W3.1 NATURE'S BOTTLE

Student challenge

RESEARCH QUESTION:

PLASTIC BOTTLES

At present just 43% of the 13bn plastic bottles sold each year in the UK are recycled, and 700,000 become litter each day (57% of PET bottles are recycled in Europe as a whole). Pressure is growing on the government, retailers and consumers to increase rates of plastic bottle recycling and so reduce marine pollution.

In the past 100 years humans have produced a lot of plastic. It's cheap, strong, light and versatile. So, it's not surprising we're using mountains of the stuff. But plastic production contributes to climate change (4–8% of annual global oil production is used in creating plastic; mining and refining oil releases carbon into the atmosphere), and the waste harms the environment, polluting our waterways and threatening our wildlife. Plastic hangs around in the environment for at least hundreds of years. It doesn't disappear, it just breaks down into tiny pieces that continue to pollute our lives.

Avoiding it is more difficult than it sounds. It's in so many of the everyday things we buy. In a lot of cases it's hidden from plain sight, lurking in everything from teabags and beer caps, to clothes and cosmetics.

CHALLENGE:

What can we learn from nature about how it builds materials and deals with waste?

To help you, think about 'how nature does it' for example:

- How does nature construct materials?
- How does nature dispose of materials?
- How does nature contain liquids?

Starting points:

- What material will your bottle be made from?
- How will you deal with the bottle after use?
- Is redesigning the bottle the best solution? Nature taps the power of limits... is your product really needed? Are there other solutions to providing water on the move?

Review your ideas against the biomimicry evaluation wheel (see W 3.2). How many of the nine principles can you include?