



# Supermarket waste and plastics: Activity Kit

## Introduction

In the UK in the 21st century we have year-round access to a mind-boggling array of foods, transported from the furthest reaches of the globe and brought to our local supermarket, packed, wrapped, in near perfect condition, expertly displayed and looking appetising. It is piled high and expertly planned and displayed with enticing offers that we cannot resist, like buy one get one free!

But what is the cost of this enormous industry, ensuring we over-consume flawless products? The food we enjoy often has a long and complex supply chain. The farming practices, transportation and consumer preferences all create potential situations where food is wasted. The food often travels vast distances and is packed and repacked, all increasing the possibilities of it being damaged and wasted. Each step of the supply chain generates more waste.

Being a responsible consumer means understanding how to make informed choices, and the impacts of the food system to which our choices contribute.

With this Activity Kit teachers and learners can:

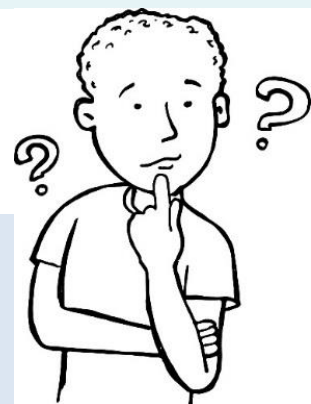
- Explore the concept of waste, both food and plastics
- Investigate the reasons why so much food is wasted
- Evaluate possible ways of reducing waste

## In the curriculum (KS3)

Activity 1 brings a global dimension to **Geography** by developing an understanding of the use of natural resources and how human processes influence and change landscapes, environments and the climate

Activity 1 brings a global dimension to **English** by providing opportunity to express their own ideas, participate in structured discussions

Activity 2 brings a global dimension to **Design and Technology** by using creativity and imagination to solve real and relevant problems



## Getting started: understanding waste

**Discuss:** What is waste? the official definition of waste according to the European Union is: 'Any substance or item which the holder discards, or intends to discard, or is required to discard.' (EU Directive: 75/442/EEC)

**Discuss:** Why would food end up discarded? The obvious reason would be when it is no longer fit for consumption. But a large proportion of the food we discard it is still edible. Much of the food that is wasted has simply passed its 'use by' date, and will not then be sold, whether it is fit for consumption or not.

Also up to 30 per cent of Britain's vegetable crop is never even harvested because their physical appearance doesn't meet required standards and millions of tonnes of edible food, especially fruits, vegetables and bread, are thrown away by supermarkets every year.<sup>1</sup>

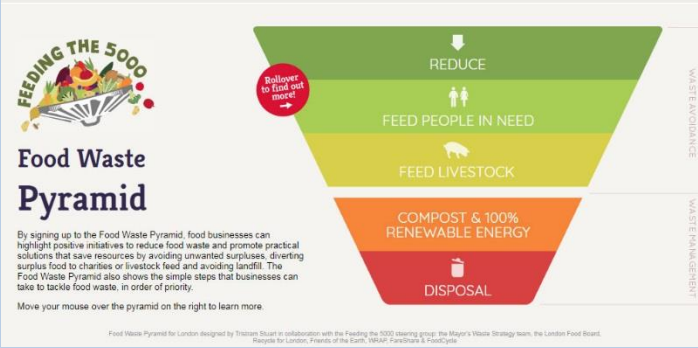
*Widely reported statistics last year showed that nearly 70% of bagged salad is thrown away by Tesco rather than sold, and that nearly 40% of their apples and almost half of all bakery items were routinely thrown away over 2013.<sup>2</sup>*

Meanwhile, 8 million people in the UK regularly do not have enough to eat.<sup>3</sup> Whilst the causes of the problems of food waste and people living in food poverty are unrelated, donating unwanted food by manufacturers and retailers can form part of the solution to both problems.

Take a look at the food waste pyramid. This is a hierarchy of solutions for reducing food waste

<http://www.feeding5k.org/businesses+casestudies.php>

**Discuss:** Do you think this pyramid has the order of the solutions in the correct order?



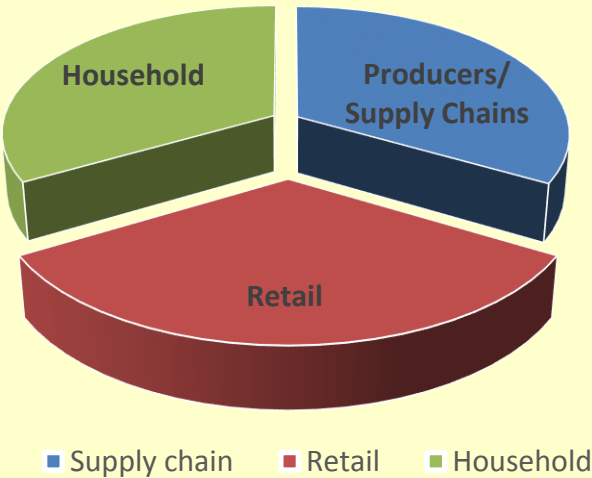
## Getting Critical

### Activity 1: Exploring supply chains

You may think about what happens to your food from when you buy it to when you eat it, or otherwise dispose of it. But your food has a whole life cycle from being grown to being consumed or disposed of. Each part of this process has an impact on the environment and what consumers want shapes what happens along the supply change as shops and producers respond to this.

*The effects of waste have a huge impact on our planet.*

UN Food and Agriculture Organisation claims that around one-third of the food produced for human consumption is wasted globally, which is about 1.3 billion ton per year.<sup>4</sup> The value of wasted food is in the UK is around £23 billion every year, a quantity of **18 million tonnes**.<sup>5</sup>



### Why is this such a problem?

The environmental cost of food production is huge. Farming needs lots of land and water. Food waste puts pressure on land and resources. Greenhouse gas emissions are generated from the growing, transport, processing and storage of food, if food is thrown away, all this environmental impact goes to waste.<sup>6</sup> And it is not just the production of food that is never eaten that impacts the environment, but also its disposal. When dumped into landfill sites, still the final destination of the majority of food waste, it also rots and gives off methane, a gas which is 23 times as damaging to the climate as the amount of CO<sub>2</sub>.<sup>7</sup>

And it is not just the food waste that causes an environmental problem, but what our food comes in. Since the middle of the 20th century many different types of plastic based packaging have been developed. These have revolutionised how we buy food, as the packaging makes the food last longer, but is light weight, and often see-through so we can see the food inside.

In 2013 the plastics industry produced 78 million metric tonnes of plastic packaging worldwide. An estimated 40% of that went to landfill and 32% was 'leaked' into the environment. 28% collected for further use. Some is burnt. In the end only 2% of original 78 million tonnes remade into similar plastics.<sup>8</sup>

Plastic packaging is used for a couple of weeks maximum from its creation until its disposal, then lasts for hundreds of years, either in landfill or worse. There are 150 million metric tonnes of plastic in oceans, of which 60% is packaging. Experts estimate that there will be more plastic than fish in the oceans by 2050.<sup>9</sup>

But there is a good reason for using it. Plastic packaging can make food last longer. The packaging around cucumbers retain moisture and extend how long it lasts from 3 days to 14 days. This is a difficult conundrum - the plastic reduces the amount of food in landfill and therefore the gases but the plastic itself can be a big problem.



Sustainable Development Goal 12 aims to ensure sustainable consumption and production patterns. One of the targets is by 2030, to halve global food waste at the retail and consumer levels and reduce food losses along production and supply chains.

<https://sustainabledevelopment.un.org/sdg12>

### 6 stages of wasting food

For more information on the six stages of wasting food you can refer to the following article from The Guardian:  
<https://www.theguardian.com/environment/2016/jul/14/from-field-to-fork-the-six-stages-of-wasting-food>





Food waste occurs at any stage from field to fork. In groups think about what causes waste at each stage and how it could be reduced at each of these stages. You may want to use some of the websites in the resources section to research some of the possible causes of food waste at each stage.

What actions would need to be taken to reduce waste at each stage?

Whose responsibility would it be to make this happen?

**Discuss**

What factors contribute to people buying more food than they need? (multi buy offers, lack of planning, cheap prices). What leads supermarkets to create so much waste?

Using the ideas you have come up with, choose either to write a letter to your local supermarket to ask them to reduce the food wasted or prepare a presentation about what you have learnt about all the factors that contribute to food waste in the supply chain and present this to the class.

**Activity 2: Shared responsibility**

The incredible technological developments of the twentieth century have given us the materials to create the packaging our food comes in. These materials have changed our shopping habits but come at a cost. Reducing the amount of packaging that we use on our food is a challenge that needs to be tackled by changing people’s behaviour and by technology to create new packaging solutions. This activity gets students thinking about both.

In recent years, zero waste food shops and supermarkets have started to appear. Design your own zero waste shop. Consider how people would transport their food home in you did not have plastic packaging and what you would have to do to make that possible (e.g. selling reusable containers, providing information for customers). What, if any, packaging would you have? Can you design a new packaging that contains no plastic and is biodegradable?

**References**

1. <http://www.theweek.co.uk/63901/food-waste-britons-are-worst-offenders-in-europe>
2. <https://www.amawaste.co.uk/blog/news/info/much-food-uk-supermarkets-waste- year/>
3. <https://www.theguardian.com/society/2016/may/06/more-than-8-million-in-uk-struggle-to-put-food-on-table-survey-says>
4. <https://feedbackglobal.org/food-waste-scandal/>
5. <http://foodawarecic.org.uk/stats-2/>
6. [http://www.wrap.org.uk/sites/files/wrap/FoodWasteResearchSummaryFINALADP29\\_3\\_07.pdf](http://www.wrap.org.uk/sites/files/wrap/FoodWasteResearchSummaryFINALADP29_3_07.pdf)
7. <http://www.independent.co.uk/environment/green-living/marc-bolland-when-food-packaging-can-reduce-climate-change-gases-1684362.html>
8. <https://cen.acs.org/articles/94/i41/cost-plastic-packaging.html>
9. <http://uk.businessinsider.com/plastic-in-ocean-outweighs-fish-evidence-report-2017-1>



## Resources



**Love Food Hate Waste** has lots of information about reducing food waste on their website <https://lovefoodhatewaste.com/>



**Wrap** campaigns on many areas about sustainability, including food waste <http://www.wrap.org.uk/food-waste-reduction>



**Feedback** is an organisation that campaigns on food waste and works to build a better food system. Find food waste facts on their website: <https://feedbackglobal.org/food-waste-scandal/>



**Fareshare** is an organisation that is fighting hunger and food waste by redistributing excess food to people who need it most <http://fareshare.org.uk/what-we-do/hunger-food-waste/>

**Tearfund** have an action on food waste. Visit their website to send a message to a supermarket of your choice about food waste, and make your own personal pledge to reduce food waste [https://www.tearfund.org/en/about\\_you/action/food\\_waste\\_action/](https://www.tearfund.org/en/about_you/action/food_waste_action/)



Search the **Global Dimension website** under 'waste' for more teaching resources on this topic. [www.globaldimension.org.uk/resources/search](http://www.globaldimension.org.uk/resources/search)

**Visually** has a fantastic infographic about global food waste: <http://bit.ly/2htl1RJ>

**The Guardian** has a list of excellent articles around food waste: <http://bit.ly/2ARhKFp>

The **Independent** has some interesting information about new packaging being developed: <https://ind.pn/2zHgmHQ>

**World Ocean Day** takes place on 8 June and the focus for 2018 is encouraging solutions to [plastic pollution](#). Find the latest info and resources at <https://globaldimension.org.uk/event/world-oceans-day/2018-06-08/>

**Kidzworld** has some interesting information about the plastics in the ocean: <http://bit.ly/2jsNrRm>



**Goal 12** of the UN Sustainable Development Goals is about **responsible consumption and production**. You can find teaching resources



Encourage students to visit Think Global's **DoNation** page and make a pledge to choose ethical products, eg: 'steer clear of palm oil', 'buy fairly traded goods' or 'dress sustainably'. [wearedonation.com/campaigns/make-a-supplychange/](http://wearedonation.com/campaigns/make-a-supplychange/)

on this theme at [bit.ly/gdwsdg12](http://bit.ly/gdwsdg12)



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**Author credit:** Thanks to Joanna Milis, who did the initial research and writing for this Activity Kit.



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