

British Science Week 2025

Shepherd's Class Science Week Activity Report

As part of their British Science Week 2025 activity, Shepherd's Class had the exciting opportunity to explore the significant issue of microplastics and their impact on our oceans and marine life.

The concept of microplastics—tiny plastic particles prevalent in our oceans—was introduced through discussions as well as clips from the BBC's 'Blue Planet II', shedding light on how they can accumulate toxins and affect marine animals, ultimately entering the food chain. We discussed how the Blue Planet II programme and David Attenborough's Plastic Pollution Awareness Campaign raised the profile of this issue, leading to outcry from viewers and having a huge impact on the then government's policies towards plastics use. This crucial insight sparked the students' interest and set the stage for our main activity.





As part of their challenge, students worked in small groups to design and execute an experiment to test various materials for their effectiveness in filtering sand (representing microplastics) from water. This experiment served as a practical application of filtration while also addressing pollution in our oceans.

The planning phase was particularly interesting, as students collaborated to brainstorm and select filtering materials. This encouraged critical thinking as they considered the effectiveness of each option.



Once materials were chosen, students set up their filtration systems and initiated testing. They mixed water with sand and observed how different materials filtered the mixture. Documenting their findings, students analysed which materials purified the water most effectively. Through this hands-on approach the children did not only learn scientific principles

but how to work and communicate as a team.

After completing their tests, students analysed their results and compared the effectiveness of each filtering material based on filtration speed and sand retention. The discussions helped showcase their understanding of the



scientific method and the challenging nature of experimentation.



Ultimately, the students identified which materials made the most efficient filters in their quest to clean water contaminated with microplastics. Their enthusiasm for applying insights to real-world problems, especially concerning ocean conservation, was clear to see and demonstrated their ability to think critically about plastic pollution in our oceans. Hopefully, it has instilled the importance and a sense of responsibility towards protecting our

marine ecosystems.

If you, or the children, would like to learn more about this, the full Blue Planet II episode covering the threats to marine life (including plastic pollution) is currently available on BBC iplayer: <https://www.bbc.co.uk/iplayer/episode/b09jbn5f/blue-planet-ii-series-1-7-our-blue-planet>