



MONDAY
Politics

TUESDAY
Build the Change

WEDNESDAY
Sport

THURSDAY
Science

FRIDAY
Culture

THE DAY
Build a better world



NEWS DETECTIVES

TODAY'S BIG STORY

The scientists using human hair to clean water

Is recycling the answer to all pollution? A group of scientists and environmentalists have put their heads together and come up with a new way to mop up oil spills.



Hair-raising: The Belgian organisation collects clippings from barbers across the country.

The hair that is **clogging** up your shower could be cleaning up the ocean.

A Belgian **NGO**, Dung Dung, has come up with a way of using old hair-clippings to take **pollutants** out of water.

They have a machine that turns the hair into squares of **matted** hair as well as bags.

One kilogram of hair can **absorb** seven to eight litres of oil. You could put these mats over drains to stop pollution, like oil leaking from cars, from making it into rivers.

They can also be used to clean up spills.

THE STORY SO FAR

The term recycling came into use in the 1960s, but there is evidence of paper recycling in Japan in the 10th Century AD. The waste industry was worth more than £50bn in 2022.

If that was not enough, instead of plastic, you could carry your shopping home in hair bags.

These hairy do-gooders are trying to **promote** something called the "circular economy". This means that almost everything gets reused and recycled.

The world has a huge waste problem.

Clothes pile up by the tonne in Chile's Atacama desert. Outside Jakarta, Indonesia, there is a mountain of rubbish 200 football pitches wide and 15 storeys high.

Waste causes all kinds of problems, including contributing to global warming. Rotting food produces 8% of global **methane** emissions.

At the moment, people are working out how to use hair to **fertilise** crops and even to build houses. One hair strand can support 10 million times its weight.

If nothing, not even old hair, goes to waste, we can clean up our act and the planet.

KEY WORDS

Clogging: Blocking up

NGO: Non-governmental organisation, a group which does not aim to make money

Pollutants: Anything that pollutes

Matted: Tangled together

Absorb: Take in moisture

Promote: Try to make popular

Methane: A gas that warms the atmosphere

Fertilise: Help to grow



YOU DECIDE

Is recycling the answer to all pollution?

YES. If there is no waste then there cannot be any pollution.

NO. At some point we will have to reduce the amount we use, not just use it again.



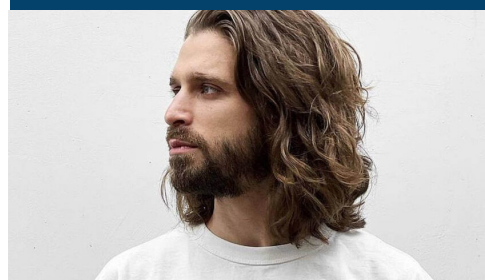
THE DETECTIVE ZONE

SPOT THE FAKE

One of these three news stories is fake.
Which one?



How many hairs are there on the average human head?



- A) 10,000
- B) 50,000
- C) 100,000
- D) 1,000,000

Talking point

Would you eat your tea off a plate made of human hair?

Amaze someone

Between 6,000 and 20,000 people live next to Indonesia's trash mountain, and make their living from what they find there.

Victorian Britain had a craze for human hair jewellery. These were given as tokens of love, or made as memorials for a dead family member.

Build THE Change



More and more people are using hair as a building material. Some even add it to concrete. In this challenge, you will design a new product or building made out of recycled hair.

Step 1: Think about your design! What is your product. Is it a building? Or is it something that could help to clean the environment too?

Step 2: Create your design! You could draw a picture of it, or if you have time, you could use LEGO® bricks or other craft materials to make a real-life version.

Share your genius
Show your work to your class!



Upload a photo of your work to the Build the Change gallery by scanning the QR code and have your work displayed to inspire real-world change.

THE EXTRA PAGE

Recycling human hair

A Belgian NGO is using human hair clippings to absorb environmental pollutants.

The Hair Recycle Project is led by Belgian non-profit Dung Dung, which develops waste recovery schemes that support a circular economy.

For this project, clippings are collected from hairdressers across the country. The hair is then fed into a machine that turns it into matted squares. These can be used to absorb oil and other hydrocarbons polluting the environment. They can also be made into bio-composite bags.

The mats can be placed in drains to soak up pollution in water before it reaches a river. They can also be used to deal with pollution problems due to flooding and to clean up oil spills.

A single kilogram of hair can absorb seven to eight litres of oil and hydrocarbons.

"Our products are all the more ethical as they are manufactured locally... they are not imported from the other side of the planet," says project co-founder Patrick Janssen. "They are made here to deal with local problems."



Hair me out: The hair can be used to clean water going into drains.

How else can human hair be recycled?

While long, healthy locks can be donated to make wigs, shorter hair clippings have a variety of other uses.

Since hair is nitrogen rich, it can be used as a garden fertiliser. Various companies are also experimenting with hair as a building material.

London based biomanufacturing company Biohm is using human hair waste to produce alternatives to wood based sheet material and 3D objects. At this year's London Design Week, Studio Sanne Visser unveiled homeware that incorporated human hair rope.

On its website, the Hair Recycle Project lauds the powerful properties

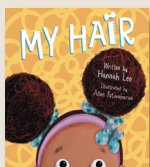
of hair: one strand can support up to 10 million times its own weight. As well as absorbing fat and hydrocarbons, it is water-soluble and highly elastic due to its keratin fibres.

Isabelle Voulkidis, manager of the Helyode salon in Brussels, is one of dozens of hairdressers across the country that pay a small fee to the project to collect their hair cuttings.

"What motivates me, personally, is that I find it a shame hair is nowadays just thrown in the bin, when I know that so much could be done with it," she says. ■

This is an edited version of a story from the
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Now read the book



**My Hair by
Hannah Lee**

**Faber and Faber
£7.99**



**The Garbage King by
Elizabeth Laird**

**Pan Macmillan
£6.99**

Answers to puzzles

Hair question
100,000

Spot the fake

Tea made of mummies goes on sale in China



This week's challenge is part of the LEGO® Build the Change programme. It can be done at school or as homework, and parents can help upload photos of pupils' work to the online gallery.



Visit the gallery at <https://bit.ly/btcgallery> and feel free to use it as discussion point in class.