

Objectives	Not So Fantastic Plastic	Extra Information
<p>L.O:</p> <p>To Understand What Plastic Is And How It Impacts The Oceans.</p>	<p>STARTING ACTIVITY – (10 minutes) GROUP DISCUSSION – Begin the lesson by asking the class if they know what Plastic is and why it is harmful to the Environment.</p> <p>Explain that Plastic is produced as a by-product of Oil Refining (the process in which Oil is turned into more useful products like Petroleum for cars). This process can be harmful for the Environment because of the gases released.</p> <p>Explain that Plastic is harmful for the Environment not just because of how it is manufactured but also because it is not Biodegradable (it doesn't rot or breakdown when left outside), which means that Plastic stays in the environment for a very long time (approximately 450 years for a plastic bottle). It also means that Plastic eaten by animals stays in their system.</p> <p>MAIN TEACHING – Not So Fantastic Plastic (45 minutes) Explain to the class that they will be performing a simple experiment showing how the stomach digests and the effect it has on plastic.</p> <ol style="list-style-type: none"> ➊ Take a large ziplock bag, this will be our stomach. ➋ Place a whole biscuit and some scraps of plastic in our stomach. ➌ Start squeezing and twisting the stomach, crushing the biscuit. This mimics the way our stomachs churn to help digest food. ➍ Pour in your fizzy drink and seal the bag, this acts as stomach acid. ➎ Continue to “churn” your stomach, being careful not to pop or spill it. ➏ Notice how the biscuit breaks up much easier and into smaller pieces, however the plastic does not. 	<p>Materials Required:</p> <ul style="list-style-type: none"> ▶ Biscuit ▶ Small Scraps of Plastic (e.g. cut up lemonade bottle) ▶ Clear Fizzy Drink (e.g. lemonade) ▶ Clear Ziplock Bag <p>Key Words:</p> <ul style="list-style-type: none"> ▶ Environment ▶ Oil Refining ▶ Oil ▶ Petroleum ▶ Biodegradable ▶ Plastic ▶ Stomach Acids ▶ Enzymes ▶ Microplastic ▶ Food Chain/Web ▶ Apex Predator <p>Success Criteria:</p> <ul style="list-style-type: none"> ▶ I can perform a simple experiment to demonstrate how resistant to digestion plastic is. ▶ I understand some of the ways plastic is harmful for the environment. ▶ I understand how plastic in the ocean can spread to other environments.

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	<p>Explain to the class the acidity of our Stomach Acids, as well as the moisture of the liquid all helps to soften and break down foods such as this biscuit. There are also substances produced by our stomach called Enzymes that are built specifically to break down substances we eat. Explain, however, that Plastic is completely unaffected by either our Stomach Acid or our Enzymes.</p> <p>Explain that larger pieces of Plastic such as the scraps used, are likely to be passed through our system but tiny plastics called Microplastics can be absorbed into our bodies where they remain and can cause problems.</p> <p>PLENARY – (5 minutes) GROUP DISCUSSION – Ask the class of ways they think Plastic may be getting into our systems even if we're not eating any.</p> <p>Explain that Plastics, including Microplastics, often find their way into the oceans and that small organisms may eat them in small amounts. Those small organisms may be eaten by fish in large amounts, meaning fish in turn eat and digest large amounts of Plastic. As most Food Chains/Webs involve fish from the ocean at some stage, it means Plastic has spread into most diets with Apex Predators (animals at the top of their Food Chain/Web, including humans) absorbing the most plastic overall.</p> <p>GUIDANCE – Environmental concerns can cause symptoms such as stress, anxiety and even depression, even in young children due to the scope of the issue. Where possible provide your class with methods of feeling involved with a solution to these issues, such as recycling solutions in school or environmental clubs.</p>	