

rivers of the world

Education Pack

schoolsonline.britishcouncil.org/rivers-of-the-world
riversoftheworld.org

Introduction

Rivers have a way of captivating people. Stand on the banks of one of the world's major rivers and you can still feel the wonder Wordsworth expressed over two hundred years ago, watching the Thames flow through London in the early morning. Rivers of the World, the flagship art and education project of The Mayor's Thames Festival delivered in partnership with the British Council, has been capturing this enthusiasm and inspiring pupils and teachers in eighteen countries across the world since 2006.

The project enables young people to explore, celebrate and share their local environment, learn about other cultures and engage with global issues. It also provides fantastic opportunities for pupils to work with talented professional artists to create amazing pieces of art work for public display in London and participating cities globally.

This new education resource pack extends the project's reach to a much greater number of schools and involves primary schools for the first time. It provides a wealth of exciting cross-curricular activities designed to expand knowledge and understanding, and encourage pupils to explore and reflect on local and global issues. This will help them to gain an international outlook and develop the skills they will need for life and work in an increasingly inter-connected global society.



River Chao Phraya by Adrian Evans

Composed Upon Westminster Bridge, 1802

by **William Wordsworth**

*Earth has not anything to show more fair:
Dull would he be of soul who could pass by
A sight so touching in its majesty:
This City now doth, like a garment, wear
The beauty of the morning; silent, bare,
Ships, towers, domes, theatres, and temples lie
Open unto the fields, and to the sky;
All bright and glittering in the smokeless air.
Never did sun more beautifully steep
In his first splendour, valley, rock, or hill;
Ne'er saw I, never felt, a calm so deep!
The river glideth at his own sweet will:
Dear God! the very houses seem asleep;
And all that mighty heart is lying still!*

Contents



Pupils from Escola Carlitos, São Paulo

The resource pack is grouped around six themes and is designed to be flexible and adaptable for use in a variety of settings.

Each unit contains background information, ideas for discussion and suggestions for cross-curricular activities. There are learning outcomes, lists of additional resources and links to the skills and outlooks from the Connecting Classrooms professional development materials webpage at: www.britishcouncil.org/gcthemes_skills_outlooks_en.pdf.

An indication of relevant age ranges and subjects are given, but you may find it useful to 'dip into' the material from a number of sections. The discussions and activities can be used as starting points in individual lessons or as elements of a larger cross-curricular joint project involving collaboration over a number of subjects with a partner school overseas.

If you do not currently have a partner school but would like to find one and set up an online collaboration space to work together, further information can be found at <http://schoolsonline.britishcouncil.org/partner-with-a-school/finding-the-right-partner>

However you use the materials, we hope you enjoy your exploration of Rivers of the World. The possibilities are endless; the choices are yours.

THEME 1 4–7

RIVER OF LIFE the resources in this section encourage schools to teach, think and talk about the features of rivers, learn outside the classroom, take part in fieldwork, explore habitats and wildlife found in and around rivers and have fun with Geography.

THEME 2 8–10

RIVER CITY explores ways of unlocking the history of cities by studying the development of their major rivers. It encourages pupils to look closely at their own and other river cities and the impact they have had on the people who lived and worked there in the past and present.

THEME 3 11–13

WORKING RIVER focuses on how rivers continue to play an important role in the life of countries today and how developments can trigger controversy and debate.

THEME 4 14–16

RESOURCEFUL RIVER emphasises the importance of rivers as vital resources fed by the water cycle that need to be preserved for current and future generations.

THEME 5 17–19

POLLUTED RIVER looks at how our actions can damage the rivers we depend on and illustrates how schools can encourage their pupils in finding ways to take action to help maintain this precious resource.

THEME 6 20–22

RIVER CULTURE explores how rivers have always provided inspiration for arts and culture and contains ideas to show how schools can inspire their pupils to continue that legacy in the twenty-first century.



River Thames by Barry Lewis

River of life

A river is a large, natural stream of flowing water. No two rivers are the same but they share certain features and go through similar stages on a journey from source to the sea. As it flows downhill pulled by gravity, a river shapes the landscape and sustains life by supplying food, water and habitats for animals and plants.

Rivers pass through three main stages called the upper, middle and lower courses, sometimes referred to as young, middle aged and old. From the source in the upper course, young rivers flow quickly, and as streams join together the volume of water increases. You may see features such as waterfalls and white water rapids at this stage. The middle course meanders more slowly through gently sloping ground, depositing mud and soil and becoming wider and deeper with floodplains. Finally, as the river approaches the sea, it becomes very wide and at its mouth, sea water mixes with the fresh river water.



Pupils from Escola da Comunidade, São Paulo
by Roberta Fortunato and Keila Alaver

Rivers of the World

Talk about rivers! Rivers are found on every continent. They can shape enormous landforms like the Grand Canyon and connect us to each other, to our past and to the world around us.

As a starter, ask how many rivers of the world can your class name? Which have they visited, paddled in or travelled on? What do they know already about rivers and what would they like to find out?

Pass or roll an inflatable globe or soft ball around the group. When each child catches it, ask them to name a country and find its principal river on the globe or in an atlas. Alternatively, name a river and see if they can identify its country, continent and hemisphere, or try a quick true or false quiz. Questions could include:

- the Amazon is the longest river in the world. True or false? False, the Nile is the longest river.
- the study of fresh water, rivers and lakes is called limnology. True.
- the highest waterfall is Niagara Falls. False, the highest waterfall is Angel Falls in Venezuela.
- in the UK, each person uses about 160 litres of water every day. True.
- rivers always flow south. False, four of the ten longest rivers in the world flow north.

Show photographs and clips of a variety of rivers and begin a river alphabet key by writing the letters of the alphabet and asking the class to list as many river names or vocabulary that they can think of beside each letter. This can be added to throughout the topic and reviewed at the end as a measure of progress. Can they complete the entire alphabet by the end of the project?

You can find information packs for 19 of the world's major rivers from the Anacostia in the USA to the Yangtze in China by visiting <http://www.riversoftheworld.org>. Ask your pupils to locate a number of these on a world map, choose a river located in a different country to their own and create a large map of its journey from source to mouth on the playground floor using chalk, magazine pictures and junk materials. Photograph the results and then create an interesting fact file about your river of choice. This should include name, location and at least five fascinating facts to present to the rest of the class in interesting and innovative ways. They could teach a lesson, create a presentation, newspaper or spoof documentary film, or write an information book for younger children.

Explain to the class the key features and processes of a river system including the different courses of the river and processes of erosion and deposition. Useful resources can be found on the BBC website http://www.bbc.co.uk/schools/gcsebitesize/geography/water_rivers/river_landforms_rev1.shtml and in the additional resources section at the end of the pack.

Ask your pupils to work in groups to cut up and match the words and definitions on Appendix 1. Then design and create three large murals or 3D models showing the major features of each section of a river with information recorded on labels or sound buttons. These could then be joined together to form a large picture or model of a river from source to mouth. Encourage them to add any new words they come across to their vocabulary list.



AGE RANGE: 9–14.

CURRICULUM LINKS: Geography, ICT, English.

KEY SKILLS AND VALUES: Collaborating, creative thinking, critical thinking, communicating.

LEARNING OUTCOMES: To stimulate interest in rivers of the world and learn about the key features of a river system.

Exploring your local river

Learning outside the classroom provides enormous benefits for pupils' education and can be one of the most memorable parts of their time at school. Why not enhance your study with a visit to your nearest river and carry out some of the following investigations.

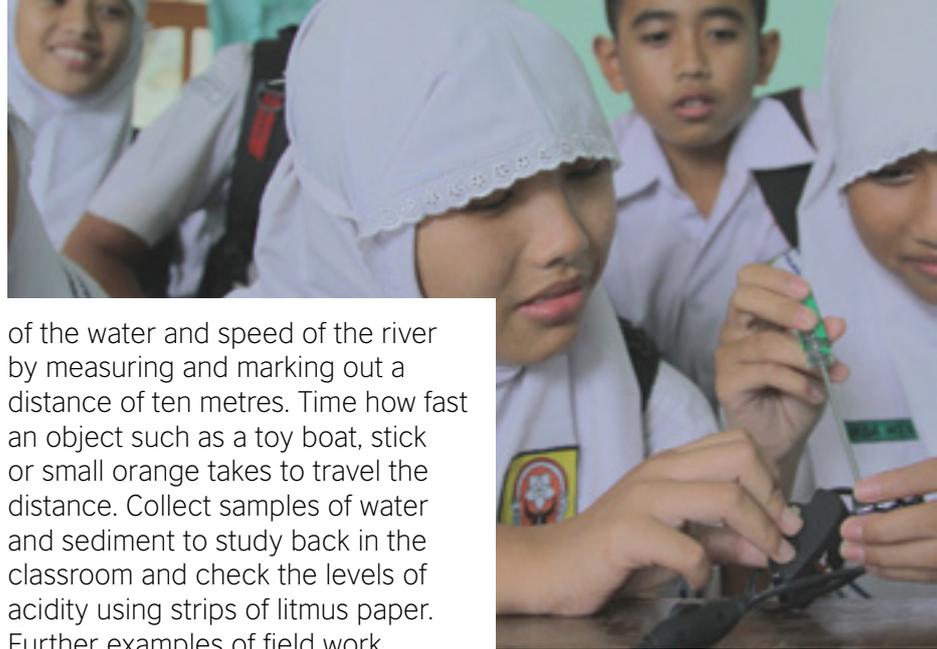
Before the visit, discuss which part of the river they will be visiting and locate it using maps, aerial photographs or software such as Google Earth. Discuss water safety, what they might expect to see on their field trip and plot the route they will take to get there. You may be able to arrange a talk or workshop from a Ranger or local River Authority official and take a boat trip during your visit as well as carrying out some of the following activities. Do ensure that you take all expected precautions and complete the required risk assessments before you go.

When they arrive, ask your pupils to record what they can see and hear. Is the river fast or slow flowing? What natural and man-made features can they spot? Does the water look clean or polluted? Look for evidence of erosion, deposition and other river features. Take notes, photographs and sketch sections using a cardboard viewfinder. Perhaps organise a scavenger hunt where groups compete to collect a number of natural and man-made objects during a set period of time.

Record the weather conditions, temperature and humidity, and estimate the width and depth of the river. Take measurements of the size of pebbles, temperature

of the water and speed of the river by measuring and marking out a distance of ten metres. Time how fast an object such as a toy boat, stick or small orange takes to travel the distance. Collect samples of water and sediment to study back in the classroom and check the levels of acidity using strips of litmus paper. Further examples of field work techniques for older pupils can be found on the Royal Geographical Society website at <http://www.rgs.org/OurWork/Schools/Fieldwork+and+local+learning/Fieldwork+techniques/Rivers.htm>. Rivers are also great places for spotting wildlife. Use sweep nets, pooters and magnifiers to explore the environment. Hunt for bugs in different habitats by putting down hoops and counting the number and types of flora and fauna they see. If you are able to explore a shallow stretch safely, try using nets, buckets and trays to collect invertebrates and small fish. Draw the most interesting creature found, try and identify them using a key or give them imaginary names such as Long Legged Crawlysauros!

Back at school make a record of your fieldwork, use sketches as a basis for art work such as collage and printing. Mount photographs in an exhibition in a virtual place such as the school website, or in a dedicated area in your school.



Pupils from SMP Muhammadiyah 7, Surakarta

AGE RANGE: 10–14.

CURRICULUM LINKS: Geography, Maths, Art and Design, Science.

KEY SKILLS AND OUTLOOKS: Collaborating, communicating, critical thinking, being open to new ideas.

LEARNING OUTCOMES: To experience a river environment first hand and carry out field work investigations.

Flora and fauna

Rivers and their banks provide homes for a wide variety of animals. Bring some examples of fish from the fishmongers or local market into class for your pupils to examine closely and carefully. Ask them to make detailed drawings, identify features such as gills and note the patterns of markings on their skin. Discuss how they are able to breathe, balance, move, feed and survive in their natural environment. Teachers of older students may also decide to study fish anatomy through dissection to discover more about their internal organs. (Links to films of science lessons in Finland and the UK teaching this aspect of science can be found in the additional resources section.)

Discuss examples of different food chains that can be found in the world's rivers and investigate some of the amazing creatures that spend their lives in a river ecosystem. These could include anacondas, the world's biggest snake, Chinese river dolphins and spawning salmon who travel hundreds of miles from the ocean to the place where they were born. What do these creatures need to survive and what dangers do they face in today's world? How can we protect their fragile ecosystems?

To explore how river creatures adapt to their environment, give groups of pupils different descriptions of a river habitat. These could include an Amazon mangrove swamp, tidal estuary or delta. Give each group some clay, play dough or collage materials and challenge them to work together to design and make an imaginary creature

that has just been discovered in this ecosystem. They should give their creature a name and be able to describe how it will feed, move, and protect itself from predators in this ecosystem. Ask them to present their creatures and its adaptations to the rest of the class and then go on to create reports, stories and animations about their creature.

Partner work

If working with a partner school on this theme you could:

- exchange photographs of your playground maps, river murals or models
- share river fact files and artwork from your field trips
- interview your partner school about their fieldwork and compare findings from the two rivers
- find out about the wildlife living in your partner School's local river
- ask pupils what they enjoyed and found most challenging about working on this theme.

Useful resources for this theme:

- inflatable globe or atlases and maps
- access to the internet and digital cameras
- fieldwork materials such as magnifying glasses, pooters, nets and buckets
- clay, play dough, collage materials or large chalks.



Government High School Kala Gujran No. 1, Jhelum

AGE RANGE: 8–14.

CURRICULUM LINKS: Geography, Science, Environmental studies.

KEY SKILLS AND OUTLOOKS: Creative thinking, collaborating, communicating, commitment to sustainability.

LEARNING OUTCOMES: To learn about different river ecosystems and how plants and animals adapt to life in the environment in which they live.

River City

River City Detectives

Many of the world's major cities have grown up along the banks or mouths of large rivers and the stories of these rivers reflect the history of the cities themselves.

Discuss how your city and that of your partner school has grown over time. What was it like in the past? Why did people originally settle here? What were their houses like and why? How did they make their livelihoods from the river? What major historical events has it been a part of? How do we know?

Look at old photographs, paintings and historical maps of the area and interview local residents or museum staff who can tell you more about life in the city in the past. Census records of streets can give an indication of occupations and conditions of people who lived here in the past. Contemporary non-fiction and fictional accounts can also provide valuable insights. In his book *London Labour and the London Poor*, the Victorian reformer Henry Mayhew describes how poor orphan children known as mudlarks waded in the mud of the Thames to find bits of coal, iron and rope to sell at the rag shops. Charles Dickens also created fantastic descriptions of the Thames, its buildings and characters in many of his novels, notably ***Our Mutual Friend*** and ***Great Expectations***.

Research how writers in the past portrayed life beside your river and take your pupils for a walk around your river city to record the sights and sounds of the city today. Use sketch books and digital cameras to record interesting details of buildings, signs, tourist attractions, bridges and shops. Record snippets of overheard conversations (even those from people on mobile phones) and interview residents about their lives today. What are the best and worst things about living beside the river?

After visiting and studying the history of your river city, use these notes to make the area come to life in words and pictures back in the classroom by asking students to write a vivid description about what makes their city unique and distinctive. These descriptions accompanied by the students' photographs and drawings could be compiled in a book or used to create a tourist brochure, blog or podcast about the city. This could be swapped with your partner school and sent to the appropriate city tourist agency for comment.

Sketches and drawings could also be used as a basis for art work. In 2012, for example, students from College Claude Chappe in Paris with artists Shona Watt and Pete Gomes (featured artwork) made paper cut-outs based on bridges and landmarks along the Seine whilst pupils from their partner School, Newstead Wood School in London based their cut-outs on the banquets and celebrations that took place in the first underwater tunnel under the Thames.

2

Amazing Archaeologists!

Many sources of evidence about river cities in the past are unearthed by archaeologists identifying objects that have washed up on the banks of the river. A number of museums and trusts offer exploratory walks for schools along the city's foreshore to collect and identify historical artefacts. If that is not possible, why not recreate an archaeological dig by burying objects in large sand trays. Tell the class that they are archaeologists and precious artefacts giving important information about the history of their city are hidden in the sand. They will need to work together and choose appropriate research tools to uncover and identify these objects.

Having discovered and brushed clean their findings with paint brushes, ask them to discuss the following and use research to find out more about their objects.

- What is it made from and what do you think it was used for?
- How old is it?
- Who might it have belonged to and why was it in the river?
- How would you describe the object to someone?

Draw your objects. If you have buried part of an object, ask the pupils to draw the fragments and decide what the completed object may have looked like and then present their conclusions to the rest of the class.



River Ganges by George Nicholson

AGE RANGE: 8–11.

CURRICULUM LINKS: History, English, Drama.

KEY SKILLS AND OUTLOOKS: Critical thinking, collaborating.

LEARNING OUTCOMES: To learn how archaeologists retrieve and study primary sources to gather evidence about the past.



Rivers of the World artwork exhibition in front of Tower Bridge, London by Kate Forde

2

Bridges and landmarks

Bridges are important features in many river cities. They can be beautiful as well as functional and bound up with the history of the city. In Medieval and Tudor London they were even used to display the heads of traitors!

Show your class pictures of different types of bridge design such as arch and suspension. Include some famous examples such as the Sydney Harbour Bridge and Golden Gate Bridge. If possible visit a local bridge, discuss the design, shapes and materials you can see and any decorative motifs.

Back in class, remind them how to make different types of joins such T-joints, L-joints, roll tubes, columns and triangular joints, then divide them into groups. Ask each group to come up with a name for a bridge company and then design and make a free standing bridge to the following specifications using recycled materials such as garden canes, newspaper and card. Alternatively you could try constructing your bridges from spaghetti and marshmallows.

- The bridge has to span a gap of 30cm.
- The bridge has to be able to support a weight (e.g. 50g) in the middle.
- The bridge has to be free-standing.
- The bridge needs to be aesthetically pleasing.
- The group needs to demonstrate collaborative working and problem solving skills.

Impose a time limit in which the children can plan and construct their bridge. Once completed, test and evaluate their models against the criteria before awarding a certificate to the best bridge design company.

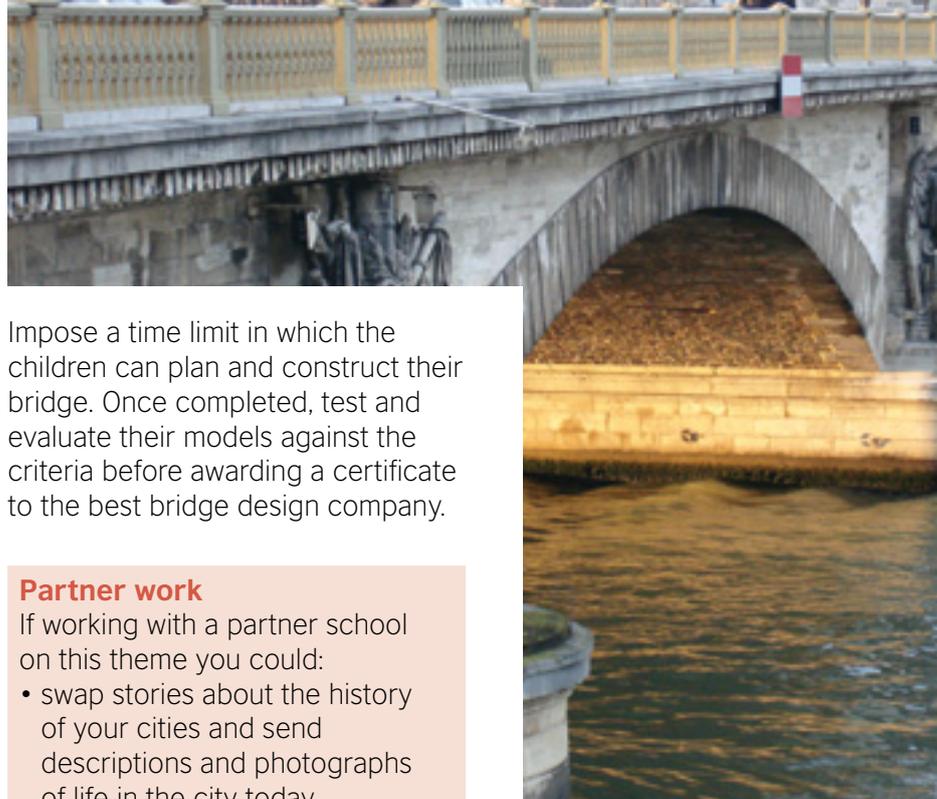
Partner work

If working with a partner school on this theme you could:

- swap stories about the history of your cities and send descriptions and photographs of life in the city today
- make tourist brochures, blogs or films to provide information for visitors. Provide feedback on the most useful guides
- exchange information about cities and bridges in each country
- send photographs and descriptions of the most successful bridges built in class.

Useful resources for this theme:

- historical maps, photographs and other primary sources about your city
- access to the internet and digital cameras
- canes, elastic bands, newspapers, recycled material, spaghetti, marshmallows.



River Seine by Shona Watt

AGE RANGE: 8–12.

CURRICULUM LINKS: History, Design and Technology.

KEY SKILLS AND VALUES: Collaborating, creative thinking, communicating.

LEARNING OUTCOMES: To learn about different types of bridges and create a free standing bridge to span a distance and hold a weight.

Working River

Rivers that work for us

Throughout history, rivers have been used by mankind. The Ancient Egyptian civilisation flourished as the Nile allowed transport and trade, and the annual flooding turned desert into fertile land. Rivers continue to provide transportation routes, water for drinking and irrigating farmland and power for homes and industry. In the US, more than 50 cities rely on the Mississippi river for their daily water supply.

How many ways can you think of to use a river? Brainstorm in groups as many as you can think of. Look at the photographs in Appendix 2 and discuss how the rivers are being used. Where do you think each image was taken? Give your reasons. What might have happened before the photograph was taken and what might happen afterwards? Ask your pupils to add thought and speech bubbles to each photograph showing what the people might be thinking and saying to each other.

Find out how different rivers have been used for trade and transport. What goods were transported? Where did they come from and go to?

In the 1700's the River Thames was so busy that traffic could hardly move as ships queued along the banks to unload their cargo. This is very different today. How have changes in technology affected the ways in which the river in your city is used? How do you think your river may be used 100 years from now?

AGE RANGE: 10–14.

CURRICULUM LINKS: History, Geography, English, ICT.

KEY SKILLS AND OUTLOOKS: Communicating, critical thinking, sense of interdependence.

LEARNING OUTCOMES: To learn about the changes in patterns of river use over time.

3

River Debates

New developments that affect how rivers are used can be controversial. Find out about current examples such as The Three Gorges project along the Yangtze River in China, the Belo Monte dam in Brazil and the Grand Renaissance Dam in Ethiopia. Research the arguments for and against new developments such as these.

Set up a role play debate where members of your class take on the roles of characters who will be affected by the building of a new factory or power plant beside your local river.

Roles could include owners of the new development, environmental activists, members of the media, unemployed local residents, shop owners, the local Mayor and other members of the community.

Decide how your character may be affected if the new development goes ahead and the points you will raise during the debate. At the end of the session take a vote in role for whether the new scheme should go ahead and evaluate which side produced the most robust arguments.



River Nile by Adrian Evans

AGE RANGE: 10–14.

CURRICULUM LINKS:
Geography, Drama, English.

KEY SKILLS AND OUTLOOKS: Creative thinking, communicating, commitment to sustainability, empathy.

LEARNING OUTCOMES:
To learn about recent developments in the use of major rivers of the world and how river developments can be controversial.



The Bosphorus by Adrian Evans

3

River Boats

Boats have always been key features of working rivers, providing housing, a form of transport for people and goods to cross the country and an enjoyable way of seeing the river.

Look at different types and styles of river boats from around the world from the wooden abras of the Dubai Creek to long tailed boats on the Chao Phraya in Bangkok. Discuss the materials used to make them and the local factors that have influenced their design and function.

Set up a series of investigations to explore different types of boat design. Using clay or play dough and a water tank, find out which shaped hull floats the best, then ask the children to make a boat from recycled materials. Plan an investigation where they can find out which type of power will be best for their boat.

They could use sails, experiment with wind-up elastic bands or motors. As an extension activity, set up a competition to design the most innovative system using an electrical circuit to warn boats when they are approaching rocks.



River Papaloapan by Adrian Evans

Partner work

If working with a partner school on this theme:

- find out about the trade and transport on your partner school's local river
- swap information about the types of boat commonly used on their river. What factors have influenced their design?
- find out which type of boat was the most successful, how far did they travel?

Useful resources for this theme include:

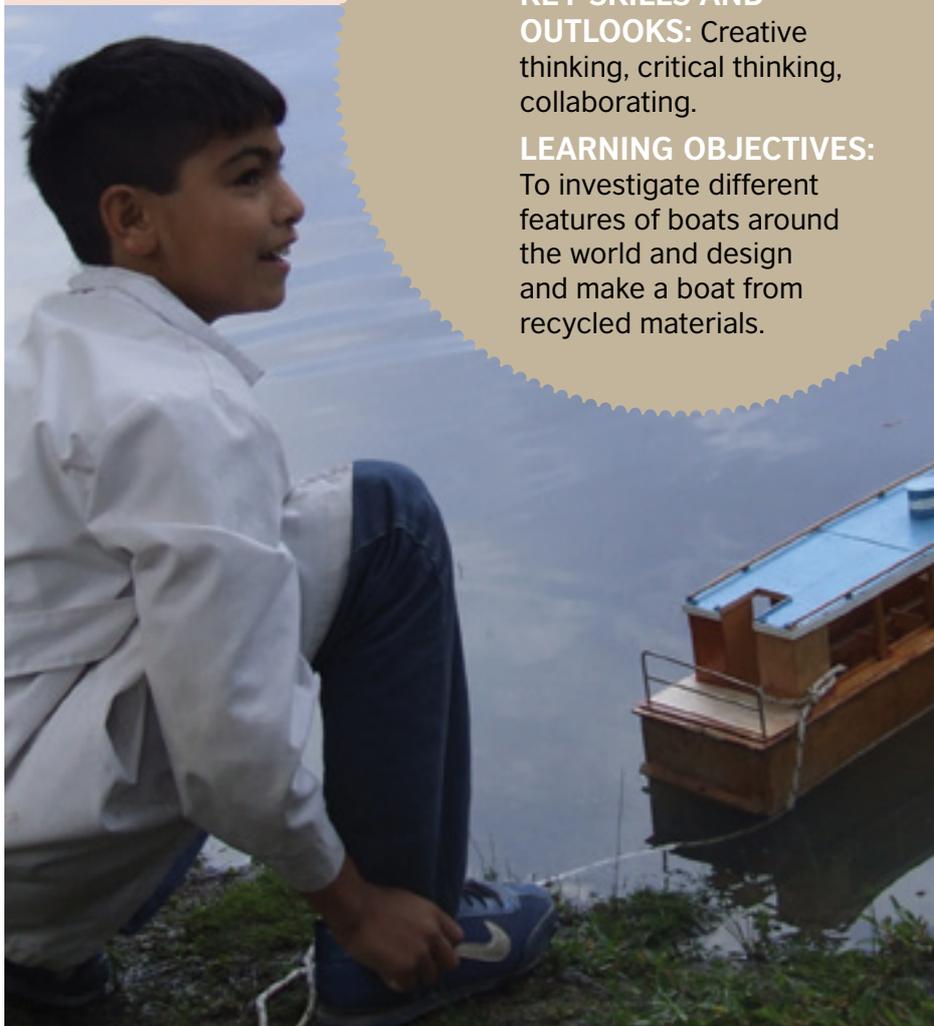
- access to the internet and reference materials
- recycled materials, elastic bands, water source
- batteries, bulbs, wires and connectors.

AGE RANGE: 8–13.

CURRICULUM LINKS: Geography, Design and Technology.

KEY SKILLS AND OUTLOOKS: Creative thinking, critical thinking, collaborating.

LEARNING OBJECTIVES: To investigate different features of boats around the world and design and make a boat from recycled materials.



Pupil from Secundaria Basica No 46 Tigre, Buenos Aires

Resourceful River

Water is so much a part of our daily lives that we sometimes take it for granted. Where does this water come from and how can it be that this is the same water that was here before man evolved? The answer is the water cycle, which is essential for making sure rain falls around the world and rivers begin.

Warmth from the sun causes water to evaporate from seas and rivers. As the water vapour rises it cools and forms clouds. Tiny droplets of water fall as rain or snow and collect in rivers. The rivers flow to the sea and the process starts over again. Further information from the Met Office website can be found here including a water cycle animation and an experiment to create a water cycle in a bag! <http://www.metoffice.gov.uk/education/teachers/key-stage2/lessonplan-water-cycle>

Look at the PowerPoint slide on Appendix 3, created by a child to illustrate the water cycle. Can your pupils add simple labels and a short explanation to explain the concept to a younger child?

AGE RANGE: 10–14.

CURRICULUM LINKS:

Science, Geography, English, ICT.

KEY SKILLS AND

OUTLOOKS: Creative thinking, collaborating, communicating.

LEARNING OUTCOMES:

To learn about the importance of the water cycle and its involvement in the formation of rivers.

4

Every Drop Counts

Show the pupils a picture of a dripping tap. Discuss what is happening in the picture. Why is it a problem? A tap that drips once every ten seconds will waste about 315 litres of water in a year, that's about two large bathtubs full of water.

Ask pupils to keep a log of the amount of water they use each day. Discuss how they could use less by making small adjustments to their routines such as turning the tap off when cleaning their teeth (this could save four litres a day) or showering for less time.

Use a storyboard grid to create a short comic strip to persuade young children to save water. Perhaps they could invent a superhero figure as the hero or heroine of the comic to drive their message home.

In parts of the world where people cannot turn on a tap to get fresh water, they may have to walk long distances to collect water several times a day. This situation is likely to worsen with climate change, so every drop counts. Read with your pupils the poem from Botswana **Woman's World** by Barolong Seboni, taken from **A River of Stories – Tales and Poems from Across the Commonwealth** in Appendix 4. Discuss how the layout and the illustrations by Jan Pienkowski affect the poem. Ask pupils to write their own shape poem, based on the idea that every drop of water counts using shapes that match the message of the poem.

Washing in the Hooghly by Kate Forde



AGE RANGE: 8–13.

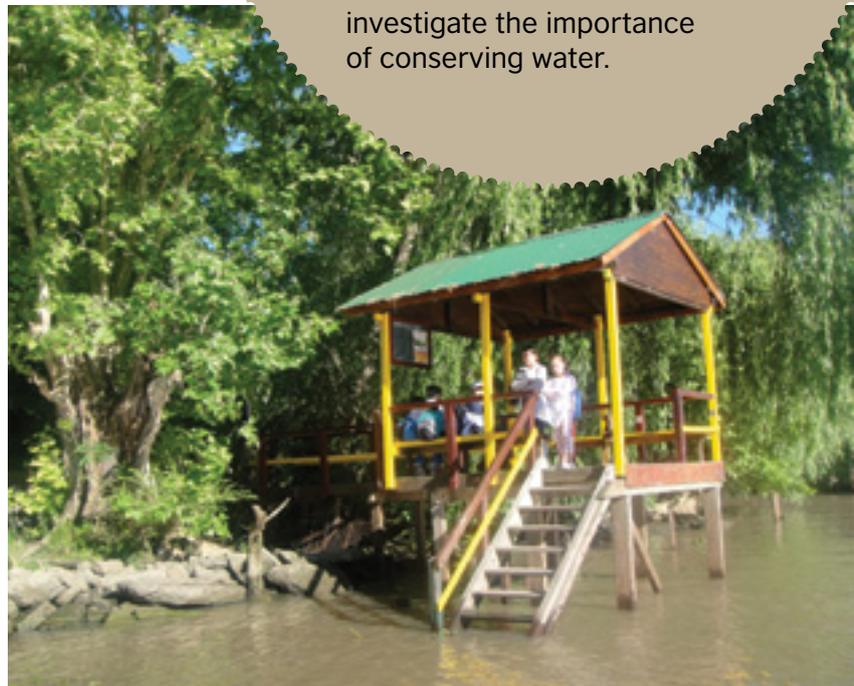
CURRICULUM LINKS:

English, Citizenship, Geography.

KEY SKILLS AND

OUTLOOKS: Empathy, critical thinking, creative thinking, sense of interdependence, desire to make a difference.

LEARNING OUTCOMES: To investigate the importance of conserving water.



Rio de la Plata by Adrian Evans

4

Floods

Floods occur when water, mud and debris spill over river banks after prolonged or heavy rain, or when there have been changes to the natural landscape. This can make land fertile but can also cause disasters with loss of life and major problems such as contaminated drinking water, the destruction of homes and habitats and the spread of water borne diseases.

Climate change is likely to exacerbate the frequency of floods as sea levels rise and rainfall is heavier in some areas. Some areas such as northern Europe and wet tropical areas are predicted to become 40 per cent wetter.

Discuss why some places are more susceptible to flooding than others. Find three ways that people have made flooding more likely because of changes made by man to the floodplain of a river. What measures can be taken to try and prevent rivers from flooding in the future?

Investigate a major flooding event that has affected one of the world's major river systems in recent years. Study its causes and the effect it had on people's lives and the environment. When natural disasters occur, agencies and charities such as UNICEF and OXFAM provide help to the people affected. Find out about the sort of assistance provided and organise a fund raising event for one of these organisations.

Levees (or earth mounds) have been built along many major rivers such as the Yangtze for over 1,500 years to protect against flooding. In 1982, the Thames Barrier was completed in London to protect the city from flooding caused by tidal surges. It has ten steel gates weighing 3,300 tonnes which, when raised, are as high as a five-storey building. Research other strategies that have been used to try and reduce the likelihood of major floods in your locality in the future.

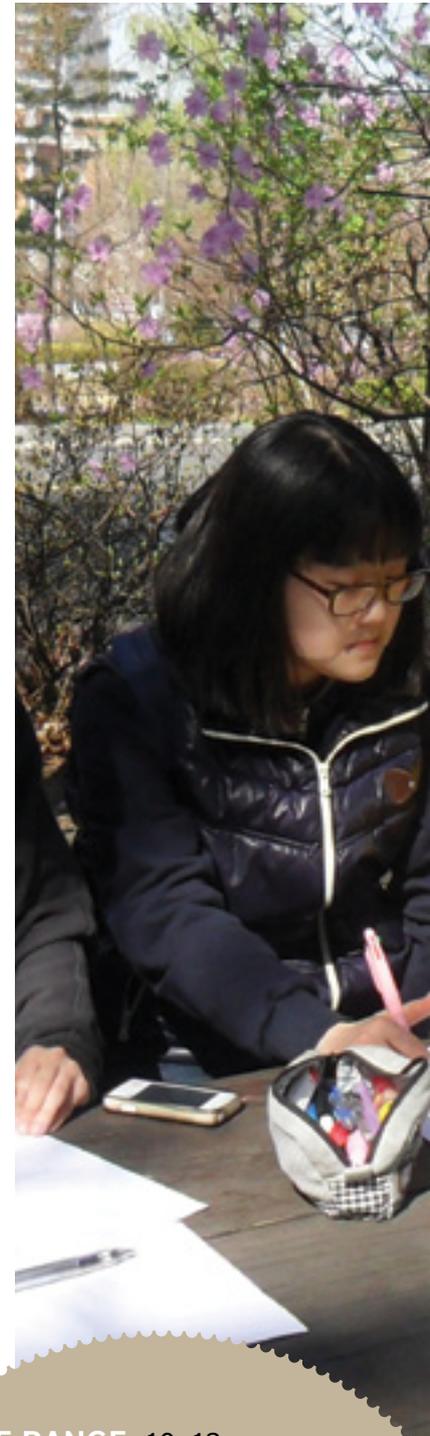
Partner work

If working with a partner on this theme you could:

- exchange ways to conserve water and ideas for superheroes and comic strips
- organise a joint event to raise money for a charity
- find out what measures are taken to prevent flooding in your partner school's locality.

Useful resources for this theme:

- access to the internet and reference materials
- copies of storyboard and poem
- materials from charities and NGO's about aid provided to flood victims.



Pupils from Jungwon Middle School, Seoul

AGE RANGE: 10–13.

CURRICULUM LINKS:

Geography, Science and Citizenship.

KEY SKILLS AND

OUTLOOKS: Empathy, communicating, sense of interdependence, desire to make a difference.

LEARNING OUTCOMES:

To find out about the causes and impact of flooding on countries around the world.

Polluted River

Sadly, rivers around the world are often polluted by waste from homes, industries, farms and boats as sewage, rubbish, chemicals and factory waste are deliberately or accidentally released into them. This can kill animals and plants and makes the water too dirty for people to use further downstream.

Can your pupils find news stories of rivers that have been affected by pollution? Discuss the effects this can have on both people and wildlife.

What measures can be taken to try and prevent river pollution?

5

Use the sections on Polluted Rivers from the Rivers of the World Education resources at http://thamesfestival.org/education/project/rivers_of_the_world/resources to see how some of the major rivers of the world have been affected by pollution.

Dinosaurs and All that Rubbish by Michael Foreman is an illustrated children's book that is an environmental tale which teaches young children how important it is to look after the Earth's resources. Ask your pupils to work together and produce their own imaginative picture book that is a cautionary tale about the dangers of not looking after our rivers. Share these with younger children within the school.

One common cause of pollution is plastic bags which find their way into rivers. Each person uses about 83 bags a year. If there are four people in your family, that's 332 plastic bags every year. Ask your pupils to devise a campaign to reduce the number of plastic bags in circulation. Perhaps they could create pamphlets warning of the dangers to wildlife, and design and make reusable bags as alternatives. There may also be opportunities to involve them with local organisations

undertaking voluntary conservation work to tackle environmental problems on your local river.

Over 150 years ago a Victorian physician called Dr John Snow discovered that Londoners whose drinking water was being taken from sewage-polluted sections of the Thames were dying of cholera. This led to the building of the sewage system still in use in London today. The United Nations maintains that in 2013 there are still 780 million people who do not have access to clean water. Research the reasons that lie behind these statistics and ask pupils to find out about the activities of charities and NGOs like Water Aid which campaign for clean water around the world. Ask your pupils to design posters or make a short film to highlight the importance of providing access to clean water for communities around the world.

AGE RANGE: 9–14.

CURRICULUM LINKS: Geography Citizenship, Science, English.

KEY SKILLS AND OUTLOOKS: Creative thinking, collaborating, commitment to sustainability, desire to make a difference.

LEARNING OUTCOMES: To investigate the causes and consequences of river pollution and issues concerning access to clean water.

River Anacostia by Adrian Evans



5

Cleaning Water

Present the class with a beaker of dirty water containing water, pebbles, sand, twigs, soil and a box containing the following items:

- a large plastic bottle
- string
- scissors
- gravel
- sand
- beakers
- different types of paper
- cloths
- a funnel
- elastic bands
- insulating tape
- charcoal.

Challenge the children to see if they can use the materials in the box to make the water cleaner. They must decide how to clean the water and which order to carry out the procedures. (It may look cleaner but make sure they do not drink it!)

Find out where your drinking water comes from and how it is made clean enough to drink.



Pupils from Sinseo Middle School, Seoul

Partner work

If working with a partner on this theme:

- exchange copies of their children's stories, pamphlets, posters or films
- compare campaigns to reduce river pollution.

Useful resources for this theme:

- copy of *Dinosaurs and all the Rubbish*
- access to the internet and digital cameras
- jar of muddy water and access to materials to make a filter.

AGE RANGE: 10–12.

CURRICULUM LINKS: Geography, Science.

KEY SKILLS AND OUTLOOK: Collaborating, critical thinking, commitment to sustainability.

LEARNING OUTCOMES: To set up an investigation into methods of water filtration.

River Culture

Rivers have always played an important part in the world's culture and traditions. The Ancient Egyptians worshipped Hapi, the god of the Nile, and the ancient Greeks believed five rivers circled the underworld, Hades. Rivers have inspired numerous great writers and painters of the past, from Shakespeare to Monet, and continue to influence writers, artists and thinkers today.



Rivers of imagination

The first Prime Minister of India Jawaharlal Nehru described the cultural importance of the River Ganges to the people of India as: “The river of India, beloved of her people, round which are intertwined her memories, her hopes and fears, her songs of triumph, her victories and her defeats. She has been a symbol of India’s age-long culture and civilization, ever changing, ever flowing, and yet ever the same Ganga.”

Ask groups to research cultural traditions associated with rivers from a variety of countries and cultures. These could include weddings and funerals in India, dragon boat racing in China, or candle laden floats for the festival of Loi Krathong in Thailand. Create a presentation or class book of their research.

Share a selection of river stories and poems from around the world. Discuss the images used by writers to paint vivid pictures in words and ask the class to pick out their favourite lines and paragraphs associated with rivers. My own are Dickens’ haunting and eerie description of Gaffer and Lizzie scavenging the Thames for dead bodies in *Our Mutual Friend*, and the Malaysian folk tale *The Messenger of the Moon*.

Combine your class’s favourite river phrases with images and colours from magazines to create a collage of words and images celebrating rivers in literature.

Bring in a bottle with a message hidden inside. Tell the class that it was washed up on the shore of the river and has a vital message inside. Ask the class to discuss in pairs who sent it and why? Use these discussions to plan and write river mystery stories. These could be swapped with your partner school and illustrated by them.

Many artists have created works depicting rivers. If possible visit a gallery to study these or use online gallery sites including catalogues from the Rivers of the World website at www.riversoftheworld.org and The National Gallery TakeOnePicture website at <http://www.takeonepicture.org/exhibition/2009/index.html>) programme for inspiration. This scheme invites schools to use a painting from the Gallery’s collection as a stimulus for learning across the curriculum. Of particular interest are the pieces based on Turner’s *The Fighting Temeraire* showing a famous gunship being towed up the Thames to be broken up, and *Bathers at Asnières* by Seurat of young men swimming and relaxing on the banks of the Seine.



AGE RANGE: 10–14.

CURRICULUM LINKS: English, Art and Design, Music, ICT.

KEY SKILLS AND OUTLOOKS : Creative thinking, collaborating, communicating.

LEARNING OUTCOMES: To investigate the cultural significance of rivers and take inspiration from the writings of authors, poets and artists to create artistic responses to the themes of rivers of the world.

Use a variety of techniques such as metal embossing on take away containers, lino printing and recycled collage to create individual pieces inspired by one of the Rivers of the World themes. These can then be joined together to create large collaborative pieces for display.

Try listening to songs and music associated with rivers such as *River Moldau* by Smetana or Handel's *Water Music* whilst making your creative pieces. Exchange information and final results with your partner school if you have one, and display your creations at an exhibition. This could include explanations of how the art was produced in school and take place in school, online or at another venue such as your local library, town hall or gallery. Encourage pupils to organise the event selling tickets, making refreshments and acting as curators. They could also create products such as cards, calendars or mouse mats of their art works.

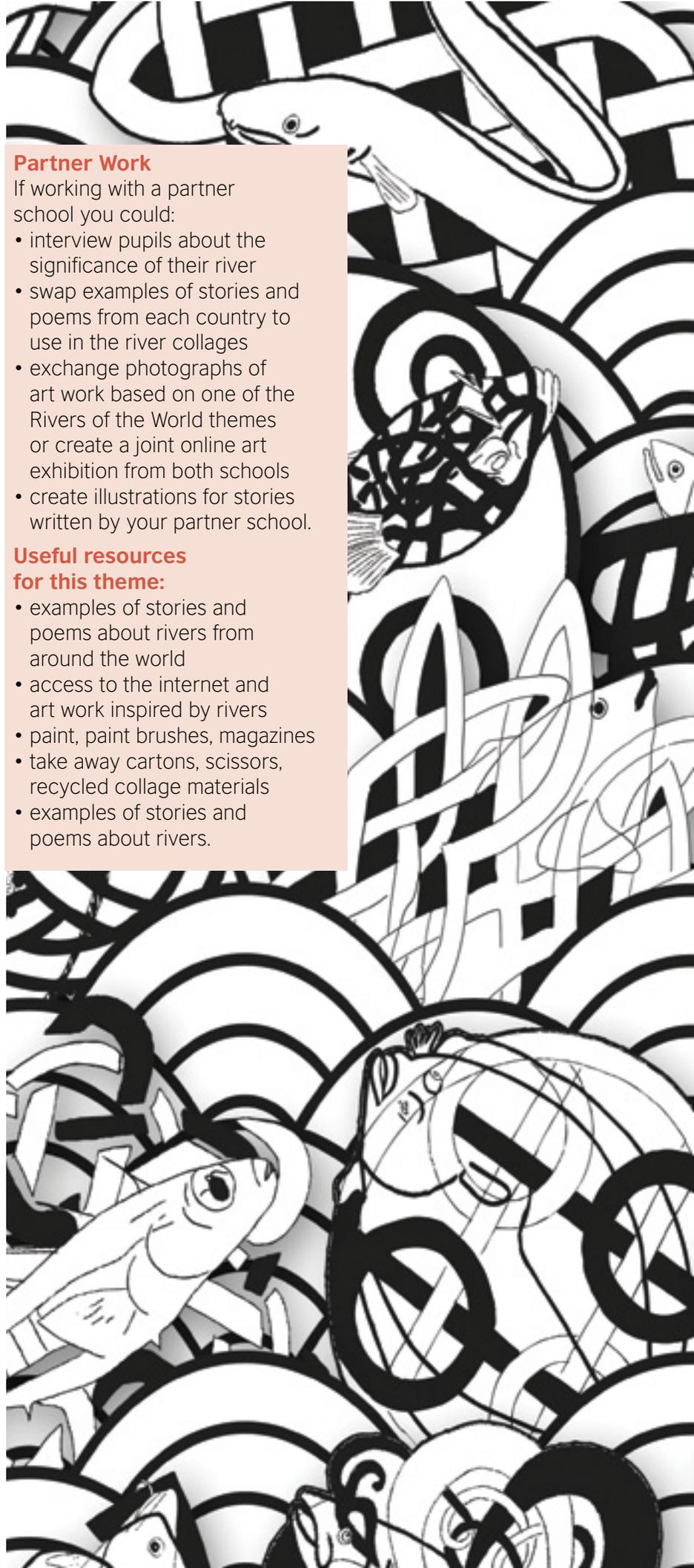
Partner Work

If working with a partner school you could:

- interview pupils about the significance of their river
- swap examples of stories and poems from each country to use in the river collages
- exchange photographs of art work based on one of the Rivers of the World themes or create a joint online art exhibition from both schools
- create illustrations for stories written by your partner school.

Useful resources for this theme:

- examples of stories and poems about rivers from around the world
- access to the internet and art work inspired by rivers
- paint, paint brushes, magazines
- take away cartons, scissors, recycled collage materials
- examples of stories and poems about rivers.



Appendices

Appendix 1

Copy on to card.

Cut up the river vocabulary and place with its correct definition

 source	A fan shaped area of land that builds up where a river enters the sea
erosion	Flat land either side of a river made of deposited material
deposition	This occurs when a river bursts its banks
tributaries	The wide mouth of the river where fresh water meets the sea
meander	Wearing away and removal of land by a river
mouth	The place where a river starts
delta	Small streams that join together to make a larger river
floodplain	This occurs when a river drops the material it is carrying

Appendices

Appendix 2



River Thames by Barry Lewis



River Surma by Shona Watt



River Surma by Shona Watt

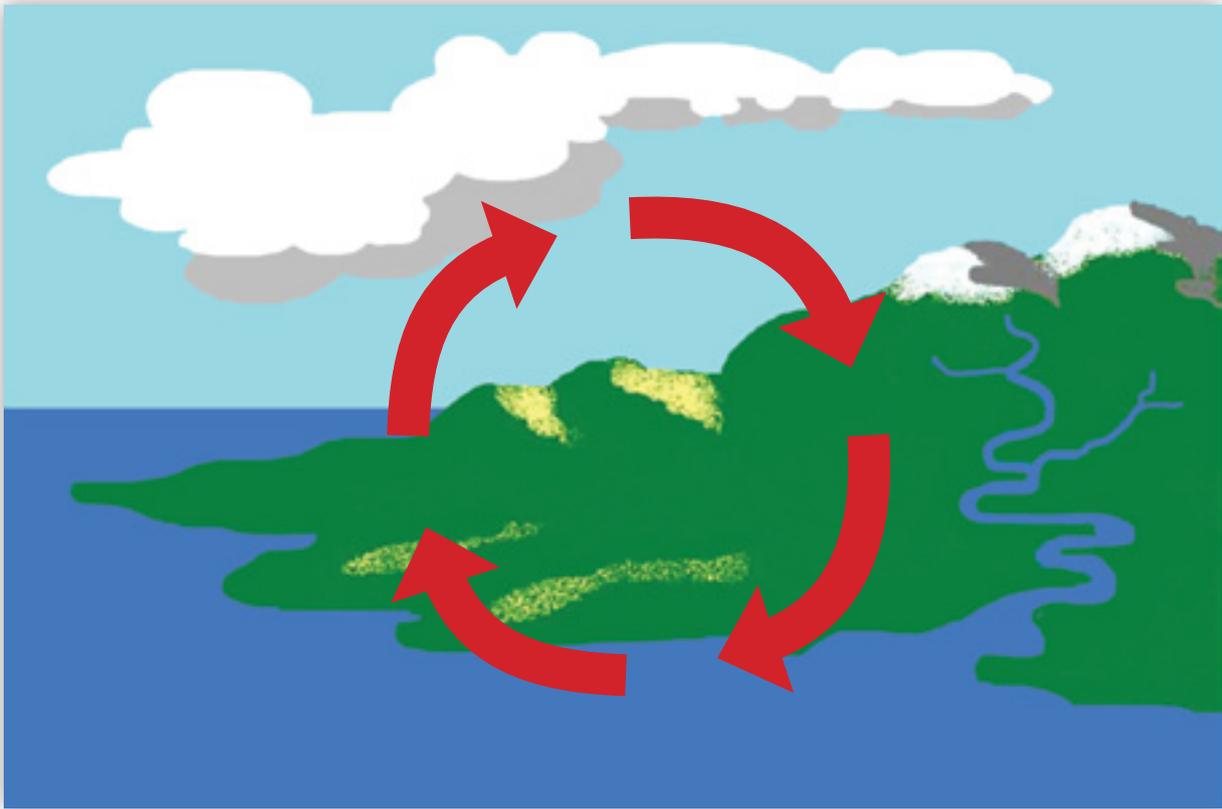


River Hooghly by Adrian Evans

Appendices

Appendix 3

My Picture of the Water Cycle by Beth



Appendices

Appendix 4

Woman's World by Barolong Seboni – a poem from Botswana which is taken from *A River of Stories: Tales and Poems from the Commonwealth* (www.ariverofstories.com) c Jan Pienkowski



Find out more

We hope you have enjoyed using the materials in this pack. The following resources contain additional information that may help you to plan your curriculum projects.

- The Thames Festival website has a wide range of resources about rivers. http://thamesfestival.org/education/project/rivers_of_the_world/resources this link contains information packs on 19 major rivers of the world.
- www.britishcouncil.org/schoolsonline has information about a number of joint curriculum projects that can be undertaken with your partner school.
- http://education.nationalgeographic.co.uk/education/encyclopedia/river/?ar_a=1 this National Geographic website contains a wealth of information about rivers.
- [http://schoolsonline.britishcouncil.org/sites/default/files/files/Global%20Themes,%20Skills%20and%20Outlooks\(1\).pdf](http://schoolsonline.britishcouncil.org/sites/default/files/files/Global%20Themes,%20Skills%20and%20Outlooks(1).pdf) this is a link to the British Council's Connecting Classrooms Global Citizenship themes, skills and outlooks.
- <https://www.teachingchannel.org/videos/high-performance-in-science> shows a school in Finland teaching fish dissection as part of a series of lessons about river ecosystems.
- www.ariverofstories.com contains information about A River of Stories – tales and poems from the Commonwealth and other related curriculum materials.
- www.unicef.org.uk/floods has information about the work of UNICEF and flood relief.
- www.geography.org association has a number of case studies and resources connected to rivers.
- www.ofsted.gov.uk/resources/geography-learning-make-world-of-difference is the latest inspection report from UK inspectors about the teaching of Geography.
- Maps of different places in the UK can be seen here www.ordance_survey.org.uk/opendata.
- www.thames-explorer.org.uk has a range of classroom resources to help you explore rivers.
- <http://www.wateraid.org/uk> WaterAid works in 27 countries worldwide, transforming millions of lives every year with safe water, sanitation and hygiene projects. <http://www.wateraid.org/uk/~media/Files/UK/Schools/secondarytheworkofwateraid.ashx>

- *Teaching Geography Creatively* edited by Stephen Scoffham contains a range of practical ideas to inspire creative Geography teaching.
- http://www.bbc.co.uk/schools/riversandcoasts/water_cycle/rivers/index.shtml has information about rivers and the water cycle.

Examples of stories and poems that celebrate rivers include:

- *Composed Upon Westminster Bridge* by William Wordsworth
- *A River of Stories Tales and Poems from the Commonwealth* compiled by Alice Curry
- *Rivers* by Valerie Bloom
- *The adventures of Tom Sawyer and Huckleberry Fin* by Mark Twain
- *Just So Stories* by Rudyard Kipling
- *Journey to the River Sea* by Eva Ibbotson
- *Our Mutual Friend, David Copperfield* and *Great Expectations* by Charles Dickens
- *Tales of the River Bank* by Kenneth Grahame.

Henry Mayhew's *London Labour and the London Poor* contains interviews with the poor living in Victorian England, including children who worked as mudlarks in the river.

Dinosaurs and All That Rubbish by Michael Foreman.

Famous paintings of rivers include:

- *Starry Night on the Rhone* by Van Gogh
- *Charing Cross Bridge* by Monet
- *Bathers at Asnières* by Seurat
- *The City Seen Through the Arch of Westminster Bridge* by Canaletto.

<http://environment.nationalgeographic.com/environment/freshwater/water-conservation-tips/> Water saving tips from National Geographic.

rivers of the world



Rivers of the World Education Pack produced by Alison Willmott
Rivers of the World is a Thames Festival project
delivered in partnership with the British Council



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