



WORKING
TOGETHER TO
INSPIRE AND
EMPOWER
PEOPLE



FOOD FOR THOUGHT

A RESOURCE FOR PRIMARY SCHOOLS
ON FOOD AND SUSTAINABILITY





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INTRODUCTION TO THE PACK

Every living thing needs food for life. Our food gives us the energy we need to carry out our daily lives and the carbohydrates, fats, protein, vitamins and minerals that we need to stay healthy. The food we eat also links us to the family and friends with whom we share food, and with producers in the UK and around the world.

Our planet, Earth, provides us with all our food. Today 60% of the world's land surface is used in agriculture and food production. But the food we eat and the ways in which we are growing, producing and processing it has a massive impact on our planet, contributing substantially to climate change and biodiversity loss. Moreover, access to food is tragically unequal across the globe. Approximately 1 billion people in the world are undernourished while another 1.5 billion people are obese or overweight.

This resource explores why food is a key environmental issue. It considers what can be done to produce and consume food in a sustainable way that is not harmful to our shared planet.

Green Ambassadors are in a great position to encourage those around them to eat in a way that is healthy for people and healthy for the planet. We are sure that the activities in this resource will give them the knowledge, motivation and enthusiasm to spread that message.



**TODAY 60% OF THE
WORLD'S LAND SURFACE IS
USED IN AGRICULTURE AND
FOOD PRODUCTION.**

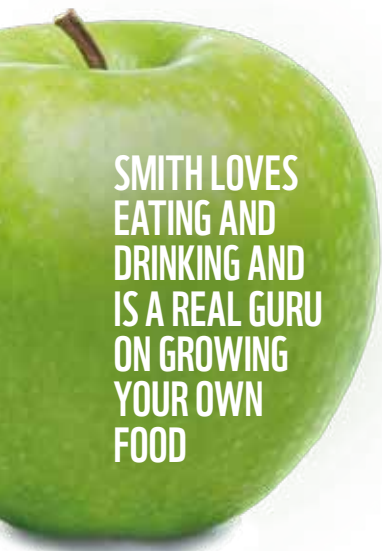


HOW TO USE THIS RESOURCE

This resource is aimed at teachers of 7 – 11 year olds and is designed to help them introduce pupils to the issues of food and sustainability. Pupils are also introduced to the Green Ambassador character Smith. Smith loves eating and drinking and is a real guru on growing your own food, as well as a great team player. You can find out more about the Green Ambassador characters by watching our short film: www.wwf.org.uk/gafilm

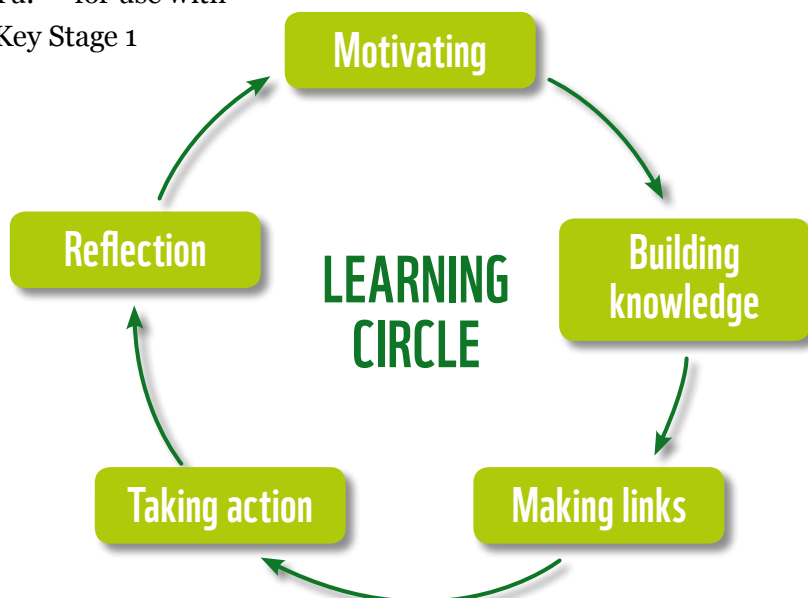
In this resource you'll find a range of activities for 7-11 year olds, although the material can be adapted for use with different ages and abilities. All the activities are linked to the National Curriculum for England, but we hope teachers in Scotland and Wales will also find them useful to support their curricula. WWF is also producing a story book focussing on the Green Ambassador character of Smith – food guru! – for use with pupils in Key Stage 1

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so that food activities can be undertaken across a whole school. Visit www.wwf.org.uk/plant2plate to order.

The activities in this resource use a learning cycle approach which sees motivation and understanding as key precursors to taking action, and action in turn as a way to enhance and extend (reflective) learning. As well as building children's knowledge of the issues, the activities will encourage pupils to be aware of a 'bigger picture' and see how seemingly small actions, such as throwing away food, can have far reaching consequences by contributing to climate change. Some of the issues that are raised may seem overwhelming, but it is important that the pupils do not feel disempowered. The activities encourage pupils to reflect on the active role that they can play in the global community.



THE PROBLEM WITH FOOD...

Food is something we all need and our amazing planet provides enough of it to feed every one of us. But the way we are feeding the world is putting enormous pressure on the climate and ecosystems.

FOOD AND OUR PLANET

Today 60% of the world's land surface is used in agriculture and food production. Advances in technology since the Second World War have meant that farming has become more mechanised. Larger areas of land are farmed by fewer people. Chemicals once used in war have been put to new use as agricultural fertilisers and pesticides. And scientists have begun to develop new crops that give higher yields.

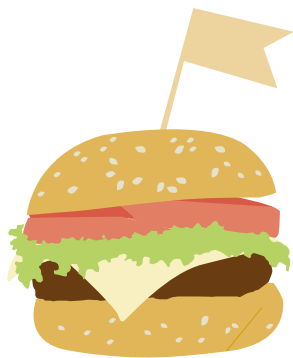
As agriculture has intensified, and monoculture and factory farming have become more widespread, the environment has paid a heavy price. Biodiversity has taken a real hit. There has been an alarming decline in birds, butterflies and other wildlife in the UK countryside over the past 50 years and this trend is echoed around the world.

Food production is also responsible for 30% of global greenhouse gas emissions

making it a hefty contributor to climate change, beating even transport. The emissions come from every stage of the chain – the conversion of land to agricultural use as forests are cut, the energy used to make fertilisers, pesticides and farm machinery, the impact of agriculture on the soil (a natural carbon store), food processing, transport, refrigeration, retail, domestic use of food and waste from all the different stages.

Waste is also a major issue – in fact, globally around a third of the food that's grown is wasted. Households in the UK throw away 6.7m tonnes of food every year – a third of all the food we buy. If we tackled issues such as the waste of foods by consumers and industry, and improved the distribution and consumption of food and the support given to smallholder producers then we would take some of the pressure off our planet.





**EVERY YEAR
THE AVERAGE
EUROPEAN
EATS 85KG
OF MEAT
WHICH IS
ABOUT 2,500
BURGERS!**

FOOD AND PEOPLE

The world's population has doubled since 1960, and is predicted to increase to over nine billion by 2050 yet we already produce enough food to feed a population in excess of this number. The problem rests in what is grown, where, and for whom and – in some parts of the world – in the choices we make around what and how much we eat.

Today close to a billion people – often in low income countries – are badly undernourished and many more do not have enough food to lead a full and healthy life. Conversely, 65% of the world's population live in countries (all high and most middle income) where being overweight or obese kills more people than being underweight – for example through type 2 diabetes, cardiovascular disease or cancer. In the EU, the estimated costs associated with being overweight or obese vary from 1 – 5% of national health care budgets. In the UK £4 billion is spent by the NHS every year treating diabetes with a further £16 billion being spent on diet related social disease – sickness, reduced productivity, and poor grades in school. This critical situation has arisen since the 1940s when the 'Western' diet began to change to one that is high in meat, dairy products and processed food – much of which is packed with salt and sugar – coupled with overconsumption and less active lifestyles.

HEALTHY PEOPLE, HEALTHY PLANET

One of the biggest problems for the health of people and planet is what we choose to eat. One example of this is our large appetite for meat in Western diets. In Europe, the average person consumes 85kg of meat a year compared to the 25kg eaten by the average person living in a developing country. Thirty per cent of croplands are used to grow food for livestock and over 40% of the world's grain harvest is fed to animals. Vast areas of forest and savannah areas are being destroyed as land is converted to agricultural production. Predominantly meat-based diets, like we have in the UK, are very inefficient and place the planet under increasing stress. Producing 1kg of beef requires 15 times as much land as producing 1kg of cereals, and 70 times as much land as 1kg of vegetables. Moreover, livestock produces another major contributor to climate change – methane.



**WE NEED A HEALTHIER
APPROACH TO WHAT
WE EAT AND A MORE
SUSTAINABLE APPROACH
TO FEEDING THE PLANET**

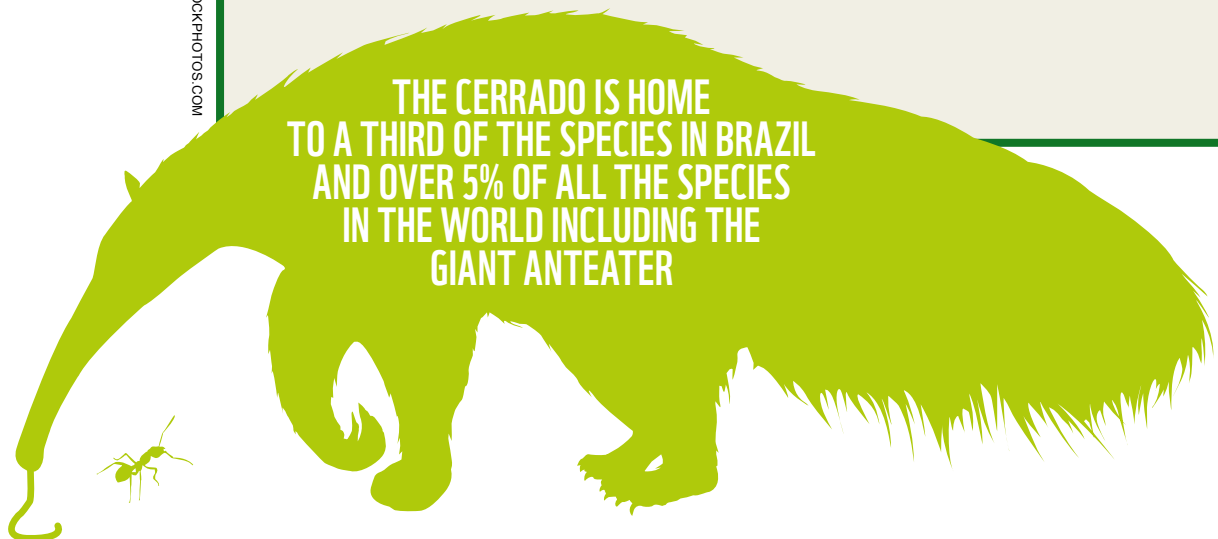


THE HIDDEN COST OF SOY

Home to a staggering 5% of all species in the world, the Cerrado savannah in Brazil is a haven for exotic animals and plants. But this vitally important habitat is decreasing at an alarming rate and being replaced by vast fields of soy beans. But this crop is not to feed people. The soy grown here is mainly used to feed livestock around the world, especially chickens. So if you eat meat, or eggs, or drink milk, it is likely that you are indirectly consuming soya from the Cerrado and places like it.

Find out more by visiting www.wwf.org.uk/cerrado

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SUSTAINABILITY

At the moment we are using nature's gifts as if we had more than just one Earth at our disposal.

**WE'RE USING
THE EQUIVALENT
OF 1.5 PLANETS
WORTH OF
THE EARTH'S
RESOURCES TO
SUSTAIN OUR
LIFESTYLES**

Globally, we're using the equivalent resources of 1.5 planet Earths to support our activities. By taking more from our ecosystems and natural processes than can be replenished, we are jeopardizing our very future.

If we are going to safeguard the future of our planet and ourselves we need to build a sustainable future. Sustainability is a way of life that allows people to meet their needs and enjoy a good quality of life while allowing nature to thrive and protecting the planet for future generations.

Being sustainable means:

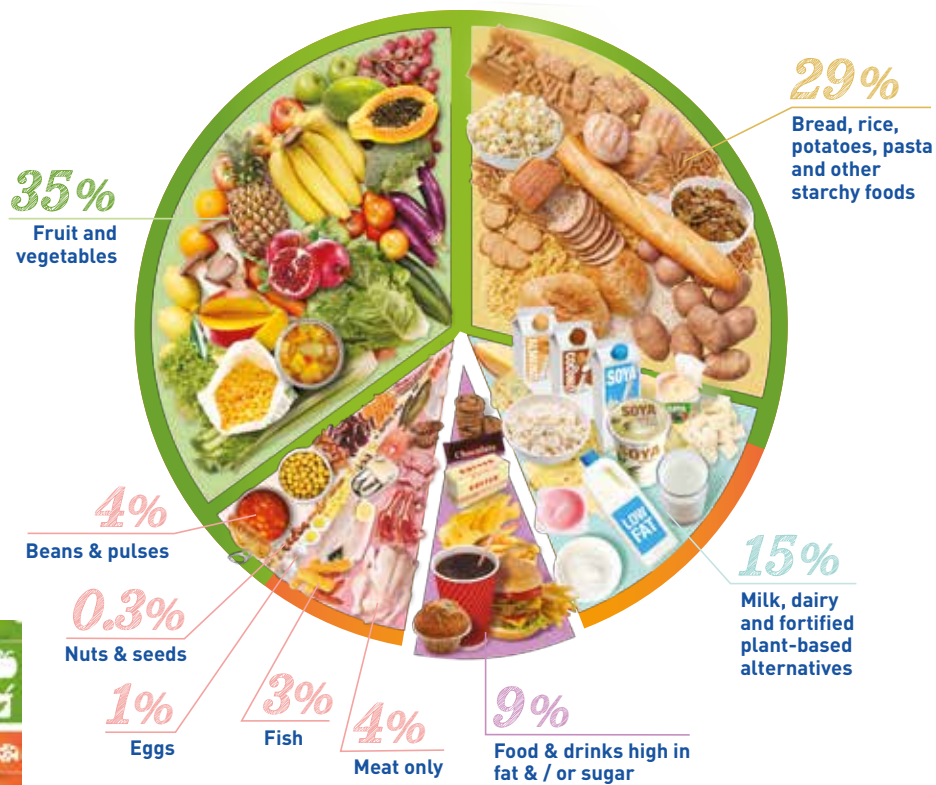
- caring for yourself
- caring for each other – your family, friends, your school community and people in other countries
- caring for nature and the environment now and for the future.

Sustainability is something we should all be aiming for in order to help protect the planet.

The Livewell approach to food

Many pupils in your school are probably familiar with the government's Eatwell Plate. It shows the proportions in which different foods should be eaten to make up a balanced diet. It suggests that a healthy diet should contain more fruit and vegetables and far less meat and dairy than most people in this country consume. WWF's Livewell plate – see page 9 – uses the Eatwell model as its basis but it focuses on sustainability as well as health. Products from farmed animals – meat and dairy products such as milk and cheese – are among the most energy intensive and greenhouse gas intensive food products of all. The Livewell diet involves replacing more meat with plant-based foods and drinks. It's a healthy and affordable diet which would lead to a 25% cut in greenhouse gas emissions from food production.

PLANT BASED EATING



THE FUTURE IS IN OUR HANDS

As the well-known proverb goes “We do not inherit the Earth from our ancestors; we borrow it from our children.” We can meet our needs today without compromising the ability of future generations to meet theirs. And this can be done very simply. Whether we are meat-eaters or vegetarians, by thinking about the way in which we eat we can create the solutions that will safeguard the future of this, our one and only planet. And there’s even better news: what’s healthy for the planet is generally healthy for people too.



The whole world apple

This introductory activity may be used to introduce the topic of food and sustainability



KEY VOCABULARY

Sustainability, sustainable

LEARNING OUTCOMES

- Pupils will be introduced to the concept of sustainability
- Pupils will develop caring attitudes to their own and the wider environment

LEARNING CYCLE

Motivating

RESOURCES NEEDED

- A large cooking apple, knife and chopping board for each group of four pupils. Remind pupils about safety and taking care with kitchen implements such as knives.
- 'Meet the Green Ambassadors' film. You will need to run the film on a screen, whiteboard or interactive whiteboard.
- Large sheet of paper

WHAT TO DO

Introduce the topic by explaining that you are going to be talking about something that each and every one of us depends on for our survival. In fact, every living thing depends on it. Ask if anyone can think what this amazing treasure might be?

- 1 Take a variety of ideas and then reveal that we are talking about the planet Earth. Explain to pupils that the apple on their table represents our planet Earth. An apple is a good comparison to the Earth because it is a food, and pupils are going to be thinking about that too.

- 2 Explain that pupils are going to take turns cutting the apple. First ask them to cut the apple into quarters and put aside three of the quarters. Ask them what these three quarters might represent. After taking suggestions, tell pupils that these represent the world's seas. Three-quarters of our planet is covered in water. The quarter represents the Earth's dry land.

- 3 Now ask pupils to cut the remaining quarter into five equal pieces. They should put to one side two of these small pieces. Again, ask them what they think these pieces represent. Explain that two fifths of our land surface is made up of mountains, deserts, frozen land and other regions where nothing can be grown.



THE WHOLE WORLD APPLE



4 Next ask pupils to peel the last three pieces of the apple and hold up the skins. What could these thin pieces of skin represent? Take suggestions from the class and reveal that this is the portion of our planet which all our food comes from. The seven billion people who live on our planet depend on a relatively thin layer of soil to grow all the foods we need. You should also point out that we harvest some food from the sea.

5 Given that we all depend on one Earth ask pupils to discuss in their groups how this might affect our actions. This will give a good indication of pupils' initial awareness of sustainability issues. During feedback draw out how important it is that we look after our planet and protect the Earth's resources. If we damage it, we can't go out and get another planet.

6 At this point, introduce the idea that our actions need to be 'sustainable'. Ask pupils if they have an idea of what this term means. Give them the opportunity to give some ideas and note some of these down. Draw pupils' ideas together

and summarise the term sustainability. It is a way of life that allows people to meet their needs and enjoy a good quality of life while allowing nature to thrive and protecting the planet for future generations.

7 It is important to motivate pupils by stressing that we can all do something to make sure that our amazing planet is able to keep providing us and all living things with all that we need in the future. There are a number of characters that can help with this. Introduce pupils to the character Smith and the Green Ambassadors scheme by showing the 'Meet the Green Ambassadors' film.

wwwf.org.uk/gafilm

EXTENSION

This activity could be linked to work on fractions in mathematics. Pupils could be asked to represent the activity pictorially. They could accurately divide a circle or rectangle into the proportions discussed in the activity.

REFLECTION/EVALUATION

Having watched the film, ask pupils if they can remember some things that we can all do to make sure that our planet keeps on giving to future generations. Ask each pupil to think of one thing that they are going to do in the coming week and to share this with the person sitting next to them.





Food in our lives

Photographs provide an accessible and stimulating starting point when exploring a new theme. This activity encourages pupils to look closely and explore a single picture in depth, to reflect on their own experiences and feelings, and also help to develop their speaking and listening skills. As a theme develops, stories can be used to provide models for writing.



KEY VOCABULARY

Climate, healthy, energy

LEARNING OUTCOMES

- Pupils will develop their speaking and listening skills
- Pupils will develop their observational skills
- Pupils will build on their own experiences and knowledge
- Pupils will appreciate what makes a healthy lifestyle, including the benefits of healthy eating

LEARNING CYCLE

- Building knowledge

RESOURCES NEEDED

- You will need to provide pupils with a range of photographs which show the growing, processing and consumption of food. These will be a valuable resource which can be used in many ways and further suggestions are given below.



WHAT TO DO

1 Pin the photos around the wall of the classroom and ask pupils to go around in pairs looking in detail at the photos. Using the information in the photos they should try to answer two questions that they should write down on a sheet of paper: Why do we need food? and What are the other benefits of food?

2 Come back together as a class and, using some of the ideas that pupils have collected, draw up a list under the heading 'Why we need food'. Draw out as many ideas as you can and include: to give us energy, to stay healthy, to grow, to keep us warm etc.



3 After this, draw up another list together: What are the other benefits of food?

This list will focus on the enjoyable things about food: it's fun to share it, mealtimes bring families together, food tastes good, it's fun to cook, we can taste foods from different parts of the world, we eat special food during festivals etc.

4 Through discussion, draw out the importance of food in all our lives. We need it not just to stay alive and be healthy, but also to enjoy our lives more fully. The photos are also a useful way to introduce other themes related to food. Have pupils tried all the foods in the photos? Are the foods mentioned grown in the UK or do they come from other parts of the world? This can also lead on to a discussion about how climate affects what foods can be grown. We do not grow all the foods that we eat in the UK and so these are imported from other countries around the world.

EXTENSION

Pupils could create a visual display, using magazine images and creating labels to give further information on the theme of food. They could share their work on SchoolZone at: schoolzone.wwf.org.uk

REFLECTION/EVALUATION

Give pupils the opportunity to tell you what they think about the pictures. Which ones did they find most interesting? Which one would they like to find out more about? Then in pairs ask them to tell each other one thing that they have learnt about food through this activity.

FURTHER ACTIVITIES USING PHOTOS

Questioning photos: stick a photo onto a large sheet of paper and ask pupils to write down as many different questions as they can think of about the photo and write them around it. This activity encourages pupils to look at a picture in detail and is a useful way of introducing a new topic.

Drawing it out: ask pupils to sit back to back to each other in pairs and give each one a photo which they have not seen before. Pupil A holds the photo and describes it, in detail, to pupil B who is not allowed to see

it. Pupil B draws a picture of what pupil A is describing to them. Before starting, agree some ground rules. For example, decide whether child B can ask questions. Compare the finished drawing with the photo. How is it different? What was left out of the description? The pupils can then swap roles with pupil B describing their photo, and pupil A doing the drawing. This activity allows children to develop precise descriptive language and build their listening skills.





The healthy plate

This activity helps pupils to explore the idea of a food 'plate' which is healthy for people and for the planet, and introduces the Livewell principles.

KEY VOCABULARY

Healthy, unhealthy, balanced diet, food groups, Livewell, Eatwell, plant-based foods

LEARNING OUTCOMES

- Pupils will develop their speaking and listening skills
- Pupils will appreciate what makes a healthy lifestyle, including the benefits of health eating
- Pupils will develop caring attitudes to their own and the wider environment

LEARNING CYCLE

- Building knowledge

PREPARATION AND

CLASSROOM ORGANISATION

- Before beginning this activity you will need to collect a variety of foods. If fresh foods are not available you could use photographs of the food, or food packets and tins.
- You will need to be aware of any food allergies when handling any foods in the classroom.

RESOURCES NEEDED

- A selection of different foods or packets. Useful items include fruit and vegetables (fresh, frozen, canned, dried), bread, rice, breakfast cereals, pasta, chapattis, cheese, milk, yoghurt, chips, biscuits, nuts and seeds, meat, fish, beans and pulses, herbs and spices (as an alternative to salt and sugar). You may also find that you have

some play foods in the classroom which could be used or photographs. For part 2 of the activity, you will also need to choose some foods with organic, fair trade or other labels.

- Copies of the sheets: 'A healthy school dinner' and 'A healthy lunch box' so that each pupil has one.
- An image of the Livewell plate which can be projected onto the interactive white board. See the Worksheet on page 19.
- A copy of the Livewell principles for groups of pupils – see the Worksheet on page 20. ➡





PART ONE: HEALTHY FOR PEOPLE

WHAT TO DO

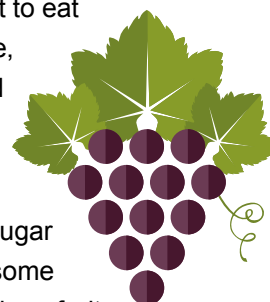
1 Begin by talking about the things we can do to stay healthy (getting enough sleep, exercising, eating the 'right' foods etc). Discuss with pupils how we often hear people talking about foods that are 'healthy' and 'unhealthy'. Try to reach a shared understanding of what these terms mean. Explain to pupils that to be able to grow up healthily they need to make sure that they are eating the right kinds of food. Discuss how a healthy diet is made up of a variety and balance of different foods and drinks as shown on the Eat well or Livewell plate.

Name each group

- Fruit and vegetables
- Bread, rice, potatoes, pasta and other starchy foods
- Milk and dairy foods and fortified dairy alternatives (eg soya, almond, rice drinks)
- Meat, fish, eggs, beans & pulses and other plant sources of protein
- Foods high in fat, sugar and salt.

2 Now ask the children which foods go into each food group. Discuss which are the largest groups and the smallest groups, and what this is trying to tell us. Check the children understand which foods they should be eating more or less of. Some foods such as composite foods eg, pizza, lasagne may be more difficult to decide which group they fit into it. Ask the children to place the different components of the dish into each of the food groups eg pizza = base, vegetables, cheese. Ask the children how they could add more vegetables to these meals, for example extra vegetable toppings to pizza, having a salad with their lasagne.

3 When looking at the dairy and meat sections of the plate you might want to discuss other sources of protein which may be eaten by people who are vegetarian or who want to eat less meat and dairy foods. For example, beans and pulses, nuts and seeds, and plant based alternatives to milk are all useful sources of protein.



4 When looking at the foods high in fat, sugar and salt, explain that just as there are some foods which we should eat more of such as fruit and vegetables, there are also some which we should eat less of such as biscuits that contain a lot of bad fats or sugars. Children should be aware that sugar and salt can be found in all sorts of food such as bread, ketchup and baked beans so it's especially important that they are careful how many salty or sugary 'treats' they have. Reiterate that to stay healthy they need to eat a balance of foods from the four main sections of the plate, and not too many of the fifth group.

5 Using either the Livewell or the Eatwell plate, ask them to design a school dinner or packed lunch that would be healthy for them to eat, and draw it on the plate or in the lunchbox. Come back together as a class and ask pupils to share their meal ideas, see the Worksheets on pages 17 and 18. Which items would pupils most like in their lunches? Which meals are particularly well balanced?

6 Pupils could also create an annotated display for the school dining hall showing a balanced lunchbox and school dinner plate with items from the Livewell or Eatwell plate. They could work to a large scale as a whole-class collaborative art activity and use paints or coloured pens, or make collages from a range of recycled/recyclable materials. The pupils could photograph and share on SchoolZone at: schoolzone.wwf.org.uk





THE HEALTHY PLATE



PART TWO: HEALTHY FOR PEOPLE

WHAT TO DO

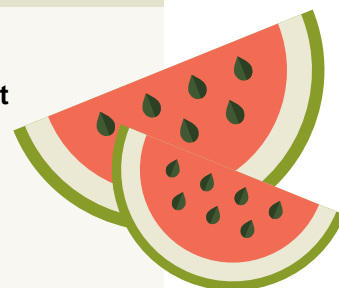
1 Now explain to pupils that you're going to turn your attention to the health of the planet. Discuss with pupils how the food that we eat has a massive impact not just on our own health but on the health of our planet. Introduce pupils to the Livewell principles on page 20: talk through the principles and invite questions to ensure pupils have understood the ideas. Look again at the Livewell plate on page 19. Talk about the main food groups on the plate. Two-thirds of the plate is made up of foods which come from plants, they are known as plant-based foods. These include starchy foods such as bread, rice and pasta, and plant proteins such as beans, pulses, nuts and seeds. The Livewell diet involves eating more of these plant based foods and fewer animal based (meat and dairy) foods.

2 Now point to some of the labels on the food packets. Today foods have many labels apart from their ingredients such as where something has come from or how it was grown or produced. 'Certification' means that we can be sure that the foods we're buying are produced in a way that's fairer for the people involved in growing them, and good for the environment too. As an example, ask pupils if they have ever seen Fair Trade foods, such as bananas, tea, coffee or chocolate, or the blue tick for fish showing it's been sustainably sourced. This type of labelling helps more and more people choose to eat foods that are healthy for the planet as well as for them. Perhaps pupils would like to design their own food 'mark'?

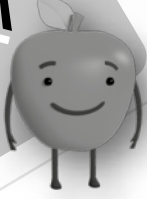
REFLECTION/EVALUATION

Ask pupils to think about why is it important to have a diet that protects our planet. If they were to meet the Green Ambassador character Smith, what would they say about the Livewell plate and principles?

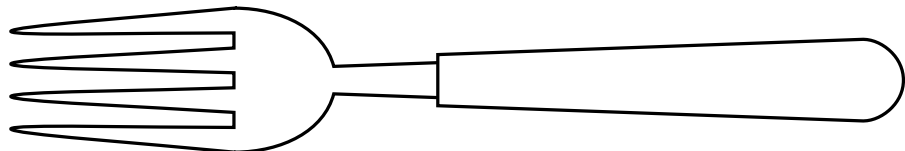
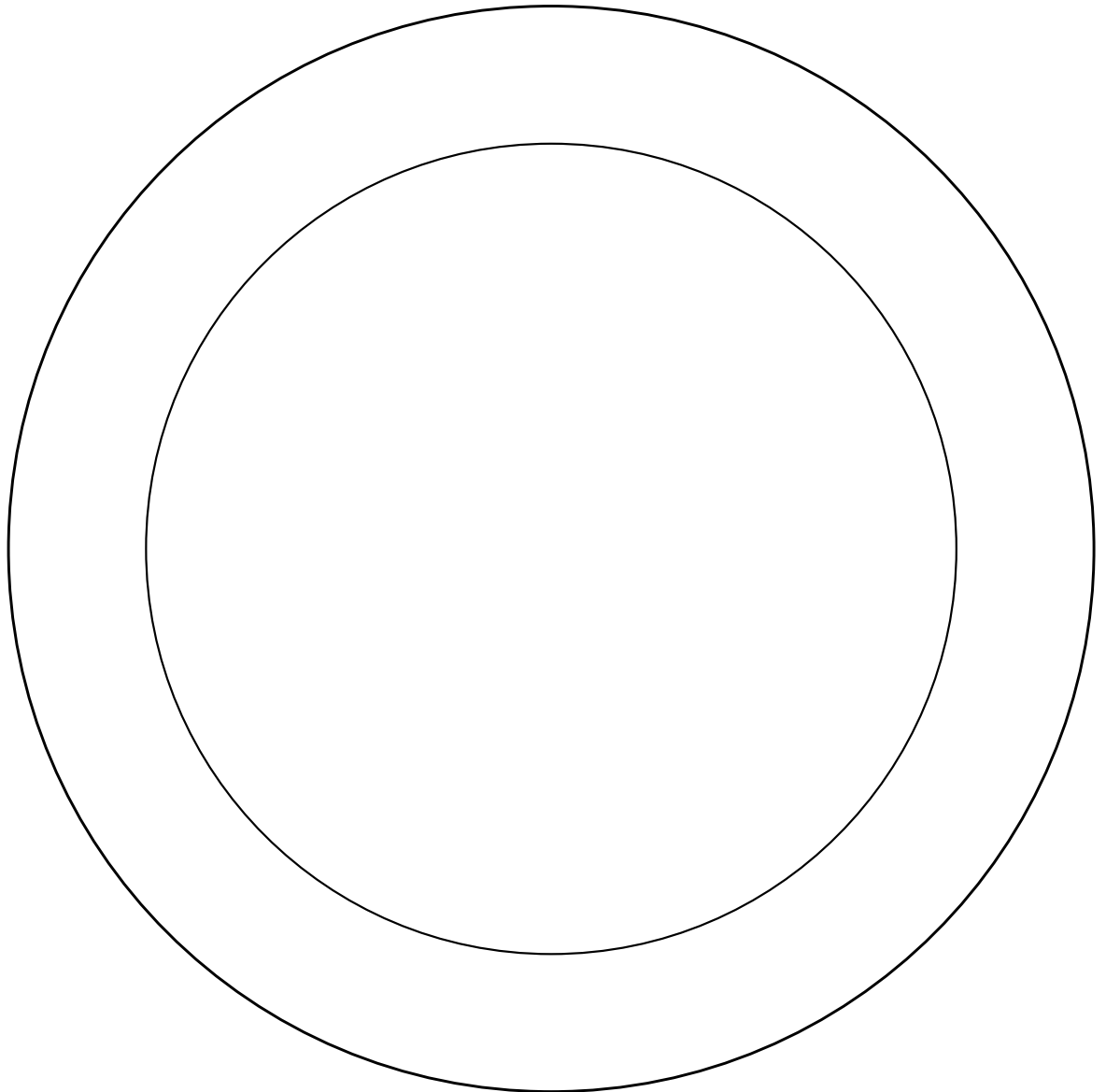
Older pupils could look at the school menu and see how it fits in with the Livewell principles. Perhaps this is an issue that could be considered by the School Council. Activity 8: 'An appetite for change' on page 37, gives more ideas if pupils would like to make some changes in the school.



WORK
SHEET

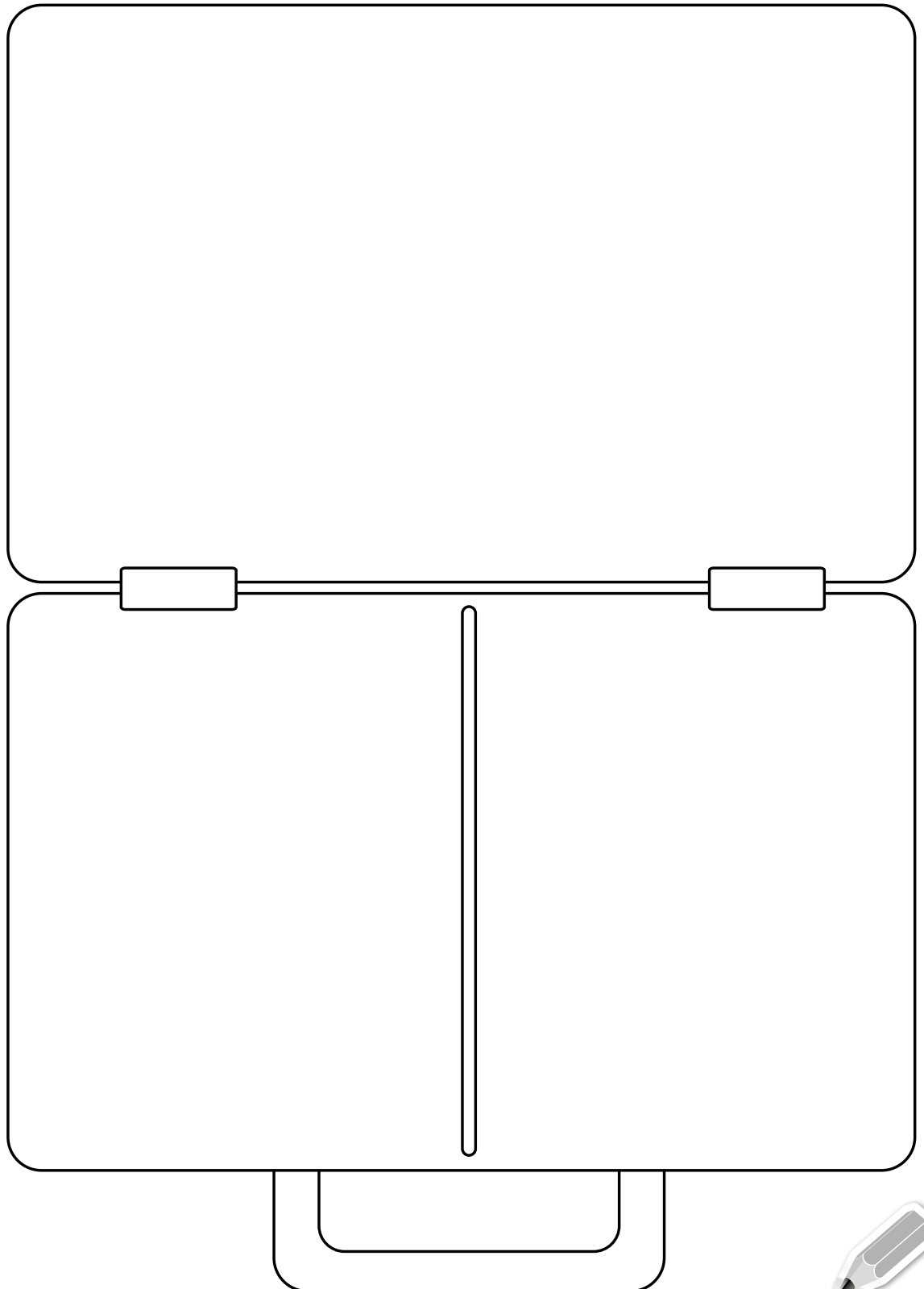


A healthy school dinner

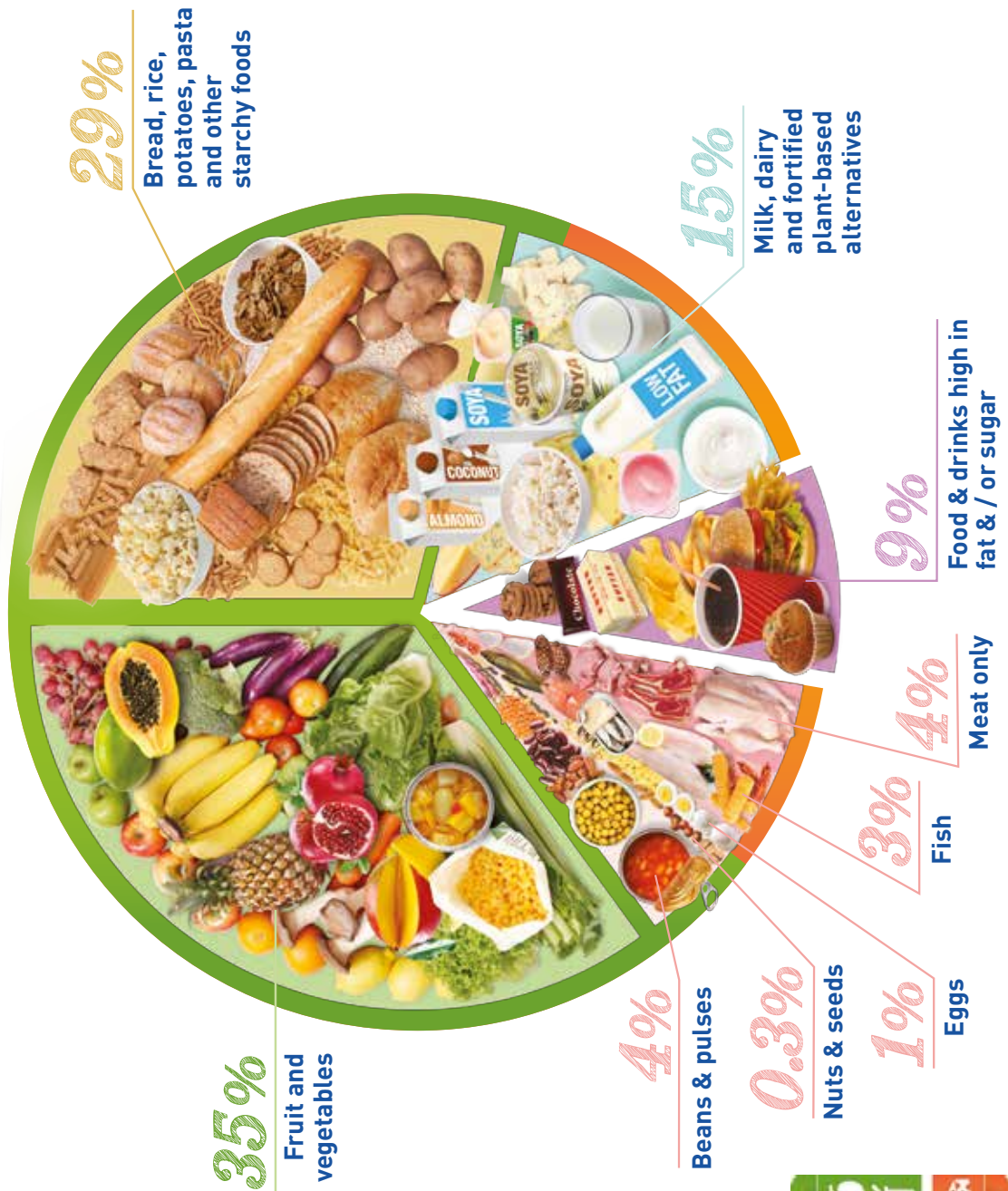


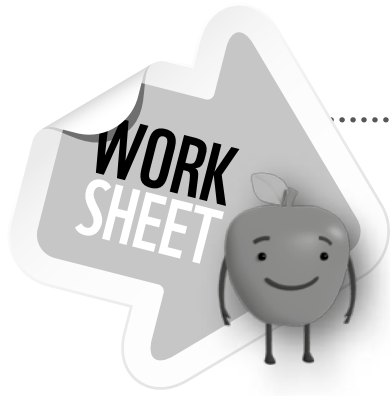


A healthy lunch box



The Livewell plate





The Livewell principles



- **Eat more plants** – enjoy vegetables and whole grains!



- **Eat a variety of foods** – have a colourful plate!



- **Waste less food** – globally and in the UK around a third of the food that's grown is wasted.



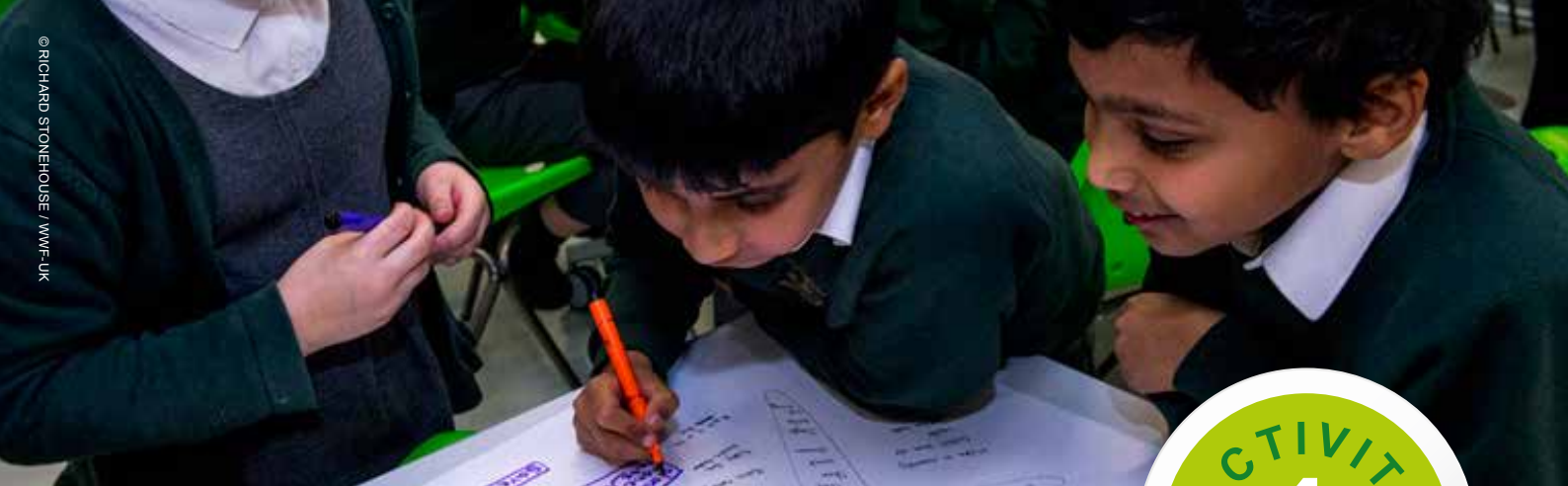
- **Moderate your meat consumption, both red and white** – enjoy other sources of proteins such as peas, beans and nuts.



- **Buy food that meets a credible certified standard.** If you are eating fish, you can make a positive difference by checking that it is certified by the Marine Stewardship Council (MSC) – look for the blue tick, which guarantees that it comes from a well-managed fishery or if it is farmed, then a responsible farm. Look for Fairtrade and Rainforest Alliance endorsements and CSPO for products containing sustainably sourced palm oil.



- **Eat fewer foods high in fat, salt and sugar** - heavily processed food tends to be more resource- intensive to produce. Keep foods such as cakes, sweets and chocolate as well as cured meat, fries and crisps to an occasional treat. Choose water, avoid sugary drinks and remember that juices only count as one of your 5-a-day however much you drink.



Agree or disagree?

This simple activity encourages pupils to explore their own views about food and sustainability through group discussion.

KEY VOCABULARY

Environment, livestock, deforestation, habitat, climate change, CO₂

LEARNING OUTCOMES

- Pupils will develop their speaking and listening skills
- Pupils will develop their group work skills
- Pupils will learn to co-operate in a decision making process

LEARNING CYCLE

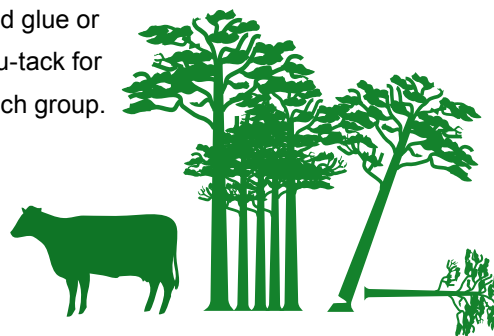
- Making links

RESOURCES NEEDED

- Enough sets of the 'What do we think?' statements on page 23, photocopied and cut up so that each group of four pupils has one.
- Enough sets of the 'What do we think?' factsheet on pages 24-25 photocopied

and cut up so that each pupil has one fact.

- A copy of the 'What do we think?' factsheet to display on the interactive whiteboard.
- A large sheet of paper and glue or Blu-tack for each group.



WHAT TO DO

- 1 Give each group of four pupils a set of the 'What do we think?' statements which they should put face down on their table. Pupils should then go through each statement in turn, deciding as a group whether they agree or disagree with it. Remind pupils that this activity is about building a consensus within the group so they will need to make sure that everyone is listened to and has the chance to give their opinion.

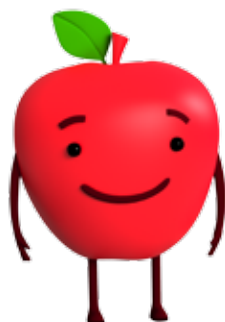
- 2 The groups should stick their statements on the large sheet of paper under one of three headings: Agree, Disagree or Don't know.
- 3 Come back together as a class and compare pupils' decisions. Discuss which statements were easy to agree upon and which were harder. What did pupils do when it was hard to agree on a statement? How did they reach a consensus? It is also worth noting that some statements are mutually exclusive. For example, if everyone in the world is to



have a healthy diet then it is likely that people will have to change their diets and may not be able to eat whatever they like.

4 Now give each pupil a piece of information from the factsheet. Pupils should read their statement and make sure that they understand it. They should then move around and share their fact with as many other pupils as possible. At the end of this, you may wish to display the factsheet on the interactive whiteboard.

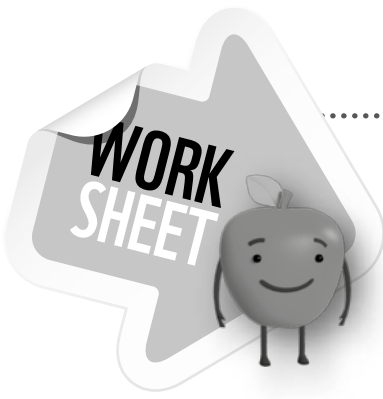
5 Ask pupils to go back to their sheets of paper. Are there any statements that they would like to move, based on the information that they have just learned from each other?



REFLECTION/EVALUATION

Ask pupils to think about what they have learnt. Is there anything that surprised or shocked them in the facts? Did any fact make them feel sad or happy? You could also discuss with pupils how they make choices over their foods. Why do they choose particular foods? Is it because they like the taste, because it's good for them, or because they have seen adverts for the food?





What do we think?

Statements



Everyone in the world should be able to eat a healthy diet.

Growing foods that destroy the environment should be banned.

The problem is that there is not enough land in the world to grow the food we need.

Cutting down forests so that more land can be used to grow food is important.

Cutting down forests to grow food causes climate change and destroys animal habitats.

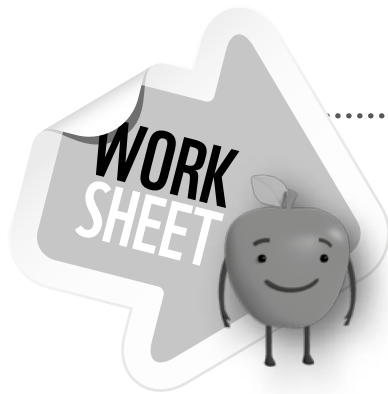
It's not fair that over 40% of the world's grain is fed to livestock.

We should be growing crops that do not need so much water.

There is enough food for everyone in the world.

People should be allowed to eat whatever they like.

I do not see why I should change my diet.



What do we think?

Factsheet

Everyone in the world should be able to eat a healthy diet.

FACT

Half the world's population is either under or overfed. Today close to a billion people are badly undernourished. Many more do not have enough food to lead a full and healthy life.

The problem is that there is not enough land in the world to grow the food we need.

FACT

We already produce enough to feed a population of more than nine billion people. If we wasted less food and shared more there would be enough for every one of the Earth's seven billion people.

Cutting down forests to grow food causes climate change and destroys animal habitats.

FACT

When forests are destroyed they release large quantities of CO₂ and other greenhouse gases which cause climate change. Deforestation destroys the habitats of endangered animal species such as the orang-utan.



We should be growing crops that do not need so much water.

FACT

Today 70% of the world's freshwater is used to water crops. Different foods use up different amounts of water. It takes 130 litres of water to produce 500 calories worth of maize. It takes 4,900 litres of water to produce 500 calories worth of beef.



People should be allowed to eat whatever they like.

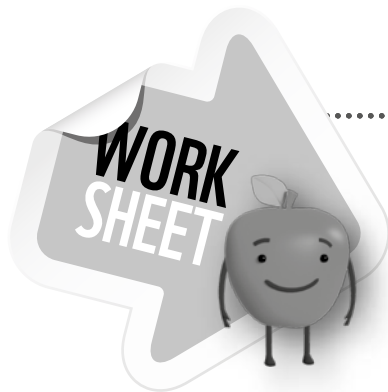
FACT

What we eat affects other people and living creatures. If everybody consumed key resources in the same way as we do, we would need 1.5 planets.

Growing foods that destroy the environment should be banned.

Some foods cause more damage to the environment than others. For example soy (which is used to feed animals and to make products as varied as puddings and shampoo) is now farmed in an area the size of France, Germany, Belgium and the Netherlands. Huge areas of forest in Brazil have been cut down to plant soy.





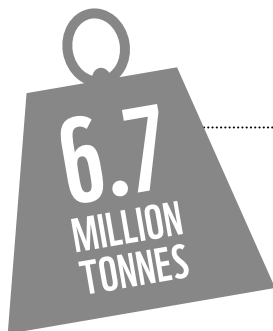
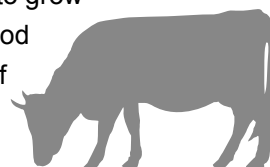
Cutting down forests so that more land can be used to grow food is important.

When forests are destroyed, they release large quantities of CO₂ into the atmosphere, which contributes to climate change. Every year 12-15 million hectares of forest are lost. If we look after them, they will regulate the climate and provide resources we all need.



It's not fair that over 40% of the world's grain is fed to livestock.

Vast areas of forest and savannah areas are being destroyed to grow produce food. Thirty per cent of croplands are used to grow food for livestock, primarily pork and chicken. Producing 1kg of beef requires 15 times as much land as producing 1kg of cereals, and 70 times as much land as 1kg of vegetables.



There is enough food for everyone in the world.

In the UK we throw away 6.7 million tonnes of food every year – a third of all the food we buy. In the world, we already produce enough to feed a population in excess of nine billion people.

I do not see why I should change my diet.

What we eat affects every one of us and every living creature. Food production causes 30% of global greenhouse gas emissions. Reducing this will help to ensure that our planet keeps on looking after future generations.





Unpacking the issues

In this activity, pupils will use their observation, listening and recall skills at the same time as exploring the links between our food consumption and the health of our planet. This is also a good activity to practise note-taking skills.

KEY VOCABULARY

Food footprint, greenhouse gases, CO₂, sustainability, sustainable, unsustainable, environmental

LEARNING OUTCOMES

- Pupils will develop their speaking and listening skills
- Pupils will develop their group work skills
- Pupils will be introduced to the concepts of food footprints and sustainability

LEARNING CYCLE

Motivating

PREPARATION AND CLASSROOM ORGANISATION

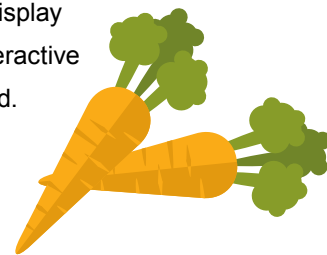
You will need to watch the film before the lesson and it would be helpful to read the background information in the introductory section so that you can draw out some of the issues in class discussion.

RESOURCES NEEDED

- 'Livewell for LIFE' film. You can find the film at www.livewellforlife.eu
- The film lasts for 2 minutes

and 34 seconds. You will need to run the Livewell for LIFE film on a screen, whiteboard or interactive whiteboard.

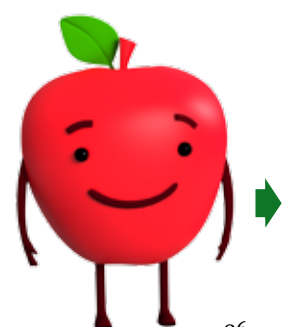
- A photocopy of the 'Livewell for LIFE' question sheet for each pair of pupils.
- 'Making the connection' sheet to display on the interactive whiteboard.



WHAT TO DO

1 Explain to pupils that they are about to watch a short film which looks at how the ways in which we produce and consume food affect the future of our planet. At this point, do not explain too much. Whilst the film probably contains some unfamiliar phrases, these can be explored after the film has been watched. Tell pupils that

2 they will need to pay close attention to the film because they will be answering some questions afterwards. Pupils may wish to take some notes. It may also be helpful to go through the questions on the 'Livewell for LIFE' question sheet together before watching the film.



UNPACKING THE ISSUES

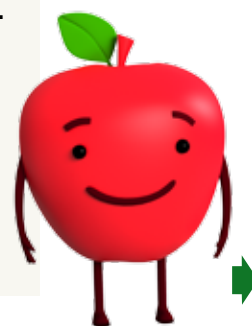
- 3** After pupils have watched the film once ask them, in pairs, to fill in some of the answers on their sheet. If necessary, play the short film again so that they can try and fill in any unanswered questions. Once pupils have done this, ask each pair to join with another and share their answers.
- 4** As a whole class go through the answers, identifying the main issues raised in the film. At this point, ask pupils what they understand by the terms 'food footprint' and 'sustainability'. You may find it helpful to bring in some background information from the introductory session of this resource.
- 5** It would also be helpful to explore the effects of intensive farming on wildlife. Show pupils the photos on the 'Making the connection' sheet, projected onto the whiteboard. Ask pupils in pairs to think about what the links are between the two sides of the screen. Explain that habitat loss is threatening the survival of many species. Each year 12-15 million hectares of forest are lost, and the conversion of forest land to agriculture is one of the main causes of this. Closer to home, the loss of hedgerows around our fields has had a major effect on biodiversity. At this point you may want to read out the boxed text 'Making the connection' to further illustrate the issues.

REFLECTION/EVALUATION

In their groups, ask pupils to think about the following:

- In one sentence, what is the key message of this film?
- Do they think that the film puts this key message across well?
- Is there anything that particularly surprised them in the film?
- How do pupils feel after watching the film and thinking about the 'Making the connection' sheet?

At the end of the film the narrator says that we can all play a part in building a food system that is better for our planet. Ask pupils, in pairs, to help Smith identify three changes to the way we eat our food that will be better for the environment. Ask them to think of one thing each that they will try to carry out over the coming week. Ideas might include: waste less food, eat more vegetables, eat less meat, cut back on crisps and sugary snacks, drink more water etc.



MAKING THE CONNECTION

You may not realise it, but that appetising burger can leave a nasty taste in the mouth. Some of our food choices are destroying the homes of animals like the orang-utan, jaguar and Asian elephant on the other side of the world. The cultivation of soy (mainly fed to livestock) and palm oil (used in many processed foods) is one of the main causes

of deforestation in South America and South-east Asia.

In many areas, soy plantations are taking over rainforests, the natural habitat of endangered species such as orangutans. In 2006, about 6 million of the 11 million hectares of oil palm plantations globally were in Indonesia.

Agriculture is the second main cause of deforestation in the Amazon.

In Asia, fierce competition for living space has led to a loss of forest cover meaning that there has been a huge decline in the numbers of Asian elephants in the wild. They are now an endangered species.



LiveWell for LIFE quiz

After you have watched the short film team up with a partner and see how many questions you are able to answer together.

1. What does the film say is wrong with the way people in Europe consume food?

2. Tick the two activities that are creating a giant 'food footprint'?

- ☐ Eating too much meat
- ☐ Eating too many vegetables
- ☐ Eating too much mayonnaise
- ☐ Eating too many foods high in fat, sugar and salt
- ☐ Not eating enough



3. What are the consequences of this 'food footprint'?

4. In the first half of the film, the yellow lorries are very busy. What are they doing?

5. What are the benefits of a sustainable diet?

6. To have a sustainable diet we need to eat more _____

7. To have a sustainable diet we should only eat _____ every now and again.

8. What is it also important not to do? _____

Making the connections

Borneo



Brazil



Dorset, UK



BORNEO © NATUREPL.COM / JUAN CARLOS MUNOZ / WWF, BRAZIL © ADRIANO GAMBARINI / WWF-BRAZIL, DORSET © EDWARD PARKER / WWF

Making the connections

Orang-utan



Jaguar



Dormouse



ORANG-UTANS © NATUREPL.COM / EDWIN GIESBERS / WWF, © Y.J. REY-MILLET / WWF, DORMOUSE © THINKSTOCKPHOTOS.COM



A sustainable food future

Working in groups, pupils will consider the disadvantages of current food production and consumption systems. They will identify the features of a more sustainable system and work collaboratively to create posters that show these.

KEY VOCABULARY

Greenhouse gases, climate change, sustainability, sustainable, unsustainable

LEARNING OUTCOMES

- Pupils will develop their group work skills
- Pupils will become familiar with the concept of sustainability
- Pupils will know that all the ways in which we produce food have consequences for our planet

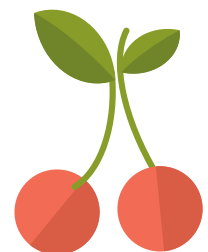
LEARNING CYCLE

Reflection

RESOURCES NEEDED

- One copy of the 'An unsustainable system' Worksheet on page 33 for each pair of pupils
- A large sheet of paper
- A range of materials to create a poster (see above).
- You will need to decide how ambitious you would like to be in creating your posters. These could be produced in an art lesson, with pupils using different media to create collaged posters. In this case, you will need a

range of materials such as: different coloured papers, tissue paper, magazines, paints, glue, colouring pencils/felt tips etc. You should also try to include recycled and natural materials. Unused rolls of wall paper or lining paper can provide a useful strong paper background to collages. Parents may have these at home, or they are often available at scrap stores if you have one in your area. ➡



WHAT TO DO

1 Ask pupils, in pairs, to look at the sheet 'An unsustainable system' which shows our current food production methods. What are the advantages of this system? What are the disadvantages? What will happen in the future if this system continues (more greenhouse gases, climate change, less land available for other purposes such as leisure activities, water shortages etc.). It is worth pointing out that this system has developed in part because people want to eat a large variety of foods (such as strawberries in winter) and at a cheap price. Explain that this system of food production is not sustainable. Check pupils' understanding of the term 'unsustainable'. You will find it helpful to refer to the information in the introductory section for this discussion.

2 Now, in small groups of four or five, ask pupils to imagine what a sustainable food future might look like. What steps could people take to make sure that diets are healthier both for themselves and for the planet? Ask pupils to think of as many ideas as possible in a very short time. They should write down everyone's ideas without rejecting any.

3 Come back together as a class and, on a large sheet of paper, draw up a shared list of the characteristics of a sustainable system of food production. Ideas might include: eating locally grown food, keeping an allotment, eating more plant-based foods, growing organic foods etc. In their groups, ask pupils to sketch out a poster showing what this system of food production would look like.

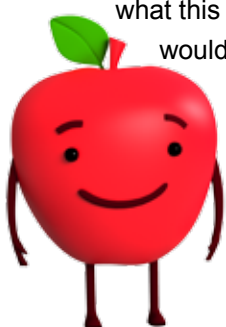


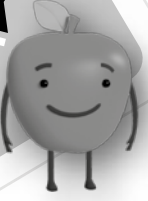
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4 Recap on the features of a sustainable food production system, displaying the list produced earlier. Pupils should refer to their sketches from session 1 and should work collaboratively in groups to design and create a poster which shows this system in action. Remind pupils of the sheet that they looked at in session 1, pointing out that this might be the 'before' picture and they are now producing the 'after' poster. They will need to create their own 'speech bubbles' and stick these onto their posters.

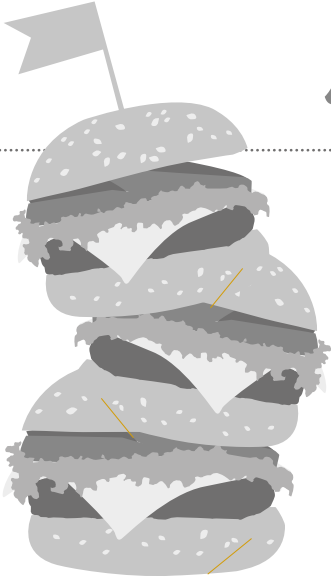
REFLECTION/EVALUATION

Ask pupils to think of three things that can be changed in our food patterns that will keep our planet healthier. It is important to end the session by reminding pupils that we all have a part to play in ensuring the healthy future of ourselves and our planet. This is something that will be considered in more detail in Activity 8: An appetite for change on page xx.

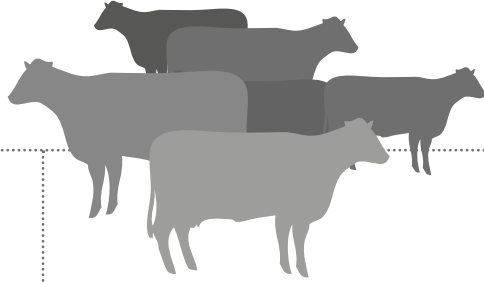


WORK
SHEET

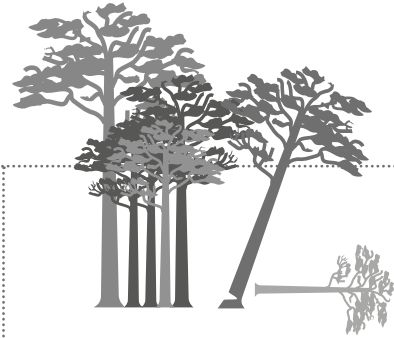
An unsustainable system



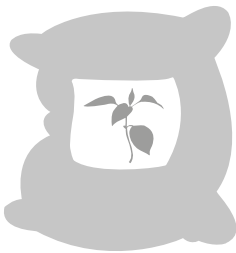
There is a big demand for meat.



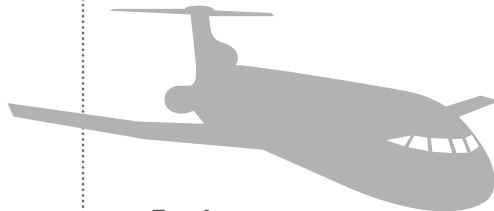
Animal farming causes more greenhouse gas emissions than transport. When animals such as cows and sheep digest their food they produce a lot of methane gas.



Large areas of forest are being cleared to grow grain and beans for animals to eat.



We use fertilisers so that we can grow food more intensively. This uses up a lot of energy and water.

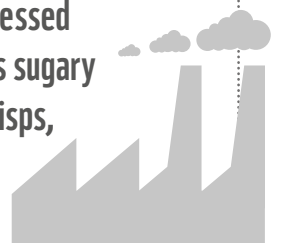


Foods are transported long distances by air. They also have to be stored and kept cold during transportation.

In the UK we throw away one third of the food we buy.



The production of highly processed foods, such as sugary snacks and crisps, uses up a lot more energy.



Many people suffer from health problems which are related to a poor diet. This places a burden on health services.



Role play

In this activity, pupils devise a short role play in which a radio reporter, who is producing a report on food issues, interviews some opposing characters.



KEY VOCABULARY

Agribusiness, Livewell principles, low-carbon diet, pesticides, processed foods, sustainable, unsustainable

LEARNING OUTCOMES

- Pupils will develop their communication and listening skills
- Pupils will build on their own experiences and knowledge
- Pupils will explore the feelings and emotions of others

LEARNING CYCLE

- Making links
- Preparation and classroom organisation

PREPARATION AND ORGANISATION

Role play helps pupils to engage with the issues and develop new ways of understanding. Since they also have to present information in an engaging way it can also be a useful starting point for writing. This activity is best carried out once pupils are familiar with some of the issues

explored through carrying out earlier activities in the resource such as Activity 5: Unpacking the issues on page 26.

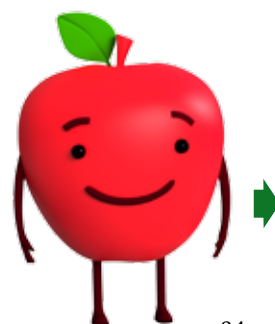
RESOURCES NEEDED

- One copy of the 'Role play cards' on page 36, cut up, for each group of five pupils
- It may also be helpful to have a copy of the Livewell principles – see page 20 – on display or shown on the interactive whiteboard for pupils to refer to.



WHAT TO DO

- 1 Set the scene for the role play by explaining that pupils will be creating a short role play based on a scene in which a radio reporter is putting together a report on food production. The reporter will need to talk to the four other characters who all have an interest in this area. Explain that pupils will be given a role card but they should also feel free to add further information and present their own interpretation of their character.





2 Give each group a set of the role cards and ask them to agree on who is going to play which character. Emphasise the informal nature of a role play – they should not over-prepare. Allow pupils to spend about 10 minutes developing their scenes and go round, offering support and ensuring that they are developing different points of view to present to the class.

3 Come together and ask pupils to perform their role plays to the rest of the class. After the performances it is important to allow pupils to express their feelings about what took place.

Drama is a useful way of exploring issues in the classroom. Here are some further suggestions of how it can be used:

Hot-seating

A character (the teacher or a child in role) is put in the 'hot seat'. Pupils think of questions that they wish to ask the character. This activity can help pupils to feel empathy for a particular person or viewpoint or explore opinions that they do not share. You could do this activity using some of the 'Role play cards' on page 36.

Freeze frame

During a moment of particular significance or intensity in a role play the teacher can call 'Freeze!'. At that

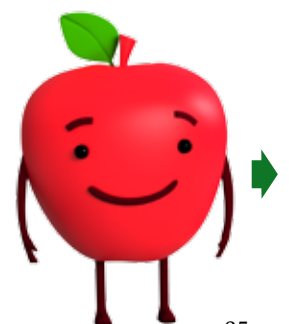


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point the actors stop and characters may be questioned on their thoughts or motivations at that moment.

REFLECTION/EVALUATION

Talk about the issues that were raised by the performances. Draw out that there are opposing views, which are often strongly held, on many issues. It can often be difficult to reach agreement. Ask pupils if they have any ideas on how agreement could be reached on some of the issues raised in the role play. Finish by reflecting on the fact that we all share one planet and, in the long term, it is in all of our interests to look after it.





WORK SHEET



Supermarket manager

You are the manager of a large, out-of-town supermarket. You pride yourself on offering your customers lots of choice and food at low prices. Even so, some of your competitors are trying to undercut your prices. If you have to sell at a lower price, you will look to buy your goods at a lower price – but the farmers aren't happy about this. And lots of cheap food produced as cheaply as possible means that many farmers have to grow food as intensively as possible. What's more, customers are fussy and many of them want food that looks a regular size and a regular shape – and European laws require this too. So lots of good food that could otherwise be sold and eaten has to be thrown away.

Head of a large Agri-business

You are the manager of a large farming corporation. You want to bring as much money as possible to the people who have invested in your business. You rear animals intensively so that you can produce as much meat and dairy foods as possible. You own plenty of land to grow crops that will feed the animals. You need to use plenty of fertilizer and pesticides to keep crop production high. You are proud of the fact that you produce cheap food and you are fed up with people trying to tell you how to do your job.

Food consumer

You go to the local supermarket every week and like the variety of food that is available there – you like lots of choice. Your children like lots of crisps and biscuits and you want fruit and veg to be available all year round – whatever the season and the weather. You don't really care where it comes from or how it's grown. You want to be able to buy food that is fairly cheap for your family. Paying less for basics like bread and milk is important.

A Livewell food consumer

You have recently become much more aware of the ways in which the food production methods affect our environment. You are keen to tell other people about this. You would like to encourage people to eat more plant-based, rather than animal-based foods because their production does less damage to the environment. It is also a healthier diet because it means less spending on unhealthy processed foods like crisps. It makes you upset to hear about the planet being harmed in order to get cheap food.

Radio reporter

You are a radio reporter on a popular news programme. You are reporting on the way that food is produced in your local area and around the world. There have recently been reports that intensive farming damages the environment. Pesticides use up lots of water. Land could be better used to grow crops for people to eat rather than food for animals such as cattle or chickens. Your job is to present some of the issues to your listeners. You will be interviewing three people with different views.



An appetite for change

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This activity gives pupils the opportunity to take action over an issue in their own lives that is important to them. It is best carried out when pupils have built up some knowledge so that they have a greater awareness of what they seek to change. It is also important that, once pupils have looked into what they would like to change, they are given the opportunity to bring this about. This will enable them to gain a greater sense of their personal power to bring about change.

KEY VOCABULARY

Sustainable, change, action plan

LEARNING OUTCOMES

- Pupils will build upon their own knowledge
- Pupils will develop their group work skills
- Pupils will reflect on what changes they would like to see in the world

- Pupils will gain a greater awareness of their own personal power and what they can do to bring about change

LEARNING CYCLE

Taking action

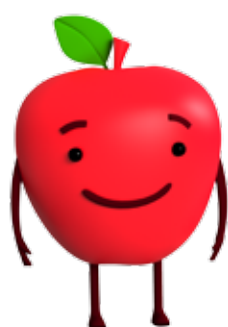
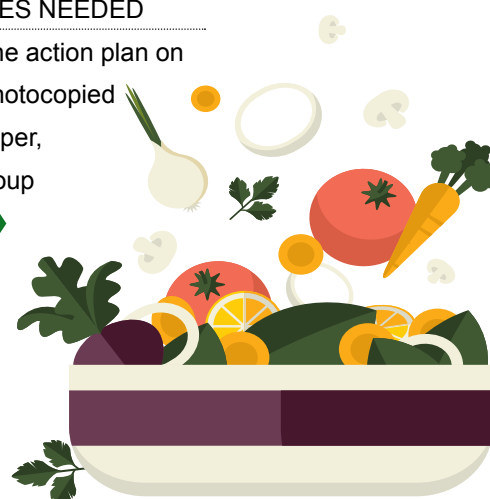
PREPARATION AND CLASSROOM ORGANISATION

In the weeks prior to this activity, while working on issues of food and sustainability, you may wish to have a 'suggestion box' in

which pupils can post their thoughts on the issues that are being raised. Pupils could note down any changes that they would like to see taking place within their school and community.

RESOURCES NEEDED

A copy of the action plan on page 39, photocopied onto A3 paper, for each group of pupils. ➡





AN APPETITE FOR CHANGE

© GLOBAL WARMING IMAGES / WWF

WHAT TO DO

Session 1

- 1 Ask pupils individually to note down any changes concerning food and sustainability that they would like to see taking place within their school. These might include growing food in the school grounds, reducing food waste, changing the food that is served, creating a compost heap, having a Livewell tuck shop, recycling more, telling parents about the Livewell principles etc.
- 2 Each pupil should then share their ideas with the rest of their small group, drawing up a shared list. At this stage, ensure that no ideas are rejected – even the most impractical suggestions can spark off other ideas!
- 3 Take feedback from the whole class and draw up a composite list of possible changes. As a class choose five priority areas that pupils feel they would like to work on.
- 4 Now ask pupils, in small groups, to draw up an action plan using the A3 sheet of paper. Each group should work on a different issue.

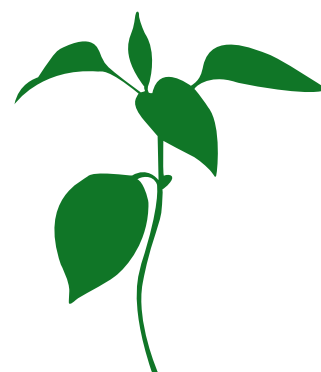
Session 2

- 1 Allow pupils time to develop their action plans. When this is completed, each group should present their plan to the class. Ask pupils to think about some key questions: which are the strongest parts of each plan? What areas are the weakest? Which plans are most realistic? Is there any overlap between the different plans? What was easy about working together? What was difficult?

REFLECTION/EVALUATION

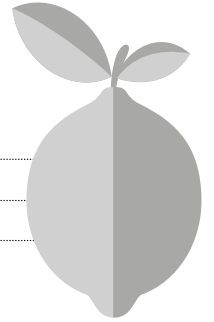
As a class agree on one action plan that pupils would like to take forward over the coming weeks.

Pupils could use the Green Ambassador character Smith in any publicity and activities that they undertake as part of the plan. Make sure that pupils keep records of their activities and think about what has been successful and what they would do differently next time. The plan could be presented to the school council or the schools' green team.





Action plan



1. What do we want to achieve?

Say what your goal is.

2. What are we going to do?

Say how you are going to achieve your goal. Make sure that this is realistic!

3. What do we need?

4. Write down four steps that you will take to achieve your goal.

| | | | |
|-------------------------|---------------------------------|--------------------------------------|--|
| <p>1. Who can help?</p> | <p>2. Who will you involve?</p> | <p>3. How will you involve them?</p> | <p>4. Think about teachers, school clubs, governors, parents, family members, friends, community groups etc.</p> |
|-------------------------|---------------------------------|--------------------------------------|--|

Starting points

Here are some things that might help you in achieving your change:

- raise some money • make posters • write a song or poem to encourage others • carry out a survey and tell people what you find • present an assembly, talk to the school council • make a display for the school • put an article in the school newsletter • ask particular people to help
- invite visitors to the school, make badges.



Dishing it up sustainably

In this activity pupils get practical and put their learning about the Livewell principles into action by cooking a people and planet healthy recipe.



KEY VOCABULARY

Livewell plate, balanced diet, recipe

LEARNING OUTCOMES

- Pupils will develop their group work skills
- Pupils will appreciate the benefits of healthy eating and understand what makes a balanced diet

LEARNING CYCLE

Motivating

PREPARATION AND

CLASSROOM ORGANISATION

- This activity is best carried out when pupils have carried out Activity 3: The healthy plate on page 14 which introduces them to the Livewell principles.
- You will need to buy the ingredients for the recipe that pupils will be cooking.
- You will need to check whether pupils in your class have allergies to any of the

ingredients that you will be using.

- You will need to make sure that all tables are clean and that pupils have washed their hands before handling the food.

RESOURCES NEEDED

- The recipe card for 'Potato pancakes with carrot and courgette'.
- Food ingredients to cook the potato pancakes recipe or another recipe of your choice.

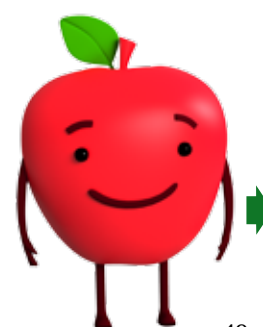


WHAT TO DO

1 Ask pupils what the last thing they had to eat was? Do they know where it comes from? Is it plant-based? Sensitive reinforce the idea of a balanced diet. If pupils have eaten something that is 'unhealthy' this is

a useful opportunity to discuss how some foods should only be eaten in moderation. Can pupils name some of these foods?

2 Look again at either the Livewell or Eatwell plate and revise the main food

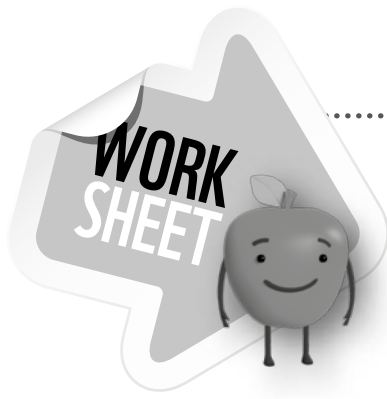


groups on it. Explain that they are going to be cooking a recipe which fits in with the Livewell principles. Show pupils the ingredients and discuss which food groups they are from, referring to your chosen plate and the Livewell principles.

3 Pupils can work in groups to make the recipe below. The dish helps children to develop a range of cooking techniques such as grating and peeling at separate tables. At the end of the process all the ingredients can be put together in one large bowl, ready for cooking the pancakes. To finish the cooking process, groups can go out individually with an adult and fry the pancakes. They can then be brought back to the classroom for everyone to share.

4 While pupils are eating their food, it is a good opportunity to introduce them to the WWF Livewell Recipe competition. Getting the whole school community to participate in this is a great way of telling people about the Livewell principles and introducing them to some of the food issues that you have been considering. Perhaps a pupil could write an article for the school newsletter? Using the Green Ambassador character, Smith, will remind people of the importance of thinking about our food and its impact on the planet.





Potato pancakes with carrot and courgette

This recipe is easy to cook. It can be prepared in advance in the classroom and then small groups of pupils can take it in turns to go with an adult and cook a proportion of the pancake mixture.

Tips

You might like to serve this with some vegetables that you have grown yourself, such as tomatoes or cress.

EQUIPMENT NEEDED

Graters, vegetable peelers, knives, chopping boards, large mixing bowl, forks or whisks, large spoon, heavy-based frying pan or griddle and tea towel

INGREDIENTS NEEDED

2 (150g) small onions
2 (150g) small carrots
2 (150g) small courgettes
2 (500g) baking potatoes
4 eggs
4 tablespoons plain flour
Seasoning
Vegetable oil for frying

WHAT TO DO

1. Finely grate the carrots and courgettes. Grate the onion and potato. Squeeze the potato dry in a clean tea towel.
2. Beat the eggs, flour and seasoning together in a bowl. Add this to the vegetables and stir very well.
3. Heat the frying pan or griddle and brush it with oil.
4. Put large spoonfuls of the vegetable mixture into the hot pan and spread each one slightly so that the pancakes are about 8 – 10cm in size. Cook the pancakes for about 3 – 4 minutes until they are golden brown. Then turn them over and cook the other side.



LINKS

<http://www.lovefoodhatewaste.com/>

A site with information on how to cut down food waste.

<http://www.eatseasonably.co.uk/wwf.org.uk/Livewell/>

This page contains links to Livewell menus and shopping lists.

www.growingschools.org.uk/

A site which supports teachers to use the 'outdoor classroom' as a resource across the curriculum. Plenty of advice for growing food in schools.

schoolzone.wwf.org.uk

Our Green Ambassadors website where you can search for stories from other Green Ambassador schools on how they are tackling food issues.



Why we are here

To stop the degradation of the planet's natural environment and
to build a future in which humans live in harmony with nature.

wwf.org.uk