learning in a global context

Learning about …
Water

'Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights.'
UN Economic and Social Council, 2002

Water is essential for daily life and is a fundamental human right. It is also a finite resource and available unequally in different parts of the world. In our maritime country with abundant rainfall water is often taken for granted and consumed in wasteful ways. The convenience of tap-water contrasts starkly with the daily water-carrying across much of the world that keeps young people from attending school and women from doing paid work.

Is water a right or a commodity?

Throughout history water has held a special status in terms of access, with responsibility for access and water quality resting with land owners in the Roman Empire, for example. And countries such as India have long viewed water as being outside of the realm of individual property rights. Today the UN works to ensure that everyone has access to safe and secure drinking water, equitably and without discrimination. The World Health Organization specifies reasonable access as at least 20 litres a day from a safe water source within 1km of a person's home. However according to WaterAid 2.6 billion people lack access to such a water supply and adequate sanitation.

In lower income countries poor water quality is often compounded by urban migration and the high price of water from street water vendors results in poor people paying on average 12 times more per litre of water than fellow citizens connected to municipal supply.

With geo-political protection of the right to water fully in place, what are the global and social justice issues that mean this most basic of human needs is not fulfilled everywhere?

Where would you get your water if there were no taps?

The weight of water carried by women in some parts of Africa and Asia is commonly 20kg each day, roughly equivalent to the average airport luggage allowance. Dirty water from water holes, rain collection, ill-kept wells and shared use with animals can cause serious illnesses and disease. Close to half the population of the developing world suffer from water-related diseases. Children are especially at risk as their bodies are less developed than an adults', and less able to resist illness. Many children miss school because of illnesses caused by problems with water and sanitation. Studies have shown that they are far more likely to go to school if safe drinking water is within a 15 minute walk rather than an hour.

Urban migration

By 2015 half of the population of developing countries will be living in urban areas. Urban migration intensifies demands on available water resources, giving rise to major concerns including over-exploitation and pollution of water sources. Africa and Asia are the two continents most affected by lack of safe water supply and sanitation, but the problems are not unique. Chinese cities face regular water shortages due to water pollution, over-exploitation of underground water and inefficient infrastructure. Mexico City takes 80% of the city's water from a regional aquifer, the depletion of which is causing land shifts and subsidence.

Water, water everywhere and not a drop to drink: Desalination – solution or problem?

Desalination is the process of removing dissolved minerals, such as salt, from seawater, brackish water or treated wastewater. It is a significant potable water option for energy-rich, arid and water-scarce regions. In the United Arab Emirates approximately 70% of daily water usage for homes and industry is supplied by desalination. Desalination is one of the most expensive options and is a high-energy process with the

attendant impact on greenhouse gases and climate change.

Did you wash your hands?

According to UNESCO in 2000 the estimated mortality rate due to water sanitation and hygiene-associated diarrhoeas and other diseases was in excess of 2m people. In 1997 / 98 an epidemic of cholera broke out in East Africa due to drinking water contamination by storm water containing human waste from informal settlements lacking even minimal facilities. Child mortality rates in cities with efficient sanitation and water supply are generally around 10 per 1000 live births; in cities without proper provisions, infant mortality rates are 10 to 20 times higher. Good hygiene and the wherewithal to be able to practice it, can provide huge health gains with relatively small investment. According to the World Health Organization hand washing with soap can cut the risk of diarrhoeal diseases by up to nearly half.

Who profits from water provision?

While over two thirds of water and sanitation services globally are provided by the state, international financial institutions such as the World Bank and International Monetary Fund have encouraged the privatisation of water. As a result private corporations have assumed control over the water supplied to over 300m people in every continent of the world.

The two biggest players in the water industry are Vivendi Environment and Suez-Lyonnaise des Eaux with interests in 120 countries. Biwater is an English water company that provides water services in over 90 countries– today it has joint venture companies all over the world each representing provision of water in private company hands and making staggering profits. Whilst Thames Water, privatised in 1989, is now owned by Kemble Water, a consortium formed in late 2006 by Australian-based Macquarie Group's European Infrastructure Funds established specifically for the purpose of purchasing Thames Water. In 2012 some of the company's stock was acquired by the Abu Dhabi Investment Authority and China Investment Corporation. With privatisation questions arise over privatisation and sovereignty and democracy - *Can you deny water to those who cannot pay for it?* asks Dr Kshithij Urs, of the Campaign against Water Privatisation in Karnataka, Bangalore.

Water Wars

In 2000, UN Secretary General Kofi Annan warned that 'fierce competition for freshwater may well become a source of conflict and war in the future'. When The Independent first ran a 'Water Wars' headline in February 2006 the response of the general public was one of surprise. However, since then water scarcity has become considered widely as a potential trigger for future international conflicts. For example, the conflict between Iraq and Turkey intensifies as Turkey attempts to move with its plan to build 22 dams on the river Euphrates for irrigation. Downstream Iraq could lose 80% of Euphrates water.

Water disasters

Too much or too little water is responsible for the vast majority of natural disasters. In the last 10 years or so, 90% of natural disasters were due to water-related events, and they are on the increase. Two out of every five people now live in areas vulnerable to floods and rising sea-levels. Flooding increases health risks by contaminating drinking water and destroying sanitation systems. People can lose everything in floods – their homes, their land, their livelihood. Droughts are also a severe threat to health as they often worsen malnutrition and famine.

Why not drink tap water?

According to the Earth Policy Institute, making bottles to meet Americans' demands for bottled water requires more than 17m barrels of oil annually. Global bottled water consumption has reached record levels. Although in the industrialised world bottled water is usually no healthier than tap water, it costs up to 10,000 times more and has significant environmental implications including water bottle manufacture which is almost entirely from virgin petroleum resin, consuming high amounts of energy and resources.

Learning in a global context

Children are entitled to learn in a global context. They encounter world views from their families, cultures and communities. A school curriculum, set in a global context, deepens their understanding and engagement with the complexities of that world. Teaching about **Water** requires teachers to be familiar with global issues that affect all our lives and to impart knowledge, skills and values that will equip children to live and be active in an interdependent, globalised world.

Real, relevant, current issues

One toilet flush can use more water than many of the world's poor have to use in a day. A child in the developed world may use up to 50 times more water than a child in the developing world.

The global topic of **Water** is integral to pupils' past and present. It requires us all to develop new ways of thinking, acting and living for a sustainable, equitable future. It gives a purpose to work across the curriculum with rich data and real-life scenarios around universal themes of consumerism and current issues. It opens up debate around alternative ways to tackle extreme poverty and inequality and offers differing perspectives on poverty and wealth.

Social justice, not charity

Fundraising campaigns that aim to evoke sympathy may instil feelings of guilt, with limited educational value. Encouraging children to research and question global issues helps them understand that there are more effective ways for governments and people to achieve a more sustainable and equitable world than charity.

Broaden perceptions, counter stereotypes

No country is uniformly rich or poor: inequality exists within, as well as between countries, including the UK. There is much to be learnt from others, whatever their situation. Media coverage of people and places may reinforce common stereotypes. Adverts and images can imply dependency and uniform poverty in southern countries, especially in the diverse continent of Africa.

Thinking critically about Water

What is your water footprint?

In Britain, each person uses 160 litres of clean water a day on average. This is water you use for drinking, cooking, washing, flushing toilets, cleaning and leisure activities like swimming. But your water footprint also includes the resources, land, space and energy used to supply this water. Low-flow toilets, shorter showers and mending leaks in infrastructure could reduce water wastage in the UK. Calculating your water footprint highlights inequity of access to clean water among different populations across the globe. With this in mind, consider these questions:

Self-reflective questions:

Focus - what do I think about this? Why do I think like that? To what extent am I open to changing my point of view?

~ What do you consider when using water? How would your life be affected if you didn't have access to clean water from the tap?
~ Do you have any responsibilities to those whose circumstances in life and access to clean water are very different to your own?

Group Dialogue questions:

Focus – what do other people think about this? How can I find different perspectives? Analyse assumptions, implications and contradictions? And how can I engage with complexity, conflict, uncertainty and difference?

Discuss these questions with others:
~ Access to clean water is a Human Right, yet many are denied it. What are the implications for those denied access and for others?
~ Should water companies be allowed to profit from clean water provision in the global south? Or should this be provided on the basis of an essential, not-for-profit service by the state?
~ If people cannot afford to pay for clean water provision, should they be cut off? In the UK domestic customers can't be disconnected nor have water supplies restricted by law. What do you think are the reasons behind this? Should these laws apply in the global south?

Curriculum planning

Literacy, Language and Communication

~ Present, dramatise, debate and discuss water themes, including use of poetry / drama;
~ Analyse advertisements/ images/ stories from multiple perspectives e.g. adverts for bottled water, NGO adverts about water availability in developing countries;
~ Create persuasive texts, e.g. multimedia texts about saving water at home or school;
~ Keep a water use diary to support work in geography, followed by a comparative text in another child's shoes.

Knowledge and Understanding of the World

~ The geography of the UK and other nations, distribution of natural resources like water, and that access to it varies around the world;
~ Compare world weather patterns e.g. the Tropics with the UK, identify seasonal and daily weather patterns and issues affecting the whole planet, such as drought and flooding;
~ Understanding of:
How the water cycle works
Water as a finite resource but universal need
Water waste and what happens after its use.

Physical

~ The importance of hydration for a healthy active life
~ About water's physical properties through hands-on experiments and water play areas in EYFS and KS1.

Creative

~ Create work individually, in small groups or as a class, e.g. creating 2D and 3D visual representations of seas and oceans and how they are habitats for millions of creatures and plants, linked to geography work.
~ Investigate underwater sculptures of Jason deCaires Taylor or other environmental artists who seek to improve the marine environment.

Personal, Social, Health, Citizenship and Economic Education

~ Empathy and capacity to think and act as global citizens: pupils begin to understand that their own choices and behaviour can affect local, national or global issues, e.g. their water use, choices of drinking tap vs. bottled water;
~ To recognise the role of community groups or NGOs in relation to access to safe, clean water e.g. Water Aid
~ Pupils consider the implications for people without access to safe water e.g. water-borne disease, long journeys meaning other aspects of daily life sacrificed, such as education.

Mathematical, Scientific and Technical

~ Use mathematical vocabulary and data comparison to explore rainfall, water use or other water-based problem-solving, using units of measurement for liquids (m and ml);
~ Learn that water can be in a solid, liquid or a gaseous state and that this is reversible, carry out experiments to demonstrate this;
~ Compare water usage between pupils, classes or with a partner school then jointly decide on action to reduce consumption.
~ That water can contain germs and microbes and be unsafe to drink;
~ Plan and carry out a filtration experiment to remove sediment from water.

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