

The world goes bananas

A numeracy activity addressing key elements of the National Numeracy Strategy (NNS) while comparing and contrasting different types of bananas available in the shops

Relevant elements of the Year 6 NNS Teaching Programme (p 26-27)

Suggested focus for this activity in italics:

Solving problems:

- *Identify and use appropriate operations to solve word problems involving numbers and quantities based on 'real life', money or measures*

Handling data

- *Solve a problem by... extracting and interpreting data in tables, graphs, charts and diagrams*

- solve a problem by representing data in a line graph

Calculations

- *Use informal pencil and paper methods to support, record or explain multiplications and divisions: short multiplication and division of numbers involving decimals*

- Develop calculator skills and use a calculator effectively

Global Citizenship aims of the banana activity

- ✓ To develop children's understanding of the causes and effects of inequality and social injustice
- ✓ To enable children to explore the effects of globalisation and trade between countries
- ✓ To alert children to the hidden social and environmental costs which often lie behind goods with the cheapest 'checkout' price
- ✓ To help children understand the relationship between people and the environment
- ✓ To foster a sense of responsibility for the environment
- ✓ To equip children with the knowledge and understanding to empower them to take positive actions which ensure greater social justice and protect the environment.

Many of these aims are based on the Oxfam Curriculum for Global Citizenship, available from Oxfam Education, 274 Banbury Road, Oxford, OX2 7DZ

Suggested lesson structure

Mental or oral work

The lesson could begin with the rehearsal of 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. Examples: *How did you do that? Did anyone do it a different way?*

The main teaching activity

A suggested format for the activity is given opposite. 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 (direct teaching). 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.

Plenary session

Children should 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.

Towards the end of the plenary 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 *Fair trade* and organic production in more depth outside the numeracy hour. For schools with tuck shops it could challenge children to think about what the shop offers and the products they purchase from it.



Banana cost activity

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 for each banana to show the correlation between price and weight. Extend each of the three lines to find what weight of each banana could be bought for £5.00

Peeling back the facts on three bananas

Banana A is produced by one of the three large American multinational companies operating in Central America. They grow and sell bananas cheaply and between them control two-thirds of world banana exports. They manage to produce bananas cheaply because they own huge plantations, pay their workers very little and show 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 *Fair trade* 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 *Fair trade* bananas is higher in the shops.

The Global citizenship leaflet on Fair trade in this series contains full details of the advantages of Fair trade.

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 resources

The following is a list of titles which will offer opportunities for further activities on issues of Food for KS2. They should be available through your local Development Education Centre (DEC).

Food and Harvesting Primary Topic Poster pack	Oxfam GB 1998
Go Bananas	Oxfam GB 2000
Making a Meal of It	Oxfam GB 1998
Sowing and Harvesting: A simulation game	Oxfam GB 1998
The Whole World cake	Christian Aid 1994
Food Technology: A Global Perspective for KS1 & KS2	VSO 1998

We Are What We Eat: but who controls our choice? UNICEF 1992

Foods, Farms and Futures:
The Organic Option The Soil Association 1995

Global Express No.14:

Monster Tomatoes or Bumper Harvests Manchester DEP 1999

Feedback on these activity ideas would be much appreciated. Comments can be sent to HEC or your local DEC or made via the Global Footprints website.

Further ideas, contacts and information

The World as an apple

This activity demonstrates our dependence on a tiny fraction of the earth's surface for supplying our food.

What you need

A large apple, such as a cooking apple, and a sharp knife.

What to do

This activity is suggested as a demonstration and questioning activity.

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. *What do you think the three quarters represent?* (the world's oceans) *What do you think the remaining quarter represents?* (All the world's dry land)

Cut the remaining quarter into 8 equal portions. *How can I make sure that I cut this quarter 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. *What do you think the seven small pieces represent?* (the mountains, deserts, swamps, frozen ground etc where no agriculture is possible)

Peel the final small section. *What do you think 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 on which we depend)

Ask children to draw a pictorial representation of this 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)

What does this suggest 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)

Further Activity and Action Ideas

- ☆ Staffroom action. A very practical way in which a school can demonstrate its commitment to *Fair trade* is by ensuring that all tea and coffee in the staffroom is fairly traded.
- ☆ 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 *Fair trade* and organic fruit which offers a fairer deal to producers and the environment.

Your local DEC:

Further information about food justice

The Fairtrade Foundation Suite 205, 16 Baldwin's Gardens, London EC1N 7RJ Tel: 020 7405 5942

e-mail: mail@fairtrade.org.uk Web site: www.fairtrade.org.uk

Contact for details about *Fair trade*.

British Association of Fair Trade Shops (BAFTS) c/o Gateway World Shop, Market Place, Durham DH1 3NJ Have details of *Fair trade* shops and suppliers in your area.

Friends of the Earth 26-28 Underwood Street, London N1 7JQ

Tel: 020 7490 1555 www.foe.co.uk Produce *Biteback!* a young person's action guide to campaigning for real food snacks which are better for people and the environment.

The Soil Association 86 Colston Street, Bristol BS1 5BB

Tel: 0117 929 0661 Have been campaigning for organic farming for over 50 years and provide information on how to buy organic food (both meat and vegetables).

Compassion in World Farming Charles House, 5a Charles street, Petersfield, Hants GU32 3EH Tel: 01730 268070 Campaign for the welfare of farm animals and against factory farming. Publish a wide range of leaflets, books and videos. Will have information on 'free range' animal products.

Oxfam 274 Banbury Road, Oxford OX2 7DZ Tel: 01865 313600

Campaign for justice for the world's poorest food producers and for *Fair trade*. A wide range of *Fair trade* products is available through their shops. Extensive range of global citizenship education packs available. Also have a children's website containing information, and activities: www.oxfam.org.uk/coolplanet

Food: Feast Your Mind! By Emily Moore, published by Holder Books 1999. One of the 'What's the Big Idea?' series. Lively and entertaining!

Development Education Centres (DECs)

This resource was produced by two DECs: Humanities Education Centre, Tower Hamlets and RISC in Reading. Your local DEC will be able to provide a range of exciting resource ideas for the teaching of Global Citizenship.

To find your nearest DEC contact the Development Education Association, 29-31 Cowper Street, London, EC2A 4AP

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