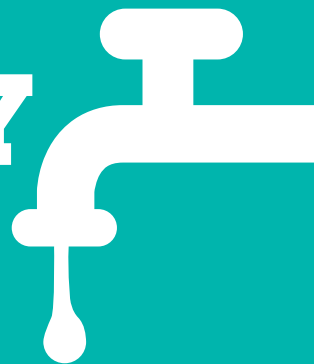




CONCERN
worldwide

MAKING EVERY DROP COUNT!

Primary School Resource



For Teachers

This resource is for 5th and 6th class primary school pupils. It is a resource that looks at both local and global water issues and how we can work together to protect the world's water, illustrated with some examples from Concern's water projects in the developing world.

Curriculum links

SESE; Science and Geography

Pupils should appreciate the ways in which science and technology can help to use the Earth's resources for the social, cultural and economic benefits of humanity.

This resource will help them to understand the positive and negative repercussions of human action on local and global environments.

They will appreciate that they can apply their scientific and technological knowledge and methods of working to promote positive and responsible attitudes towards the use of the Earth's resources and to contribute actively to human development and to shaping the environment of the future.

Strand: Environmental awareness and care.

- Environmental awareness.
- Caring for the environment.

Strand Unit: Environmental awareness

Become aware of the importance of the Earth's renewable and non-renewable resources.

Foster an appreciation of the ways in which people use the Earth's resources.

Come to appreciate the need to conserve the Earth's resources.

Identify and discuss a local, national or global environmental issue.

Recognise and investigate aspects of human activities which may have positive or adverse effects on environments.

Integration

This resource contains a range of activities across the curriculum from English to Drama and PE. It also contains a glossary of theme related words and useful links for further investigation.

Green Schools

Green Schools is an international environmental awareness programme for schools. The third theme is water. This resource provides guidelines on how to do an audit of water use and how to save water at school.

Cover photo: Cover photo: Pamela Kapinga (13) washing her hands from the rain water harvesting tank. Ngara District, Kagera Region, Tanzania. Photo: Jennifer O'Gorman, Concern, 2012.

Resource researched and written by Fionnagh Nally. Concern Active Citizenship, March 2013

Illustration, page 12, © Lucy Deering, Concern Worldwide

“Thousands have lived without love, not one without water.”
W. H. Auden

Introduction

Water is essential for life, health and human dignity.



In Ireland it can be difficult to imagine a shortage of water, especially when it rains so often. However in many countries, regular shortages are common. With the effects of climate change and increasing demand for water, it is very likely that we will face shortages in Europe in the future - unless we act now to save this valuable resource.

We depend on water for life; humans can survive for up to a month without food, but can live only five to seven days without water. Our bodies are composed of approximately 70 per cent water.

We need water to drink, to wash and to grow food. Here in the developed world we can usually turn on our taps to get water. Around the world, however, the burden of collecting water often falls to women and girls, who in many cases have to walk for hours every day to bring water to their homes.

Today, nearly 900 million people have no access to clean water and with the global population rising by 83 million each year, that demand will increase.



World Water Day is March 22. Started in 1993, it is a day to celebrate freshwater. It is an opportunity to promote awareness about water and how important water is to our lives.

2013 is the International Year of Water Cooperation. Around the world, people share water sources. Rivers flow through countries and some countries must rely on their neighbours to look after their section of the water. As the demand for water increases due to our population growth, more industry and agriculture, climate change and pollution, it is more important than ever that we co-operate to make sure there is water for all.

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1 WHERE WATER COMES FROM

When you turn on your tap, where does the water come from?



Pamela Kapinga (13) is part of the Child to Child Group that teaches other children about hygiene and sanitation practices in Kigarama Primary School, Ngara District, Kagera Region, Tanzania. Photo: Jennifer O’Gorman, Concern, 2012.

The answer depends on where you live. For people living in Ireland, we get our water from different sources. Some people living in rural parts of the country have their own wells that supply their homes with water.

For others, water comes through pipes from a reservoir. This water may come from rivers or lakes. It has been treated and cleaned so it is safe to drink.

For people in other parts of the world, their supply of water will also depend on where they live. 46 per cent of the world’s population (that’s over three billion people) do not have water piped to their homes. Some households in rural parts of Africa or Asia may be many miles from the nearest source of water. Women in developing countries often walk six kilometres each day to collect water. Getting water can be a difficult and time-consuming task. In developing countries this task is usually done by women and girls.



Ilo Jarso and Gonche Salesa make their way through a dust-storm near Kalacha, Kenya. Photo: Gideon Mendel, 2006.



Investigate: Find out the source of water for your home.



Activity: Mark out 1km in your yard or hall. Time how long it takes to walk 1km.

Repeat carrying a litre bottle of water. The average person in Africa uses between eight and 20 litres of water per day. Calculate how many journeys you would need to make to collect water for your family for daily use if you were living in a village in Africa. How much water could you carry? How many hours would this task take?

2

WHY CLEAN WATER IS IMPORTANT

Clean drinking water

In many places around our world, people do not have access to clean or potable water which is safe to drink. In Ireland all our water is treated with chemicals so it is safe to drink. Even the water in our toilets is clean! Where water comes from other sources such as wells or rivers (untreated) it might not be so clean. Water that can be used for washing, cleaning or washing clothes does not need to be as pure as drinking water. In order to stay healthy, we need to drink water. However, water that is not clean may contain diseases.



Activity: Find out what chemicals are put in our water to keep it clean.

Sanitation

Worldwide, around 2.5 billion people have no access to basic sanitation and do not have a clean toilet. That is one in three people who don't have a toilet. Imagine if your home or your school had no toilets. Toilets are important for health and for dignity.



World Toilet Day is celebrated on November 19 each year to spread awareness about toilets and sanitation.

Handwashing

Washing hands with soap is a simple, clean and effective way to prevent illness. By washing your hands with soap you can reduce the risk of diarrhoea by nearly 50 per cent!



Anastasia Simeo getting water from the protected spring built by Concern, Ibuga Village, Ngara District, Kagera Region, Tanzania. Photo: Jennifer O'Gorman.

Remember, clean hands save lives and stop the spread of many infections. (see chapter 13 for more on why clean water is important)



Global hand-washing class

Wet your hands with warm water and apply a small amount of soap on to your hands.

Rub your hands together until the soap forms a lather. Rub all over the top of your hands, in between your fingers and around and under your fingernails.

Continue to do this for 15 seconds, which is around the length of time it takes to sing the 'happy birthday' song twice.

Rinse your hands well under running water and dry your hands using paper, a clean towel or a hot air dryer.



Global Handwashing Day is celebrated on October 15.

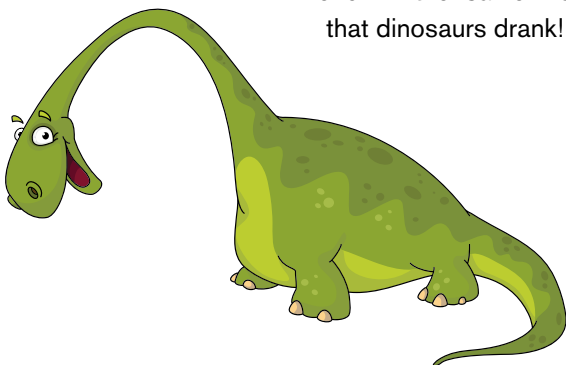
May 5 is also the World Health Organisation's World Hand Hygiene Day.

3 WATER: A RENEWABLE BUT LIMITED RESOURCE

- 70 per cent of the Earth's surface is covered in water.
- Less than one per cent of the planet's water is available for human consumption.
- Three per cent of the Earth's water is fresh water.

Water covers most of the earth's surface. It is found in oceans, lakes, rivers, and even ice caps and glaciers. The water that exists today is the same water that existed billions of years ago.

We drink the same water that dinosaurs drank!



This is because water is what we call a limited renewable resource.

Water is a renewable resource. It travels through the oceans, rivers, ground, and atmosphere. It falls from the sky as rain or snow into our oceans, lakes, and rivers and onto land. The **precipitation** that falls on the land can travel into lakes, rivers and streams. Water in streams and rivers is carried to the oceans, where it **evaporates** and forms clouds—where the cycle starts all over again!



Activity: Find out about the water cycle. Draw the different stages in the cycle.

Water is a limited resource. We will always have the same amount of water on the earth, but we can't always use as much as we need. One reason is that 97 per cent of the earth's water is saltwater, and saltwater is not good for people or wildlife or for many plants. Of the remaining three per cent, which is fresh water, nearly 75 per cent is frozen in glaciers, making it unavailable to us. Another reason that water is a limited resource is that pollution, increased demand for water, and changes in weather patterns can reduce the amount of water available to people, plants, and wildlife.



Activity: Measure the amount of rainfall over a month. Put a container outside your classroom. Record and chart the volume. Use the Met Eireann website (see links on page 23) to compare rainfall in different parts of the country.



Photo: istockphoto.com.

4

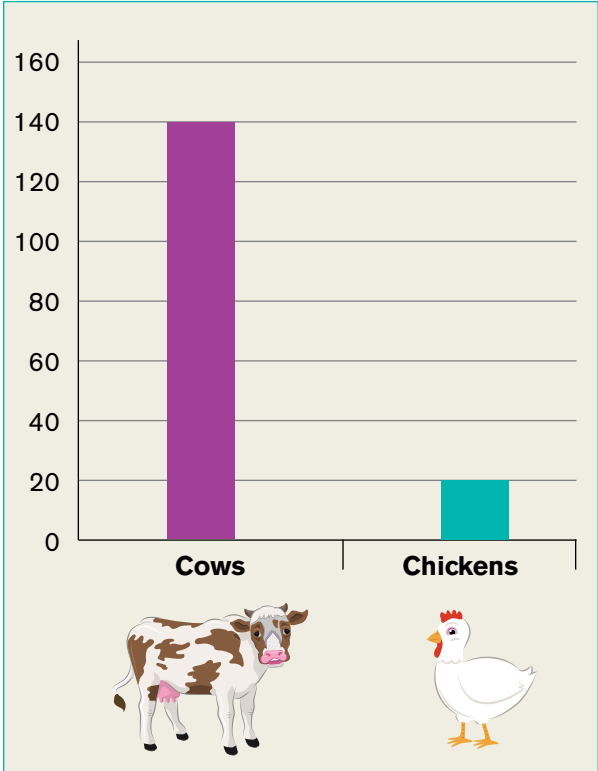
USES OF WATER


Water is essential for life. It is a resource that we often take for granted in the developed world.

Agriculture accounts for 70 per cent of the world's water. Farms with livestock need about 140 litres a day for a dairy cow and about 20 litres a day for 100 chickens.

As the world's population rises, so does the demand for food. More agriculture and manufacturing has increased the demand for water, but has also contributed to water pollution.

Water is used in producing energy such as electricity. This is called Hydroelectricity.



 **Activity:** Find out about hydro power stations in Ireland e.g. Ardnacrusha, Poolbeg.



It takes 7 litres of water to produce a plastic bottle!


It takes almost 700 litres to produce enough cotton for a pair of jeans.

How much water do we use every day?

Water that we use daily in our homes is known as *domestic use*. How much do we use every time we flush a toilet, take a shower or brush our teeth?

In Ireland it is estimated that we need about 230 litres of water a day for each person in a household.











 **Activity:** Find out how many litres of water are used every time we flush the toilet, or use the washing machine, or let the tap run while brushing our teeth...then fill in the water diary on the next page to find out how much water we use.

You can do this activity for yourself or for your whole family.

Brainstorm other uses for water, think about weekends and different times of year.

Activity Sheet:

Water Diary – keep a record of how many litres of water you use for different purposes each day:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Flushing the toilet 							
Washing (hands/face) 							
Showering /bathing 							
Washing (clothes) 							
Brushing teeth 							
Drinking 							
Cooking (boiling vegetables etc) 							
Any other uses? 							
TOTAL							

5

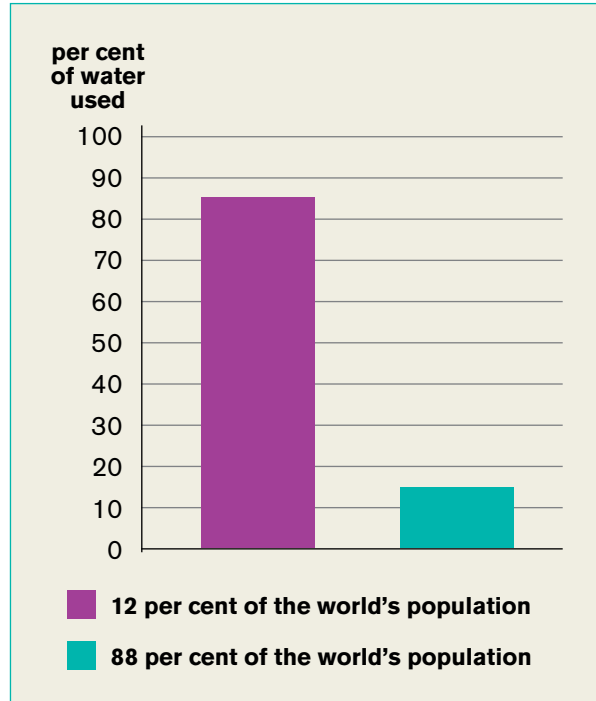
GLOBAL WATER ISSUES

Water supply around the world is not shared equally.

12 per cent of the world's population uses approximately 85 per cent of its water and this 12 per cent does not live in the developing world. While some countries in the world have plenty of water to meet their needs, other parts of the world, particularly in sub-Saharan Africa or West Asia and North Africa, are already facing critical water shortages. Global demand for water is expected to rise by 40 per cent over the next 20 years.

One person in eight, or nearly 900 million people, lack access to clean water. According to the World Health Organisation, in Africa alone, 36 per cent of people have no safe drinking water and 40 per cent have no adequate sanitation.

Approximately 2.5 billion people around the world, have no proper access to sanitation facilities, i.e., toilets, piped sewers, septic tanks. About 80 per cent of people with poor access to water and sanitation live in rural areas. Every year, 2.1 million people—mainly children—die due to illnesses related to dirty



water, poor sanitation, and poor hygiene.

Water supply is at risk from pollution. Several countries have the technology and can afford to clean their water supply but the majority of the world cannot. **Climate Change** is another risk to water supplies. See the section on Climate Change on page 15.



Darmi Sora collects water which will be used to help irrigate the land on which she is now growing vegetables. Madowadi, northern Kenya. Photo: Concern, 2010.

6

MILLENNIUM DEVELOPMENT GOALS

In September 2000 world leaders gathered at the United Nations and agreed 8 Millennium Development Goals on world development.



MDG 7 (Target 7.C)

Halve, by 2015, the proportion of the population without **sustainable** access to safe drinking water and basic sanitation

- The world is on track to meet the drinking water target, though much remains to be done in some regions.
- Greater efforts are needed to bring drinking water to all rural households.
- Safe water supply remains a challenge in many parts of the world.
- With half the population of developing regions without sanitation, the 2015 target appears to be out of reach.
- There are still major differences between sanitation coverage in rural and urban areas.

- Many improvements in sanitation are not reaching the poor.

Concern believes that the world has still not done nearly enough to make sure that all people have access to clean, safe water. Far too many children die each year from drinking dirty water. While the progress made in the Millennium Development Goals is good there is still a huge amount of work to be done.



Group discussion: What can we do to make sure governments provide access to clean, safe water for all people?

7

CONCERNED ABOUT WATER

Concern provides safe drinking water and sanitation for thousands of people in the developing world.

Water, Sanitation and Hygiene (WASH)

Concern's WASH programme aims to help poor people to get access to safe drinking water and to basic sanitation such as toilets and latrines. We also aim to teach people ways to stay healthy and avoid getting sick by better hygiene, such as hand-washing.

This work is important for many reasons – not just for health reasons. If people have less distance to travel to find water then they'll have more time to give to other things such as working and caring for family.



Group discussion: Why do you think collecting water can be dangerous for women and girls?

Concern has WASH programmes in 18 countries: Afghanistan, Bangladesh, Cambodia, Chad, Democratic Republic of Congo, Ethiopia, Haiti, Kenya, North Korea, Liberia, Mozambique, Niger, Pakistan, Sudan, Sierra Leone, Somalia, Tanzania and Uganda.



Activity: Using an atlas, can you locate each of these countries?



Gloria, Concern Tanzania

Watch our clip on youtube about Gloria who works as a WASH Engineer for Concern in Tanzania.

www.concern.net/gloria-kafuria

Gloria Kafuria, Concern water and sanitation engineer, at a solar water system that she designed. The tank, which holds 25,000 litres, delivers safe drinking water to as many as 3,000 people a day. Photo: Crystal Wells, Concern, 2013.

How does WASH help people?

WASH work includes digging wells or bore holes which are holes dug down deep to get to water. Concern helps build toilets and latrines. Latrines are like toilets except they don't use water. The waste falls into a pit below. Often several families must share one latrine. WASH also includes installing public taps and repairing wells, as well as clearing drains and removing rubbish so that water sources don't get polluted. All this work helps people to have water available to use and keeps people clean and healthy so they can avoid getting sick.



Children collecting water at an unprotected traditional well in Takanamatt, Niger. Photo: Concern, 2012.



The difference between a latrine and a toilet.



Activity: Do a survey about access to public toilets in your area. Are there any public toilets in your local town or city? Do you have to pay to use them? Do people use toilets in cafes or shops even if they are not buying anything?

Activity: How many toilets are in your school? How many pupils on average must use each toilet?



New school toilets for girls were built which means that girls are attending school regularly now. Kigarama Primary School, Ngara istrict, Kagera Region, Western Tanzania. Photo: Jennifer O'Gorman, Concern, 2012.

New toilets for Kigarama Primary School

Kigarama Primary School in Western Tanzania is part of Concern's WASH Programme. The school received 20 new toilets (10 for girls and 10 for boys.) The toilets are separate for girls and boys to make sure they are more private.

In the past they had to construct a new pit latrine every year, which was hard work. They were just mud toilets which were hard to manage and keep clean. They were also dangerous for children as sometimes the roof would fall down.

There were only 8 toilets for around 670 pupils. There were no hand washing facilities and children often got diarrhoea. For water, the children would go down to the stream which was 40 minutes walk away. The school also received water tanks so children would not miss out on classroom time walking to the stream to collect water.

8 WATER WORKS IN SCHOOLS

443 million school days each year are lost to water-related illness. Many children miss school due to diarrhoea.

Children, especially girls, may miss out on school due to tasks such as collecting water. This can be very time consuming, particularly if the water source is far away.

Child to Child education in Tanzania

In Tanzania, an education programme has been set up to improve hygiene in schools and communities. First teachers are trained and then they help the children learn all about good hygiene such as important times to wash their hands, boiling water to make it safe for drinking and keeping toilets clean. The children then pass on the information they have learnt to their friends, families and communities.

Tippy taps.

"My name is Sauda Issa and I am 13. At school we got a tippy tap. Before this we were not washing our hands.



Marco Martoni (14) and Saada Issa (13) washing their hands with the 'tippy tap'. The children who are part of the child to child group helped to construct the 'tippy tap'. Kigarama Primary School, Ngara District, Kagera Region, Tanzania. Photo: Jennifer O'Gorman, Concern, 2012.

To make a tippy-tap, you make three holes in a jerry can on either side. You thread a rope through the holes to hang it from. You also make a hole through the cap and thread another rope attached to a stick. Finally, we make a hole just beneath the cap where the water or soap can come out. When the stick is pushed down, it pulls the container down and lets the water out.

We think the tippy-tap has helped us as we can wash our hands with soap and rinse them with clean and safe water.'

9 CLIMATE CHANGE AND WATER

Causes

Scientists believe that our planet is warming as a result of the greenhouse gases that we are pumping into the atmosphere (the layer of gases surrounding our planet). Carbon dioxide is one example of a greenhouse gas -or a gas that produces a rise in temperature. This effect is sometimes called global warming.

Humans produce carbon dioxide when we breathe out. Trees reduce this level of carbon dioxide but the more we cut down forests, the more carbon dioxide builds up in our atmosphere. Human activity such as burning fuels produces carbon dioxide.



Brooklyn, NY, USA - October 30, 2012: The day after Hurricane Sandy made landfall, a fallen trees lies across a car. Photo source: istockphoto.com.

Effects

As the planet becomes warmer, ice caps in the polar regions of the planet will start to melt, causing sea levels to rise. If they continue to rise, it increases the risk of flooding, especially in coastal areas. This global warming also leads to more droughts in other drier parts of our world. Less freshwater is available. More extreme weather such as storms and hurricanes occur more often around the world.

The Tibetan Plateau in Asia has thousands of glaciers and is the highest and largest plateau in the world. It supplies water to nearly one third of the world's people. It is at risk from global warming. As scarcity increases, the risk of conflict or wars over water rises.

Scientists often use the term "climate change" instead of global warming. This is because as the Earth's temperature rises, winds and ocean currents move around and can cool some areas, warm others, and change the amount of rain and snow falling. As a result, the climate changes differently in different areas.

Climate change is a global threat but tends to affect people in developing countries more. They often rely on agriculture to survive.



Activity: Find out about the Stop Climate Chaos campaign and what actions you can take www.stopclimatechaos.ie

10 DROUGHT

Drought affects our lives in many different ways because water is such an important part of so many of our activities. The different ways we are affected is called the impact of drought.

Drought has many causes. It can be caused by not receiving precipitation such as rain or snow over a

period of time. It can be caused by changes in the weather so that rain doesn't fall in the same places. People can also play a big role in drought. If we use too much water during times of normal rainfall, we might not have enough water when a drought happens.

Drought can make a big impact on a region. All life, human, animal and plants need water to survive. We need water for food production, manufacturing and for producing electricity. In developing countries, drought can have a major impact on people living in poverty, and especially on small farmers who rely on their harvest to live.

Recurring droughts can result in crops not growing and livestock such as goats and cows suffering. This can make it very difficult for farming and pastoral people to make a living. In severe cases, this can lead to food shortages. Food shortages can mean rising food prices, hunger, illness and even famine and death.

Droughts can mean that less safe drinking water is available. If the main source of drinking water is surface water (from river and lakes), water can be contaminated and unsafe. When the water isn't clean, more people suffer from water related diseases.

Better irrigation and rainwater harvesting can help people be more prepared for drought when it happens. If you collect rainwater in a barrel on rainy days you can store it to use it on dry days when the crops in the field may be in danger of withering up. You can use ditches and pipes to channel the water you have collected directly to the crops that need water – this is irrigation.

East Africa

In 2011, East Africa suffered the worst drought in 60 years. In Kenya, rain comes twice a year – the long rains and the short rains. The farmers rely on the rains to grow their crops and the pastoralists who herd cattle, rely on the rain to feed their animals. The rains failed in 2010 and again in 2011. All around the region, countries suffered a devastating drought.

In the countryside many of the crops failed and farmers couldn't plant new harvests. Pastoral people like the Maasai, who rely on cattle, left with their herds to find water for them. Women and children often stayed behind in the villages. Their goats did not have enough grass to produce much milk and they became too skinny to sell or eat.

In the cities the price of food went up and many people living in poverty could not afford to buy enough food for their families. As all the electricity in Kenya comes from hydroelectricity, the water levels were too low and there were power shortages. Shops and businesses couldn't operate. Queues for water became longer and women spent longer waiting for water and had less time to find work.

Many people went hungry as a result of this drought. Children in particular suffered because of the lack of food and water.



Jillo Osore and Sake Jabo returning home after walking for 12 hours to collect 20 litres of water, Marsabit, Kenya. Photo: Jennifer O'Gorman, July 2011, Kenya.



Agnes Thawale, irrigating Kathyothyo maize crop. Nkhotakota, Malawi. Photo: Concern, 2012.

MAKING EVERY DROP COUNT!



Dry Earth, Chalbi Desert, Kenya. The Chalbi Desert was part of Lake Turkana. As the lake receded due to climate change, the desert was formed. Photo: Jennifer O’Gorman, 2011.



Queuing for water in Korogocho Slum, Nairobi, Kenya. Photo: Fionnagh Nally, 2009.



Activity: Make a list of all the electrical appliances around your home. How many activities would be affected if you had no power in your home this evening?

11

FLOODING

A flood happens when too much precipitation falls. Precipitation is any form of moisture that falls out of clouds—snow, rain, hail, drizzle, sleet etc.

Storms can cause floods. Floods can occur in coastal areas or close to rivers. Flooding can cause a huge amount of damage to property and land. It can also cause loss of life in severe cases.

In Ireland, some of the worst flooding in living memory affected parts of Cork, Clare, Galway, Westmeath and Limerick in late November 2009.



Road flooded as River Lee bursts it’s banks, 2009. Photo: istockphoto.com.



Activity: Find out how people were affected by the Irish floods in 2009.

Hint: interview your parents. Look up news reports.

There are many examples of severe flooding caused by storms, hurricanes and tsunamis around the world. In the US, Hurricane Katrina caused widespread flooding in New Orleans. The Tsunami in 2004 in South East Asia caused a massive tidal wave that flooded vast regions of that area.



Flooding in New Orleans after Hurricane Katrina, 2005.

Pakistan

'When the floods came, everything was washed away.'
Seema Bibi, Age 33, mother of two, Mirpurkhas District.



Top: Map of Pakistan; Centre: Flood affected areas of Northern Sindh, Pakistan. Photo: Aine Fay, Concern, 2010; Bottom: Concern Hygiene Kit.

The floods began in August 2010 and caused huge destruction. Heavy monsoon rains caused flooding around the Indus River. About one fifth of the country was flooded. The damage caused by the flooding disrupted the lives of 20 million people – many more than the 2004 Indian Ocean tsunami – and cost billions in damage. Many people lost their homes and their crops that they were growing on their farms were destroyed.

Concern looked to help people that had been affected by the floods. The flood water was contaminated so Concern helped by providing safe water for people. They did this by repairing hand pumps, providing toilets for people to use, bringing in water tankers with clean drinking water and by teaching people about health and hygiene.

There was a danger of disease from the dirty water, so they gave people hygiene kits with products like soap and toothpaste so people could keep clean and healthy.

Pakistan is one country which is taking Climate Change seriously. Their government is coming up with plans to tackle this problem.



Learn more: Watch our video clips on youtube about the Pakistan emergency in 2010 and the progress made one year on in 2011.

Pakistan Emergency: www.concern.net/pakistan-emergency

Pakistan one year on: www.concern.net/pakistan-one-year



Activities

SESE: In groups, brainstorm ideas on how you can improve your school environment. As a class, develop an action plan from all your ideas.

History: Newspaper. Put your information about the floods in 2009 into front page format. Include a headline, pictures and reports. Extra: Reports

can change or differ about an event. Discuss why this might happen.

Drama: Reporter in the field. Report on a flood. Interview those affected (witnesses, locals, doctors).

English: Precipitation Poetry. Write a poem about rain, hail or snow!

12

EMERGENCIES

Along with food and shelter, safe water and sanitation are really important in emergency situations. In extreme emergency situations, there may not be enough water to meet people's needs. Supplying safe water is very important.



A woman stands by the make-shift tents where she has been living for over a week in Petionville, Port au Prince, Haiti. Photo: Concern, 2010.

The World Health Organisation (WHO) recommends a minimum amount of water needed per person in emergencies.

Survival (drinking and food)	2.5 to 3 litres per day (this can depend on the climate).
Basic hygiene practices	2 to 6 litres per day
Basic cooking needs	3 to 6 litres per day

Clean water for drinking and cooking is the most important need. The minimum amount of water recommended is around 15 litres per day during emergencies. Water for washing and hygiene is next in importance, especially to prevent disease. There can be a danger of diarrhoea, cholera and other diseases spreading quickly among affected people, unless proper hygiene is practised.

Haiti



Haiti is an island in the Caribbean Sea. It is the poorest country in the Western hemisphere. The earthquake that shook Haiti on 12th January 2010, produced one of the largest natural disasters in history. It resulted in 230,000 people dead, 300,000 injured and almost 2 million displaced.

Concern was on hand to help survivors of the earthquake. Concern distributed water purification tablets, jerry cans and bars of soap to people affected by the disaster. They used water tankers to help with the demand for water. They worked with

community leaders to make sure that water was given out fairly and that vulnerable people, like children and women, received their share of water. In the aftermath of this disaster Concern staff helped supply water to about 50,000 people daily.



People collecting water in Place de la Paix, Haiti. Photo: Niall Carson, 2011.



Water station in Haiti. Photo: Jennifer O’Gorman, Concern, 2011.

13 WATER RELATED DISEASES

Every day, 4,800 people die from waterborne diseases. A child dies on average every 20 seconds from a water-related disease.

Where people are living in areas with no proper hygiene or sanitation, diseases can spread. In emergency situations, sometimes people will have to live in temporary camps if they have lost their homes or are moving for safety reasons. Hygiene is very important to stop the spread of disease.

Diarrhoea

Diarrhoea is caused by drinking dirty water or eating food that wasn't cleaned or prepared properly. It is also caused by poor hygiene e.g. not washing hands after using the toilet. Most other waterborne diseases will also cause diarrhoea. Diarrhoea is the second biggest killer of children worldwide. About 4,100 children under the age of five die each day from diarrhoea globally. Diarrhoea can last several days, and can leave our bodies without the water and salts that are necessary for survival. Diarrhoea can be prevented by having clean water available. It can also be cured if treated on time. Diarrhoea can be treated with a solution or mixture of clean water, sugar and salt. Zinc tablets also help our bodies to recover.

Cholera

This disease is also caused by contaminated food or water. Cholera is an infection and it can cause severe diarrhoea and often vomiting. If not treated, it can lead to dehydration and even death. It happens in areas where people are living in unsanitary conditions and about 100,000 people die from Cholera each year around the world. The risk from cholera is highest in places where people don't have access to clean drinking water and proper sanitation.

Malaria

The mosquitos that carry malaria like to live in areas where there is stagnant water. If people are bitten by the mosquitos they can get malaria. Malaria is like a very bad flu. Sometimes, especially with old people, young children or people who may be sick or weak already, malaria can be serious. Many people die every year from malaria.



Typhoid

Typhoid is another disease that is caused by contaminated food or water. It leads to fever that causes severe headaches, loss of appetite, nausea and sometimes diarrhoea. Typhoid can be treated with antibiotics. About 600,000 people die each year from this disease, mainly in parts of the world where there is poor hygiene and sanitation.

The Moringa Tree – A Real Super Hero

Concern is researching how the seeds of Moringa trees help filter water and make it safer to drink. The seeds are ground and added to water.



Moringa Seeds in Tanzania. Photo: Crystal Wells, Concern, 2013.

They attract pollutants, making it easier to filter clean water from the top. Watch this short video clip to learn more about these special seeds.

www.concern.net/moringa-tree

Story

Naddine is a young mother who lives in a village in the Democratic Republic of Congo with her two young children. The only water for her village was from the rivers and streams. Animals often used this water too so it wasn't clean. Concern helped by putting in water pumps in the area.

"The pump has made life easier for me," Naddine explains. "I no longer have to walk three kilometres to the river and back to fetch water every morning." She now has more time to look after her children.

"There is less sickness in the village," Naddine continues, explaining that she took part in Concern's training on health and hygiene.



Naddine Mwenge, mother of two. Konkdl's Village, DRC. Photo: Concern, 2011.

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WHAT WE CAN DO

Saving water and fighting pollution

While the majority of water use is in agriculture, there is plenty we can do around the house to conserve water. If our water becomes polluted, we cannot use it. It is also harmful to plants and the environment. Chemicals we use in our house and garden can get into our water and cause pollution.

TOP TIPS for saving water at home

Turn off the taps when washing your teeth.

Put in the plug when washing dishes, your hands or your face.

Use waste water from dish washing to water your plants.

Put on a wash only when your washing machine or dishwasher is full.

Showers use less water than baths. A powershower however, uses almost 125 litres of water in 5 minutes. That's 250 litres in 10 minutes. Tip: get a clock for your bathroom so you keep an eye on the time!

Just fill the kettle for the amount you need. Not only will you save water but you'll save energy too!

Avoid using hose pipes in your garden if you can. A hosepipe or sprinkler can use 1,000 litres of water per hour.

Find out more from groups like Concern to see how you can play your part in creating clean, safe water for all the world's people.

Get leaking taps fixed! A tap dripping once a second, wastes about 10,000 litres of water a year.

Take part in activities in your school on International Days (see calendar).

We can help by using detergents and cleaning products that are safe for the environment. Natural compost can be used to fertilise gardens.



Activities

Art: Design a water saving poster campaign for the sinks and bathroom in your school.

Science/SESE: Keep a diary of your water saving efforts at home.

Science/SESE: Learn more about Environment issues in your community.

English: Hold a debate in your class on the topic "Ireland doesn't need to conserve water, because we get so much rain".

GLOSSARY

Condensation:	water vapour in the air gets cold and changes back into liquid, forming clouds.
Contaminated:	not safe or clean. Can contain chemicals or toxins or parasites.
Desertification:	the development of desert like conditions, due to deforestation or over farming. The land loses its water content.
Dehydration:	where you lose more water than you take in. A person can die if they get too dehydrated.
Evaporates:	the sun heats up the water in lakes and rivers and seas. The moisture rises as steam into the atmosphere.
Hydroelectricity:	electricity produced by using the power of flowing water.
Irrigation:	to water land for growing using pipes, ditches or streams.
NGO:	NGO stands for 'non-government organisation' and is a term used for charities like Concern.
Potable:	safe to drink.
Precipitation:	any moisture that falls out of clouds as rain, snow, sleet, hail etc.
Recurring:	repeating or happening again and again.
Sanitation:	usually means toilets or latrines. It also means hygiene practises such as hand-washing.
Stagnant water:	water that is not flowing or moving e.g. puddles. This water is not usually clean.
Sustainable:	find a way of using a resource so that it will last and not run out.



Wordsearch:

(Hint: there are more short words in the wordsearch as well as the long words you have read in the glossary – how many can you find?)

A	D	I	G	N	I	T	Y	C	S	E	S	G	D	N	I	W	A	S	H
T	K	H	M	O	Q	T	S	U	U	W	C	Y	R	G	A	B	D	F	H
A	J	S	L	L	O	O	H	C	S	N	H	P	O	O	R	M	T	V	X
P	R	E	C	I	P	I	T	A	T	I	O	N	U	Z	U	N	U	D	E
R	S	R	T	W	A	L	K	A	A	N	O	D	G	W	O	C	L	H	I
N	W	F	G	T	H	E	W	O	I	R	L	D	H	O	I	R	S	A	N
S	A	N	I	T	A	T	I	O	N	I	M	P	T	R	I	O	R	T	G
A	T	K	S	N	T	M	N	A	A	I	R	R	I	G	A	T	I	O	N
N	E	I	L	A	A	L	O	N	B	C	F	O	O	D	E	U	P	O	I
I	R	A	I	N	N	A	T	E	L	I	M	L	W	O	M	A	N	E	R
M	D	G	S	G	F	B	A	L	E	V	A	P	O	R	A	T	E	S	R
A	R	F	A	A	R	O	O	C	A	R	R	Y	A	O	W	A	Y	Z	U
L	D	N	M	T	L	T	B	Y	W	A	S	T	E	A	D	R	Q	P	C
S	R	O	G	S	C	T	D	C	E	Y	B	Z	P	O	T	A	B	L	E
H	Y	D	R	O	E	L	E	C	T	R	I	C	I	T	Y	C	D	N	R
R	Q	P	E	J	K	E	E	J	D	I	S	E	A	S	E	H	F	A	G
S	P	K	E	I	H	G	F	X	N	O	I	T	A	R	D	Y	H	E	D
T	A	L	N	W	M	P	N	O	I	T	U	L	L	O	P	N	Q	L	R
C	O	N	D	E	N	S	A	T	I	O	N	S	T	V	A	C	E	C	S
U	S	V	F	R	C	O	N	T	A	M	I	N	A	T	E	D	L	P	Z

Find these words

dignity

wash

loo

precipitation

walk

toilet

food

school

waste

contaminated

school

dehydration

pollution

cow

green

clean

sustainable

evaporates

potable

MDGS

tap

animals

water

dry

grow

irrigation

rain

drought

hydroelectricity

soap

fresh

stagnant

cycle

boy

bottle

wet

carry

disease

man

human

flood

girl

sanitation

recurring

woman

NGO

condensation



Links

www.met.ie	a good source of information on weather effects such as rainfall around Ireland.
www.greenschoolsireland.org	learn how your school can save water.
http://www.unwater.org	a good resource, including World Water Day information.
http://www.worldtoiletday.org	information on world toilet day.
http://globalhandwashing.org	information for children and schools on handwashing.
http://www.e-bug.eu/	a resource site for children on microbes and health.
www.concern.net/schools	for copies of this water resource and more updates on Concern's work.
www.developmenteducation.ie	a large variety of resources for teachers at primary level.

Calendar

Water Calendar			
January	February	March	April
		World Water Day 22 nd	Earth Day 22 nd
May	June	July	August
WHO World Hand Hygiene Day 5 th	World Oceans Day 8 th		
September	October	November	December
World Water Monitoring 18 th	International Day on Climate Action 24 th	World Toilet Day 19 th	

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