

Food Waste Assembly

These notes run alongside the PowerPoint presentation. They provide additional information (if required) and suggestions for interaction:

Slide 2: What did you have for breakfast today?

Ask the children what types of food they had for their breakfast today (being sensitive to any situations of food scarcity - you may want to focus on asking what is typically available for school breakfasts if this is an issue in your school).

Alternatively, you could bring in a box of breakfast cereal and focus any questions on that particular food.

Slide 3: What processes does your food go through before reaching your plate?

Who knows what this type of food is made from? These are cornflakes and they are made out of corn, which grows in a field! If you have a sugary cereal, then the sugar comes from a different plant.

What sorts of processes do the plant have to go through before the cereal is in your bowl, ready to be eaten?

Slide 4: The crops have to be grown

Unless foods come from animals, it comes from a plant that has to be grown. This is a field of corn, which is the crop used to make the cornflakes from the previous slide. Plants come from growing seeds.

Since the 1930s, it has been possible for companies to 'patent' seeds that they have developed, meaning that they own the rights to the seeds and can charge others for using them. Now, many plants used for food, fuels and animal fodder have been grown from seeds that have been carefully bred to ensure that they are strong and will yield a good crop. Many of them have been genetically modified in some way to improve their chances of being disease free or to increase their resistance to pesticides. Genetically Modified (GM) or F1 hybrid seeds, which have been cross bred

between particular types of plants can often not be saved, in any case, because they are genetically unstable.

Farmers who use these seeds have to pay the breeders and the companies that have bought the rights to own the seeds. If they save seeds and plant them another year, they must pay again for the use of these 'Farm Saved Seeds'. Sometimes, it is illegal to save seeds from GM or F1 crops altogether and farmers found to be doing so can face big fines. It's also illegal for farmers to give any surplus seed that they have saved to another farm for free. In the UK, some of the money from the sale of the seeds is used by the British Society of Plant Breeders (BSPB) and is used to fund further research into breeding methods, creating stronger plants, more suited to being grown on a mass scale.

Slide 5: Farmland is also used for animals such as cattle to be raised on and for plants to feed them

As well as growing food for humans to eat, farmers also plant crops to feed livestock (the term for animals that are eaten by people). Cows have to graze (eat) for up to 8 hours a day in order to take in enough calories for energy. They eat grass, either from the fields, or in the form of hay or silage. They are often also fed a dry feed mix made up of cereals such as barley, together with proteins, vitamins and minerals. Around a quarter of the whole planet's ice-free land is used for livestock grazing and over 30% of cropland globally is used to grow cattle feed.

Slide 6: The crops need to be watered

Crops need a lot of water to help them grow. It rains a lot more in the UK than it does in hotter countries, so less pumped water is needed. However, globally, agriculture (farming crops or raising animals) accounts for 70% of water use. In hotter countries, lots of this water is pumped from aquifers - deep reserves of water in between rocks underground. These reserves take a very long time to fill up again, so they are at risk of running dry. The need for water is only set to increase as a growing population requires more and more crops to eat. Experts have predicted that water extraction for irrigation (watering crops) may rise by 15% or more by 2050.

Slide 7: Fertilisers and pesticides might be used

In order to grow enough crops, farmers often use fertilisers and pesticides, which can harm the soil over time. Synthetic fertilisers containing nitrogen and phosphorus have helped double the rate of food production since World War Two. They are very useful for increasing the yields of wheat, corn

and rice. However, these chemicals have been used so much that they are now present in dangerous amounts. Excess nitrogen in the soil leads to nitrous oxide being emitted, which is one of the most harmful greenhouse gases. Excess nitrogen also seeps from the soil into waterways causing toxic algae to bloom and decompose. This leads to oxygen depletion in waterways, which in turn causes 'dead zones' where nothing can survive.

Pesticides also kill useful insects such as pollinating bees. This has a knock-on effect on food chains, as the animals that live on these insects struggle to find food to eat.

Slide 8: Foods are transported around the world

Lots of the foods that we eat are transported many thousands of miles to reach us. Some foods that need a warm climate to grow in (such as bananas) can't be grown in the UK's climate so they come from places such as Costa Rica, Ecuador and Columbia. Taking between 6 and 12 days to get to the UK, bananas have often travelled around 5,000 miles before getting to the shops! Lots of food gets wasted if it is damaged at all during transit. Some food is even thrown away if it has grown in a funny shape, as people are less likely to buy it!

Even corn grown in the UK has to be collected in lorries to be taken to the mill where it is ground and the factory where it is processed.

Slide 9: Workers pick the plants that we eat

People work all around the world to grow and pick food. These people are picking tea leaves, which will be turned into the tea bags that we use in the UK. In some countries, wages are low and working conditions may not be strictly monitored. Some people work where dangerous pesticides have been sprayed and this can affect their health. The workers who grow cocoa, used to make chocolate, often receive only 6% of the price of a bar of chocolate. Many of the workers who make chocolate live in poverty and can't afford to feed their families properly. Campaigns such as Fairtrade are trying to improve standards and pay for workers. At the moment, younger generations are turning away from farming cocoa as it is so badly paid. Extreme weather conditions brought about by climate change also hit the areas where cocoa is grown. In the future, if things don't improve, it may be very hard to buy foods such as chocolate.

Slide 10: Ingredients are processed in factories

Unless our ingredients are eaten exactly as they come out of the ground or from the tree, food is sent to factories to be washed, baked, shaped and packed into the foods that we see in the shops. The factories use a lot of electricity to carry out each of these processes.

Slide 11: They need to be transported again to the shops

Once the foods have been processed in factories, they have to be taken to the shops. They might be carried directly there in huge lorries, or they might go to a giant warehouse first. Every time the food is moved, it takes some kind of fuel to power the vehicles. This is often diesel, which is made out of oil. Burning this fuel produces emissions such as carbon dioxide, which is a greenhouse gas that can lead to global warming and climate change. All the foods that we buy from a supermarket have been picked, packed, processed and transported in some way. Some have not gone through many processes and they arrive on the shelves much as they were found in the field. Others, such as pizza or biscuits might be made of various ingredients, all of which are processed in different ways and then re-combined into the familiar products that we see on the shelves.

Slide 12: People buy the food and transport it again - this time to their home

Even when it reaches the shops, this isn't the end of the journey for the food! It still needs to be bought by the people who will take it home to eat. Depending on the type of transport used to get to the shops, this might create still more emissions. The shops also use lots of electricity to light the buildings and to keep cold food chilled.

Slide 13: These processes all require power and create emissions

The food production factories around the world use electricity to run their machines, heating and lighting. Most of the electricity is produced by burning fossil fuels. Transport also requires fuel - and most of that also comes from burning fossil fuels.

Coal, oil and natural gas are known as fossil fuels because they were created millions of years ago from fossilised remains of organic material such as plants and animals. Over hundreds of millions of years, heat and pressure turned these remains into the coal, oil and gas that we use today. These fuels are a finite resource, meaning that one day, they will run out.

Fossil fuels can be burned in power stations to create steam, which in turn generates the electricity that is used to power businesses. (For more

information, you might like to watch

<https://ypte.org.uk/videos/how-is-electricity-made>.

Slide 14: Despite this, people throw away tonnes of food every year

Even after all this work and energy has gone into food production, huge amounts of food is thrown away every year. Over a third of all food produced globally each year ends up being thrown away, even though millions of people don't have enough to eat. In the UK, 9.5 million tonnes of food is wasted in a single year. Some of this waste comes from supermarkets or restaurants ordering more than they are able to sell, but most of it (6.6 million tonnes a year) comes from households.

This is especially worrying to think about when there are 13.7 million people in the UK currently living in food poverty (they don't have enough nutritious food to avoid being hungry). *Source: Food Foundation, September 2022.*

Slide 15: Food waste ends up rotting in landfill

When unwanted food is thrown away with the general rubbish, a lot of it is thrown into landfill. Landfill sites cause many problems. Not only are they ugly and smelly for people who live near them or work on them, they contribute to climate change. As organic material such as food scraps break down in a landfill, it eventually releases methane into the atmosphere. Methane from landfill sites account for 12% of total global methane emissions and almost 5% of total greenhouse gas emissions.

Slide 16: How can we avoid wasting so much food?

Ask the children if they have any ideas when it comes to not wasting food. Maybe this is something that is already discussed at home, or at school lunch time. *Again, sensitivity may be needed if you have a school population where young people are likely to be experiencing food scarcity.*

Some possible solutions might include:

Slide 17: Meal plan and buy only what you need

Food often goes to waste because people don't meal-plan by deciding in advance what they will eat and how much of each ingredient they will need. Instead, they buy more than they need or they are attracted into buying extra things by special offers and sales. The food that they don't end up eating gets wasted. Sometimes people leave food unused for too long,

so that it goes off. Sometimes they might serve a big portion and then not finish it all*.

Slide 18: Freeze food before it goes off

One of the most commonly wasted foods in the UK is bread. People often leave a loaf of bread open and don't finish it all before it has gone stale. It's actually possible to freeze bread and many other foods before they go off, meaning that they can be defrosted and eaten another day.

Food labels can also be confusing. Some foods have a 'best before' date on them, but the food is still perfectly OK to eat after that date. The 'use by' date is more important because this is usually on animal products that can make you ill if you eat them when they are too old. However, many of these foods are still also fine to eat a little while after the use-by date and they can often be frozen ahead of this so they can be eaten another day.

Slide 19: Use up your leftovers*

If you have a few bits and pieces left of a certain kind of food, it might be possible to combine it with something else to make a new meal! Leftover vegetables can easily be added to a soup or stew.

Slide 20: Compost waste or use a food waste caddy

Some food gets wasted because people throw away peelings and other scraps that could be used to make compost. In the UK, we throw away 9.5m tonnes of food waste each year, creating more than 20m tonnes of greenhouse gas emissions – the same emissions as 3.5m cars. Instead of throwing these leftover scraps into a general waste bin, they could be used to nourish soil in a garden and help future plants to grow.

If your local council has a food waste bin scheme then one of the biggest impacts you can have on the environment is to use the food caddy instead of putting food waste in the bin! This food waste is often used to generate power, instead of being left to rot in landfill.

Slide 21: Shop for local produce if you can

You can reduce emissions from food transportation by shopping closer to home. It is possible to buy products straight from the farm where they were grown. Some farms have their own farm shops, or they might run stalls at local markets to sell their produce. Others have 'pick your owns', where you can go and choose your own fruit and vegetables. It's also sometimes possible to have a "veg box" delivered that has been packed with produce provided by local farms. This is definitely not the cheapest way to buy food as farms selling their own products can't offer the huge discounts that

supermarkets are able to. However, there are many environmental benefits of shopping for food in this way, if you are able to do it.

Slide 22: The population is growing and we all need to eat

There are currently around over 8 billion people living on Earth and every single one of them needs to be able to eat. It took over 200,000 years of human history for the world's population to reach 1 billion, and only 200 years more to reach 7 billion. The United Nations predicts that the population will increase by another almost 2 billion people in the next 30 years, reaching 9.7 billion by 2050.

At the moment, 43 million people across the globe are at risk of famine or starvation. 1 in 10 people simply don't have enough food to eat. This is happening at the same time as a third of food produced is thrown away. There is actually enough food to feed everyone - it just isn't evenly distributed. In fact, the amount of food wasted by the UK, Europe and the US would be enough to feed these people four times over. Up to half the food supply in these countries is wasted between farm and plate. Saving food through reducing waste and redistributing food more fairly would provide more than enough to feed everyone. We don't have a world food shortage, we have a problem with sharing fairly.

Slide 23: Precious resources are used to bring us food - we mustn't waste it!

People who do have access to enough food are very lucky indeed. We are even luckier if we actually have a choice about which foods to eat. Many people have no choice and can only eat what is available to them, even if that means eating the same food every single day. Our food comes from all over the world and takes the work of so many people to reach us. Precious resources such as soil, water and electricity are used to bring the food to us. It's important not to waste the food that we have*.

Slide 24: Pause for thought

“We are trashing our land to grow food that no one eats.”

Tristram Stuart.

** (The subject of not leaving food may need to be treated with caution as some young people face tricky mealtime situations regarding having to*

clear their plates. It may not be appropriate to reinforce this message - please use your discretion and knowledge of your class.)

