



CLIMATE CHANGE

Sian Mercer

...Thomas Adams House System...





Recycling uniform working with the Rotary

Environment projects



...Thomas Adams House System...



Environment projects



Proposing a plan of a bottle top recycling animal to The British Ironworks

...Thomas Adams House System...



Environment projects



Promoting plastic awareness and recycling in school

...Thomas Adams House System...



Environment projects



...Thomas Adams House System...





...Thomas Adams House System...



Environment projects



News

19th June

Wem school joins project aiming to put taps on the map

By Rebecca Lennard



Working with local businesses to promote refilling bottles

...Thomas Adams House System...

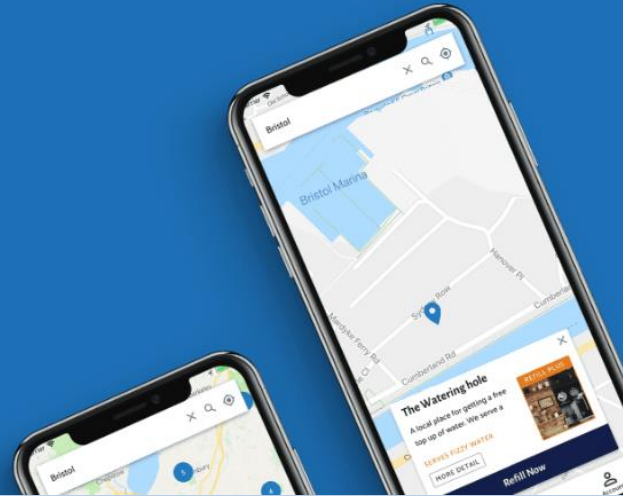




[Refill App](#) [Get Involved](#) [About](#) [Resources](#) [Contact](#) [Refill Blog](#)

Have you #GotTheBottle?

Save money, stay hydrated and help prevent plastic pollution at source. Get the Refill app to find your nearest station today.



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Raising Awareness



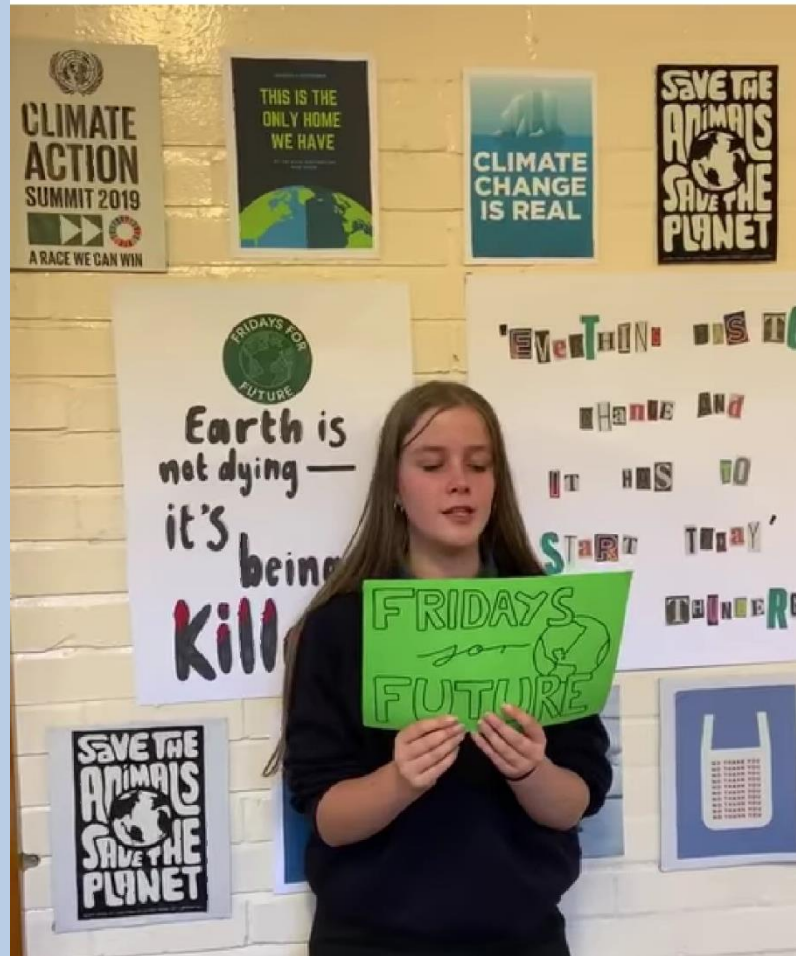
Thomas Adams School - Wem

20 Sep at 15:12 • 🌐



Thomas Adams has today been spreading the message to staff and students about the importance of #climatechange 🌍

Here is Sian Mercer from Year 10 delivering her passionate message.



...Thomas Adams House System...



Raising Awareness



Thomas Adams School - Wem



24 Sep at 14:45 • 🌐

A new Eco Club has been set up, meeting on Monday lunchtimes. The team are working towards the school achieving Eco-school status. For 25 years, Eco-schools is a global programme and has been empowering children to drive change and improve their environmental awareness.

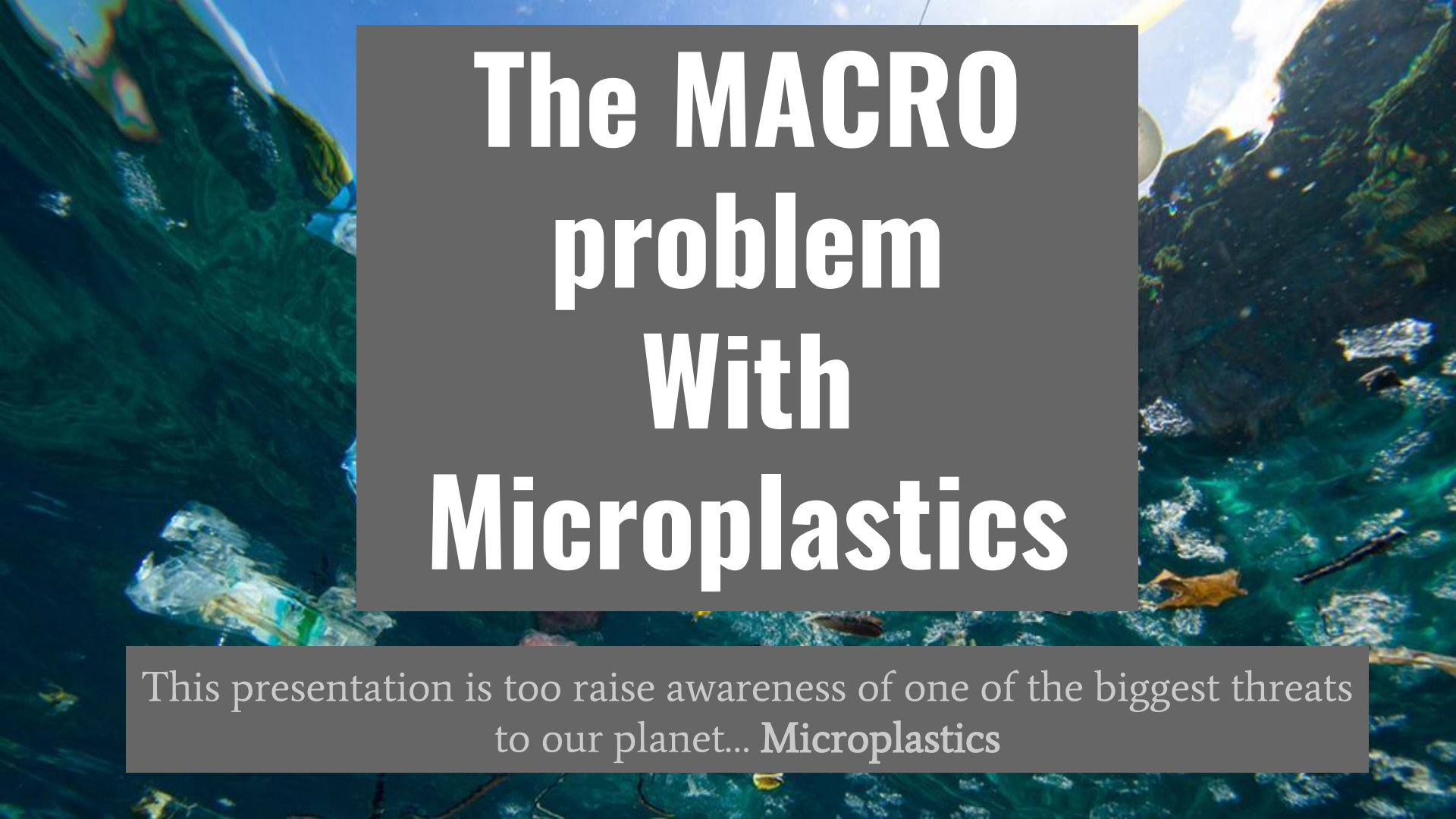
Last Friday, team members were busy collecting signatures and spreading the importance of **#climatechange**, showing their support for the **#GlobalClimateStrike** and highlighting the need for action.

#environment #studentvoice #EcoSchools 🌍♻️



...Thomas Adams House System...



An underwater photograph showing clear blue water with various pieces of plastic waste floating and sinking. A large, crumpled clear plastic bottle is prominent on the left. Other smaller pieces of debris, including a brown leaf and a dark stick, are scattered throughout the scene. The lighting is bright, suggesting sunlight filtering through the water's surface.

The MACRO problem With Microplastics

This presentation is to raise awareness of one of the biggest threats to our planet... Microplastics

You've heard of Macro plastics...

Macro plastics, also known as Macrodebris, is the plastic we can see in our streets and seas. The effects and causes of these materials are well documented and legislation has come into place preventing many of the main offenders. These plastics are considered Macrodebris when they reach a size of over 20mm and cause many problems such as being ingested by marine creatures and species of birds and mammals and being unsightly.



Initiatives such as the Refill Scheme (cuts down on plastic bottles) and even the Bottle top gorilla me and my friends organised not only prevent plastics from reaching the sea and wider environment but gain vital press coverage. However the real problems start with their smaller counterparts...**the microplastics.**

So what are Microplastics?

“Microplastics are made up of plastic particles up to 5mm in size which are used as the raw material for plastic products (nurdles), as well as those produced from the degradation of existing, larger plastic products.” (surfers against sewage)



The problem is all plastic ends up tiny... In simple terms Microplastic is tiny particles of plastic, barely visible to the naked eye - so the question is why is it so bad?

To first understand this we must take a look at microplastics. There are 2 types - Primary and Secondary primary microplastics.

Primary microplastics come from things such as glitter, microbeads in cosmetics and even in toothpaste!

Secondary microplastics are much more common - these start off as macro plastics and over time due to a combination of acidity in the water, UV rays and general degradation and collisions cause them to breakdown.

Once they're in the environment they are almost impossible to get out.

So why is this a problem?

The Facts...

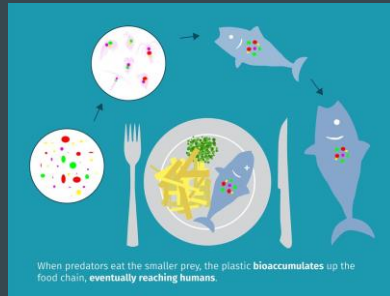
The shocking statistics have been hitting the headlines but the possible impact for humans is devastating as this shows...

And it's not just through food - the amount in the air is enough to pose significant risk to us as well.

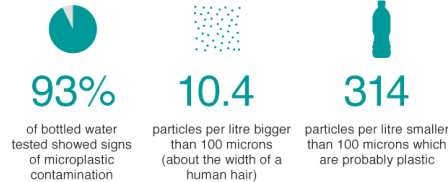
They might be minuscule but these plastic pieces can absorb high concentrations of poisonous substances – some of which escaped into our oceans years ago. These include chemicals we once used in products like pesticides but are now banned, like DDT.

Even before the fibres reach the ocean there's a good chance they've soaked up toxins from detergents and fire-proofing chemicals. Some of these pose a threat to our liver, kidneys and nervous system. Others are toxic to aquatic life.

They're definitely not substances you'd want lurking in the food



Testing for microplastics in bottled water



Source: Orb Media/State University of New York Fredonia

BBC



The Problem Plastics

Some of the worst offenders might shock you...



2. Plastic Pellets

Research from Friends of the Earth an annual amount entering surface water after wear or accidentally came out at **3.1 tonnes** per year. In 2017 after a ship collision **49 metric tons of nurdles** coated the South African coastline, but they're massive business.

1. Vehicle Tyres

It's estimated that **half a million tonnes of tyre-wear fragments** are released every year across Europe. The UK's share of that is around **68,000 tonnes** with up to 19,000 tonnes of microplastic tyre pollution getting into our waterways each year.

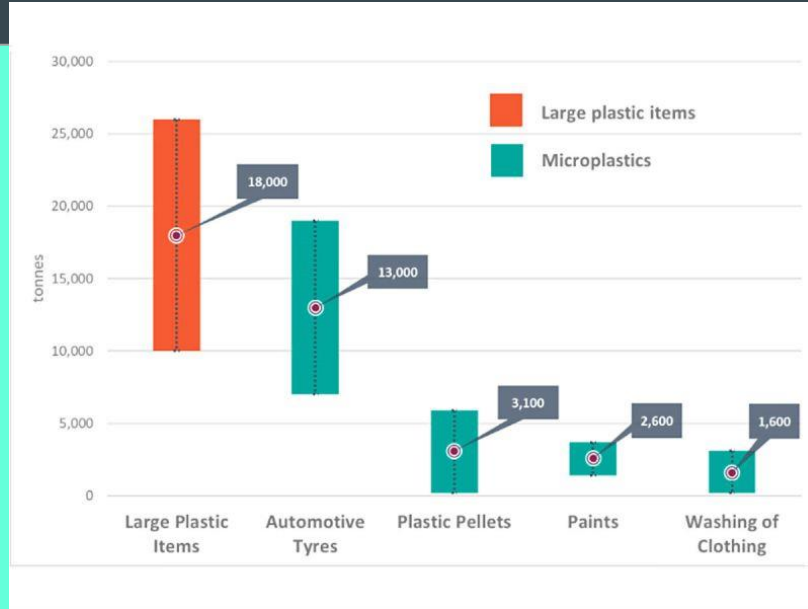


3. Synthetic Clothing

Research from Friends of the Earth suggest up to **17 million** tiny plastic fibres could be released in one wash!

Terrible Tyres - the figures

Something desperately needs to change within the tyre industry...



- Half a million tyre fragments are released every year in Europe alone.
- The UK's share is 68,000 tonnes with 19,000 ending up in our waterways, rivers and seas which might even end up in our drinking water and food.
- Recent research from the Dutch Open University suggests that particulate tyre wear and matter is responsible for anywhere between 130,000 and 300,000 premature deaths



SIMPLE Solutions - *what you can do...*

1. Choose to walk, cycle or take public transport

Sharing a car or using public transport are then the next best thing. There are plenty of car-sharing schemes you can find out about online. Bear in mind too that even electric cars, which are otherwise better for the environment, still have the same kind of synthetic rubber tyres as conventional cars, so still cause microplastic pollution.



2. If you have to drive, go gently

Some simple tips might be:

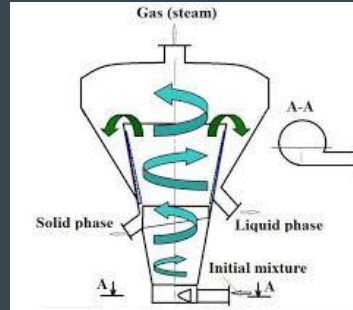
- Drive smoothly
- Accelerate gently, and don't over-brake unless you have to. Break pad wear and tear is a source of microplastic pollution on the roads.
- Drive with the correct tyre pressure.
- Remove unnecessary weight from the vehicle.



Solutions from SCIENCE

The Eunomia/Friends of the Earth study suggests there should be more and better use of gully pots to catch debris, sediment and microplastics at the roadside. However during heavy storms sediment can be flushed out and therefore these pots would have to be cleaned out a lot which would be expensive and inconvenient.

A hydrodynamic vortex separator, such as the SDS Aqua-Swirl, is a far more effective device for removing pollutants. It is larger than a gully pot and its internal components are designed to capture and retain sediment. Depending on the size of the device, and the engineering design requirements of the location, several tonnes of sediment can be collected before being removed by a vacuum tanker. Maintenance is easy and at predictable maintenance intervals, so it can often be completed without the need for lane-closures and traffic management



Solutions from the INDUSTRY

- 1. Make tyres more resilient to wear and tear** - It's sometimes suggested that improving the wear rate can reduce tyre grip and therefore safety, but there's no clear correlation between these two for tyres on the EU market. Evidence suggests that manufacturers can and do make tyres that grip well and have better wear qualities.
- 2. Alternative tyre materials** - The tyre manufacturing industry has apparently been working on biodegradable polymers for many years, although there's nothing commercially available so far. However the car industry is well known for their initiative design.
- 3. Tyre retailers should help guide buyers** - Both in person and online, tyre sellers have a big influence on what people buy. In the UK alone around 50 million tyres are sold every year. But because tyres aren't a frequent purchase for most people, buyers generally don't know enough about them, so rely on the apparent expertise of the retailer. Retailers should actively support the tyre-wear-rate labelling scheme, and help explain the options at the point of purchase.

Solutions from the government

- 1. Test and label tyres** - Tyres with the highest rates of tread abrasion could be banned from sale completely. At the moment there are European tyre labelling regulations covering things like wet grip, noise, and fuel consumption, but not wear and tear. The worst offenders could then be banned.
- 2. Introduce a tyre levy** - The government to consider a small charge on each tyre sold. This could vary depending on how the tyre is made and how resistant it is to wear and tear. The money raised could be used to help pay for further research and to implement the best solutions to the problem of microplastic pollution.
- 3. Encourage less driving** - Prioritise educating people on the benefits of using public transport or walking and to give them incentives.. As well as cutting microplastic pollution, this could have knock-on benefits all round, including public health and road safety.

The CALL TO ACTION...

We can no longer stand by and allow these figures to go unnoticed and instead we must put pressure on the industry and the government alike:

- Sign petitions as much as possible!
- Drive safely
- Walk and cycle more
- Do your research when looking into tyres
- Encourage and support new and exciting ideas which could help combat these problems!

