

Stop ocean threads

Credit: Imogen Napper

45 mins

Brownies

About this activity

Our clothes pollute the ocean. Carry out experiments to investigate invisible water pollution before using your powers of persuasion to help tackle the problem.

Outcomes:

- Carry out experiments into microfibres
- Find simple ways to reduce microfibre pollution
- Use creativity to persuade people to take action

You will need:

For the microfibre experiment:

- A large bottle with a lid, three-quarters full of water
- Piece of brightly coloured synthetic material (fleece, nylon, polyester). The material should be new, or nearly new, as new fabric releases the most microfibres
- Sieve
- Filter paper or a piece of thick kitchen roll
- Magnifying glass

For food chain fibres:

- [Microfibre food chain images](#) cut out
- Sticky tape or Blu Tack
- 3 jars or small containers
- 1 bucket or large container

For micropollution solution:

- [Microfibres Fact File](#)
- [Social media template](#) or a blank sheet of paper for each person with pens, pencils or paints

Stop ocean threads

Every time clothes are washed, they release thousands of microfibres. The filters at wastewater treatment plants aren't fine enough to filter out microfibres and they are washed into rivers and seas. Every day, the equivalent of two rubbish trucks of microfibres are released into European waters where they can be eaten by marine animals.

Part 1 Microfibre experiment

1. In small groups, put a piece of fabric into a bottle three-quarters full of water. Screw the lid on tightly. Take it in turns to shake the bottle for 30 seconds for a total of 2 minutes.
2. Line the sieve with the filter paper or kitchen roll and carefully pour the water through the filter/paper.
3. Take it in turns to look at the paper through the magnifying glass. The tiny fibres are microfibres.

Most washing machines don't have filters to catch the fibres, which means they're released into wastewater. They can't be removed at sewage works, and they're then released into rivers and the ocean.

Part 2 Food chain fibres

Marine animals accidentally eat microfibres floating in the sea. Carry out the following activity to see how microfibres build up in the food chain:

1. Print and cut out the [Microfibre food chain images](#).
2. Stick the crab image on a bucket or large box. Stick the 3 worm images on jars or similar containers.
3. Distribute the plankton images, worm jars and crab containers among the group. Note the microfibre on the plankton.
4. Ask the people with the worm jars to move around and collect plankton, then ask the person with the crab container to collect the worms.
5. Gather around the crab container and look at what the crab has 'eaten'. How many microfibres are in the crab? Look at how quickly one microfibre in plankton turns into 30 inside the crab. In reality, there are thousands of microfibres building up inside marine animals.

Part 3 Micropollution solution

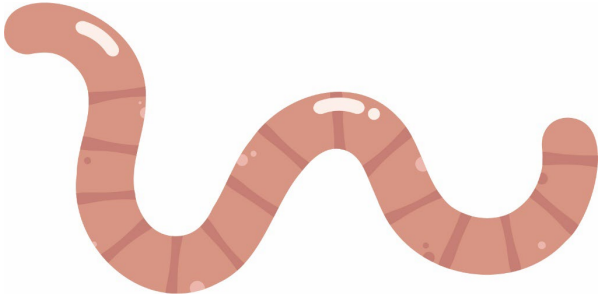
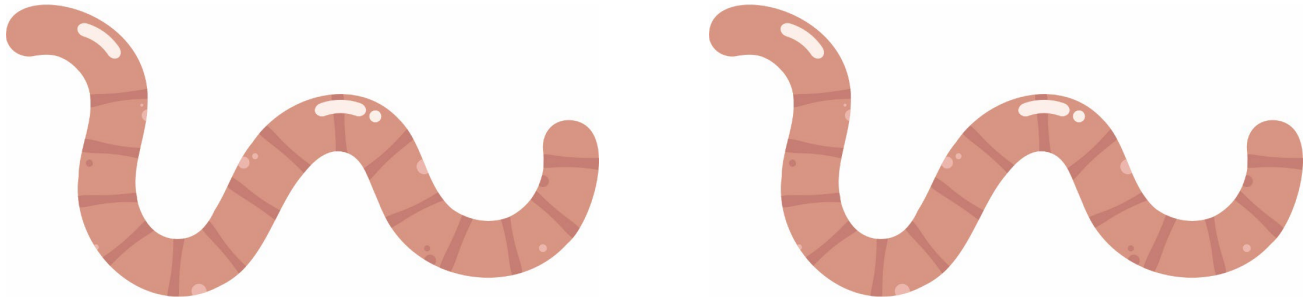
What can we do to reduce the amount of microfibres released into the environment? The [Microfibres Fact File](#) gives some simple ideas.

1. Share ideas about what you and your friends and family could do to make a difference.
2. Use the [template](#) to make an attention-grabbing message about things people can do to reduce microfibre release.
3. Take a photograph of your image and ask people you know with social media to post the picture, or turn the picture into a poster.

Fashion swap shop

When new clothes are washed for the first few times they release the highest levels of microfibres. Reducing the amount of new clothes we buy is one of the best ways to tackle the problem. Could you organise a clothes swap where everyone exchanges clothes they no longer wear?

Microfibre food chain images





Microfibre Fact File



The problem

Our clothes are made of millions of tiny fibres. Often these are synthetic materials like polyester, nylon or acrylic, which are made from plastic. With every wash, these microfibrils shed from our clothes.

- A single wash can release over 700,000 microfibrils. Every week in the UK about 9.4 trillion fibres are released from washing clothes.
- The fibres enter wastewater through drains, and many are then released into rivers and ultimately our ocean.
- Once in the ocean, animals can ingest microfibrils and they build up in the food chain over time. Microplastics have been found in any types of seafood we eat, including clams, mussels, fish and shrimp.



What you can do

- Sign our petition to [#StopOceanThreads](#) asking governments to bring in laws that require new washing machines to be fitted with filters.
- Check clothing labels. Avoid polyester, fleece and nylon. Choose clothes made from as near to 100% natural materials as possible.
- Reduce fast fashion consumption. It's estimated that we are buying 60% more clothes in 2021 than we were in 2000. To reduce how much you buy, repair clothes that break, shop second hand and swap clothes with friends and family.
- Wash clothes less. If you're wearing a top for a few hours, or a fleece for a few days, they probably don't need a wash – just hang them up to air out.
- Use liquid detergent instead of abrasive washing powder, it loosens fewer microfibrils, and use fabric softener. Fabric softener has been found to reduce the number of fibres shed by more than 35%.
- Wash at 30 degrees, on shorter cycles and in full loads.

Stop ocean threads!

Write and draw your message for people in the square below.

Think about:

- What do you want people to know about microfibres?
- What can people do to reduce the amount of microfibres?
- How can you grab people's attention?



Share the message

Take a photo of your picture and ask people you know with social media to post it on their accounts.