

# Water: how much will you use?

A numeracy activity addressing key elements of the National Numeracy Strategy (NNS) while practically exploring how some people survive on so little of the world's most

## Suggested lesson structure

### Mental or oral work

The lesson assumes some previous teaching of measuring capacity.

Resources needed for the successful completion of the activity: a litre measuring jug with 100 ml intervals, a litre drinks bottle and four buckets capable of holding 2½ litres each.

The lesson could begin by asking children to consider pairs of multiples of 100ml which add up to 1litre. This could be practically tested and demonstrated by measuring the two suggested combinations in the jug and pouring them into the bottle to see if it fills it.

Children could be quizzed on how many ml in ½/¼ of a bottle.

### The main activity

Ask children to estimate how many litres (bottles) are used for common or essential daily activities. Suggested figures could include ½ lt. or mls.

The average daily figures for a variety of activities are given and these figures should be revealed to children following their estimates.

### Whole class teaching activity

In the poorest countries the average person uses 10 litres of water a day.

Ask children to imagine a child in Africa collecting and carrying 4 buckets of water containing 10 litres in total (see also Rachel's story, Water leaflet, Year 4 Literacy). If the water is evenly shared between the four buckets, how much water would each bucket contain?

Practically measure out the water into buckets. Ask one or two children to try and lift the four buckets and imagine walking for a long distance with them as many children in Africa have to.

### Group activity

Children should consider the list of daily uses of water discussed earlier and decide how they would divide up 10 litres of water.

Once they have decided on the amount allocated to each activity, and have checked the total adds up to 10 litres, children can colour code the water tub opposite with different colours indicating different activities (in effect an 'add-on' bar chart).

### Plenary session

Examine some of the results, questioning and checking calculations and presentation of information. Measure a few suggestions to demonstrate how little some people have to survive on and use for various tasks. Some suggestions may need questioning/challenging, e.g. it is difficult to reduce the amount you drink, particularly if you live in a hot climate. Consider what problems there might be living on 10 litres a day, e.g. no toilet, having to hand wash clothes in a tiny amount of water and possibly using the same water to clean dishes, the need to wash instead of shower.

### The key global citizenship messages of this activity:

- to highlight the discrepancy between our unrestricted access to water and the very limited amount of water available to many millions of people in poorer countries
- to show how many people have to plan and prioritise their use of water
- to understand that drinking and cooking water must always be prioritised first for human survival
- to demonstrate the risk to health and hygiene of restricted access to water: it makes personal washing, clothes washing and sanitation difficult
- to show restricted access and usage of water and the need to collect

## Relevant elements of the Year 3 NNS Teaching Programme (p14-15)

Suggested focus for activity in italics:

### Calculations

- know by heart all pairs of multiples of 100 with a total of 1000

### Estimating and rounding

- Read and begin to write the vocabulary of estimation and approximation

### Measures

- *Read and begin to write vocabulary related to capacity*
- *measure and compare using standard units: litres and millilitres*
- *Suggest suitable units and measuring equipment to estimate or measure capacity*

### Handling data

- Solve a problem by organising and interpreting numerical data in bar charts - intervals labelled in ones

### Numbers and number systems:

- *Recognise unit fractions such as ½ ¼...and use them to find fractions of numbers*

## Global Citizenship aims of the water activity

- ✓ To demonstrate the causes and effects of inequality between people living in northern and southern countries
- ✓ To understand the relationship between people and the environment
- ✓ To raise awareness of the importance of vital resources such as water and our responsibility to use them sustainably
- ✓ To help children understand the link between their own lives and those of others
- ✓ To generate empathy towards others globally
- ✓ To encourage a commitment to social justice and equity

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



*Water Aid, the UK development charity working to help communities in Africa and Asia provide themselves with a safe water supply close to home produce WaterLiterate and WaterNumerate, resources for the KS2 literacy and numeracy hour*

# How will you use your 10 litres of water?

In many poor countries in the world people are only able to use 10 litres of water a day.

Imagine that today you only have 10 litres of water. You have already discussed with your teacher and the rest of the class how much water you normally use for different activities each day.

⇒ In your group try to think about how you would use 10 litres of water. Use the table below to help you.

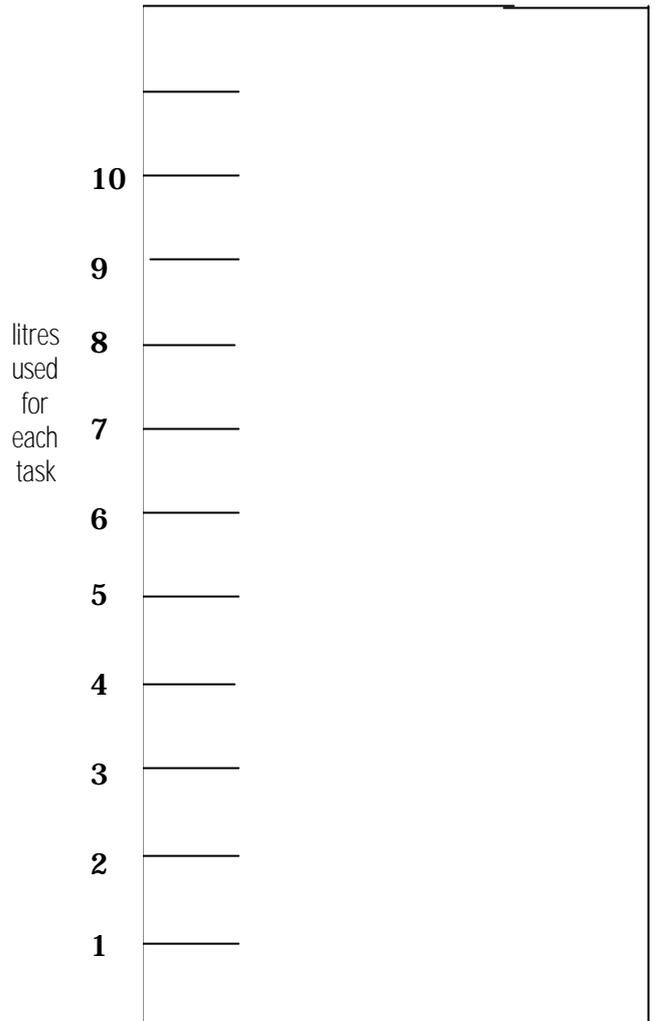
Discuss the following questions:

- ⇒ How much water would you use for each task?
- ⇒ Which are the most important uses of water?
- ⇒ Which activities could you still do but with less water?
- ⇒ Could you use some water for more than one activity?
- ⇒ Which activities could you not do at all?
- ⇒ When your group has carefully decided how you would use 10 litres of water, colour in the water tub opposite using a colour code to show how much water you will use for each activity.

## Amounts of water used for different daily activities

- ◆ A shower - 18 litres ◆
- ◆ Filling a sink/bowl to wash dishes - 5 litres ◆
- ◆ Filling a bath - 50 litres ◆
- ◆ The washing machine uses - 95 litres ◆
- ◆ Filling the kettle - 1 litre ◆
- ◆ Daily drinking per person - 1 litre ◆
- ◆ Water for cooking - 1½ litres ◆
- ◆ Flushing the toilet - 9½ litres ◆

The average person in the UK uses 80 litres of water a day



Put your colour code here:

## 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).

**Clean Water: A right for all** (UNICEF) Activities on water, its supply, control and use, including pollution.

**Water: the Earth Strikes Back** (Belitha Press) A book exploring how water shapes the lives of people, plants and animals worldwide. Looks at global inequalities in water supply and how people can help guard this vital resource.

**Water Performance** (WaterAid) contains suggestions for using drama, dance, music, puppet and mask making to explore water problems and their solutions in developing countries.

**My world** (WWF-UK) A resource pack for primary teachers.

**Eco-Schools** (see back for details) Produce a Water booklet for teachers who wish to develop the topic as an element of the Eco-Schools scheme.

**The Green Umbrella** (Jill Brand - WWF) Stories, songs and poems which provide good starting points for classroom discussions and assemblies. The book contains seven sections including water.

**Primary Topic Poster Packs** (Oxfam) A range of colour poster sets focusing on key primary topics including water. Each topic set contains a variety of images and information as well as activity ideas.

**Fresh water** (UNESCO-UNEP) A series of posters, including water resources, supply and pollution.

**The water game** (Christian Aid) A game on water resources and supply in developing countries.

*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

## Water numbers: a water quiz

The following quiz would be suitable for some Year 3 children and for the majority of Year 4 children

1. How much of the earth's surface is covered by water?

- a) Half of the earth
- b) Three quarters of the earth
- c) One quarter of the earth

2. How many people in the world do not have clean safe water?

- a) One in every ten people
- b) One in every four people
- c) Everyone has clean safe water

3. How many people die every minute in the world because of diseases caused by unsafe water?

- a) 10
- b) 1
- c) 5

4. Women in Africa and Asia often have to collect the water for the whole family carrying it for several miles. What is the weight of water that they often carry?

- a) The weight of 4 bags of sugar (4kg)
- b) The weight of your airport luggage allowance (20kg)
- c) The weight of an elephant (5,220kg)

5. How much money is needed to provide someone in Africa with clean safe water for life?

- a) The cost of a set of Pokemon cards (£2.50)
- b) The cost of a pair of brand name trainers (£50)
- c) The cost of a leather football (£10)

**Answers:** see front page of this leaflet for further information

Question 1: b

Question 2: b

Question 3: a

Question 4: b (Carrying such weight often leads to back strain and injuries. It also takes so much time that girls are often not able to attend school)

Question 5: c (the average cost of providing wells and water engineers)

**Suggested further activities and challenges** based on the quiz.

How far and for how long can children walk around the playground carrying a weight of 20kg?

How many people in the world will die in an hour due to diseases caused by unsafe water? (600 based on 10 people dying every minute)

If every child in the class donated one week's pocket money to an organisation helping to provide people in developing countries with clean safe water, how much money could be collected?

The quiz is based on *Water Works Youth Topics* a series of topic information and activity sheets produced by CAFOD, Christian Aid and SCIAF

## Further information about water

**The following organisations will be able to provide details of their work on water**

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

Produce a range of global citizenship education packs. New education catalogue 2000/2001 contains extensive range of resources across the curriculum. To order phone 01202 712933. Also have a website dedicated to teachers and children which contains information and activities: [www.oxfam.org.uk/coolplanet](http://www.oxfam.org.uk/coolplanet)

**WaterAid** 27 - 29 Albert Embankment, London SE1 7UB Tel: 020

7793 4500 e-mail: [wateraid@wateraid.org.uk](mailto:wateraid@wateraid.org.uk). Website contains excellent interactive quiz for children: [www.wateraid.org.uk](http://www.wateraid.org.uk) Also produce *WaterLiterate* and *WaterNumerate*, resources for the KS2 literacy and numeracy hour.

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

Tel: 020 7490 1555 [www.foe.co.uk](http://www.foe.co.uk) Produce information sheets and other resources suitable for young people on all environmental issues including water supply and pollution.

**Eco-Schools** Elizabeth House, The Pier, Wigan WN3 4EX

Tel: 01942 824620 [www.tidybritain.org.uk](http://www.tidybritain.org.uk) The European wide programme and award scheme aiming to increase environmental awareness and encourage pupil participation in managing their surroundings in schools.

## Development Education Centres (DECs)

This resource has been produced by the Humanities Education Centre, a DEC in Tower Hamlets, with contributions from other DECs. 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:

Development Education Association,

29-31 Cowper Street, London, EC2A 4AP ☎ 020 7490 8108

e-mail [devedeassoc@gn.apc.org](mailto:devedeassoc@gn.apc.org)

## Your local DEC