

## Plant eaters

### Are you a plant eater?

Green plants figure strongly in the science curriculum of both key stages 1 and 2 (or the equivalent stages in the Scottish primary curriculum).

Here at Wakehurst Place (Kew's country garden!), one of our most popular activities is the 'Are you a plant eater?' workshop. We use it to help pupils become more aware of plants and how we use or interact with them in our everyday lives. Food is something that seems to appeal to pupils and they soon get involved in the activities.

In the workshop we try to help the pupils (and their adult helpers) to:

- see and become familiar with a range of fruit and vegetables
- handle and observe the texture, smell, and colour of different fresh plant foodstuffs
- relate some food sources to structures in the plant
- start to appreciate the names used by scientists and shopkeepers for some of these foods (e.g. "runner bean" – is it a fruit or a vegetable?)

Here we describe the activity in a way that you can adapt for use in your school, utilising food sources that are available in your area. The emphasis is on plants and the parts of plants, but plenty of other "cross-curricular" issues may be covered in the discussions. The teacher's page gives you a suggested approach and some background information. The pupil's page should give you ideas that you can adapt for your particular approach.

## World travellers

The Food Miles activity is more suited for older KS2 pupils. In this activity we are trying to stimulate thoughts about the long distances travelled by foods - so that we can have a full choice of fruit and vegetables all year round. Not many of our younger pupils are really aware of what grows where and when in their own locality and the concept of "seasonal" produce is rapidly disappearing.

This activity, based on an original idea developed at Kew, is treated very simply here, but of course it could lead to much deeper issues such as types of transport, how long and how far food has travelled, pollution, cutting down forests and the effect on wildlife and local people. We are just hoping to spark the concept of world citizenship.



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## Are you a plant eater?

### Resources

- Chart or felt diagram of a plant (Use a whole plant or a diagram to look at the parts of a plant. For KS2 include buds, fruits and seeds.)
- Selection of fruit and vegetables (see suggestions in the list below)
- Dinner plate sized circles drawn on paper or card, or plates - label these 'root', 'stem', 'leaf' etc. Alternatively you can use tabular checklists, with names of the foods down the side and columns headed 'root', 'stem', 'leaf' etc.
- Plastic knives
- Hand lenses
- Simple microscope (if available). Sliced vegetables look wonderful under the digital microscope.

Here are some examples that you could use:

Leaves	Roots	Stems *	Flowers	Buds	Fruits
lettuce cabbage leek spring onion	carrot turnip parsnip beetroot radish	rhubarb celery asparagus sugar cane fennel	cauliflower broccoli caper clove	sprouts asparagus broccoli	melon cucumber peas (in pod) runner / french bean apple grape tomato

\*Note that the National Curriculum draws no distinction between flower and leaf stalks, and stems.

There are some "difficult customers". These are best avoided unless you are a confident botanist!  
These include: potato, sweet potato, ginger, onion, bananas, seedless grapes, mushrooms

### Plan of action

1. Ask the children if they eat plants – this usually produces blank faces and shaking of heads until somebody catches on and sets the ball rolling.
2. Have some very obvious examples of foods to show how they relate to the parts of a plant. Here are some suggestions

Food	Part of plant	Useful comments
carrot	root	roots are never green
cabbage leaf	leaf	green, thin, large surface area
tomato	fruit	cut it open to show seeds

3. Give each group a selection of plant foods. Ask them to handle and identify each item and to decide which part of a plant it is. They then place it in the relevant circle (KS1 or KS2) or (for KS2) they can tick on a check list.
4. Review and discuss their reasons for each choice.
5. Use the worksheet to record information about some examples.

### Follow up activities

Here are some suggestions that you could develop to help the pupils understand more about food plants and link with other areas of the curriculum.

- Sort the vegetables using other criteria e.g. shape and colour
- Link in to work on a healthy diet
- Discuss possible recipes for cooking the vegetables
- Use the vegetables to create vegetable art – great fun!
- Use the vegetables to feed class rabbits, guinea pigs or hamsters
- Introduce the idea of making compost
- Grow some runner beans
- Blind tasting of some fruit and vegetables

## Which parts of the plant do you eat?

Look at the picture of the plant. You can see that each part of the plant has a box beside it. It is a plant that you may eat as food.

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1 *rhubarb*.

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1. In each of the boxes, write down the name of the part of the plant. Here are some words to help you choose the correct part. You can write the words in the blanks left for you.

fruit ; stem ; leaf ; bud ; root ; flower

2. Then on the lines with numbers, write down the names of some other foods that you eat and come from the same part of the plant. (You can see that some of the spaces are filled - this is to help give you some ideas.)

# Plants travel the world

## Food miles

There was a time when we (in the UK) were largely dependent on local supplies of vegetables and fruits. This meant that in some seasons there was an abundance of produce and at others (particularly in winter) we eked out our limited range of produce and longed for the fresh vegetables and fruits that arrived with spring and summer - and the many fruits that were harvested in autumn. Now in the 21st century, the shelves of supermarkets are filled with fresh vegetables and fruit almost regardless of season and from all over the world.



This activity can be linked to the "Plant eaters" activity (described earlier in this OSMOSIS) but it can also be used to stimulate awareness of issues related to sustainability and the environmental costs of bringing fresh food to our supermarkets. There are plenty of cross-curricular themes that can be developed. The questions and ideas below can be used as a framework and you can adapt them for your particular class or groups of pupils. It would be useful to have a world map - laminated if possible so that pupils can draw lines on it. Alternatively you could project an image of a world map onto paper on the wall.

## The activity - some ideas for questions to use with pupils

- Have you thought how far your food has travelled before you buy it? Some foods, like apples, melons or mangoes, have stickers on them saying which country they have come from. Look at the foods in front of you to see if they have stickers and ask your teacher to show you the labels on the packaging that was around the different foods when they were purchased.
- Draw a table like the one below.

Name of food	Country of origin	Distance travelled in km	"Damage points" (100 km = 1 point)

- Choose 3 foods and write their names in the first column. In the second column, write down the country from which each came. Then find out approximately how far this country is from Britain and write this in the third column.
- When we transport food across the world, we use up lots of fuel and create pollution, which damages the environment. We can get a rough idea of the damage caused to the environment by awarding 1 "damage point" for each 100 km travelled. You can then add your score for "damage points" for each food in the fourth column.
- Find the countries on a map of the world and draw a line to link this country to the UK.
- In your groups, think and talk about the following questions.
  - ▶ Do we need to buy food from countries that are so far away or can we buy locally?
  - ▶ Do we really want to eat strawberries in the winter?
  - ▶ Chocolate and bananas will not grow in this country. Think about how you could help the growers by choosing "ethically traded" products.
  - ▶ How many forms of transport are used to bring foods to the UK?
- Why not use this information to help you produce a poster or to do an assembly to make other people think about where their food comes from?

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