BILSTON CHURCH OF ENGLAND PRIMARY

MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Geography	What is a river?	5	Autumn 2	12 hours

What knowledge and skills will children have gained by the end of this unit?

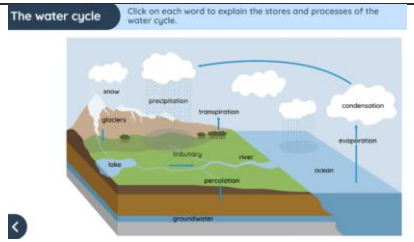
- Locating and naming some of the world's most significant rivers and identifying any patterns.
- Beginning to locate the twelve geographical regions of the UK.
- Identifying key physical and human characteristics of counties, cities and/or geographical regions in the UK.
- Describing how physical features, such as rivers are formed.
- Describing and explaining how physical features such as rivers have had an impact upon the surrounding landscape and communities.
- Describing how humans use water in a variety of ways.
- Describing and understanding types of settlement and land use.
- Using atlases, maps, globes and beginning to use digital mapping to recognise and describe physical and human features in countries studied..
- Beginning to use the key on an OS map to name and recognise key physical and human features in regions studied.
- Accurately using 4-figure grid references to locate features on a map in regions studied.
- Beginning to locate features using the 8 points of a compass.
- Following a route on a map with some accuracy.
- Labelling some features on an aerial photograph and then locating these on an OS map of the same locality and scale in regions studied.
- Beginning to choose the best approach to answer an enquiry question.
- Observing, recording, and naming geographical features in their local environments.
- Making annotated sketches, field drawings and freehand maps to record observations during fieldwork.
- To know that the water cycle is the processes and stores which move water around our Earth and to be able to name these.
- To know the courses and key features of a river.
- To know the main types of land use (agricultural, residential, recreational, commercial, industrial and transportation).

Possible trips:

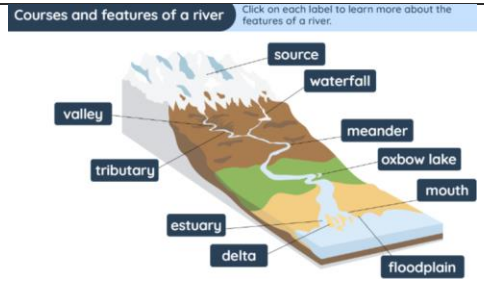
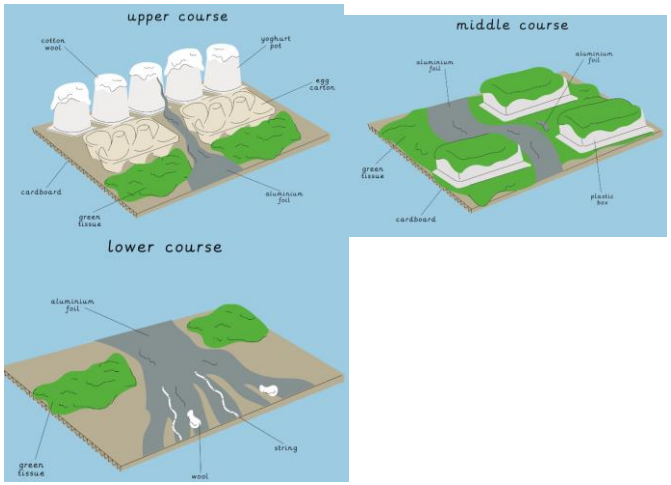
- The River Severn – Bridgnorth/Ironbridge/Bewdley

- The River Teme in Ludlow
- Waterfall at Carding Mill Valley – Church Stretton

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources	Vocabulary
Lesson 1	2 hours	WALT: describe how the water cycle works. By the end of this lesson children will be able to: • identify the different ways water is stored. • explain the different ways water moves. • explain how water is recycled.	Recap: Where can you find water? (The children may suggest: rain, rivers, lakes, ponds, seas, oceans, reservoirs and from taps.) Why is water important? (For drinking, washing, leisure activities (such as swimming, sailing or fishing) and transport; as a natural habitat for plants and animals; it is vital for all life on Earth.) Show the class the video on the link: BBC Bitesize – Understanding the water cycle. Hand out sticky notes (one each) and ask the children to note down the following: • The different places water is found in the water cycle (the ocean, air, clouds, precipitation, glaciers, the ground, rivers and lakes). • How water moves around the water cycle (it evaporates into the air; condenses into clouds; falls as precipitation; absorbs into the ground; moves to the sea via rivers). Take feedback on the children's notes and write down their ideas on a flipchart or whiteboard. Display the *Presentation: The water cycle* and select 'The water cycle' (slide 1). Explain each stage of the water cycle, how water is moved and where it is stored by clicking on the labels.	The Water Cycle - BBC Bitesize Presentation: The water cycle. *Resource: Water cycle in a bag .* *Presentation: Water cycle in a bag.*	-condensation -evaporation -groundwater -percolation -precipitation -transpiration -water cycle

			 Hand out sticky notes (one between two) and select the 'Matching game' (slide 2). In pairs, ask the children to match the vocabulary to the correct definitions and record their answers on their sticky notes. Click on 'Answers' so the children can mark their work. Explain to the class that they need to draw their own diagram of the water cycle. They should label each process (evaporation, condensation, precipitation, transpiration and percolation) and each store (ocean, cloud, river, groundwater and possibly glacier) and write a sentence to describe each stage of the water cycle. **Questions to ask**: How does water get to a river? (It falls from the sky as precipitation; groundwater overflows to form streams that join a river; meltwater from glaciers creates streams which run into rivers; water can also run off vegetation into streams and rivers.) How does the water cycle work? (Water is evaporated from a water store, such as the ocean; it condenses in the air, becoming water vapour and forms clouds; precipitation falls from the clouds onto the ground, vegetation, glaciers or straight into a stream or river. Water will eventually flow into a larger river and back into the ocean.) Between each pair, hand out a sealable plastic bag, a permanent marker pen, 100 ml of water (with a drop of blue food colouring – optional) and a piece of tape.		

			Using the *Resource: Water cycle in a bag* and the *Presentation: Water cycle in a bag*, guide the pairs to draw a simple water cycle on the front of their bag with the processes labelled (evaporation, condensation and precipitation) and the basic water stores (ocean, clouds and river). Ask the children to add the water to their bag and seal it (with or without tape). They should then tape their bag to a sunlit window. Question: What do you think will happen to the water in the bag? (It will evaporate and condense within the bag creating droplets.)		
Lesson 2	2 hours	WALT: understand how a river is formed. By the end of this lesson children will be able to: • state where a river starts and ends. • I can describe the three courses of a river. • I can name the features of a river.	**Recap: Questions to ask:** What is the place of a river in the water cycle? (A river is a water store.) How is a river formed? (Precipitation can run off vegetation or fall directly into a river; glaciers melt to form streams that join to make a river; when the ground is saturated, streams form that run into a river.) Show the class the video using the link: BBC Bitesize – Rivers. Ask the children: Where do rivers start? (Their source is a lake, a bog, rainfall or a spring.) Where do rivers end? (The river mouth where the river meets the sea or a lake.) What is one problem that someone living near a river might have? (Flooding.) Using the image *of a river*, explain to the children that rivers are split into three sections called courses: the upper, middle and lower. Each course has its own features, (different landforms created by erosion and deposition) such as the source, tributary, valley, waterfall, meander, oxbow lake, mouth, floodplain, delta and estuary.	Using the *Presentation: Courses and features of a river.* *Activity: Courses and features.* *Presentation: Building a river model.* Rivers – BBC Teach	-delta -estuary -floodplain -meander -oxbow lake -river mouth -source -tributary -valley -waterfall

			 Arrange the class into groups of six and hand out the pre-cut cards from the *Activity: Courses and features* (one set per group). Ask each group to sort the feature cards into the three river courses using the image on the presentation. Arrange the children into pairs and assign each pair one of the courses of a river (upper, middle or lower). Provide groups with materials to build a model of the course of their river, including the features. Examples of how this may be done can be seen on the *Presentation: Building a river model* below.  **Questions to ask groups**: What features are in your river course? Can you explain what you have made here? How do you think		

			this feature is made in a real river? What human features would you see on, around or near a river? Ask the children to label and write a short sentence about each feature included in their models, using white sticky labels. The different river courses, when completed, can be placed together to form one complete river. Optional – the class can complete a 'gallery' walk to view the other models and identify the features in each course. Take photos of the models for the children's books or wall displays. The models can be displayed, presented in an assembly or taken home.		
Lesson 3	2 hours	WALT: name and locate some of the world's longest rivers. By the end of this lesson children will be able to: • locate rivers on a world map.	Display slide 1 of the *Presentation: River features* and provide each child with a sticky note. Ask the children to match each label to the correct number on the diagram of a river. Using slide 2, ask the children to mark their answers. Hand out an atlas (one between two), the *Resource: UK rivers poster* (one between two) and the *Activity: UK rivers* (one each). Ask the class to use the contents of the atlas to find a map of the UK. Using the map and the index in their atlas and the *Resource: UK rivers poster*, ask the pupils to find the five longest rivers in the UK, as noted on slide 1 of the *Presentation: UK rivers*. The index of the atlas can be used to find each river;	*Presentation: River features* *Resource: UK rivers poster* *Presentation: UK rivers.* *Atlas*	-locate -key -mountainous -represent -tributary

		• create a key on a map. • name some of the world's longest rivers. • name which continents the longest rivers are in.	this may be labelled as 'Severn, River' instead of 'River Severn'. Alternatively, atlases may also label rivers as 'R. Severn' instead of 'River Severn'. Hand out the sticky notes (five per pair). The children should label the rivers on the *Resource: UK rivers poster* using sticky notes. They then need to identify the regions each river runs through to complete the table on the *Activity: UK rivers*. Questions to ask: How are rivers shown in an atlas? (Atlases may vary but usually, rivers are shown as a thin blue line labelled with small black writing to show the name of the river.) How could we show a river on our map? (Use a blue colouring pencil and write the river's name in small letters using a writing pencil.) Ask children to mark their answers using slide 2. Identify the seven continents with the class by singing the *Pupil video: Continents song*. Hand out the *Activity: World rivers* (one each) and display the *Presentation: World rivers*. Ask the pupils to use the contents or index in their atlas to locate each river. The children should draw, using a blue colouring pencil, and label each river on their world map. Questions to ask: Are there any continents without a river? (Antarctica.) Why do you think this is? (Antarctica has no river as it is made of bedrock covered in glaciers. The temperature is below freezing, so the water turns to ice. Therefore, there is no continuous running water on the continent.) Are rivers always represented by one line? (No, there are often multiple lines which are tributaries. The blue lines always end up in the sea, as rivers always flow to the coast.) Ask the children to add a key to their maps (a blue line, labelled 'River') to show how they have represented the rivers.		

			As a class, the rivers could be researched using the link: Google Earth to show a different perspective on a globe rather than a flat map. They may notice the River Murray, for example, does not seem very long on the flat world map but is much longer when seen on a globe. Using a large screen visible to the whole class, search for the 'River Thames source' using the link: Google Maps. Find the source of the river (in Kemble) and use Google Street View (drag and drop the yellow 'peg man' in the bottom right-hand corner onto a feature) to show the children the upper course of the river. Follow the river along to its mouth (in London), stopping to show the street view at different points along the way and identifying what river course is shown. At these different points, ask the children to identify human and physical features and write them on a whiteboard.		
Lesson 4	2 hours	WALT: describe how rivers are used. By the end of this lesson children will be able to: • can explain the ways rivers are used. • describe how rivers are important to the natural environment.	Recap: What are the physical features of a river? (The river source, tributaries, valleys, waterfalls, meanders, oxbow lakes, the river mouth, floodplains, deltas and estuaries.) How do we use rivers? (Answers may include: getting our water for drinking and washing; for swimming and other water-based activities; for transport.) Arrange the class into groups of six (approximately) and hand out the sugar paper (one per group). Ask one child to write in the centre, 'How are rivers used?' and ask the children to use coloured felt tip pens to create a mind map of their initial answers to the question. Show the class the video using the link: BBC Teach – Rivers and ask them to add any additional ideas from the video onto their mind map. Take feedback and allow the children to add any	Rivers - BBC Teach *Activity: River illustration* *Presentation: How are rivers used?* *Presentation: River issues*	-flooding -habitat -irrigation -leisure -pollution -renewable -energy -supply

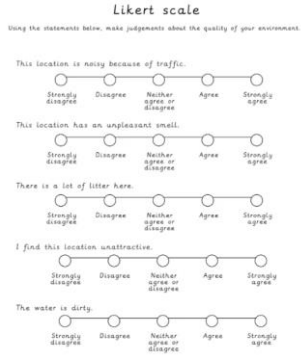
		• list the challenges that can occur with rivers.	new suggestions from other groups. Ideas of how rivers are used may include the following points: • Rivers are important habitats for plants and animals. • An integral part of the water cycle. • Supply food and drink for humans and animals. • Disperse nutrients for fertile soil needed for crop growth. • Offer transport routes which may be used for leisure or trading. • Can be used for fun activities, such as boating, kayaking, walking, relaxing, swimming, fishing, canoeing and many other recreational activities. • Many towns and communities are built along rivers. • Some people live on rivers in houseboats. • Water from rivers can be used for irrigation on farmland. • Renewable energy, called hydroelectric power, can be generated by moving water. Display the *Presentation: How are rivers used?* and show slides 1–10, explaining the ways rivers are important to both humans and animals. Hand out the *Activity: River illustration* (one each) and ask the children to add labels, illustrations and annotations to show how rivers are used. The children could colour in their illustrations for display purposes. Question to ask: What problems might rivers encounter? (Answers may include: pollution, drought or flooding.) Display the *Presentation: River issues* and use the mind map to describe the three most common challenges to the human and physical environments around rivers (pollution, drought and flooding). Use the rest of the slides to discuss these challenges with the children in greater detail. Children should consider where they think different uses of the river would occur along the river course.		

Lesson 5	2 hours	WALT: identify and locate human and physical features on a map. By the end of this lesson children will be able to: • state where the river starts and ends. • describe the features I expect to see during fieldwork. • use grid references to describe the location of features.	Recap: How do people use rivers? (To fish for food; for water to drink and wash with; to water crops; for transport routes; for leisure activities; to live on; to generate renewable energy.) What issues are there involving rivers? (Answers may include: pollution, drought and flooding.) Display the *Presentation: UK rivers*. Ask the children to match the cities to the correct river on the map by noting their answers on a whiteboard. Select volunteers to drag and drop the answers into the correct place. Reveal the answers and allow pupils to mark their answers. Arrange children into groups of six (approximately) and hand out the OS map of the local area and nearest river (one per group). Ask groups to identify the location of their school and the closest river. Demonstrate this using the *Presentation: Local river* (or share any relevant images or web pages on the interactive whiteboard). Questions to ask: What is the name of your local river? In which direction is the local river from your school? (Answers should include a compass point). * There is an option to upload a map and an aerial photograph onto the *Presentation: Local river* – this can be done in presentation mode. Introduce the fieldwork enquiry question, 'What features does our local river have?' and explain to the children that they will be finding out as much about the features of their local river as they can. Inform them that in the next lesson, they will be visiting the local river to explore the features further.	*Presentation: UK rivers.* *Presentation: Local river.* *Activity: River features.* *Activity: River bingo.* *Presentation: Bingo.* *Resource: Bingo definitions.*	-compass direction -grid square -human feature -local -physical feature -route

			Hand out the *Activity: River features* (one set per group – pre-cut and shuffled). Ask each group to sort the images into human and physical features. Hand out large pieces of sugar paper and glue sticks to each group. Provide an aerial photograph and OS map of the local river to stick side-by-side in the middle of their piece of sugar paper. Ask the children to identify and label any human or physical features they can see. They may wish to use an OS map legend to do this. The uploaded aerial photograph and OS map on the *Presentation: Local river* could be used to model this process (alternatively share any relevant images or web pages on the interactive whiteboard). Allow time for the children to create a checklist of features they expect to see during their fieldwork. This should be kept for use in lesson 6. Using slide 1 of the *Presentation: Grid references*, remind the children that when reading four-figure grid references, to locate the first number on the vertical line and then, the second number on the horizontal line. The top right square where these two lines meet is the referenced grid square. Ask pupils to use the grid references on the OS map to write sentences describing the location of the features they identified earlier. Questions to ask: Where are the river source and mouth located? (The children may use area names and grid references.) What evidence do you have that shows how people use the river? (The children may wish to identify human features along the river, such as bridges, pipes, boats, dams or reservoirs.)		

			Finishing fun: Hand out the *Activity: River bingo* (one each) and display the words on the *Presentation: Bingo*. Ask the children to choose nine words to write down randomly on their bingo grid (one in each box). Explain that the definitions for each word (not the words themselves) will be read aloud and they need to cross off the described word if they have it on their bingo card. The first child to cross out three words vertically, horizontally or diagonally should shout 'Bingo!' to win the game. Using the *Resource: Bingo definitions*, read the nine definitions out one by one (in any order). Take feedback from the class about the definitions to ensure all the children are crossing off the correct word.		
Lesson 6	1 hour	WALT: collect data on the features of a local river. By the end of this lesson children will be able to: • identify the features of a river. • judge the quality of the environment using a Likert scale.	For the trip to the River you need to prepare: • A list of pre-prepared groups of 5-7 children (depending on class size and the number of adults), each with a designated adult. • A digital photo or image of the OS map with the marked route (see Recap and recall). • Checklists of features at the local river compiled by the children in lesson 5. • Clipboards (one each). • Pencils (one each). • A4 paper (two each). • Access to a device or digital camera (one per group). To start: Display an aerial photograph of the local river (alternatively share any relevant image or webpage on the interactive whiteboard). Ask the class the following question: Which human and physical features do you expect to see today?	*Aerial photograph of your chosen river.*	- environmental quality -Likert scale -locality

		• make suggestions about how to improve the river environment.	(The children should refer back to the checklist of features they made in Lesson 5.) Using the *Presentation: River fieldwork*, select 'Fieldwork question' (slide 1). Explain to the children that they will be leaving the classroom to complete fieldwork to answer the question, 'What features does our local river have?'. The children will focus on features and the quality of the environment. They will be working in prearranged groups supervised by an adult. Using slides 2–5, explain to the class how they will collect data (photographs, annotated sketches, their checklist and a Likert scale). Arrange the children into groups of 5–7 and hand out the local OS maps with the fieldwork route marked (one per group). Question to ask: How can we stay safe on our route? (Answers will depend on the route, for example, only cross a road with an adult; stay away from water; always stay with your group.) Discuss with the children how they can avoid risks (for example, waiting for the crossing signal, following road safety advice and keeping away from the edge of riverbanks). Inform them that part of being successful in today's fieldwork involves staying safe at all times. Have children create a group plan on what they plan to do when at the river. They must have a clear plan of which child has a certain job and they must all at some point be in charge of the different jobs, to allow them all to learn the necessary skills. To extend the lesson, the children could create a poster/leaflet about staying safe on their trip – advertising it to others.		

Lesson 7	Whole day	WALT: undertake fieldwork research. By the end of this lesson children will be able to: • identify the features of a river. • judge the quality of the environment using a Likert scale.	Provide each child with: • A clipboard. • The *Activity: Likert scale.* • Their checklist of features from lesson 5. • A piece of plain paper for their annotated sketches. Hand out a device or digital camera to each group for capturing photographs. In their supervised groups, the children should aim to complete all activities in a safe location along the local river. Once at the site, remind the children of the boundaries they must keep within, to stay with their supervising adult and to complete all data collection activities. The data collection activities do not need to be completed in a set order.	Clipboard. The *Activity: Likert scale.* Their checklist of features from lesson 5. A piece of plain paper for their annotated sketches. Pencils iPads	-compass direction -grid square -human feature -local -physical feature -route
Lesson 8	2 hours	WALT: present data on our findings at our local river. By the end of this lesson children will be able to: • make suggestions about how to improve the	In groups, ask the children to discuss the features they saw along the river and talk about the strengths and weaknesses in environmental quality using the results from the Likert scale. Take feedback using the *Presentation: Likert scale.*  	Presentation: Likert scale.	-human feature -local -physical feature -route -location -locality -environmental quality

		river environment.	Ask the children to suggest ways the locality could be changed and improved (children may link their ideas to the Likert scale; for example, extra bins, car parks further away with more access paths, increased planting of flowers and plants and suggestions to reduce sewage or litter in the water). Children need to develop and present their data, findings and ideas to support the local environmental quality to the local council in a letter or report. Draw the children's attention back to the unit enquiry question, 'What are rivers and how are they used?'. Recap the water cycle, the physical features of a river and how they are used by humans, including: • The stores (ocean, cloud, river, groundwater and glacier) and processes (evaporation, condensation, precipitation, transpiration and percolation) of the water cycle. • The different courses of a river (upper, middle and lower). • The physical features of a river (source, tributary, valley, waterfall, meander, oxbow lake, mouth, floodplain, delta and estuary). • How humans use the river (to fish for food; as a source of drinking water; to wash; to water crops; for transport routes; for leisure activities; to live on; to generate renewable energy). • Problems around rivers (pollution, flooding and drought). • Human features found in a river environment (for example, bridges, pipes, water stations, boat moorings, piers, dams or reservoirs).		

Links to the National Curriculum:

Locational knowledge

- Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.

Human and physical geography

- Describe and understand key aspects of:
    - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.
    - human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

Geographical skills and fieldwork

- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.
- Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world.
- Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies. sketch maps, plans and graphs, and digital technologies.