

Fantastic Plastic?

Workshop description:

There's no denying that plastic has made a massive contribution to modern living but at what cost to the environment? In this workshop students find out about the amazing variety of plastics and the problems they cause. Hands-on activities and discussions get students thinking about whether plastic really is fantastic!

Summary of workshop:

- Plastic sort activity.
- True and false quiz.
- Presentation on plastic recycling and the environmental impacts of plastic.
- Activity on **either** the pros and cons of degradable plastics **or** mini debate on issues surrounding plastic bags and their alternatives. (Both activities could be done in a longer session)

Time: 1hr

Number of students: 8-30

Suitable for years: 10-11

Common misconceptions:

- That all plastics are the same and can be melted together for recycling.
- That it is better to put biodegradable waste into landfill than non-biodegradable waste.
- That degradable is the same as biodegradable.

Learning outcomes

By the end of the workshop pupils should be able to:

- State that there are 6 main polymer types used in packaging.
- Outline one problem caused by the use of plastics.
- Give at least one alternative to the conventional plastic carrier bag.

Vocabulary: KS4 – Polymer, crude oil, finite, degradable, biodegradable

Resources: (All supplied by SWAP unless stated otherwise.)

Projector and laptop **or memory stick if the school has the necessary ICT system in place.**

Bags of plastic for sorting.

True and false quiz cards.

Examples of degradable plastics.

Plastic bag debate cards.

Duration

2 mins

6 mins

15 mins

5 mins

12 mins

5 mins

10 mins

Teaching and Learning activities:

Introduce myself, SWAP and what we will be doing in this workshop.

Presentation on the properties and versatility of plastic and facts on waste plastic and recycling. Introduce the 6 main polymer types.

Students work in groups to sort out a variety of plastic bottles, pots, trays and films according to polymer type. They then have some statements about the plastics they have sorted. They have to put the statement cards into true and false piles; they will only get the answers right if they have sorted their plastics correctly!

Go through the answers to the quiz and see if any teams scored full marks.

Presentation showing the issues surrounding the use of crude oil in plastic production and highlighting the problems we have with disposing of plastics. Students find out how to reduce, reuse and recycle plastic.

Either

Focus on degradable plastics

Students look at samples of different types of plastic and guess whether or not they would rot away in a compost bin. They then look at samples that have been in a compost bin for 2, 4 and 6 weeks to see if they guessed correctly.

Students discuss factors in the production and disposal of degradable and biodegradable plastics and decide if they think either are better than conventional plastics.

5 mins	Each group feeds back their thoughts to the rest of the class.
	or
	<u>Plastic bag debate</u>
15 mins	Each student gets one of 8 different character cards which outline a person's view on plastic carrier bags and their alternatives. Within the group, students share key information from each of their character cards and debate the ways of dealing with the problems caused by the ubiquitous plastic bag.
5 mins	Each group feeds back their thoughts to the rest of the class.