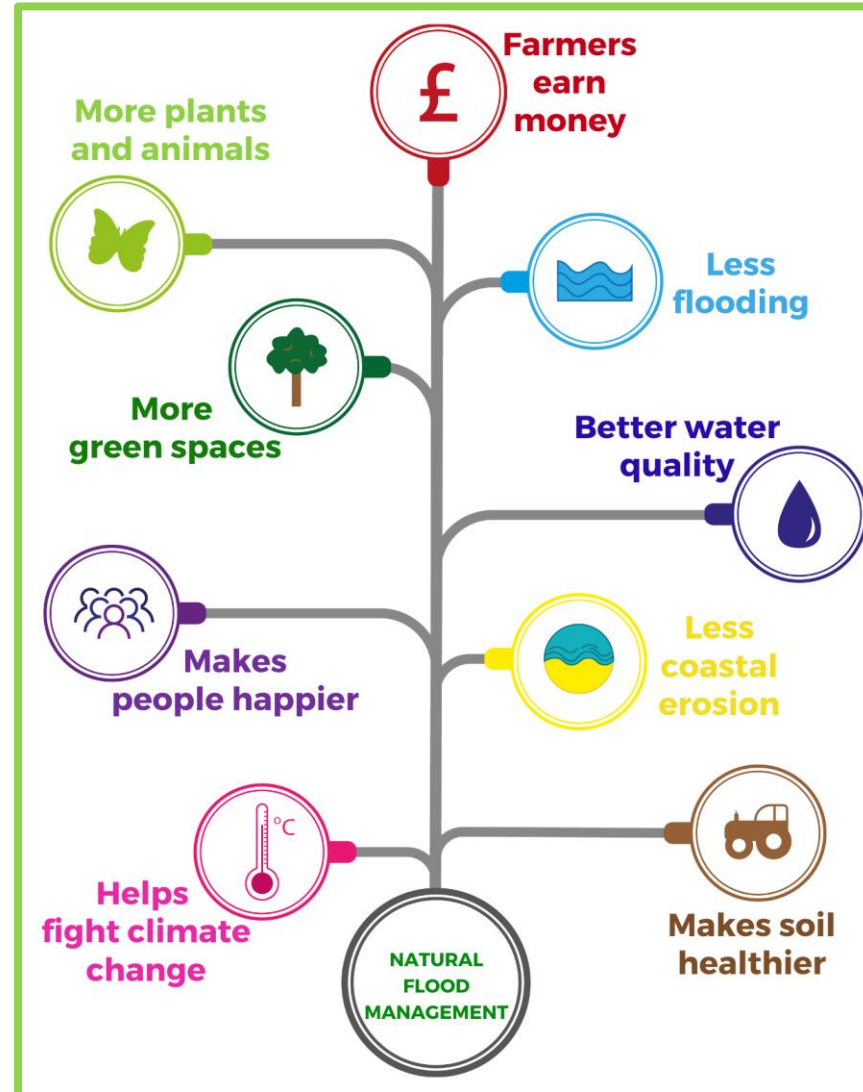
Floodplains

Water flows out of a river onto empty land where it is stored



Natural flood management (NFM)

It has lots
of benefits!





Natural Flood Management

Worksheet

Draw lines from the type of NFM to the correct description.

WORKSHEET: NATURAL FLOOD MANAGEMENT

Draw lines from the type of NFM to the correct description

Leaky woody dams	Catches some rain before it reaches the ground, and roots help to soak up water
Tree planting	Water flows out of a river onto empty land and is stored
Meandering rivers	This will help to stop soil compaction so rain soaks into the ground more easily
Moorlands	These hold back water but let it through small gaps to slow the flow of the stream
Farmland management	Bendy streams and rivers slow the flow of water and can connect it to floodplains
Floodplains	Healthy peatland soaks up more water before it reaches streams



Experiment time!

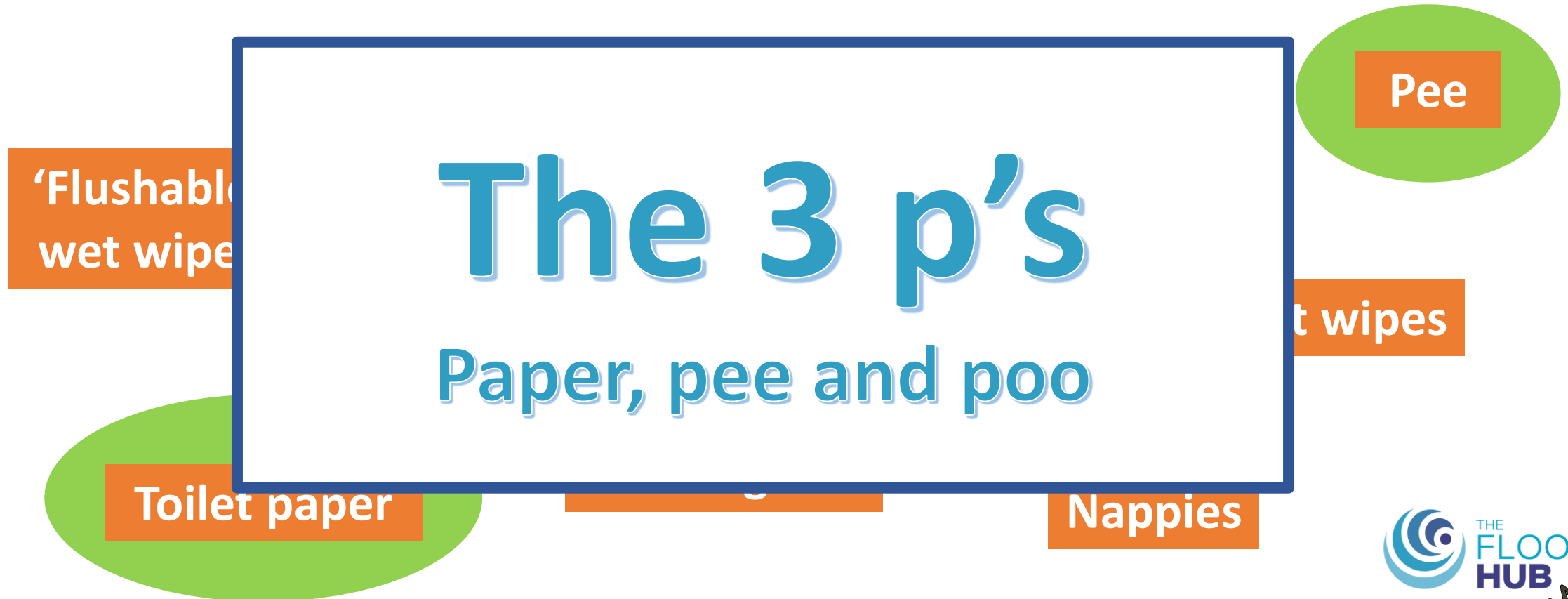
Optional: Experiment to show how you can slow the flow of water





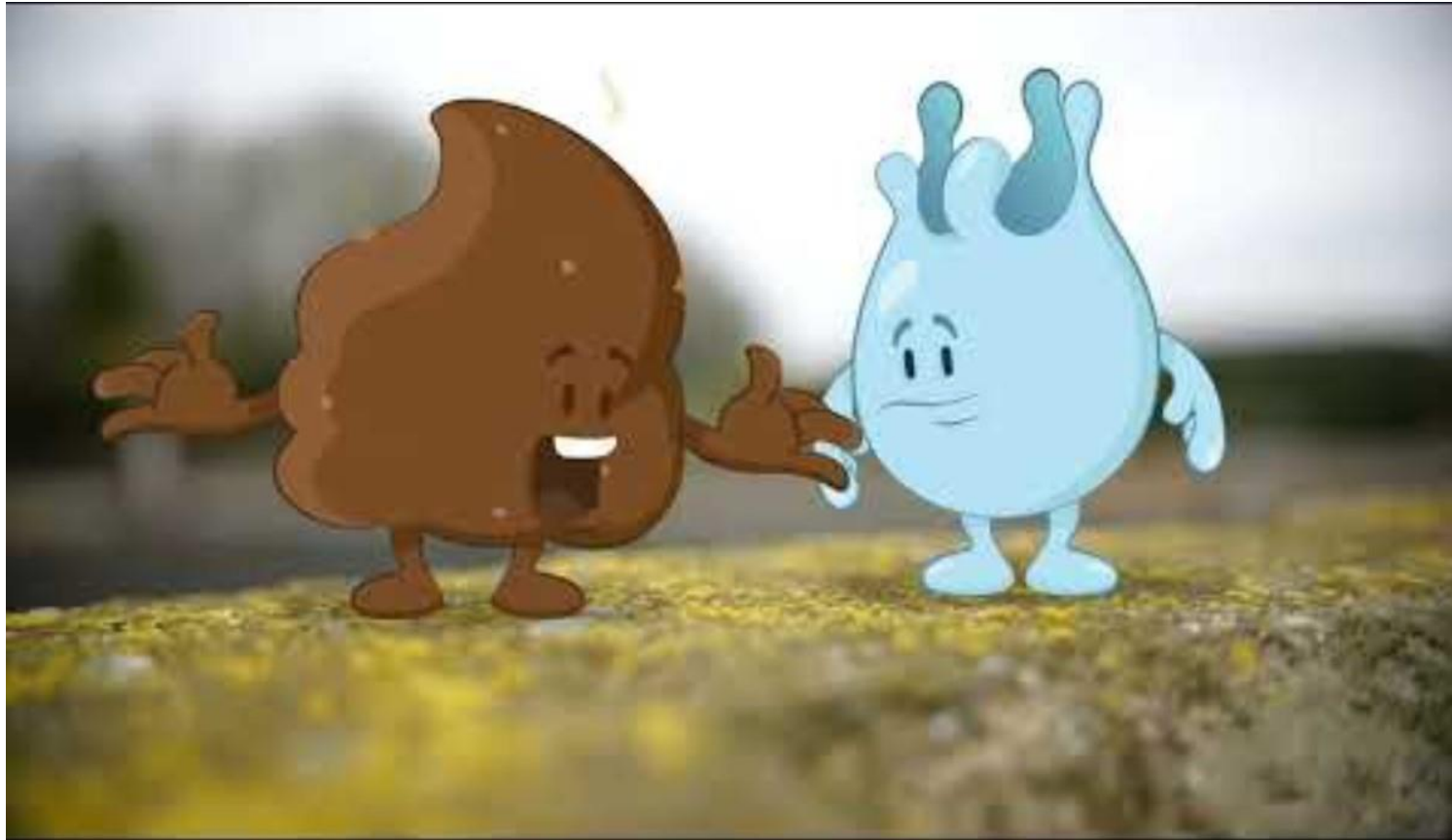
Drains and sewers

Which of these belong down the drain?





Drains and sewers



[The journey of your poo: how sewage is treated \(youtube.com\)](https://www.youtube.com/watch?v=...)



Fatbergs

Blockages cause flooding!

Putting the wrong things down the toilet and sink can cause blockages and **fatbergs** in sewers.

If sewers get blocked up this can cause flooding because the water has nowhere else to go.

The water will burst up out of sewers in the road or in gardens, or will go back up people's sinks and toilets in houses!

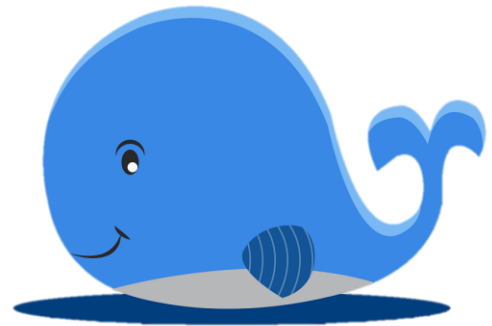




Fatbergs

Biggest ever fatberg in North West England was found in Liverpool in 2019!

- **250 metres long – the size of 10 swimming pools or 2.5 football pitches.**
- **400 tonnes – as heavy as 4 blue whales!**
- **Fats, grease, oil, wet wipes, sanitary products and more**





Activity

Write a short newspaper article pretending that the biggest fatberg ever has been found! Include:

- Why the fatberg happened
- What the fatberg is made up of
- What happened because of the fatberg
- Add a drawing





Experiment time!

Optional: Experiment to show how wet wipes don't break down in sewers






Quick test!




WORKSHEET: REDUCING FLOODING THROUGH A CATCHMENT

- 1 What is the term used to describe the whole catchment system when thinking about how we can manage flooding?

A. Sea to sun
B. Source to sea
C. Source to surface


- 2 What does NFM stand for?


A. Normal flood movement
B. Nature flood management
C. Natural flood management
- 3 What are the 3 p's?



A. Pee, paper & plastic
B. Paper, pee & poo
C. Paper, paint & pee
- 4 What is the name for an area of land that leads all of the rainfall to rivers?

A. Community
B. Climate
C. Catchment
- 5 Which of these is a benefit of NFM?

A. Increases the risk of flooding
B. Creates more homes for animals
C. Makes climate change worse
- 6 Why do fatbergs cause flooding?



A. They block sewer pipes
B. They clear sewer pipes
C. They block rivers

How much have you learnt?

Please complete the 6 test questions now 😊





Recap of lesson

- **We need to manage flood risk to...** Reduce the number of homes and businesses that flood.
- **Natural flood management is...** Using natural materials and processes to reduce the risk of flooding.
- **The only things that should go down the drain are...** Paper, pee and poo!



Homework

Create a flood scheme!

Thinking about what you have learnt, and the different ways to try to manage flooding, can you be a flood engineer and create a flood scheme by placing flood protection at the correct place on the catchment image?

1. Draw a river and town (or use the template)
2. Draw or cut & stick on at least 4 types of flood protection
3. Label what the flood defences are
4. Write down how the flood defences help to stop flooding

