

How to teach... **FOOD WASTE**

TEACHER'S GUIDE TO THE LIVE BETTER CHALLENGE



INTRODUCING THE LIVE BETTER CHALLENGE

Live Better Challenge is a nationwide campaign introducing a series of challenges to inspire individuals and families to create a more sustainable life. Covering topics such as reducing food waste, getting fitter and lowering energy costs, we are asking Guardian writers and staff – plus experts, readers and families – to participate in monthly challenges.

This month we're reducing food waste. The challenge is to use the leftover of food in your house and throw nothing away for one week. Is your school taking part? We've compiled these facts and lesson ideas to help you explore food waste and engage students. The resources can be adapted for a range of age and abilities.

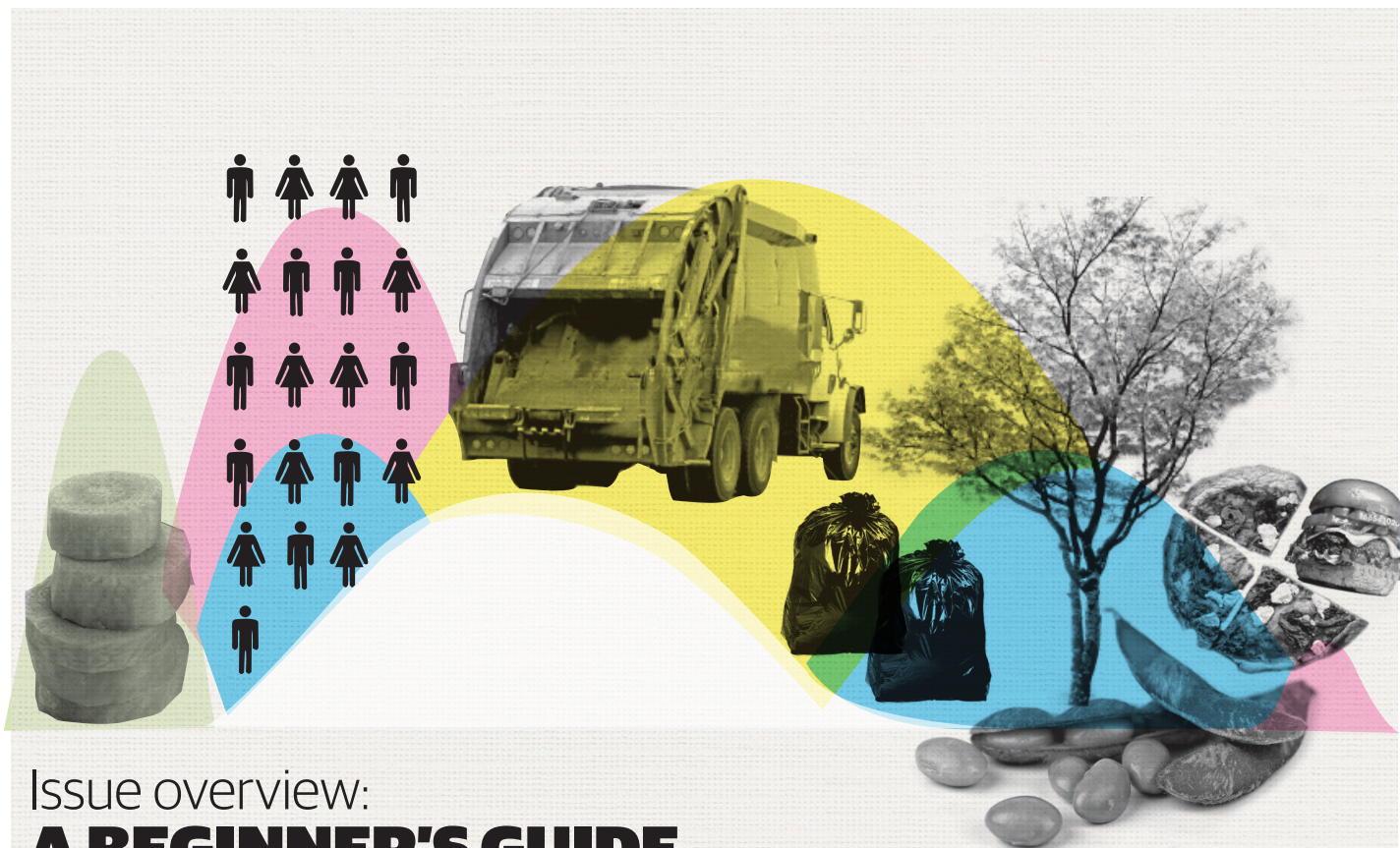
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Live Better Challenge

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Issue overview: **A BEGINNER'S GUIDE TO FOOD WASTE**

Not eating every scrap on your plate is one thing; dumping your dinner straight from the saucepan into the bin is quite another. Think you'd never waste food like that? Think again. Research from WRAP shows that in the UK we needlessly throw away loads of perfectly good food. It's not just a bit of leftover haddock or a yoghurt here and there, but 4.2m tonnes of the stuff in 2012, the last year for which figures are available.

The good news? That's less than than we were chucking out five years before - in 2007 the amount of food avoidably discarded was a massive 5.3m tonnes.

Here's the bad news. We're living at a time when food prices are rising. The world's population is shooting up. We're cutting down rainforests to grow soya to feed cows to make hamburgers (some of which we, yep, throw away). And millions of people are malnourished or starving to death. It's hard not to conclude that wasting food is environmentally disastrous, financially reckless and morally wrong.

So why do we waste so much food?

Partly perhaps, it's because we live in a culture where there has always been more than enough. Our great-grandpar-

ents would never have countenanced throwing out few scraps from the Sunday roast. They'd have mixed up the last few shreds of meat with some salad cream and a handful of yesterday's veg and used it as a sandwich filling. But they lived through a war when food was rationed. Today people just take a trolley for a spin around the supermarket.

Until the last few years, food in this country has also been cheap - or at least, a week's shopping cost less as a proportion of someone's income than it did in the past. When something is cheap it's psychologically easier to discard it than when it costs a lot.

What happens to our food waste?

Most food waste gets taken to landfill where it rots down and releases a damaging greenhouse gas called methane. Wasting food also means you're wasting the energy and water it took to grow it, the fuel it took to transport it from where it grew to your house, and the packaging it was wrapped in. So, what's the best way to dispose of food you can't use or don't want to eat? You can't compost anything that's been cooked or raw animal protein (meat, fish, cheese or milk). But you can collect your uncooked food waste such as fruit and veg, used teabags and eggshells and let them rot down in a container for use in the garden.

Another reason we chuck food out when it could have been eaten might be that not as many people know how to cook from scratch as they used to. Making a delicious meal out of leftovers was a skill that 50 years ago would have been part of a woman's work in the home. Now that many more women have busy jobs that pay the mortgage, there's far less time for anyone to be cooking up a storm in the kitchen. And few schools teach children how to create nourishing meals from basic ingredients, so it's easy to feel stumped when you look in the cupboard and find half a carrot, some lentils and a dried up piece of Cheddar. Frankly, it can feel easier to call out for a pizza than start dreaming up a tasty supper from an unlikely looking pile of ingredients when you're tired, hungry and just want something on your plate.

It might feel like a lot of effort to change how we view and treat food. But most people love eating, and inventing new recipes can be a lot of fun. Fortunately, the result is likely to be yummy far more often than it's horrid; and if it turns out badly, just remember that every great chef makes mistakes! It's worth making the effort, because if we're going to protect the planet, respect other humans who don't have enough, save some money and nourish ourselves properly, we have to stop wasting food when we could be eating it.

THE FACT FILE:

08 interesting stats about food waste

FACT 1

Sadly there's always some food that we can't avoid chucking out, and in 2012 that resulted in 1.6m tonnes going down the drain or into landfill.

1.6m
Tonnes

FACT 2

We're getting better at not wasting food. Between 2007 and 2012 we reduced our annual food waste by 21% to 1.1m tonnes - enough to fill Wembley Stadium.

1.1m
Tonnes

FACT 3

In total, we throw away 7m tonnes of food from our homes and fridges every year. The majority of that - 4.2m tonnes - would have been perfectly fine to eat.

4.2m
Tonnes

FACT 4

Shockingly, a fifth of the food and drink we buy from the shops ends up as waste. That's like putting six meals a week straight in the bin. Fridge to bin. Fridge to bin.

6 meals
wasted

FACT 5

If we started eating all the food we bought rather than wasting it, in pollution terms it would be the same as taking one in every four cars off the road.

1/4
of cars

FACT 6

The world's one billion hungry people could be lifted out of malnourishment on less than a quarter of the food that is wasted in the US, UK and Europe.

1bn
Hungry
people

FACT 7

Between 20% to 40% of UK fruit and vegetables are rejected before they reach the shops because they don't match the supermarkets' strict cosmetic standards.

40%
uk fruit

FACT 8

It costs a lot to throw away all this food. An average household with children loses £700 every year. Just think what you could spend that money on...

£700 a
year

CHILDREN QUIZ:

The food waste challenge quiz



01 Has food waste reduced or increased since 2007?

Increased ☐ Decreased ☐

02 How much of the food we currently throw away do you think we could safely use?

28% ☐ 50% ☐ 64% ☐ 72% ☐

03 How much was our avoidable food waste worth in 2012?
In other words, how much money did we stick in the bin?

£1.3m per year ☐ £9m per year ☐ £2bn per year ☐ £12.5bn per year ☐

04 By weight, what type of food did we throw away most of in 2012?

Meals (homemade) ☐ Baked goods ☐ Fresh vegetables and salads ☐

05 And what type of food do you think we threw away least?

Dairy and eggs ☐ Drinks ☐ Meat and fish ☐

06 What single food item did we waste most of - by weight - in 2012 that we could perfectly well have eaten?

Milk ☐ Bread ☐ Potatoes ☐ Apples ☐

07 What single food item - by weight - did we throw away least of in 2012?

Butter ☐ Chicken ☐ Celery ☐ Eggs ☐

08 Can you eat food after its “best-before” date?

No ☐ Yes, if it’s before the use-by date ☐

09 There has just been new official advice on the latest date on which you can freeze food you’ve bought. Is it:

Day of purchase ☐ Before the best before date ☐ Before use-by date ☐

10 Who wastes the most food?

Households ☐ Food manufacturers ☐ Shops ☐ Hotels, restaurants ☐

The food waste challenge quiz answers

Q1: (Answer: reduced)

Q2: (Answer: 64% - that's nearly two thirds of what we currently throw away that could be eaten)

Q3: (Answer: £12.5bn)

Q4: (Answer: fresh vegetables and salads. In 2012 we threw away approximately 800,000 tonnes - that's a lot of lettuce!)

Q5: (Answer: meat and fish. At just over 200,000 tonnes, we're frugal with protein)

Q6: (Answer: about 360,000 tonnes of bread, closely followed by potatoes - around 320,000 tonnes - and milk, at 290,000 tonnes)

Q7: (Answer: eggs)

Q8: (Answer: yes, as long it's before it's "use-by" date)

Q9: (Answer: before the "use-by" date)

Q10: (Answer: households, which discarded 7m tonnes of food in 2012)



LESSON TASKS AND ACTIVITIES

WHAT STUDENTS NEED TO KNOW ABOUT FOOD WASTE: READING COMPREHENSION TASK

Explore the figures and context of food waste with your students with this comprehension task. Read the Guardian article below and consider the following questions.

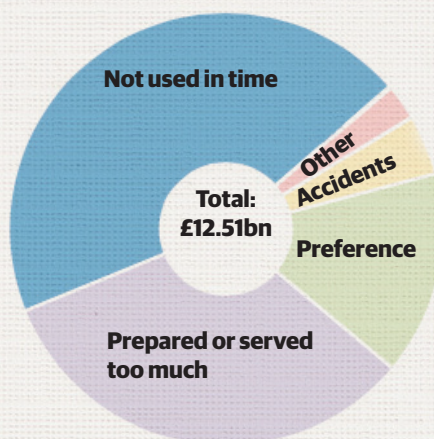
Food waste: what does the latest report tell us?

According to the latest report by the government's waste advisory body, £12.5bn worth of avoidable food and drink waste was thrown away last year in the UK.

4.2m tonnes of avoidable food and drink waste was thrown away by last year according to the latest report by the Waste & Resources Action Programme (Wrap).

The report estimates the amount of food and drink wasted in the UK, with data on the types of food and drink wasted, the reasons why and environmental impact. Rebecca Smithers writes:

"The average UK family is wasting nearly £60 a month by throwing away almost an entire meal a day. Britons are chucking out the equivalent of 24 meals a month, adding up to 4.2 m tonnes of food and drink every year. Almost half of this is going straight from fridges or cupboards into the bin. One-fifth of what households buy ends up as waste, and around 60% of that could have been eaten." So how does Wrap get these numbers? The research is based on three sources:



- Detailed measurement of the weight and types of food and drink waste from around 1,800 consenting households
 - A week-long food and drink diary involving 950 households
 - A synthesis of waste data from more than 80 local authorities
- Here are some of key findings:
- 7m tonnes of food and drink was thrown away last year - 4.2m tonnes of this was avoidable
 - In 2012, 7m tonnes of food and drink was thrown away from our homes. 1.2m tonnes of this was considered "possibly avoidable" and 1.6m tonnes was declared as "unavoidable".
- In 2007 the amount of avoidable waste totalled 5.3m tonnes; it made up 64% the total food and drink waste compared with 60% in 2012.

4.7m tonnes of household food and drink waste was collected by local authorities in 2012. Another 1.6m tonnes was disposed of via the sewer, while 0.51m tonnes made it onto the compost heap and 0.28m tonnes was fed to animals. Bread, potatoes and milk were the top food types thrown away in the avoidable food waste category (by weight). If you look at it by food groups though, fresh vegetables and salads are at the top (contributing to 19% of avoidable food waste). And if you're to look at it by cost, meat and fish tops the list followed by homemade and pre-prepared meals. The cost of avoidable food and drink waste to the average household in 2012 was around £9 per week or £470 per year. But an average household with children is reported as wasting £700 per year. The UK average cost of avoidable food and drink waste per person was £200 in 2012 - one-person households recorded a significantly higher average at £290. £5.6bn worth of avoidable food and drink waste in 2012 was due to "not being used in time". Just under half of this was attributed to not being used on time (including items thrown away because they'd gone off or passed the date on the packaging). 31% of avoidable waste was due to "cooked, prepared or served too much" while the remainder is attributed to health reasons, preferences and accidents.

NOW, CAN YOU ANSWER THESE QUESTIONS?

01 What is the purpose of the article and what audience is it aimed at?

02 How many tonnes of avoidable food and drink was thrown away by UK households in 2012?

03 Convert the quote from Rebecca Smithers into key information bullet points

04 Why do you think it is not easy to estimate how much food is wasted throughout Britain each year?

05 How many million tonnes of food waste thrown out in 2012 was unavoidable?

06 Explain the difference in avoidable waste between 2007 and 2012

07 An average household with children wastes how many hundreds of pounds on food and drink a year?

CONTINUED...

08 What is the difference between the cost of waste, in pounds, of an average household and a household with children?

.....

.....

09 What were the the top three food types thrown away within the avoidable food waste category (by weight)?

.....

.....

10 What percentage of avoidable waste was because too much had been cooked, prepared or served?

.....

.....

11 What is the total avoidable waste cost in millions of pounds?

.....

.....

12 What are the top three wasted products in total waste generated (tonnes)?

.....

.....

14 How many million tonnes of avoidable food waste was thrown out last year (2012)?

.....

.....

15 How much waste was collected by the local authorities in 2012?

.....

.....

INVESTIGATING FOOD WASTE: MAPPING YOUR INGREDIENTS

An activity based on exploring the cupboard and mapping the origin of ingredients.

The food we have at home connects us to many places around the world. This task challenges you to explore what's lurking in your cup-

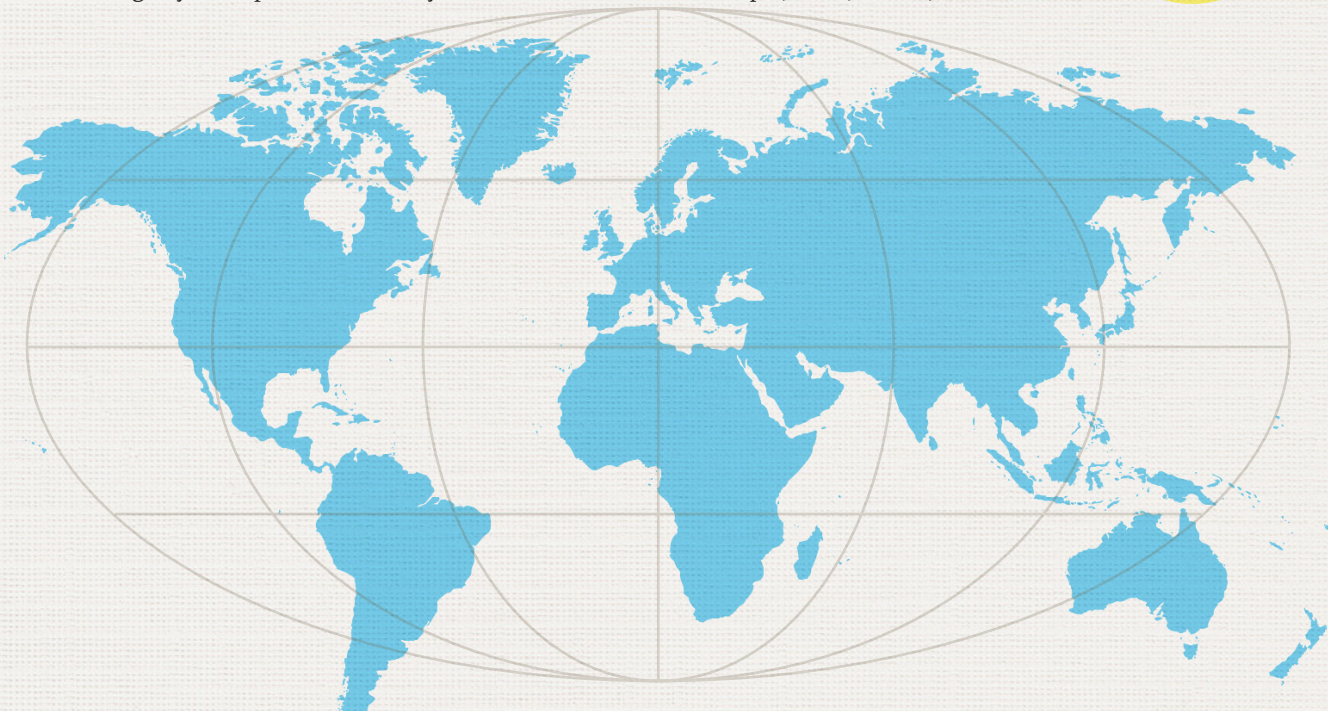
boards. Go home and explore your food. Don't leave any corner unexplored including cupboards, the freezer and anywhere else food may hide. Try to include at least 50

foods. Record your findings on the grid below.

If you're comparing results with classmates, don't forget to agree on classifications. For example, fresh, tinned, dried.

YOU'LL NEED:

- World map
- Recording grid



FOOD ITEM

TOMATOES

CLASSIFICATION

TINNED

ORIGIN

SPAIN

BEST BEFORE

12/01/14

FOOD ITEM**CLASSIFICATION****ORIGIN****BEST BEFORE****TOMATOES****TINNED****SPAIN****12/01/14**

FOOD ITEM**CLASSIFICATION****ORIGIN****BEST BEFORE****TOMATOES****TINNED****SPAIN****12/01/14**

Investigating food waste: mapping your ingredients



20

15

10

5

NUMBER OF ITEMS

COUNTRY THE ITEM IS FROM



Taking positive action: **REDUCE THE FOOD WASTE IN YOUR SCHOOL – AND BEYOND**

This is a series of activities and ideas for encouraging students to engage with food waste and take action against it.

There are many ways to make changes in school about issues we are unhappy about – from school councils to lobbying MPs. For example, *the students who protested peacefully against rising university tuition fees*

Or Martha Payne, the nine-year-old food blogger who *wrote descriptions and posted photographs of her sometimes unappealing school dinners.*

Also check out this *story about pupils protesting against the government which inexplicably chose to cut funding for sports in schools despite the fact that it was a legacy of the 2012 Olympic Games.*

Consider the case studies. Which of these ideas would be suitable for your school? Which wouldn't? How could you work to create a change?



Beyond the school walls:

PERSUASIVE WRITING ACTIVITY

A persuasive writing activity for students to lobby parents and supermarkets

Now that you have investigated food waste in class, where else could your class reduce food waste?

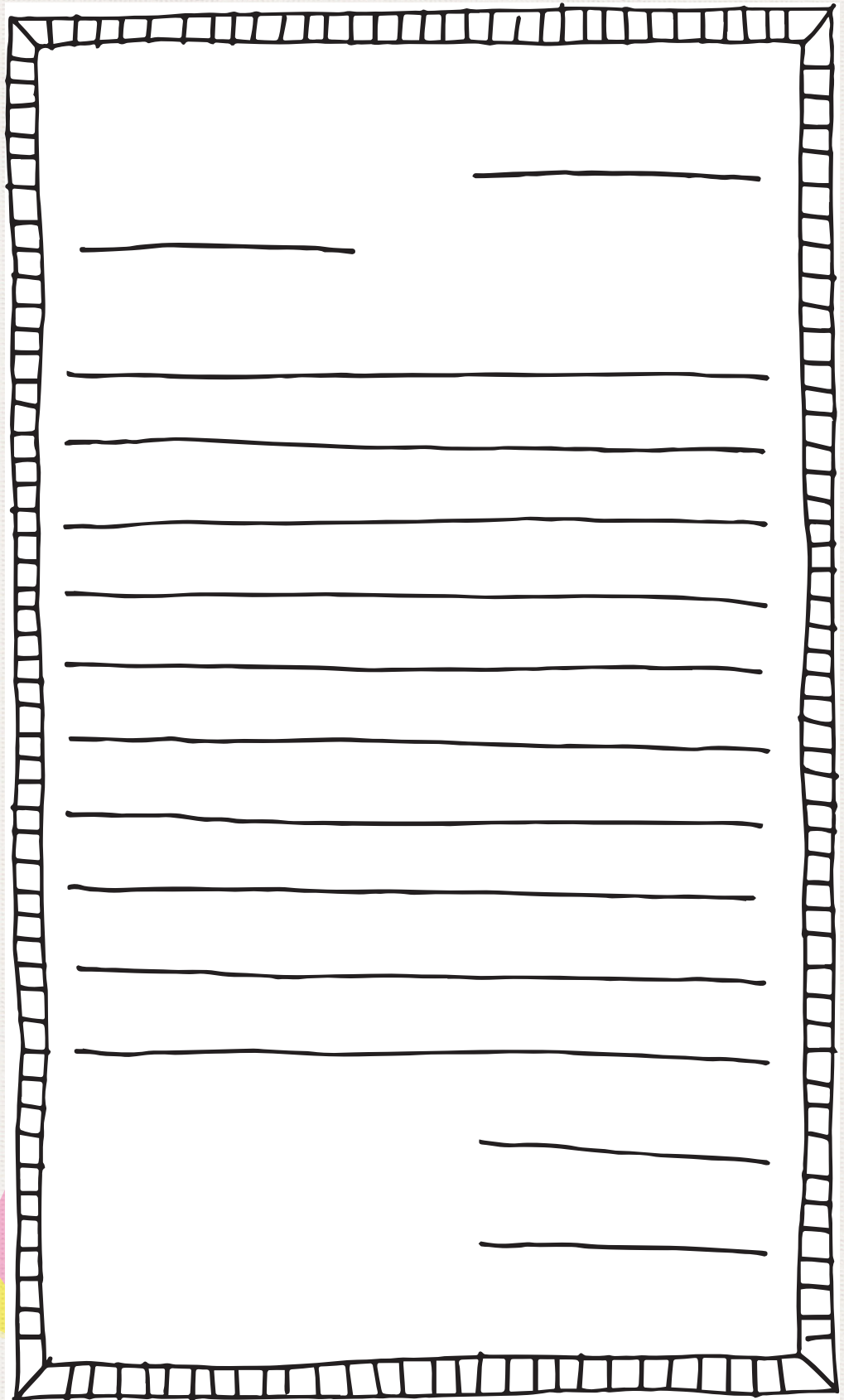
It's time to write letters to your headteacher and governors, parents and supermarkets about food waste.

In your letter:

- Explain why food waste matters to you and the rest of society. For example, what are the three biggest benefits to reducing food waste?
- Share stories about how you've been exploring and reducing food waste at your school.
- Describe what supermarkets and/or parents could do to help.
- Make it clear what changes you would like to see.

WRITING TIPS:

- Keep the plan focused, clear and to the point.
 - Draft and edit the letter before sending it.
 - Read your letter out loud. Ask others to check the grammar, spelling and sentence construction. Listen to their feedback.
 - Think about your audience - your parents and supermarket bosses - and make sure the language you use is appropriate for them.
- Students could share their letters with the rest of the class and post them around the school to get feedback.



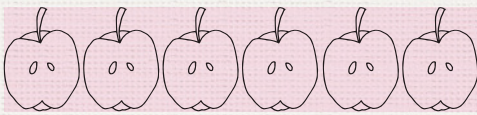
FOOD TECHNOLOGY TAKE OVER

What leftover recipes can your class create?

Wasting food is unsustainable and a terrible waste of money, especially in tough economic times. A report from Wrap has found that British households waste around £580 a year by throwing out food. And that's without considering the environmental cost of producing and transporting that food. Altogether, England and Wales waste around £9bn of food each year.



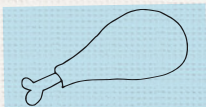
50%
Salads



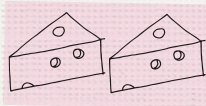
25%
Fruit and Veg



20%
Bread

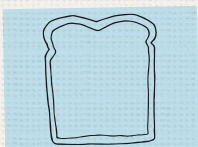


10%
Meat and fish



10%
Yoghurt, milk and dairy

In groups, come up with some reasons why we waste so much food. Look at the following list of ingredients. These are often thrown out.



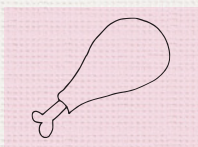
327,900 tonnes
Bread



67,000 tonnes
Yoghurt



62,600 tonnes
Tomatoes



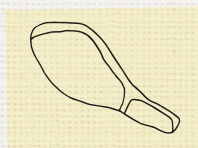
560,000 tonnes
Chicken



57,900 tonnes
Rice



822,100 tonnes
Potatoes



94,700 tonnes
Bacon



65,100 tonnes
Lettuce



149,700 tonnes
Onions

● Your challenge is to come up with a delicious recipe using these ingredients. You can share these by: emailing us at livebetterchallenge@theguardian.com; blogging about your recipe, publishing articles in your school newsletter, taking photos and conducting taste tests.

CLASSROOM DEBATES:

What next for food waste at our school?

Now you've explored the issue of food waste in more detail, what next?

Discuss other ways you could cut down on food waste at home and at school? What would be the hardest thing to change? What would be

the easiest? How could you encourage the community and businesses to change their attitudes to food waste?

Will you be take part in the Live Better Challenge? Share your ideas and stories with us via livebetterchallenge@theguardian.com

