SUSTAINABLE FOOD 3: PACKAGING AND RECYCLING

INTRODUCTION

The food we eat has many environmental impacts. Making the way we produce and consume our food sustainable is vital in order to feed an ever-growing world population, whilst protecting our environment. As a set, this group of resources covers the following important themes concerning food sustainability:

1. Farming and the environment
2. Food miles
3. **Food packaging and recycling**
4. Food waste
5. Fairtrade

FOOD PACKAGING & RECYCLING: KEY LEARNING OBJECTIVES

- Why does food need packaging?
- Packaging types - impacts and recycling solutions:
  - Plastic
  - Aluminium and steel cans
  - Glass
  - Paper and card
- How and where can we recycle?

NOTE TO TEACHERS

These notes are intended to provide key information and facts to support teachers delivering the topic. They are accompanied by a PowerPoint presentation with plenty of visuals to aid students' learning (all slides are referred to in the notes). Please feel free to modify the presentation by adding your own slides or deleting those you don't need.

You can find a host of other environmental teaching resources on our website: ypte.org.uk/audiences/teachers

FOOD PACKAGING AND RECYCLING: KEY WORDS

Sustainable - able to be maintained at a certain rate.

Energy - usable power that comes from heat, electricity, etc.

Non-renewable resource/energy - a resource that once consumed, cannot be replaced; so one day it will run out.

Fossil fuel - a fuel (such as coal, oil, or natural gas) formed in the earth from plant or animal remains. Fossil fuels are nonrenewable as they will run out one day.

Pollution - when the environment is contaminated, or dirtied, by waste, chemicals, and other harmful substances.

Global warming - a gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect.

Greenhouse effect - a warming of the Earth's surface and the air above it. It is caused by gases in the air that trap energy from the sun. These heat-trapping gases are called greenhouse gases. The most common greenhouse gases are water vapour, carbon dioxide, and methane.

Carbon footprint - a measure of how much carbon is used in the production and transportation of a product. It is better for the environment to consume goods with a low carbon footprint.

Personal Carbon footprint - the total amount of carbon we produce from all our activities and the choices we make in our daily lives.

Landfill - an area where where waste is buried underground.

Recycle - to make something new from something that has been used before.

Biodegradable - possible to break down into very small harmless parts by the action of living things (such as bacteria).

Overpackaged - when products are wrapped in more material than is needed or is wanted.

WHY DOES FOOD NEED PACKAGING?

Slide 4: Ask the students why they think food needs packaging. What would happen if food wasn't packaged? Is some food packaged unnecessarily?
Food packaging has various functions:

- To keep food fresh and make it last longer
- To make sure it doesn't get damaged or broken
- To make it easier to transport
- To make it more attractive to customers

A range of materials can be used for packaging, some of which are more environmentally friendly than others:

TYPES OF PACKAGING: IMPACTS & RECYCLING SOLUTIONS

Plastic Packaging

Slide 6: Plastic is one of the most popular and useful materials of modern times. It is widely used for packaging as it is so versatile - it can be flexible or rigid and can be moulded into shapes, it's easy to print on, lightweight and cheap to produce.

Slide 7: But plastic's popularity has become a serious environmental problem: we now use about 20 times more plastic than we did 50 years ago. Making all this plastic uses up valuable non-renewable resources and energy, whilst causing pollution to the air, land and water.

Slide 8: But disposing of all this plastic causes even more environmental damage. It is filling our landfills and as it does not biodegrade, our planet's surface is getting covered with more and more plastic that will never disappear. Plastic buried deep in landfills can also leach harmful chemicals that spread into the groundwater.

Slide 9: Food packaging forms a significant proportion of plastic usage. But we can help by buying less plastic packaging and lengthening the lifespan of the plastic packaging we do use by reusing it as many times as possible.

Slide 10: Some plastic packaging can be easily recycled. But there are many different types of plastic and many of them are not easily recyclable.

Slide 11: Plastic bottles can be easily recycled and are the most commonly collected plastic packaging type. After collection they are sorted into different types and colours. Then they may be shredded into flakes and used to create fibres for the textile industry - used in fillings for sleeping bags and duvets, in fleeces, t-shirts,

hats or even business suits! Plastic not shredded is melted and moulded into new products such as bin liners and carrier bags, CD and DVD cases and even garden furniture.

Slide 12: Plastic lids and caps are often made from a different type of plastic and therefore have a different melting point when compared to the plastic used for the bottle itself. Too many lids will contaminate the load, so remove and throw away plastic caps where possible.

Slide 13: Although plastic bottles can easily be recycled, generally plastics are far more difficult to sort and reprocess than other materials. Although it is technically possible to recycle most plastic, it can be very complex and expensive. Pots, tubs and trays are made out of a different type of plastic to bottles and the technology to recycle them is not yet available throughout the UK.

Slide 14: Crisp packets are often made from a metallised plastic film which is not currently recyclable. An easy way to find out if an item is foil or metallised plastic film, is to do the scrunch test. Simply scrunch the item in your hand - if it remains 'scrunched' it is foil and can be recycled; if it springs back it is probably metallised plastic film and not recyclable.

Slide 15: Making plastic carrier bags uses up valuable energy and resources. If they end up in landfill, they could take hundreds of years to biodegrade. Because of this, a 5p charge for carrier bags was introduced in October 2015. The main food retailers (Asda, Marks and Spencer, Morrisons, Sainsbury's, The Co-operative Group, Tesco and Waitrose) sold 549 million single use plastic carrier bags in England in 2018 to 2019

Slide 16: Ask the students to think about how they could reduce the amount of plastic food packaging they buy. For example, a number of companies now operate box schemes where unpackaged organic fruit and vegetables are delivered straight to your door.

Aluminium and Steel Cans

Many of the food and drink products we buy are packaged in cans made from either aluminium or steel. Both of these materials can be recycled after we have finished with them to make either new cans or other products.

Slide 17: 86% of drinks cans sold in the UK are made from **aluminium** - that's nearly 8 billion cans every year *(thinkcans.net)*. To test whether a can is aluminium, you can run a magnet down its side - if the magnet does not stick to the sides of the can, it is

aluminium. Aluminium is lighter than steel and the metal is shinier. The aluminium is melted down and turned into ingots of aluminium which are used to make new cans. It's a quick process and within six weeks the can of beans you put in your recycling box could be back on the shelf as a new can of beans! Recycled metal can also end up as part of a car, aeroplane or bike! Metal can be recycled time and time again, without loss of quality.

Slide 18: By recycling aluminium cans, everyone can help look after our environment. Aluminium is most cost-effective material to recycle, because of the huge energy savings.

Slide 19: There are now bins for recycling drink cans in many places. But if you can't find one, bring your cans home with you so they can be collected at your kerbside for recycling.

Slide 20: Many foods are packaged in **steel** cans. If you look in your kitchen cupboards, you will probably find some e.g. baked beans, chopped tomatoes, soup. Steel can also be recycled time and time again and is collected with your kerbside collection. It can used to make many things including new cans, cars and buildings.

Slide 21: Not enough aluminium and steel cans are being recycled. If everyone made an effort to recycle these more, it would make a huge difference for our environment.

Glass Bottles and Jars

Slides 22-24: Recycling domestic waste glass is a simple process and it can be recycled repeatedly. It can be collected as part of the kerbside collection or in bottle banks. But if thrown away, glass will go to landfill where it will stay forever, never breaking down. Whilst in the UK we are increasing our glass recycling, we still lag behind other countries.

Slide 25: Glass bottles and jars are an example of reusable packaging. This is an even better way of saving resources than recycling. Many other types of packaging can be reused e.g. yoghurt pots can be used as seed pots or bird feeders.

Paper and Card

Slide 26: Card is preferable to plastic, metal and glass as a packaging material as it is biodegradable. This means that if it ends up in landfill, it will easily break down and not remain there for long.

Slide 27: But there is no reason for paper and card to be in landfill as it is so easily

recycled into new paper.

Slide 28: Food packaging labels now often contain information about recycling or a recycling symbol to indicate that it can be recycled.

HOW AND WHERE CAN WE RECYCLE?

Slide 29: Kerbside recycling schemes - operated by the local council to make recycling at home as convenient as possible. Services and facilities vary greatly, so check local council website to find out details of when collections happen and which items are collected.

Slide 30: It is very important to sort waste correctly. When the wrong items are put in recycling containers, they have to be removed by hand which slows everything down. If these items are missed, they can clog or damage machinery. Information about what can be recycled, how to sort waste and whether it needs to be washed can be found on the recycling section of your local council's website.

Slide 31: Your local household waste recycling centre is another option for recycling food packaging and waste.

Slide 32: These bins really make people think about where their rubbish is going and have been very successful in improving rates of recycling.

Slide 33: Reduce, Reuse. Recycle. These are the key words to remember. If everyone tried to do do this with their food packaging, the beneficial impacts for our environment would be huge.

SUGGESTED ACTIVITIES FOR PACKAGING AND RECYCLING

Research Tasks

1. **How Much Packaging Do You Use?**
   Ask students to make a list of all their encounters with food packaging in a day e.g. breakfast: plastic bottle for milk, cardboard box for cereal, plastic bag for bread, plastic tub for margarine, glass jar for jam etc.

2. **Audit of School Recycling**
   What facilities are there for recycling food packaging at your school? Could more be done to increase awareness of the importance of recycling and increase rates of recycling?

3. **Food Packaging Labels and Home Audit**
   Have a look at the contents of your kitchen cupboard. Is packaging clearly labelled with recycling information? How much of the packaging is recyclable? Is your household recycling as much food packaging as it could? Are there any everyday items that you are surprised to find cannot be recycled?

4. **Overpackaging**
   Students should find a product that has been over-packaged. Why do they think it has been packaged like this? How could the packaging be made more environmentally friendly? They could also think about how people packaged food 50 or 100 years ago and draw comparisons.

5. **Local Recycling Facilities**
   Ask students to carry out research to discover what services and facilities there are for recycling in their local area? Do they feel they are adequate? How could they be improved? Perhaps they could carry out a survey/ questionnaire to find out what local people think about recycling facilities and how they could be improved (asking parents, neighbours etc).

Creative Task

Challenge students to think of as many ways as possible for reusing common household packaging that would otherwise go to landfill or for recycling e.g. glass jars for jam. How imaginative and creative can they be in finding uses for food packaging?

A Kitchen Recycling Guide

Ask students to devise a recycling guide for their kitchen at home. This could be displayed on the wall/fridge and enable everyone in the household to be involved in recycling. It should include information such as which items can/can't be recycled, which recycling bin they should go in and which items need washing before being recycled.

A Waste Free Lunch

Challenge students to make a waste free packed lunch. They should use refillable bottles/flasks instead of cans or cartons. Sandwiches etc should be in resealable containers instead of bags, clingfilm or foil. They must also ensure that all fruit skins and leftovers are composted. Can they do this everyday?

Class Debate

Hold a class debate on a topic related to food packaging e.g. how important is it to recycle our food packaging?

We value your feedback!

Let us know what you thought of this lesson plan by completing this Google Form https://forms.gle/cGAwi9AWXfSZgrYa9. **Thank you!**