

Food for thought

Children are linked to the wider world on a daily basis through the food they eat. Few issues demonstrate more clearly the complex relationship and links between people and environments north and south. The wide range of food we have become accustomed to eating is largely dependent on producers in less developed countries satisfying our demands for year round variety and choice.

This trade in food has led to greater opportunities for a varied and interesting diet in the north. Conversely in the countries of the south it has often limited choice, reduced access to productive land and led to exploitation of people and environments. This leaflet highlights the effects of choices we make about food and provides children with the knowledge to make choices which empower food producers and help protect the environment.

What price our food?

Check out an average supermarket and it will reveal our food demands and habits. The fruit and vegetable section offering any product, at any time, from anywhere around the world demonstrates our desire for an ever greater variety of foods all year round.

In addition Supermarket 'price wars', where supermarket chains battle for customers through food pricing, demonstrate our desire to pay less and less for the food we eat.

So what's wrong with paying less and getting more?

The problem is that we are not paying the true cost for our food. By examining only the checkout price of food we ignore the many hidden costs associated with food production: costs to people's health, quality of life and costs to wildlife and the environment.

Social costs

Much of the food we buy relatively cheaply in the UK is grown by people in developing countries. Land is often converted from valuable 'eco-systems' such as rainforest or from land which would otherwise supply food for the needs of local people to land for growing cash crops for export. Furthermore the market price is often so low that many food producers cannot even afford to feed their own children properly. In Brazil, for example, the world's second highest food exporter, around 60 million people still don't have adequate food to eat.

Environmental cost

Many modern farming methods involve the use of toxic chemicals and fertilizers which damage soils, leach into water systems and harm wildlife and the environment. Transporting food products hundreds or even thousands of miles also causes pollution and contributes to global warming. For example it takes up to five litres of fuel to fly just one kilogram of fruit or vegetables from South America to the UK.

How can my food choices make a difference?

Buying organic products guarantees that food is produced without the use of artificial chemicals and land is managed in a way which protects wildlife and the environment and ensures good animal welfare standards. Fairtrade products guarantee food producers in less developed countries fairer wages, decent safe working conditions and good housing.

So while organic and Fairtrade foods may be slightly more expensive to buy, they don't include the hidden cost of environmental damage and unFairtrade.

The journey of a banana	Numeracy Food	
A numeracy activity exploring the origin and various stages in production and transportation of a food common to all children	45 mins	Year 3 and 4

Suggested lesson structure - Mental or oral work

The lesson could begin by asking children to derive quickly number pairs which total 20 before exploring sets of three, four and five numbers which total 20. Different combinations could be written up and children challenged to find other combinations. Sets of 5 numbers which add to 20 should be the particular focus as this will relate to the main activity.

The main activity

Before any numeracy work, children should be given a brief explanation of the journey of a banana from the Caribbean to a UK shop or market stall and be aware of the groups involved in each stage of the journey. Further explanation along with pictures are contained in the Oxfam pack *Go Bananas!* on which this activity is based (published by Oxfam GB 2000). This pack will help children to visualise the roles of each group involved in the banana journey.

The main activity should be carried out in groups. The aim is to encourage critical and reflective thinking on what proportion of 20p spent on a banana should go to each group involved in the growing and production process. This may be a sufficiently challenging task for many children. However, older or more able children could use the figures they have arrived at for a 20p banana to determine how much of £1 would go to each group if the proportion remained the same. Children will need to use multiplication and division and be aware of the relationship between them, e.g. 20p goes into £1 five times and any proportion of 20 will need to be multiplied by 5 to calculate the proportion of £1. They will need to recognise that checking the accuracy of their answer will involve checking that numbers add up to 20/100.

Following the activity, children could share their calculation strategies and state with justification what proportion of 20p/£1 they have allocated to each group. Different combinations of 5 numbers which add to 20p/£1 can be examined. Finally, children should be informed of the actual situation, highlighting the low amount received by banana growers; they should be given the opportunity to state their opinions on this. They should compare the actual proportions with their own decisions on who gets what. Do they think this is fair? Why/why not?

Fairtrade: ensuring a fairer deal for banana growers

This activity provides an ideal opportunity to promote Fairtrade bananas, now widely available at supermarkets and other shops. Fairtrade ensures growers get fair pay, decent housing and high health and safety standards. There is no forced or child labour and environmentally sustainable production practices are promoted. Further details of Fairtrade can be found in the Fairtrade leaflets in this series or from other links on this site.

Who gets what? You decide! (Pupil's question sheet)

Decide how much each group should get from a banana costing 20p.

Who do you think deserves the most from the sale of the banana? Why do you think so?

Who do you think deserves the least? Why do you think so?

If the same proportion of money went to each group, how much would each group get from £1 spent on bananas?

Complete the following table:

Who gets what? You decide!	20p banana	£1 of bananas
Grower	___p	___p
Banana Development Company	___p	___p
Shipping, and packaging Company	___p	___p
Wholesaler	___p	___p
Retailer	___p	___p

How did you work out your answers?

How can you check to make sure that you have got your calculations right?

Who gets what? The actual situation

From 20p (£1) spent on a banana each group gets the following:

Grower:	1p	(5p)
Banana Development Company	1p	(5p)
Shipping, importing and packing Company	7p	(35p)
Wholesaler	4p	(20p)
Retailer	7p	(35p)

All figures are approximate and do not include taxes, import licenses or insurance

Groups involved in the banana's journey

Growers - After planting the banana plants it will take 18 months before the bunches of bananas are ready to cut down. During this time farmers have to protect their bananas from damage by the weather and by pests. To do this, bananas have to be covered in plastic sheets. Some farmers will use fertilizers to help the crop grow and pesticides to help protect the crop from bugs and pests*. Both will need to be bought by the farmer. When the bananas have grown, but still green, the farmer cuts them from the plants with a machete and packs them in boxes. The plants then die and the farmer must grow new ones.

Winward Island Banana Development Company - This company works to support the growers. They work to get as good a price as possible for the farmers who sell their bananas. They also supply the farmers with fertilizers, pesticides, plastic sheets and boxes and give farmers advice on growing bananas.

Shipping, importing and packaging Company - This company transports the boxes of bananas from the Caribbean to the UK in refrigerator ships. The journey takes about six days. Once the bananas arrive in the UK they have to be carried by lorry to the factory where they are carefully ripened for about a week. They have to be kept in special rooms at the right temperature to help them ripen. They are sorted into different sizes and packed ready for sending out to the wholesalers or retailers.

Wholesaler - Receives boxes of ripened bananas from the packaging company and sells them on to different retailers who then sell them in their shops.

Retailer - Sells the ripe bananas in a shop or on a market stall. They need to be sold fast before they over-ripen and turn brown.

Vocabulary which will need explanation:

pesticides: chemicals used to kill insects which may harm the crop

fertilizers: chemicals added to soil to help plant growth

*growers using an organic production method will not use artificial fertilizers or pesticides. This activity provides an opportunity to discuss the positive benefits of organic farming to the soil and the environment. Most supermarkets now stock organic bananas.

Become a banana bread baker!

The following is a simple recipe which children could use as a practical way of applying real life weights and measures. It also provides an opportunity to explore reasons for choosing Fairtrade, organic, and free range produce. The activity lends itself to small groups.

What you need

100 grams organic butter or margarine

200 grams Fairtrade brown sugar

3 Fairtrade or organic bananas

2 free range or organic eggs

1 pinch salt

1 teaspoonful of bicarbonate or baking powder

50 grams chopped walnuts (optional)

200 grams white or brown organic flour

What you do

Beat the eggs in a bowl. Cream the bananas in another bowl. Cream butter and sugar in a third bowl. Add all these ingredients together in one bowl and stir. Add flour, (nuts), bicarbonate or baking powder and salt and mix well. Place mixture in a greased bread tin. Bake for one hour in a moderate oven (350F) and then...enjoy!

(Based on Oxfam pack: Go bananas! Oxfam GB 2000)

Further Activities

- Design an appropriate box for the banana bread thinking of a suitable name, exciting design, and providing the customer with ingredient list and information about the choice of ingredients, i.e. why organic, Fairtrade and free range products have been chosen.
- Use the banana bread activity to reinforce and further explore food issues raised in this leaflet. Could the cake have been made more cheaply? Compare prices of organic and Fairtrade products with those of non-organic or non Fairtrade products. Why are organic, Fairtrade and free range produce generally more expensive?

	Knowledge and Understanding		Skills		Values and Attitudes
<input checked="" type="checkbox"/>	Social justice and equity	<input checked="" type="checkbox"/>	Critical thinking	<input type="checkbox"/>	Sense of identity and self-esteem
<input type="checkbox"/>	Diversity	<input checked="" type="checkbox"/>	Ability to argue effectively	<input checked="" type="checkbox"/>	Empathy and sense of common humanity
<input checked="" type="checkbox"/>	Globalisation and Interdependence	<input checked="" type="checkbox"/>	Ability to challenge injustice & inequalities	<input checked="" type="checkbox"/>	Commitment to social justice and equity
<input checked="" type="checkbox"/>	Sustainable development	<input checked="" type="checkbox"/>	Respect for people and things	<input type="checkbox"/>	Valuing and respecting diversity
<input type="checkbox"/>	Peace and conflict	<input type="checkbox"/>	Co-operation and conflict resolution	<input checked="" type="checkbox"/>	Concern for the environment and commitment to sustainable development
				<input checked="" type="checkbox"/>	Belief that people can make a difference

The world goes bananas	Numeracy Food	
A numeracy activity comparing and contrasting different types of bananas available in the shops	45 mins	Year 5 and 6

Suggested lesson structure - Mental or oral work

The lesson could begin with exploring and recapping on mental strategies involving money and measures. To introduce the banana theme of the main activity, questions relating to weight and price could be used. Examples: How much would 3.5kg of bananas cost if the price per kg is 80p? If a customer pays £2.70 for 3kg of bananas, what is the price per kg? If the cost per kg of bananas is 95p, how much would 5kg of bananas cost? Questions to determine the strategies children have used could be also be asked.

The main activity

The emphasis of the activity is on calculation strategies for multiplication and division, making children aware of the influence price has on determining the choice of purchase of common commodities and the 'hidden costs' often associated with 'cheap' prices.

The three shoppers, the quantity and cost of their banana purchases and how this information can be used to solve the problem of price per kilo should be discussed and worked through with the whole class as the introduction . It is likely that this activity will involve much discussion, and mixed ability groupings could therefore be effectively used. Alternatively, support could be offered to lower ability groups, while more able children could follow up the work with the suggested extension activity, provided they are already familiar with the construction of line graphs. All children should consider the questions of banana choice as it is fundamental to this activity.

A decision will need to be made regarding the use of calculators. This should be based on whether the activity is used to focus on enabling children to identify appropriate methods or used to practise pencil and paper calculation procedures.

following the activity, children could share their choice of calculation strategies, and state which banana they would buy and why. Invariably the lowest priced banana will be chosen. Line graphs could also be shared with the whole class, if completed, and strategies should be discussed.

Any discussion about the tuck shop decision should provide children with the opportunity to share their ideas on why Banana B was chosen in preference to Banana A or C. They may have many ideas worthy of consideration, e.g. better looking bananas, better tasting etc.

Finally, children should be informed of the differences between the three bananas. Explanations are provided on the opposite page. Children can then be challenged to re-consider their choice of banana, and the decision of the tuck shop to purchase banana B can be re-evaluated.

This activity could be used as a basis for further consideration of Fairtrade and organic production in more depth. For schools with tuck shops it could challenge children to think about what produce the shop offers and the products they purchase from it.

Banana cost activity (pupil's question sheet)

Using the information given on the three different bananas sold in the supermarket complete the price labels for Bananas A, B and C

Three shoppers buy the following quantities of three different bananas at the local supermarket

	weight	amount paid
Mrs. Ahmed buys Banana A:	3kg.....	£2.97
Ms. Fairley buys Banana B:	1.5kg ...	£1.95
Mr. Green buys Banana C:	2.5kg ...	£3.50

Banana A £ per kilo

Banana B £ per kilo

Banana C £ per kilo

Which banana would you choose to buy?

A school tuck shop decides to buy Banana B. The tuck shop buys 15.5kg of Banana B. How much will this cost?

Do you think purchasing Banana B for the tuck shop is a good idea? Explain your answer. Give your reasons why you think Banana B has been chosen for the tuck shop rather than Banana A or C

Extension activity: Draw a straight line graph to show the correlation between price and weight for each banana. Extend the line to determine what weight of each banana could be bought for £5.00

Peeling back the facts on three bananas

Banana A is produced by a large American multinational corporation operating in Central America. The company grows bananas on a massive scale and sells them cheaply. They and a few other large banana corporations control two-thirds of world banana exports. They manage to produce bananas cheaply because they own huge plantations and pay their workers very little. They are often accused of showing little concern about health and safety standards or protecting the environment. They use toxic chemicals on their crops, which often cause banana workers health problems. Some of the chemicals cause skin problems and are carcinogenic, which means they can cause cancer. Using chemicals also damages the soil and water.

Banana B is from a small Fairtrade co-operative in the Dominican Republic. The growers get a guaranteed amount for their crop which is higher than the rate paid to growers of Banana A. This means they can provide more for their families and communities. They are able to send their children to school and get important medical treatment. For a product to be awarded the Fairtrade Mark, certain conditions must be met. These include good housing for farmers and their families and good standards of health and safety. While fertilisers and chemicals may be used, they tend to be used sparingly and the Fairtrade Mark requires that production methods protect the environment. Because more money goes to the producers who grow the bananas and the communities they live in the price of Fairtrade bananas is higher in the shops. The leaflet on Fairtrade in this series contains full details of the advantages of Fairtrade.

Banana C is from a small family run banana farm in Equador which uses organic methods of production. The bananas are grown without the use of chemicals. This means that the banana plants must be carefully cared for and the soil must be kept clean. Not using chemicals to spray on the bananas requires knowledge, skill and a lot of hard work in order to prevent bugs and diseases destroying the crop. This method looks after the soil so future generations can grow crops and it protects the health of the workers. This method of producing bananas is more expensive because more bananas get spoilt, so the bananas cost slightly more in the shops.

Further activity: The World as an apple

This activity demonstrates our dependence on a tiny fraction of the earth's surface for supplying our food. This activity is suggested as a demonstration and questioning activity.

You will need a large apple, such as a cooking apple, and a sharp knife. Begin by explaining that the apple represents the planet earth. Cut the apple into quarters. Put to one side three quarters and keep the remaining quarter. Ask what the three quarters represent? (the world's oceans) ask what the remaining quarter represents? (All the world's dry land)

Cut the remaining quarter into 8 equal portions. Ask how to ensure the quarter is cut into 8 equal parts? (half the quarter, half each piece again and then half each piece again)

Put to one side 7 of the 8 pieces and keep one remaining piece. Ask what the seven small pieces represent? (the mountains, deserts, swamps, frozen ground etc where no agriculture is possible)

Peel the final small section and ask for ideas on what this tiny thin piece of apple represents? (This is the proportion of the earth from which all our food comes: the thin layer of soil which the whole world's population depends on.)

Children could be asked to draw a pictorial representation of this activity by accurately dividing a circle or rectangle showing the fractions for the oceans and for the parts of the earth that cannot grow food and the small bit that does. What fraction of the earth's surface can we use for growing food? (Use representations to work out: 1/32)

Ask children to consider and discuss what this activity suggests to us about the way we should treat our earth. (It demonstrates the value of the earth and its soils and the importance of protecting land for future generations)

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Action Ideas

- Staffroom action. A very practical way in which a school can demonstrate its commitment to food producers in developing countries is by purchasing Fairtrade tea and coffee for the staffroom.
- The setting up of 'fruit tuck shops' enables schools to examine the different options available and to explore, perhaps through school councils, the dilemma between buying low price/hidden costs fruit and higher price Fairtrade and organic fruit which offers a fairer deal to producers and the environment.