

Lesson	There are lots of different types of waste but plastic can be one of the worse – find out why and if things can change?	60-Minute Lesson
Learning Outcomes	<ul style="list-style-type: none"> • Understand the impact plastic waste has on humans, wildlife and our planet • Understand the different types of plastic waste, its impact and how to reduce it • Be able to change your attitude towards plastics and how you use it • Influence others to make a change as well 	
Resources Needed	<ul style="list-style-type: none"> • Pens • Paper • World of Waste Quiz & Answers • Plastic ID Cards & Teacher Resource • Different Packaging (if required) 	

Adaption maybe required depending on needs and age.

	Outline	Resources
Introduction Is plastic good or bad? 5mins	<p>Is plastic good or bad? – Class Discussion</p> <p>There is no answer as plastic can be both good and bad -</p> <p>Plastic is an amazing man-made material used to make all kinds of important things like, bike helmets, car airbags and many medical supplies.</p> <p>Things made with plastic can save lives and can bring clean drinking water to people who don't have it.</p> <p>The problem is that most of us use more plastic than we need to, and half of the plastic we produce is designed to be used just once and thrown away. This so-called 'single-use plastic' is used to make all kinds of items, such as bags, straws, food wrappers and various packaging, which is not good for our environment.</p>	
Activity 1 – World of waste 20mins	<p>Individually or in pair, the students should complete the World of Waste Quiz. Use the information below to discuss their answers.</p> <p>Every year we dump a massive 2.12 billion tons of waste. If all this waste was put on trucks they would go around the world 24 times. This stunning amount of waste is partly because 99 percent of the stuff we buy becomes waste within 6 months!</p> <ol style="list-style-type: none"> 1. 26million tonnes, around 12million tonnes is recycled with 14million tonnes going to landfill. The amount of plastic we throw away is enough to circle the earth four times 2. 50%, during the last 10years we have produced more plastic than during the whole of the last century 3. 75%, this amounts to around 611,000 tonnes of plastic packaging each year. This used to be sent to China but since 2018 the vast majority is sent to Malaysia, Indonesia, Turkey and Poland 4. 500billion, that is 100million per minute with each one only be used for approx 15minutes on average. Scientist estimate that by using a reusable bag this would be the equivalent of up to 700 single use bags 5. 9%, every piece of plastic ever made in the world still exists today. Even though plastic does degrade it doesn't disappear, it turns into micro plastics which often end up in the food system 6. 40%, every year nearly 8.8 million tonnes of plastic ends up in our planet's beautiful blue oceans, that's seriously bad news for our friends beneath the waves! 	World of Waste Quiz & Answers

	<p>7. True, buoyant plastic waste collects in the ocean currents as plastic or trash islands. Over 700 species of marine animals have been reported to have eaten or been entangled in plastic – and scientists think that the amount of plastic in the ocean may triple by 2050!</p> <p>8. 1.6million, it is called the Great Pacific Garbage Patch and is located between Hawaii and California in the North Pacific Ocean. It weighs approx 80,000tonnes and is roughly three times the size of France</p> <p>9. US, 105.3kg per person per year, with UK second – 98.66kg per person per year and South Korea third – 88.09kg per person per year. China is the biggest producer of single use plastic in the world</p> <p>10. 40 pounds, this is because plastic has found its way into our food chains and can also be found in products such as toothpaste</p> <p>11. 2050, around 12million tonnes of plastic are poured into our oceans every year so scientists have predicted that this will outnumber fish in weight by 2050</p> <p>12. There are 7, you will learn about these in this lesson</p> <p>Invite the students to discuss or debate their answers and the information provided.</p> <p>Check out this waste calculator to see how much is being created as we speak - World Waste Facts (theworldcounts.com)</p>	
<p>Activity 2 – Do you know your plastics? 20mins</p>	<p>You may think that all plastic is the same – well you would be wrong there 7 different types of plastic and although all plastic can be recycled not all can go into your recycling bins at home!</p> <p>Did you know for example that you cannot recycle black plastic such as food trays? This is because the recycling facilities cannot detect it for sorting, but it can be recycled in special bins which you might find in your local supermarket. The same can be said of plastic films, wrapping and bags, as they run the risk of clogging up machinery. So make sure you know what you can put in your bin!</p> <p>So how do you know which type of plastic is which? Each one can be identified by a small symbol with a number or some letters on. In small groups/pairs, match the symbols to the type of items which you think is made from each specific plastic?</p> <ul style="list-style-type: none"> • PET 1 - Polyethylene Terephthalate – Clear tough plastic used for soft drinks and water bottles, salad domes, biscuit trays, rope, carpet • HDPE 2 - High Density Polyethylene – Commonly white or coloured and is used for milk bottles, ice cream containers, shampoo bottles, chemical/detergent bottles • PVC 3 - Polyvinyl Chloride – A hard rigid plastic like pipes, tubes and window frames • LDPE 4 - Low Density Polyethylene – A soft flexible plastic such as squeezable bottles, cling film or shrink wrap, rubbish bags • PP 5 – Polypropylene – Hard but flexible used for yogurt pots, margarine containers, plastic bottle caps, ice cream containers • PS 6 – Polystyrene/Foamed Polystyrene – There are two different types, one is hard and colourless and the other is a rigid foam, examples are, CD cases, plastic cutlery, take-away containers, protective packaging 	<p>Plastic ID Cards & Teacher Resource Different Packaging (if required)</p>

	<ul style="list-style-type: none"> • Other 7 – All other plastics such as, baby bottles, compact discs, acrylic, polycarbonate, polylactic fibres, nylon, fiberglass <p><i>Some plastics may look similar but until you touch and feel them. You could source and use different packaging for the students to be able to get hands on and identify the differences, as well as look for the symbols.</i></p> <p>Class Discussion – what did you think?</p> <p>Something to remember, is when plastic breaks down it creates micro plastics. These are harmful to wildlife which often mistakes it for food.</p>	
<p>Activity 3 – Not plastic 10mins</p>	<p>In small groups/pairs – take one of the plastic items, can you think of a different material you could make it out of? If not, why do you think plastic is the best option?</p> <p>Class Discussion – What answers did you decide and why?</p> <p>Other materials could include –</p> <ul style="list-style-type: none"> • Wood • Metal • Paper • Bamboo • Natural Fibres, e.g. wool, cotton, silk, jute etc • Plant Base Plastics • Cork 	<p>Plastic ID Cards Pen Paper</p>
<p>Plenary 5mins</p>	<p>What quick and easy changes could you make at school or home to reduce your plastic use?</p> <p>Class Discussion</p>	