Geomorphology (Rivers)

A Programme of Study for Year 7 Geography

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Geomorphology (Rivers)

In this unit students study the different aspects of rivers. They are able to gain an understanding of the formation of rivers, river landforms, the human use of rivers, and the impact of river floods through a variety of investigations (at local, national and international levels). Students participate in the practical side of the subject by building of their own river basin. Through this unit students gain an understanding of the relationships that exists between the impact of human activity and the constantly changing environment within a river basin. This allows students to become more active thinkers in their society through a better understanding of world issues and local issues.
The philosophy behind all our planning remains the same; This Programme of Study is an attempt to get back to "What do I want my students to be able to understand?" Rather than "How much of the National Curriculum do I want them to get through?"
This Scheme of Work is designed for our multi-cultural student body spanning a range of abilities. Wherever practicable we prepare Differentiated Resources (indicated by a ⊙ symbol) for students with Special Needs, those who are early English learners and for gifted and talented students. We also take into account National Strategies: specific tasks are indicated by 📖 for Literacy, ① for Numeracy, 💻 for Information Technology and ⊠ for Citizenship.
We are committed to raising attainment but also to developing an appreciation for Geography which is, after all, our priority.

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Key Question	Learning Objectives	Key Vocabulary	Suggested Activities	Resources	Homework
1. What is the water cycle?	• To be able to explain how the water cycle works (all students). • To annotate a diagram showing this (some students).	Condensation Evaporation Precipitation	Ask students to brainstorm what they already know about rivers. Draw and label a diagram explain how the water cycle works. Complete questions using resource pack.	Resource pack on water cycle. with ⊙.	Complete title page "Rivers"
2. What is a river basin?	• To explain all of the key features of a river catchment (all). • To label a river catchment (some).	Channel Mouth Source Tributary	Hand out resource and read through with students. Complete Worksheet.	Resource "The story of a river". Work sheet "A river catchment"	Check previous Homework

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3. How do rivers shape the land?	• To understand the processes of erosion and deposition (all students). • To identify examples of erosion through photo analysis (some students).	Deposition Erosion	Brainstorm: difference between erosion and deposition. Read through Resource. Students do some photo analysis. Students complete activities 1-4 on the back of the Resource.	Resource "How do rivers shape our land?"	📖 Diary entry – A day in the life of a river. Write a series of diary entries from a rivers perspective, what happens to a river, what does a river "see"?
4. What are the main character-istics of a river?	• To identify and label parts of a river (all). • To explain the formation of land forms along rivers (some)	Delta Flood plain Meanders Ox bow lake Rapids	Explain the characteristic land features along a river. Use resource cards to complete activities (2 to be completed this lesson)	OHT "The different courses of a river" Resource cards: Rivers	Check previous Homework
5. What are the main landforms of a river?	• To understand that there are different parts of a river (all). • To identify and label parts of a river (some).		Continue to work on the activities begun in previous lesson. 📖 Each pack contains 7 resources – students should take around 10 minutes to complete each resource.		
6. How are waterfalls formed?	• To explain what a waterfall is (all). • To explain the steps in forming a waterfall (some).	Plunge Pool Waterfall	Students draw and label a sketch of how waterfalls are formed. Explain use of an atlas. Working in pairs: complete activity on location of famous waterfalls.	Resource "How are waterfalls formed?" Blank world map Atlas	Complete maps of waterfall locations.

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Humanities Faculty, Geography Department

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7. What are the causes and effects of flooding?	• To understand how rivers flood (all students). • To be able to explain the effects of flooding on humans (some students).	Flooding Levee River bed	Brainstorm ideas why rivers could flood. ☒ Read through resource and draw attention to the key words. 🕮 Newspaper article about river floods with titled "How Does a River Flood?"	Resource "How does a river flood?"	Complete newspaper article.
8. What are the responses to flooding?	• To be able to explain 3 human responses to flooding (all). • To suggest the best methods to use to stop flooding (some).	Dams Flood wall Flood ways Sand banks	Complete a table with column headings: Number, Method, Description, Rating. ☒ Use the information from the packs to evaluate the effectiveness of each method.	Card packs: 8 envelopes with 6 strategies in each	Check previous Homework
9. What processes do rivers perform?	• To understand the processes that rivers perform (all). • To be able to highlight the characteristics of a drainage basin (some).	River basin Saturated soil Water movement	Explain this is a very important lesson as they will be able to see a drainage basin and all of its characteristics. 🕮 Watch the video and complete the worksheet.	Video "River processes and drainage basin land forms" (Physical Geography Series Vol 1) Worksheet: River Processes	Collect newspapers and a cardboard box (shoe box?) to use for constructing a river basin.

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Designing a river basin (phase 1)	• To identify the features of a river catchment (all students). • To be able to design and label a river catchment (some students).	Channel Ox bow lake Rapids Tributary Watershed Waterfall	Students begin construction by scrunching up newspaper and sticky-taping it down to form a support base.	Newspaper, glue, water, brushes.	Get a container to mix glue in (eg plastic bottle, milk carton)
Designing a river basin (phase 2)			The goal is to complete the paper mache stage. Students build up paper mache on the paper base in the project box to form the river basin.	Containers with about 4 parts water to 1 part glue.	Get an egg carton for mixing paints
Designing a river basin (phase 3)			Begin to paint the river basin. A base colour (such as white) makes it easier to paint over but this is not essential. Begin to make "flag like" labels for each landform using toothpicks and stickers.	Brushes, paints, egg cartons, plastic bottle (water to wash brushes), tooth-picks, stickers.	
Designing a river basin (phase 4)			Finish off a few of the characteristics with paint. Place on the labels. By the end of this lesson the river basins will be completed and labelled appropriately.		

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15. How do rivers get polluted?	• To understand what water pollution is (all students). • To be able to explain how acid rain is formed (some students)	Acid rain Agricultural pollution Discharges Industrial pollution	☒ Brainstorm ideas – How do rivers get polluted? Bring out the idea that any type of pollution will eventually end up in waterways of some kind, due to rain-washing it in. Read through Resource information with students and explain key. Students to complete activities in the Resource.	Resource "Where does pollution come from?"	Find 5 examples of rivers throughout the world that are heavily polluted. Explain why.
Case Study –The Mississippi River	• To know where the Mississippi is located (all). • To identify the causes of river pollution in the Mississippi (some).	Cargo Degradation Sediment Toxic	🕮 Students to write a newspaper article on the Mississippi River. Give each student a Resource Pack from which to extract information. Model the conventions for a newspaper. Students to start planning their article.	Resource Packs. Information collection sheets	Check Homework
	• To be able to structure a newspaper article appropriately (all). • To be able to select appropriate information for their article (some).		Remind students about previous work. Ask some quick questions about the Mississippi River to check for understand-ing. Focus on today's task: the newspaper articles (refer to information collection sheet.)	Resource packs	Complete newspaper article