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## Resources for Global School Partnerships

*Thinking together about global issues*

*Sharing learning on equal terms*

*Imagining a fairer future*

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<http://globallearninglondon.org.uk/thinkingtogether>  
[www.risc.org.uk/toolkit](http://www.risc.org.uk/toolkit)

### 4. Thinking Together about Water: Baseline Activity

#### Record the learners' starting point before you start the topic with this Baseline Activity:

This activity<sup>1</sup> explores what students think and know about water **before they learn about the topic**. Do this activity at the beginning of the topic and repeat it at the end, to show how pupils' knowledge and perceptions of the world have been extended or changed by the activities.

#### What you need:

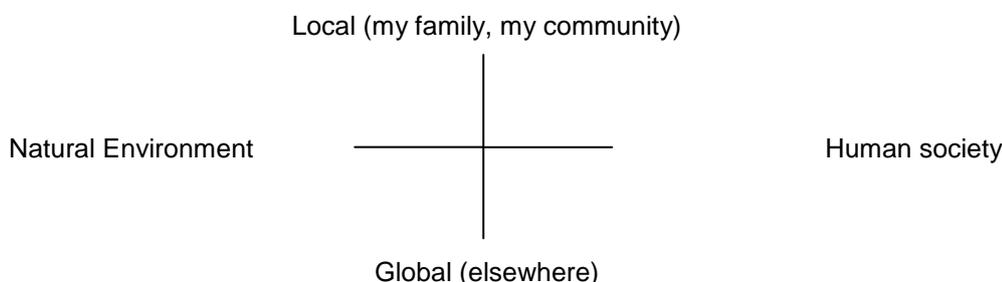
- Pupils organised into groups
- A large piece of paper for each group, headed '*What do you know about water?*'
- Pens or pencils for each group

#### What to do:

- Pupils work in groups, writing down as many ideas as they can think of in response to the question: '*What do you know about water?*'
- See what they think of for themselves. There are no right or wrong answers.
- When they have thought of all the ideas they can, collect their ideas and set them aside

#### How to analyse and interpret the results:

Classify their comments by putting an 'x' on the appropriate section of the grid. For example '*everyone drinks water*' would be recorded with an 'x' in the quadrant human/ global, '*there's a tap in my kitchen*' as local/ human, '*it flows in rivers*' as natural environment/ global and so on. Be consistent about the way you classify answers. Make a list of any you can't classify.



**Share result with your partner school(s):** make a combined table showing responses from different schools in different colours. Look at similarities and differences between the responses.

#### Repeat the activity after both partners have completed work on the topic.

- Analyse and collate results and compare them with your record of the original baseline
- Share results with your partner school(s), collate the result together (using different symbols or colours)
- Discuss similarities, changes and differences between schools and between the first and second phase of this activity.

**How to know your teaching has been effective:** When you repeat the activity, look for:

- A greater awareness of global inequalities
- Understanding that water is finite and a precious resource
- Awareness that we need to conserve and reuse water

<sup>1</sup> Adapted from RISC (2008) *How do we know it's working? A toolkit for measuring attitudinal change in Global Citizenship from early years to KS5* [www.risc.org.uk](http://www.risc.org.uk) ISBN 978-1-874709-10-6

## Thinking Together about Water Teacher's Factsheet <sup>2</sup>

**'A frog does not drink up the pond in which it lives.'** Native American proverb

### **Water – precious, recycled, finite:**

Water sustains life on Earth. Clean water is a precious resource, but dirty water is one of our greatest threats. Humans need to consume about 2.5 litres of water a day to keep healthy. There are 1,460 billion, billion litres of water on Earth. It's a renewable but finite resource, continually recycled by natural processes, so that water you drink today was possibly drunk by dinosaurs! Although 71% of Earth's surface is covered in water, most (97%) is seawater. Only 3% is fresh water (in rivers, lakes, groundwater, ice caps, snow, glaciers, and the atmosphere) and only 1% of this is accessible.

**'Day after day, we pour millions of tons of untreated sewage and industrial and agricultural wastes into the world's water systems. Clean water has become scarce and will become even scarcer with the onset of climate change. And the poor continue to suffer first and most from pollution, water shortages and the lack of adequate sanitation.'**

Ban Ki-moon, UN Secretary General

### **Fresh water - unequal, misused, undervalued:**

Fresh water sources are unequally distributed and affected by geography, climate, floods and drought. Fresh water is depleted by overuse and misuse, including human, industrial and agricultural pollution. Seven billion people on Earth need clean water daily for life and health. As populations grow and economies develop more water is used in manufacturing, agriculture and homes. In more affluent and water-rich areas, plentiful supplies of clean water are piped to homes, schools, offices and industries, and people are often use water wastefully. But billions don't have access to clean, reliable drinking water or sanitation. When poor people are asked what would most improve their lives, water is one of the highest priorities. For many turning on a tap and watching it pour clean water is literally a pipe dream.

**'Very soon nations will understand that in reality water is the most expensive natural resource for their survivals. Not Middle East oil neither African gold'** M.F. Moonzajer

### **Clean water - a fundamental right denied to many:**

Access to clean water is a right for all, but inaccessible to many. Millions live miles from fresh water sources. In countries in Africa and Asia, many women collect and carry up to 20kg of water a day, often walking several kilometres. Children help to collect water and miss out on school time. Water from streams, lakes and rivers may be unsafe to drink, polluted by bacteria, chemicals, rubbish, and human, animal and industrial waste, but with no alternative, people are forced to drink it. Many people die from water-borne diseases that could be prevented with access to clean water and sanitation. In 2013 around 2,000 children under five died every day from diseases linked to dirty water, lack of hygiene and lack of sanitation (UNICEF 2013). Water Aid, a UK organisation that works to provide clean and safe drinking water supplies, estimates that 2.6 billion people do not have access to a safe water supply and adequate sanitation and estimate *'one in ten of the world's population, 768 million people, have no choice but to get water from wherever they can, whether it is a dirty pond or an expensive water vendor'*.

**'We never know the worth of water till the well is dry.'** Thomas Fuller

### **Clean water for all:**

The United Nations says everyone has the right to clean water. The World Health Organisation (WHO) defines this as the right to access 20 litres of water a day from a safe water supply, less than 1 km from home. The United Nations and others are working to achieve this. Their goal is to ensure the availability and sustainable management of water and sanitation for all (UN Sustainable Development Goals 6, September 2015). Clean water for drinking, cooking and hand washing and sanitation could reduce water related deaths by over 93%. From 1990-2010, over two billion people gained access to improved drinking water sources. From 1990-2011 over 240,000 people a day gained improved sanitation. In 2015 91% of the world's population had access to drinking water from improved sources (such as taps, protected wells and boreholes), compared to 76% in 1990, but 663 million people still rely on unimproved sources, with over 40 per cent of these lived in sub-Saharan Africa. 159 million depend on surface water and 1.8 billion use water sources contaminated by faeces. **Sources:** World Health Organisation Drinking-water Factsheet June 2015 <http://www.who.int/mediacentre/factsheets/fs391/en/>  
UN Infographics <http://www.un.org/millenniumgoals/mdgmomentum.shtml>

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<sup>2</sup> Further facts: 'Learning About Water' <http://hecgloballearning.org.uk/>

## Thinking Together about Water - Numeracy Activity

### *Of all the water in all the world*

**'Water is the driving force in nature'** Leonardo da Vinci

**'We forget that the water cycle and the life cycle are one' 'Water and air, the two essential fluids on which life depends, have become global garbage cans.'** Jacques Yves Cousteau

These activities develop enquiring minds and introduce the need for fair and careful use of global resources to meet the basic needs of all today but also conserve precious natural resources for the future. The numeracy activity demonstrates the importance and scarcity of fresh water as a resource. It provides a good starting point for encouraging children to think of practical ways to take action to save water as well as providing application for numeracy knowledge and skills to a real life and global investigation. The activity can be used as a whole class demonstration/ discussion lesson or a numeracy lesson with a mixture of whole class teaching and group problem solving and investigation work.

#### Starter activity:

- Pour 10 litres of water into a container or bucket using a measuring jug. (If water is not easily accessible you could scale down the activity, or do it theoretically).
- Explain to children that these 10 litres of water represent all the water in the world. Ask them to think of all the places on earth where water is found or stored (e.g. oceans, lakes, rivers, aquifers, wells, reservoirs, water tanks, ice caps etc.).
- Discuss which of these sources are available for human use, such as drinking, cooking, washing. Move toward the conclusion that much of the world's water is largely unusable salt/ sea water.

#### The main activity:

- Ask children to estimate how much of the total water in the world they think is available for use by humans (i.e. how much of it is fresh water). They could express this as a percentage (or fraction) of the total.
- Ask them to translate this into the proportion of the 10 litres in the container (50% equals 5 litres, 25% equals 2.5 litres and so on). Reveal the true figure (just 3% is fresh water).
- Ask children how much of the 10 litres this is (300ml). Remove this amount (300 ml) from the 10 litres total, using the measuring jug.
- Explain that of this 3% fresh water 2% is frozen in the ice caps leaving just 1% (100 ml). Ask children to calculate what 2% of the 10 litres would be (200 ml). Pour 200 ml back into the large container.
- Ask children to calculate from the representative total (10L), the volume of water available for human use (100ml) and the volume of water not available for human use (9900ml or 9.9L). They can also be asked to express this as a fraction ( $1/100^{\text{th}}$  and  $99/100^{\text{th}}$ ) and a percentage (1%/99%).
- **Demonstrate the value of water by reusing it after the activity e.g. watering plants**

**Explain the concept of Virtual Water:** When considering how much water we use, we have to think not just about the amount of fresh water that we use directly, but also the amount of water it takes to grow food and produce goods and services that we use. You could use these links to help you explain <http://virtualwater.eu/> <https://globaldimension.org.uk/resources/item/1479>

**Plenary:** Compare the amounts of water available and unavailable to promote discussion on:

- The importance of using water sensibly and conserving it where ever possible
- The injustice of unequal distribution of such a valuable and vital commodity, where some have private swimming pools whilst other live on as little as 10 litres a day.

### Thinking Together about Water Literacy Activity: *Clean Water for Life*

**'Water belongs to us all. Nature did not make the sun one person's property, nor air, nor water, cool and clear.'** Michael Simpson 'The Metamorphoses of Ovid'

United Nations Sustainable Development Goal 6 aims to  
**'Ensure availability and sustainable management of water and sanitation for all'**

**'Every child has the right to the best possible health. Governments must provide good quality health care, clean water, nutritious food and a clean environment so that children can stay healthy. Richer countries must help poorer countries to achieve this'** Article 24, UN Convention on the Rights of the Child, 1989

**Starter Activity:** This enquiry is about the quality of water. Ask the class to suggest as many different water sources as they can. Write their ideas on the board. (e.g. ponds, rivers, puddles, streams, lakes, sea, reservoirs, canals, ditches, wells, glaciers, snow, rain, groundwater, bottles, taps, wells, pumps, stand pipes).

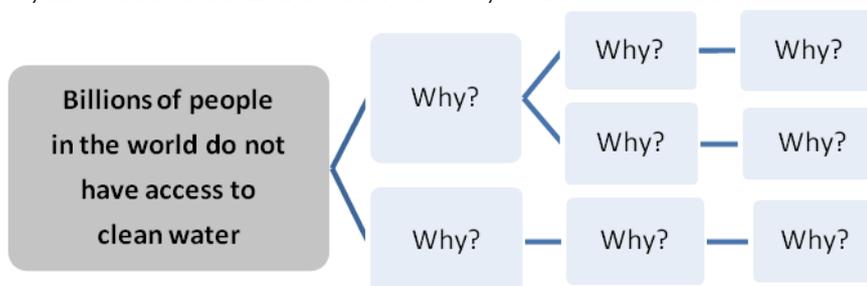
- Which of these are natural sources? Which are man-made systems? There is an opportunity to revise the natural water cycle, if they are learning about it.
- Which of these water sources provide clean water that is safe to drink? Which do not?

#### Background information:

- **Dirty water costs lives:** Fresh water is not equally accessible around the earth. Billions of people do not have clean water nearby or toilets to use. They can get ill from diseases carried in dirty water. Children are at high risk. In 2013 around 2,000 children under five died every day (UNICEF 2013). Many women collect water. The average distance they walk is 6 kilometres - that can take three hours! Children help to collect water and this affects the time they have in school. Water is heavy – women and children often carry up to 20kg of water home every day.
- **Clean water saves lives:** The United Nations (UN) says everyone has the right to clean water. The World Health Organisation says everyone should have access to 20 litres of water a day from a safe water supply, less than 1 km from home. The UN plans to halve the number of people without safe drinking water or basic toilets by 2015. With clean water for drinking, cooking, and washing and toilets, deaths from dirty water and poor sanitation can be reduced by 93%.

#### Main activity: Why? Why? Why?

Your body is over half made up of water! You need to drink clean water daily for life and health. Billions of people do not have access to clean water. Use this as a stimulus for enquiry. Work in pairs or small groups, using the 'Why? Why? Why?' format (shown below) to look for causal connections. In the first row of boxes write immediate reasons connected to the issue. In the next row, list reasons behind those reasons, and so on. Add additional boxes until ideas run out.



#### Discuss your thoughts:

- Is this situation fair? Is this sustainable?
- What could be done to change this? What would be fair? What would be sustainable? (Fair and sustainable solutions protect the people and the Earth now and in the future.)



**Plenary discussion:** 'What if ... everyone had a reliable supply of clean tap water?'

**Interactive Plenary:** Develop a question about water for your partner school. Share your answers to each other's questions.