

# Activity:

## School food waste survey

In this activity, pupils look at how much food waste is generated in school.

After logging the waste, they calculate potential carbon dioxide emissions and discuss how this might affect the environment and the ocean.

### You will need:

- 5 bottles (about 500ml size)
- Water
- 5 balloons
- Elastic bands or string
- 80g banana, puréed
- 80g tomatoes, puréed
- 80g lettuce, puréed
- 80g blueberries, puréed
- Strong bin bags
- Large scales to weigh the food waste
- [Investigation sheet](#)
- [Survey forms](#)



In the UK each year, households throw away about 4.5m tonnes of food that could've been eaten.

This waste is responsible for 14 million tonnes of carbon dioxide emissions.

Make sure you carry out a risk assessment of the waste audit and that all pupils have appropriate supervision and safety equipment. Food waste is a complicated subject. [This BBC article](#) summarises the issues.

### What to do

#### What a lot of rot!

Explain to pupils that you are going to do a class experiment that will demonstrate gases being produced when food rots. Pupils can record the experiment on the [investigation sheet](#).

When food rots, methane and carbon dioxide gases are created. These are greenhouse gases that contribute to global warming. *Continued on next page.*

# Activity: School food waste survey

## What to do (continued)

1. Set up the experiment.
2. Line up 4 of the containers, putting a different food in each one. Label them clearly, then fill the bottles about three-quarters full with water, adding the same volume of water to each one. Leave the fifth bottle empty and discuss how to create a fair test.
3. Put a balloon over the top of each bottle and secure with an elastic band or string. Place the bottles together in a warm place. Discuss with pupils what they think might happen.
4. After 2 days, observe what has happened. How does it compare with pupils' predictions? Explain that the decomposition process has created methane and carbon dioxide gases, which have been trapped in the balloon.



Did you know  
that the UK  
produces  
**9.5 million**  
**tonnes of**  
food waste  
every year?

## Hidden carbon emissions of food waste

Most carbon emissions from food waste relate to food that's bought but not consumed. The growing, processing, packaging and transportation of food is responsible for one quarter of greenhouse gas emissions, and when food is wasted, these emissions were generated for nothing.

1. Choose a favourite meal. Identify the ingredients and list them on the board. Pick an ingredient and trace it back to its source e.g. cheese is made from milk, which comes from cows.
2. Discuss the carbon emissions involved in the production process. For example, cows emit methane, the milk is taken to factories in a truck, the production process uses energy, the cheese is packaged and is transported in trucks to shops and supermarkets.

# Activity:

## School food waste survey

### How much food do we throw away in school?

1. Collect and weigh all the school's food waste for a week.
2. For the canteen, you may be able to weigh the bin normally used to collect food waste, or you may have to set up a special bag for the activity. You'll need the cooperation of the catering team to collect and record the food waste involved in preparing lunch. If you run breakfast or afterschool clubs, you could ask staff to weigh food waste.
3. Don't forget packed lunches. If pupils usually take their leftovers home, remember to collect and weigh them every day.
4. Don't forget to record staff food waste. Pupils could collect the food waste from the staffroom, classrooms and offices in a separate bag.

### Collating the results

1. Collate the results. Calculate the overall daily and weekly totals and extrapolate an annual total. This gives you a baseline that you can use to assess the success of actions you might take.
2. Ask the pupils to work together to present the findings. Refer back to the investigation. Recap the impact of food waste on climate change.

### Preparing for Step 3

In Step 3 you'll take action to fight climate change, and you could choose to tackle food waste.

To prepare, look at the survey results and identify the source of most food waste – was it packed lunches, cooked lunches, the kitchen? Which day had the most waste?

You can carry out your Step 3 project in the way that best suits your school's circumstances. We have created a pupil [workbook for reducing food waste](#) showing one possible approach.

# Our Investigation

Name:

---

---

*We are finding out about...*

---

---

---

*This is what we will do....*

---

---

---

---

---

*This is a picture of what we will need*





*We will make it a fair test by...*

---

---

---

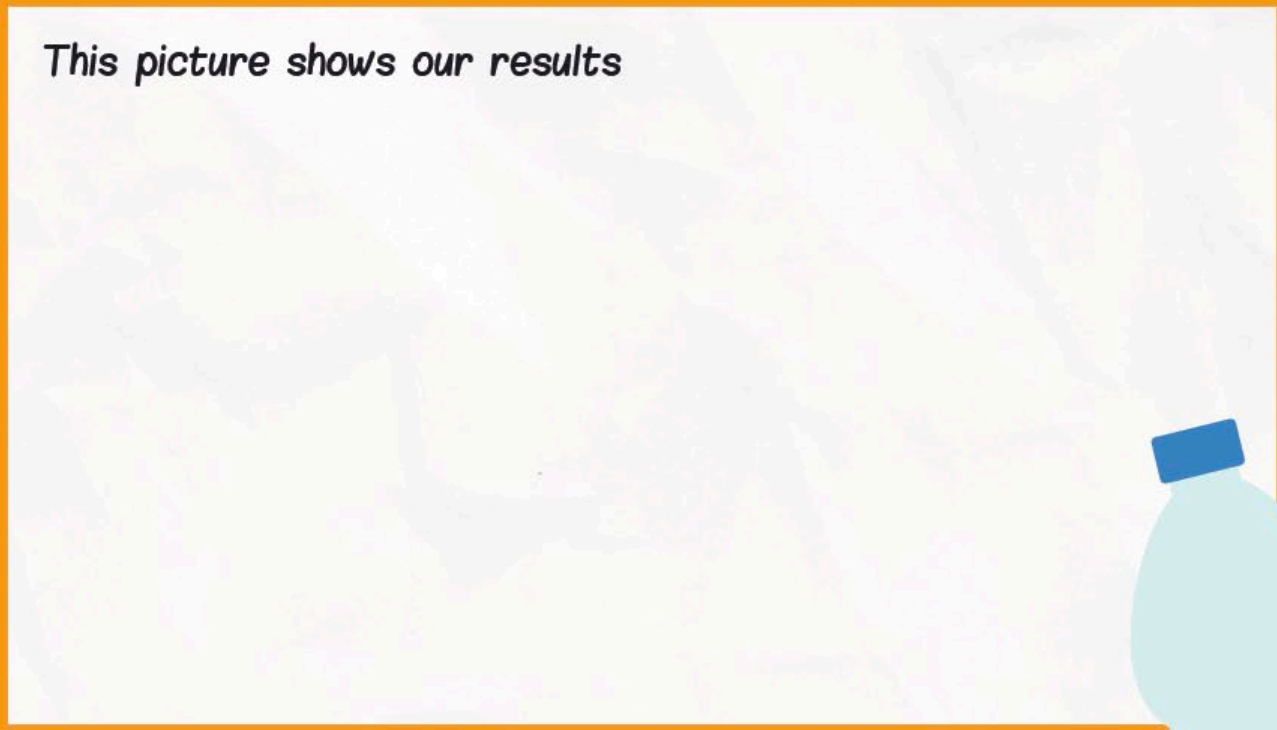
*What I think will happen...*

---

---

---

*This picture shows our results*



*We found out that...*

---

---

---

# Food waste record

Use this form to record the weight of the food waste at your location each day.

Location:

---

	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>
<b>Weight of food waste</b>					

**TOTAL:**

---