



**YEAR 5 RIVER DETECTIVES
UNIT PLAN (Draft Version)**

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SUMMER TERM (10 WEEKS)

Session	Key Questions	Learning Objectives	Activities (Learning Pathway)	Outcomes/ Assessment Opportunities
1	<p>What is a river?</p> <p>(Arts focus)</p> <p><u>Resources</u> Poems Texts Pictures</p>	<p>LO: To investigate other people's perception of rivers.</p> <p>To identify what is already known and what we could find out about rivers.</p> <p>- To select appropriate geographical information from a range of secondary sources.</p>	<p>Use a variety of activities to introduce the topic of rivers and water. Get children's first responses then look at different representations of rivers.</p> <p>Poems – read and reflect</p> <p>Paintings of rivers to be shared (e.g. Turner slow reveal on w/board)</p> <p>Music – Orinoco Flow</p> <p>Story – Tales of the river bank?</p> <p>Newspaper articles about rivers?</p> <p>Horrible Geography – Raging Rivers</p> <p>Video – River's journey (Channel 4 River Flight, River Usk)</p> <p>Websites – Staffordshire Learning Net, Fergal's journey down the River Trent</p> <p>Outcome A mind map of thoughts (lines written in river shapes?)</p>	<p>All children will be able to talk about rivers and start to get a feel for what a river is like. The children will experience this at different levels as some activities are naturally more complicated e.g. aerial photographs are much harder to interpret than paintings of rivers.</p>
2	<p>What is a river?</p> <p>(Mapwork)</p> <p><u>Resources</u> UK outline Keystart UK atlases OS maps Compasses?</p>	<p>LO: To use OS maps to locate rivers, track their courses and identify significant landmarks.</p> <p>- To locate the New Forest National Park and the course of the River Lymington.</p> <p>- To identify key topographical features of the area (terrain, proximity to coast etc).</p>	<p>Use giant outline of UK and look at whiteboard atlas to identify where we are in UK, focusing on the local area. Locate the New Forest and discuss what chn already know about the New Forest as a place (land use etc).</p> <p>Look at 1:25 000 or 1:50 000 Ordnance Survey maps of River Itchen or River Test. Locate source and follow course to mouth. Practise describing the river's course using directional vocabulary (see LO). Recap use of coordinates to identify features on maps. Look together at some of the more complex symbols/keys used on OS maps.</p> <p>Outcome Study an OS map of the River Lymington. Reproduce onto a blank</p>	<p>Map work</p>



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		<ul style="list-style-type: none">- To observe and describe the land use of the New Forest and the River Lymington.- To compare rivers in different locations and identify similarities and differences.- To use OS maps at 1:25,000 and 1:50,000 scales to track the courses of local rivers.- To locate river/landscape features using 4 and 6 figure grid references.- To use 8 points of the compass to describe direction.- To interpret simple to complex keys on OS maps.	<p>grid. Describe the course of the river using directional vocabulary. Mark important landmarks around the river and note their grid references.</p>	
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3	<p>What is the water cycle?</p> <p>What are rivers like in character?</p> <p>What are some of the physical processes of a river?</p> <p><u>Resources</u> Class clips/Brainpop clips (needs password!)</p>	<p>LO: To understand the basic water cycle. To know the main stages and characteristics of a river.</p> <ul style="list-style-type: none"> - To recognise and describe a river environment - To name the different stages of a river - To understand and describe human/physical processes - To explain patterns made by human/physical features. - To understand how the course of the river changes over time. - To interpret aerial photographs. - To use appropriate geographical vocabulary. 	<p>Introduce/recap the water cycle using the interactive website. http://www.brainpop.co.uk/science/materials/watercycle/preview.weml</p> <p>Teach children about the course of a river from source to mouth using the class clips (please review - some were used in session 2 previously) http://www.bbc.co.uk/learningzone/clips/the-course-of-the-river-severn-from-source-to-sea/340.html</p> <p>Create a giant diagram showing the course of a river, using huge piece of paper on the floor of the classroom. Begin at the source in the mountains, then discuss and draw what happens as the river develops, until it reaches the mouth at the sea. Children to interact and contribute as much as possible.</p> <p>Look at a range of photos of different stages of a river and ask children to decide whereabouts on the giant diagram they should be placed. Discuss the differences in the river from source to mouth and also introduce the concept of seasonality (different stages of flow and flood). Include the content on the 2012 flipchart from lesson 2 here re. rivers changing over time.</p> <p>Show picture of river and get chn to use post-its to record ideas about its characteristics.</p> <p>Show cross-section of river and get chn to identify main features and processes (water, direction of flow, turbulence, bank, erosion, deposition, etc)</p> <p>http://www.brainpop.co.uk/science/earthsystem/rivers/preview.weml</p> <p>http://www.bbc.co.uk/learningzone/clips/waterfalls-and-gorges-erosion-and-deposition/3239.html</p>	<p>Questions asked by children.</p> <p>Explanations given by children.</p>
4	<p>What exactly happens during the physical processes/</p>	<p>LO: To create a playground river and observe physical processes.</p>	<p>Playground Rivers</p> <p>Using the playground get the chn to make own playground rivers. Introduce by getting them to hold hands and flow around the space. Explore what happens when moving round corners,</p>	<p>Chn's explanations/ideas during the practical work.</p>



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	<p>changes a river undergoes?</p> <p>Resources Peat Pea gravel Sand Stones Plastic sheet Watering can Easi-speak recorders Digital camera</p>	<ul style="list-style-type: none"> - To understand how the course of the river changes over time. - To understand and describe human/physical processes - To explain patterns made by human/physical features. - To use appropriate geographical vocabulary. - To analyse evidence and draw conclusions. 	<p>downhill, moving through a narrow space, etc and link to the movement of water. Demonstrate how river can pick up and move smaller objects but has to flow around others, such as large boulders.</p> <p>Use slope to playground to make a river. Children to collect leaves, twigs, soil, stones, etc. and place in path of water flow. Predict where river will flow, pour water down slope then discuss observations. Which materials were moved by the water flow, which ones stayed still, etc? Take photos for display and record video to refer back to/as evidence/for school website.</p> <p>Note that if the weather is unsuitable for this activity, it can be conducted indoors on a large plastic sheet - a 'hill' can be made with materials beneath it. Google for lots of examples!</p> <p>In class, record what they've learnt about movement of water, how it responds to the landscape and changes it. Recap rivers vocabulary and relate to this experience.</p> <p>Talk about the different processes and get children to write their definitions of them in their books.</p>	<p>Written explanations of the processes.</p> <p>Expectations: LA children can use the basic vocabulary e.g. source and mouth. MA children are using a more extended vocabulary to describe the processes and features. AC may explain that tributaries flow into rivers and NOT out of rivers</p>
5	<p>What does a real river look, feel and sound like?</p> <p>Resources Easi-speak recorders Cameras Stopwatches Metre sticks Tape measures</p>	<ul style="list-style-type: none"> - To locate the New Forest National Park and the course of the River Lymington. - To observe and describe the land use of the New Forest and the River Lymington. - To name the different stages of a river - To use appropriate geographical vocabulary. 	<p>Remember to notify LEA in advance of open county trip (for insurance purposes).</p> <p>Fieldwork trip to the New Forest (River Lymington) Children to carry out a number of experiments at three different sites:</p> <ol style="list-style-type: none"> 1. The source of the River at Rhinefield. The Silver Stream is 1m wide here and approximately 10-100cm deep. Carry out Dynoflow surveys in response to a letter from the River Test Environment Agency saying they need certain measurements to write a report. In groups children to measure the speed (pooh sticks), take photos and measure depths (in order to draw a profile). Stop at Puttles Bridge for 	<p>Chn's use of specific Geographical vocabulary.</p> <p>Employment of various fieldwork techniques.</p> <p>Sketch maps & written observations.</p>



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	<p>Dog biscuits</p> <p>Fieldwork paperwork (see network).</p>	<ul style="list-style-type: none"> - To understand and describe human/physical processes - To use appropriate fieldwork techniques and instruments. - To collect and record evidence. - To sketch maps from first-hand observation. - To analyse evidence and draw conclusions. 	<p>1hr30. Use Dictaphones and digital cameras etc. to record sounds and sights. Speed of river, river profiles / transects, pond dipping, field sketching etc.</p> <ol style="list-style-type: none"> 2. Brockenhurst – 45minute stop by the cricket ground and the Balmer Lawn Hotel. Children to observe differences between this location and the source. In small groups work through 'Mighty Meander Mystery' booklet, answering questions and making distinction between features and processes. 3. The river's mouth at Lymington – the slipway to the Isle of Wight ferry etc. Play river mouth 'I Spy'. Map of river mouth and secret codes (letter – number co-ordinates). 45 minute stop. House / road names – linked to the sea / estuary 	
6	<p>What have we found out about the River Lymington?</p> <p>Resources Fieldwork paperwork Pre-calculated data averages etc?</p>	<p>LO: To report our findings about the River Lymington.</p> <ul style="list-style-type: none"> - To collect and record evidence. - To use appropriate geographical vocabulary. - To analyse evidence and draw conclusions. - To communicate in ways appropriate to the task/audience 	<p>NB. In the past, data from this fieldtrip has been used very successfully in Maths lessons - finding averages/creating a meaningful 'data file' etc.</p> <p>Discuss fieldtrip experience and together summarise findings, linking it back to previous learning about rivers.</p> <p>Outcome Chn to write a report about what they have discovered/feel is relevant to communicate about the River Lymington. Suggested form = tourist information leaflet/location information board.</p>	<p>Long written outcome: Non-chron report (assess also for English level).</p>
7	<p>How are rivers managed?</p> <p>Resources Info pack from the Environment Agency? Visit from water bailiff?</p>	<p>LO: To ask geographical questions. To write a diary entry in role as a water bailiff.</p> <ul style="list-style-type: none"> - To ask appropriate geographic questions. - To understand how the course of the river changes over time. 	<p>Introduce role of Environment Agency in looking after our rivers and identifying problems (flood warnings, pollution, drought, etc.) Look at www.environment-agency.gov.uk/homeandleisure/floods/riverlevels to see how river levels are monitored (graphs showing recent measurements of depth against usual range of depths and highest recorded levels/flood risk) Why do they need to monitor this?</p> <p>Show a picture of a water bailiff and explain that they also have responsibilities in monitoring rivers.</p>	<p>Long written outcome: Diary entry (assess also for English level).</p>



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		<ul style="list-style-type: none"> - To be able to explain how and why environments are managed. - To collect and record evidence. - To analyse evidence and draw conclusions. - To communicate in ways appropriate to the task/audience. - To use appropriate geographical vocabulary. 	<p>Ideal = visit from local water bailiff and Q&A session.</p> <p>Outcome Chn to write a diary extract from the point of view of a water bailiff.</p>	
8	<p>How are rivers similar and different?</p> <p>(Link to new Ancient Civilizations topic).</p> <p>Resources Inflatable globe Google maps Enquiry frame River Nile books, aerial photos etc</p>	<p>LO: To find out about the River Nile</p> <ul style="list-style-type: none"> - To ask appropriate geographic questions. - To use appropriate geographical vocabulary. - To locate the River Nile on a globe and using Google Maps - To identify key topographical features of the area (terrain, proximity to coast etc). 	<p>Ideal if these last three lessons are taught alongside the Journey from River to Sea Literacy Unit (ref. Eleanor Schmitt).</p> <p>Establish that not all rivers are the same. We are very familiar with the River Lymington now, but some rivers are vastly different. Discuss: Are the chn familiar with any other rivers? How do they compare?</p> <p>Use large inflatable globe to pass round circle and have chn identify major rivers of the world (Amazon, Nile, Thames, Rhine, Danube, Ganges, Mississippi, Yangtze/Yellow River). These are obviously much larger than the River Lymington, but we want to find out what other differences there are, including the journeys of rivers and the different terrains they journey through.</p> <p>We will be focussing on the Nile, as this links in with our Ancient Civilizations topic. Show location of River Nile using Google Maps.</p> <p>Groups to use a simple enquiry frame to establish the questions they want to ask about the River Nile ask (e.g. What is it? Where is it? What are some of the key facts about it?); What data are they</p>	



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			going to collect (How? What equipment will they need?); How will they sort / present their information. Posters, models, Powerpoints etc. Extended homework task? Chn to start their research using information books, aerial photos, atlases etc.	
9	<p>How are rivers similar and different?</p> <p><u>Resources</u> Computing suite/netbooks List of appropriate websites</p>	<ul style="list-style-type: none"> - To collect and record evidence. - To identify key topographical features of the area (terrain, proximity to coast etc). - To analyse evidence and draw conclusions. 	<p>Research could possibly be continued at home as an extended homework task if curriculum time is short.</p> <p>Otherwise, allow for a lesson in the computing suite for children to continue to research the Nile on the internet and complete their enquiry.</p>	Enquiry outcome (form to be determined).
10	<p>How are rivers similar and different?</p> <p><u>Resources</u> Large Venn diagram Camera</p>	<p>LO: To compare the River Lymington with the River Nile.</p> <ul style="list-style-type: none"> - To communicate in ways appropriate to the task/audience. - To use appropriate geographical vocabulary. - To ask appropriate geographic questions. - To compare rivers in different locations and identify similarities and differences. 	<p>Groups to present their findings regarding the River Nile. Compare to the River Lymington. Together, create a large Venn Diagram (this could hang like a dream catcher from the ceiling) encouraging the children to think of features that were specific to each river and those features that they had in common. Look at the patterns.</p> <p>What do all rivers have?</p>	Photocopy of class Venn in topic book. Chn to record in writing what they contributed to discussions.