

Plastic Fantastic? the musical: Supporting Resource

This creative enquiry develops and extends the concepts highlighted within the musical theatre production ***Plastic Fantastic? the musical***.

This resource supports engagement through Second to Fourth Level Curriculum for Excellence Experiences and Outcomes.

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Helen has written and co-written several childrens' songs and musicals over the years as well as creating a number of short films for education on the environment and history working with programmes such as **Crofting Connections, Cairngorms Food for Life, BBC Learning and The Kingussie Food on Film Festival**. The film festival also involved developing a programme of short film-making training for high schools across the Highland region working with **Triple Echo Productions**.

Plastic Fantastic? the musical combines the environmental learning theme with writing and composing and had its first performance outdoors at a Mallorcan Festival in the summer of 2018.

FB: plasticfantasticthemusical

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Distribution

Plastic Fantastic? the musical is distributed in collaboration with Keep Scotland Beautiful's Eco-Schools Scotland programme.

An introduction to ***Plastic Fantastic? the musical*** as well as its songbook and script are available to download for free on the [Eco-Schools Scotland webpages](#) where you will also find youtube links to a trailer and to the full performance. Backing Tracks are also available free and can be sent on request.

Introduction

'*Plastic Fantastic? the musical*' tells the story of plastic on this planet from its invention, to its mass production, environmental impact and current ecological awareness. Through performance, the piece is designed to renew perspectives on plastics.

The musical encourages an appreciation of the reasons why plastics have become ubiquitous in our lives and the environment. It also ends with a message of hope that there are actions we can take against the causes and effects of plastic pollution. This resource complements the musical by aiming to extend and deepen learning. It can be used to prompt consideration of the social, moral and environmental implications of plastics. Furthermore, this resource encourages pupils to consider how their personal behaviour might contribute to plastic pollution. It is hoped that pupils will work together to take effective action on the issue of plastic pollution as an outcome of this resource.

This is a flexible resource that can be adapted and used as suits your needs with suggested activities that can be delivered during and after reading the script.

Activities to Extend and Deepen Learning

It is recommended that these activities be carried out in conjunction with reading *Plastic Fantastic? the musical's* script – suggestions are made as to logical times for each activity.

1. Why Plastic?

This activity will have the best impact if delivered between readings of Act 1 and 2.

In order to prompt the generation of effective strategies to solve the plastic pollution problem, individuals must have an appreciation of the extent to which our lifestyles and economy depend on plastics. This includes an understanding of why plastics are such a successful material. This aim could be addressed using a discussion activity or could be delivered more thoroughly in curriculum areas.

Discussion activity This could possibly be delivered during PSHE time / House group time / Eco committee meeting.

Look at a variety of plastics (polystyrene, plastic cables, cling film, Tupperware, plastic on common everyday items such as phones and computers).

Ask the questions: What is it? How is it different from other materials? Is it of living/non-living origin? Is it natural or synthetic? How is it made? What properties does plastic offer that other materials don't? Are plastics cheap to make?

Look at an item made of/containing plastic: could any other material be used – why/why not?

Social Studies discussion or investigation themes:

People, past events and societies or People, place and environment: How have plastics affected the daily lives of people over the past 100 years? How have attitudes to plastics and consumer items changed over the past 100 years? What has been the impact of the plastics industry on society and the economy?

Science and/or Technology suggested discussion or investigation themes

Materials (Properties and uses of substances): What are the properties of plastics? How do the properties of plastics allow a variety of applications? What is a polymer?

Make a plastic using [milk](#).

Materials (Earth's materials): What are the raw materials for making plastics?

Technological developments in society and business (Awareness / Impact, contribution and relationship / Craft, design, engineering and graphics): What are the properties and performance of particular plastics? How have everyday products changed since the invention of plastics? What are the social and economic impacts of the plastic industry?

2. Individual Plastic Consumption

This activity will have the best impact if delivered after reading Act 2.

Investigation activity: How can we measure our impact on the plastic problem?

Develop an appreciation of the individual contribution to plastic consumption by watching a clip about Rob Greenfield: [The Trashman](#). Ask pupils how much plastic/waste they think they generate on a weekly basis.

Carry out a similar activity to Rob Greenfield and have pupils collect their plastic waste over a week. Alternatively, pupils could keep a diary documenting all the plastics they used. To link this into the Eco-Schools measuring element, you could also have pupils weigh the waste each day.

Questions to ask following the task:

- Were you surprised at the volume of material you generated?
- What influenced your choice in purchasing/using each item?
- Are there any non-plastic alternatives that you could have used instead? Would they also have a negative impact on the environment?
- Was the article essential/non-essential/luxury for your lifestyle?

3. Environmental Impact

This activity will have the best impact if delivered after reading Act 3.

Video activity and follow up research: Watch recent documentaries describing the impacts of plastic pollution such as: [Blue Planet](#), [Drowning in Plastic](#) and [A Plastic Tide](#).

In considering the environmental impact of plastics, it is necessary to have an appreciation of their persistence in the environment. Have pupils research the lifespan of plastics including whether they are biodegradable.

Questions to consider could also include: how do plastics end up in the ocean? Is recycling the answer? How many times can plastics be recycled? Why aren't all plastics recycled? Does plastic pollution affect all people or particular people? Do we have a moral obligation to clear plastics elsewhere in the world?

80% of marine litter comes from land. Find out how this happens through Keep Scotland Beautiful's [Upstream Battle](#) campaign resources.

Data collection and Clean Up activity: Pupils are more likely to change their habits if they experience the reality of plastic pollution.

This could be addressed by visiting a local beach or park for the purpose of a [Clean Up](#). Activities that incorporate STEM skills could also be integrated into the visit such as collecting data and completing a [Litter Survey](#) to carrying out a [nurdle hunt](#) on a beach.

If a trip cannot be organised then pupils could take part in Citizen Science opportunities such as [Zooniverse the Plastic Tide](#).

4. How to make a change?

This activity will have the best impact if delivered after reading Act 2.

What are the approaches to tackle the problem? Is it down to the government? How effective is charging for plastic such as the 5p plastic bag charge? Are preventative measures better than reactive measures?

Research and communication task:

Research and share information on the following:

- Plastic alternatives: comparing environmental impact
- Movement towards zero waste
- Increasing recycling and bottle deposit schemes
- Clearance operations such as [Boyan Slat's Ocean Cleanup](#). What is the impact globally?
- Are there examples of companies addressing consumer concerns over plastics?
- Is there a role for science and technology in dealing with plastic pollution?

Activities to Encourage Behavioural Change and Action

1. Personal Responsibility

Who is responsible for plastic pollution? Should anyone be held accountable? How much should we rely on the government to legislate on the issue? Should we pressurise companies to reduce packaging/use more environmentally friendly options? What role can charities play? Should each individual reduce their plastic consumption?

Coaching Wheel activity

Present groups with a bag of plastic rubbish (crisp packets, straws, used stationery, plastic cotton buds, empty shampoo bottles etc) and ask whether the items need have been bought/were there alternatives/what options are there for recycling and disposal?

Expand the 3 Rs (Reduce, Reuse, Recycle) using the Coaching Wheel activity (see end of document) for zero plastic waste. Pupils rate how well they currently refuse plastic/reduce/reuse/recycle etc on a scale from 0-10 on the wheel. They then make notes around the wheel on their accomplishments in each area and on what they could do to improve.

They could use the Plastic Free in One Year (see end of document) resource to come up with improvement ideas.

2. Disposable / single use plastics in school

Consider actions that could be taken in school. These could be incorporated into the Eco-schools Green Flag Action plan.

Audit activity: pupils can collect data to support effective planning of activity and measurable progress over time. If they are working on the [Waste Minimisation](#) topic this could feature on the school's [Eco-Schools Action Plan](#).

The first step could be an audit. Brainstorm the following questions:

- How can we find out/measure the amount of plastic we use in school and beyond?
- What practical steps can we take to reduce the amount of plastic used in school?
- How can we convince people (teaching staff, catering staff, facilities staff and fellow pupils) to help us?
- Should we expand upon the 3 Rs to 'Rethink, Repair, Refuse, Reduce, Reuse, Recycle, Rot'?

Reducing single-use water bottles in school is an effective way of reducing plastic waste. Have pupils play [lose your bottle](#) to highlight the damage caused by disposable water bottles. Consider whether enough water fountains are provided for refilling or if a school-branded water bottle would encourage uptake of reusable bottles.

3. Community

Empower pupils by making an impact on plastic pollution beyond the school. Pupils could develop ***Plastic Fantastic? the musical*** into a bigger production, inviting parents and members of the local community to watch. It could form the focus of a campaign on plastic.

Campaign activity: Running a campaign provides opportunities for pupils to develop their communication and enterprise skills. It could be directed according to the pupils' particular concerns and interests as well as any local issues.

Consider participating in a programme which can raise the profile of your work such as Keep Scotland Beautiful's [Upstream Battle](#) campaign which explores source to sea litter issues in the wider Clyde Valley region.

Local businesses may be keen to get involved with a school to improve their environmental credentials.

[Sunnyside Primary School](#)'s #Naestrawataw campaign is a fantastic example of how a school can effectively campaign for change locally and nationally

Reflection

Here are some questions you can use after performing the script, for pupils to reflect on what they have seen and heard and what they might like to do next.

- Did you enjoy performing '*Plastic Fantastic? the musical*'?
- Did the activities change the way you think about plastics?
- What is the most significant thing you learnt through partaking in the activities around the script?
- Are there any issues highlighted in the script or from your activities that you would like to explore further?
- Do you think you will share what you have learnt with friends and family?
- Do you feel confident expressing your opinions about plastic consumption?

Curriculum for Excellence Experiences and Outcomes

A variety of Curriculum for Excellent Experiences and Outcomes can be developed through this *Plastic Fantastic? the musical* resource

Technologies Experiences and Outcomes

I can investigate how product design and development have been influenced by changing lifestyles. **TCH 2-05a**

I understand how scientific and technological developments have contributed to changes in everyday products. **TCH 3-05a**

I can analyse products taking into consideration sustainability, scientific and technological developments. **TCH 4-05a**

I can analyse how lifestyles can impact on the environment and Earth's resources and can make suggestions about how to live in a more sustainable way. **TCH 2-06a**

I can evaluate the implications for individuals and societies of the ethical issues arising from technological developments. **TCH 3-06a**

I can examine a range of materials, processes or designs in my local community to consider their environmental, social and economic impact. **TCH 4-06a**

I can present conclusions about the impact of technologies on the economy, politics and the environment. **TCH 4-07a**

I can recognise basic properties and uses for a variety of materials and can discuss which ones are most suitable for a given task. **TCH 2-10a**

I can explore the properties and performance of materials before justifying the most appropriate material for a task. **TCH 3-10a**

I consider the material performance as well as sustainability of materials and apply these to real world tasks. **TCH 4-10a**

Social Studies Experiences and Outcomes

I can describe the factors contributing to a major social, political or economic change in the past and can assess the impact on people's lives. **SOC 3-05a**

I can present supported conclusions about the social, political and economic impacts of a technological change in the past. **SOC 4-05a**

I can evaluate the changes which have taken place in an industry in Scotland's past and can debate their impact. **SOC 4-05b**

I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally- responsible way. **SOC 2-08a**

I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. **SOC 3-08a**

I can discuss the sustainability of key natural resources and analyse the possible implications for human activity. **SOC 4-08a**

I can develop my understanding of the interaction between humans and the environment by describing and assessing the impact of human activity on an area. **SOC 4-10a**

I can discuss the extent to which my choices and decisions are influenced by the ways in which I am informed. **SOC 3-17b**

Sciences Experiences and Outcomes

Through gaining an understanding of the structure of atoms and how they join, I can begin to connect the properties of substances with their possible structures. **SCN 4-15a**

I have explored how different materials can be derived from crude oil and their uses. I can explain the importance of carbon compounds in our lives. **SCN 4-17a**

Literacy and English Experiences and Outcomes

To help me develop an informed view, I can identify and explain the difference between fact and opinion, recognise when I am being influenced, and have assessed how useful and believable my sources are. **LIT 2-18a**

To help me develop an informed view, I am exploring the techniques used to influence my opinion. I can recognise persuasion and assess the reliability of information and credibility and value of my sources. **LIT 3-18a, 4-18a**

As I listen or watch, I can identify and discuss the purpose, main ideas and supporting detail contained within the text, and use this information for different purposes. **LIT 2-04a**

As I listen or watch, I can:

- identify and give an accurate account of the purpose and main concerns of the text, and can make inferences from key statements
- identify and discuss similarities and differences between different types of text
- use this information for different purposes. **LIT 3-04a, 4-04a**

Expressive Arts Experiences and Outcomes

I have experienced the energy and excitement of presenting/performing for audiences and being part of an audience for other people's presentations/performances. **EXA 0-01a / EXA 1-01a / EXA 2-01a**

I have used the skills I have developed in the expressive arts to contribute to a public presentation/performance. **EXA 3-01a, 4-01a**

I can create, adapt and sustain different roles, experimenting with movement, expression and voice and using theatre arts technology. **EXA 2-12a**

I can create, develop and sustain a realistic or stylised character through the use of voice, movement and language. **EXA 3-12a**

I can sing and play music from a range of styles and cultures, showing skill and using performance directions, and/or musical notation. **EXA 2-16a**

I can sing and/or play music from a range of styles and cultures and perform my chosen music confidently using performance directions, musical notation and/or playing by ear. **EXA 3-16a**

I can give assured, expressive and imaginative performances of vocal and/or instrumental music from a wide range of styles and cultures, using performance directions, musical notation, and/or playing by ear. **EXA 4-16a**

Plastic Free in 1 Year

Change your plastic legacy
Take one action per week of the year
Some of the actions suggest buying non-plastic items. Please be sure to use any prior plastic versions to their end of life first though!

- Don't buy plastic cutting boards, use wood or glass
- Use glass containers for food storage rather than plastic. Research BPA
- Put recyclable materials directly in the bin, avoiding the use of a bin bag.
- Ditch the cling film
Try other options like grease-proof paper or beeswax
- Do you really need a new phone?
Why ditch a perfectly good phone – what happens to the plastic and the other components?
- Use soap bars instead of plastic bottled liquid soap
- Request plastic-free gifts from family and friends
- Paper cups and plates often have a thin layer of plastic. Resign yourself to do the washing up after the party!
- Try ribbon streamers instead of plastic balloons for parties
- Bring your own bag
Don't pay 5p, bring a biodegradable bag for life
- Most UK teabags are not fully biodegradable. Swap to a brand that is.
- Use powdered dishwasher detergent in a cardboard box
- Question all sparkly things
Glitter is plastic. Ask your child's school to ban glitter
- Stop using disposable plastic pens either switch to a refillable fountain pen or use pencil more
- Try a shampoo bar
You can buy these from Lush completely packaging free
- Use a razor with replaceable blades instead of a disposable one
- Say no to plastic single use drinking straws
- Buy fresh bread in paper bags or without using a bag
- Avoid buying frozen foods because their packaging is mostly plastic. Even those that appear to be cardboard are coated in a thin layer of plastic.
- Use matches instead of disposable plastic lighters
- Use natural cleaning cloths rather than plastic sponges and synthetic scrubbers. Reusing old rags is the most environmentally friendly option.
- Change your toothbrush
Try a bamboo toothbrush or at least buy one where only the head required regular replacement
- Give up chewing gum – it has plastic in it. Look up polyethylene and polyvinyl acetate
- Cut out juices or fizzy drinks sold in plastic bottles
- Get a biodegradable phone cover
- Buy condiments in glass rather than plastic bottles
- Stop using cotton buds
Do you really need them?
- Avoid buying new CDs and DVDs. Borrow from the library or download.
- Use soap instead of canned shave cream
- Request zero plastic packaging when ordering online
- Don't put fruit and veg in a plastic bag at the supermarket and buy unpackaged items
- Find ways to wrap gifts without plastic tape e.g. reusing gift bags
- Ice lollies come in plastic. Make your own using stainless steel molds
- Is your deodorant in a plastic container? Try a deodorant bar.
- Ditch the toothpaste tube
Try Lush toothy tabs
- 3 billion disposable nappies a year – use cloth nappies at home
- Get your milk delivered from a local dairy in glass bottles that are returned and refilled over and over
- Crisp packets are NOT recyclable. Make your own crisps from the skin of your peeled potatoes!
- Buy toilet paper that is not wrapped in plastic
'Who gives a crap' doesn't use plastic wrapping, sells in bulk and donates money to toilet-related causes
- Buy meat from the butchers and take your own tub for packaging
- Refuse packets of sauce in restaurants and ask why they don't use a bottle
- Polystyrene is not recyclable. Avoid buying pizzas on a polystyrene tray – why not make your own base?
- Don't use air fresheners packaged in plastic. Burn a candle instead.
- Keep a real spoon and fork in your car/desk/handbag to avoid single use cutlery
- Buying cleaning products packaged in plastic? Try vinegar and baking soda
- BYO containers for takeaway meals and restaurant leftovers
- Switch to a long lasting Eco egg rather than your normal detergent thus reducing packaging
- Fashion footprint
Many clothes contain plastic fibres, however cotton alternatives are also environmentally damaging... for the moment reduce your purchases, mend items, reuse material and shop second hand

Journey to Zero Waste Coaching Wheel

Using the wheel:

Consider each point on the wheel. Think about where you might gauge yourself. Mark a number on the line - 0 = lots of areas to develop or work on; 10 = accomplished in this area. Make notes around the wheel about your accomplishments and what you will do to improve.

