Activity:
Lunch carbon footprint survey

In this activity, pupils will explore the carbon footprint of food.

After calculating the carbon footprint of their lunch, they'll consider the impact their food choices can have on greenhouse gas emissions.

You will need:

- Devices with internet access
- Carbon footprint calculation sheet

What to do

Hidden carbon emissions of food waste

Food waste is a complicated subject. This BBC article summarises the issues.

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.

The growing, processing, packaging and transport of food is responsible for one-quarter of the world's greenhouse gas emissions.

Activity:
Lunch carbon footprint survey

What's the footprint of my lunch?

1. Provide each pupil with a Carbon footprint calculation sheet and access to the internet.
2. Ask them to list everything they ate for lunch, then visit the BBC's Climate Change Food Calculator to find out the carbon emissions for each item. For the box, 'how often do you have it?', pupils should choose daily. They can divide the figure by 365 to get a daily figure for emissions.
3. The calculator includes 34 of the most commonly-eaten foods. If the calculator doesn't have the ingredients of pupils' lunches, they can make up a meal instead.
4. This activity is not intended to calculate the exact emissions of pupils' meals. The purpose is to help them compare different types of foods to help them understand that food contributes different amounts of carbon emissions to the environment.

Carbon dioxide in the atmosphere dissolves in the ocean, lowering its pH, affecting the health of marine animals.

Collating the results

1. Once everyone has calculated their emissions, discuss the results. Which foods contributed the highest levels of greenhouse gases? Which was the lowest?
2. Can pupils spot any patterns in the results – are particular food types responsible for higher emissions?

Activity:
Lunch carbon footprint survey

Preparing for Step 3

In Step 3 you'll take action to fight climate change, and you could do this by trying to reduce the carbon footprint of your school's lunches.

Changing school menus can be a sensitive topic. You will need the support of your headteacher before you start conversations with the catering team. Catering is often managed externally and you will need to make sure you're speaking to the decision makers.

To prepare for the action project, as a class look at your school lunch menu. Create a table and in the left column, write down dishes or ingredients that have the highest carbon footprint. Then think of alternative ingredients with lower greenhouse gas emissions.

The aim of your action project will be to persuade your school's catering team to substitute foods with high carbon footprints for lower carbon footprint alternatives. You can carry out the project in the way that best suits your school's circumstances. Our workbook for reducing the carbon footprint of school lunches provides one possible approach.

Ingredient or dish with high carbon footprint	Alternative with lower carbon footprint

Carbon footprint calculation sheet

1 Write the ingredients of your lunch in the boxes below:

2 For the box, 'how often do you have it?', choose 'Daily'. Record the greenhouse gas emissions below.

3 Divide the figure in Column 2 by 365 to get a daily emissions figure.

		÷ 365 =	
		÷ 365 =	
		÷ 365 =	
		÷ 365 =	
		÷ 365 =	
		÷ 365 =	

The food responsible for the highest emissions is

The food responsible for the lowest emissions is