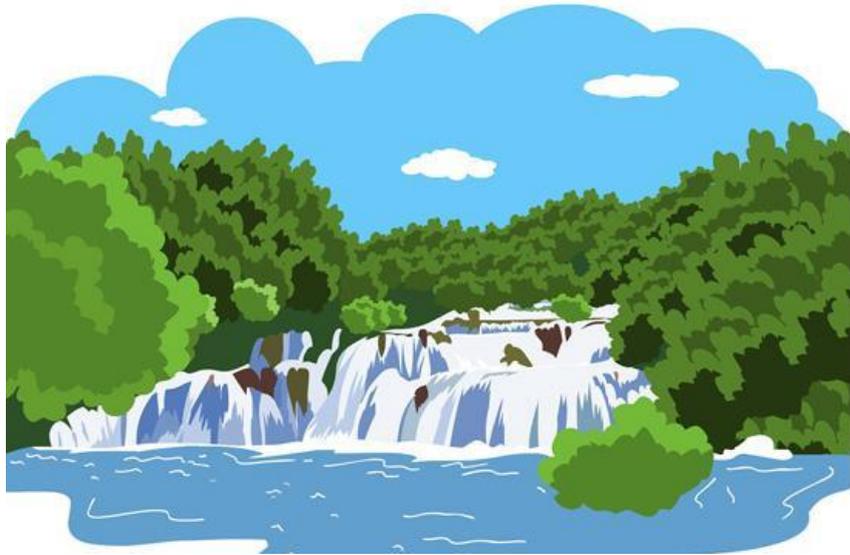


Year 7  
Raging Rivers  
Workbook  
Part 2



Name: \_\_\_\_\_

# Instructions

This booklet covers 2 main areas of the Rivers topic:

- How does a river shape the land?
- What are the features of a river landscape? (part 1)

Each topic has several activities for you to complete, these are designed to take anywhere between 5 minutes, for the really quick tasks (like gap fill exercise), to longer 15-20 minute ones. However there are optional extension tasks within each topic.

BBC Bitesize videos may also help you if you need or want extra information.

At the end of the fortnight a completed answer booklet will be sent out to you and you can use this to mark your work.

You may wish to print out the booklet if you want to/can or you may want to complete it on a computer, either is fine. If you are working electronically, the easiest way may be to download the file and save it as a word document. If you don't have word, then the document should also work in Google Docs (Goole's version of word).

There are different tasks to complete. We have tried to cater for everyone's preferences, like drawing, writing, puzzles, maths and even some dance and acting.

We hope you enjoy!

## How does a river shape the land?

As the river flows along the land it changes the shape of the land. It does this using **three** processes: erosion, transportation and deposition.

1. Match the correct process keyword with the correct meaning (try completing it without the help of the key word sheet).

Keyword
Erosion
Transportation
Deposition

Meaning
The process where material is moved from one place to another.
The process where sediment is dropped or deposited.
The process that wears away the riverbed and banks.

2. There are **four** types of river erosion. Use the keypad below to work out their names, you have been given some of the letters.



2	2	7	2	7	4	6	6
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A \_ \_ A \_ \_ \_ N

2	8	8	7	4	8	4	6	6
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A \_ \_ R \_ T I \_ \_

7	6	5	8	8	4	6	6
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S O \_ \_ \_ \_ O N

4	9	3	7	2	8	5	4	2
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H \_ D \_ \_ U \_ \_ C

2	2	8	4	6	6
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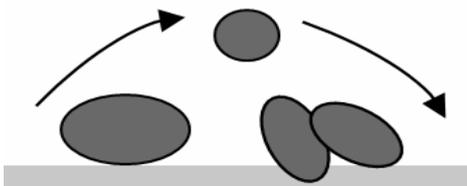
A \_ \_ \_ O \_

**Erosion** can be either **VERTICAL** (downwards) or **LATERAL** (sideways).

3. Research the meaning for each type of **erosion**. Try to use your own words to describe each - or draw a picture if you prefer.

Abrasion	Attrition	Solution	Hydraulic action
Rocks rub along the river bed and banks like sandpaper.			

4. There are **four** ways that a river **transports** material that it has eroded. Draw a cartoon for each based on the description given.

Method of transportation	Description	Cartoon / diagram
<b>Traction</b>	Heavy rocks and boulders are rolled along the river bed. This happens most during floods, when the river flows fast and has a strong current	
<b>Saltation</b>	Small stones and pebbles are 'bounced' along the river bed in a leap-frog motion. Saltation can take place when the river flow is much slower.	
<b>Suspension</b>	Very small particles of sand or clay that are 'suspended' in the water and float along with it. Even the slowest flowing rivers can transport this material.	
<b>Solution</b>	Tiny pieces of material are dissolved in acidic river water and are carried along by it. It's like putting sugar in your tea, you cannot see the material being transported.	

5. Fill in the blanks with the keywords to describe the process of **deposition** along the course of a river.

Deposition occurs when the \_\_\_\_\_ (flow) of a river decreases. This means that the river no longer has the energy to \_\_\_\_\_ the material (load). The bigger the load size, the \_\_\_\_\_ the flow needed to keep it moving. When the flow \_\_\_\_\_ large boulders are deposited. The finest particles are deposited last. This is why the \_\_\_\_\_ course has boulders along the bed, while close to a rivers \_\_\_\_\_ there is only fine silt.

greater	falls	upper
mouth	transport	speed

6. How Stean Gorge in North Yorkshire (near Harrogate) was formed by the How Stean Beck, this is a tributary of the River Nidd. Write a story saying how the gorge was formed by erosion, transport and deposition. *In your story make sure you use some of the keywords you have learnt. Maybe your main character could have a funny name like Saltation...?*



As the How Stean Beck flows through the How Stean gorge it \_\_\_\_\_

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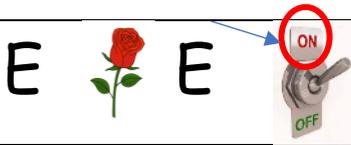


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**EXTENSION:** river dingbats. Say what you see out loud and write it down. All words linked to rivers!

Dingbat	Answer
	
	
	
	
	

## What are the features of a river landscape?

1. Unscramble the words to identify the ways that water can **transport** or move material along.
  - a. ntsoouli \_\_\_\_\_
  - b. ittoacrn \_\_\_\_\_
  - c. tanstoail \_\_\_\_\_
  - d. usonsnpeis \_\_\_\_\_

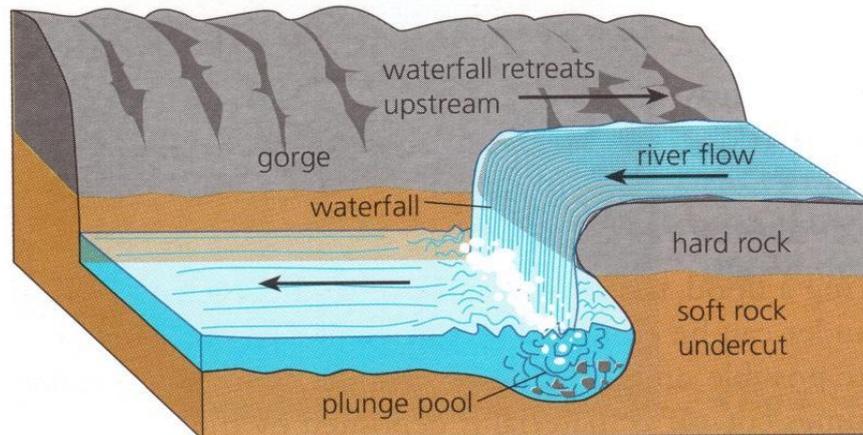
In the **upper course** a river has a small and shallow channel as it is close to the source. Large boulders cause friction and the river erodes vertically (downward) so the valley is shaped like a steep V-shape.

A feature of the upper course of a river are **interlocking spurs**. The best way to imagine interlocking spurs is to interlock your fingers. Your fingers act as areas of hard rock and stick out. Because the river is only small at this point it does not have enough power to cut through (erode) the hard rock and instead would have to wind around them.

2. Draw a sketch of interlocking spurs (using the image to help you) and label it with keywords from the paragraph above.



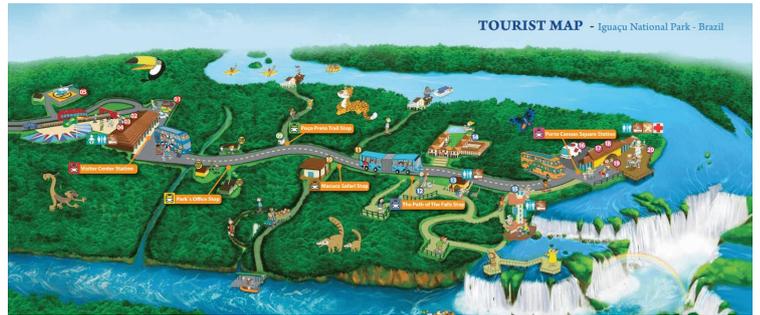
3. Use the diagram to help you fill in the blanks with the keywords to describe the formation of a **waterfall**. This website may help if you need more info <https://www.bbc.co.uk/bitesize/guides/zkrdmp3/revision/2>



- Waterfalls form where a river flows over an area of hard rock followed by an area of \_\_\_\_\_.
- The \_\_\_\_\_ is eroded faster than the \_\_\_\_\_ creating a step in the river. As water goes over the step it \_\_\_\_\_ more and more of the softer rock.
- A steep drop is created, which is called a \_\_\_\_\_. The harder rock is eventually \_\_\_\_\_ by processes of erosion. The heavy rock is left unsupported and \_\_\_\_\_.
- The collapsed rocks are \_\_\_\_\_ around at the bottom of the waterfall where they erode the softer rock by the process of \_\_\_\_\_. Eventually this process creates a deep \_\_\_\_\_.
- Over time, more undercutting causes more of the rock to collapse and the waterfall will \_\_\_\_\_. This leaves behind a steep-sided \_\_\_\_\_.

gorge	undercut	swirled	waterfall
harder rock	abrasion	erodes	softer rock
collapses	soft rock	retreat	plunge pool

4. The Iguazu Falls are one of the world's natural 7 wonders (and Mrs Papaspyrou's favourite geographical feature). You will need to research the answers to the following questions:



- a. Between which 2 countries are the falls situated? \_\_\_\_\_
- b. How tall is the tallest point of the falls? \_\_\_\_\_
- c. How wide are the Iguazu falls? \_\_\_\_\_
- d. How much water flows over the falls on average? \_\_\_\_\_
- e. How many people visit the Iguazu falls every year? \_\_\_\_\_
- f. Where was the original location of the falls before they started eroding?  
\_\_\_\_\_
- g. How many individual waterfalls make up the Iguazu Falls?  
\_\_\_\_\_

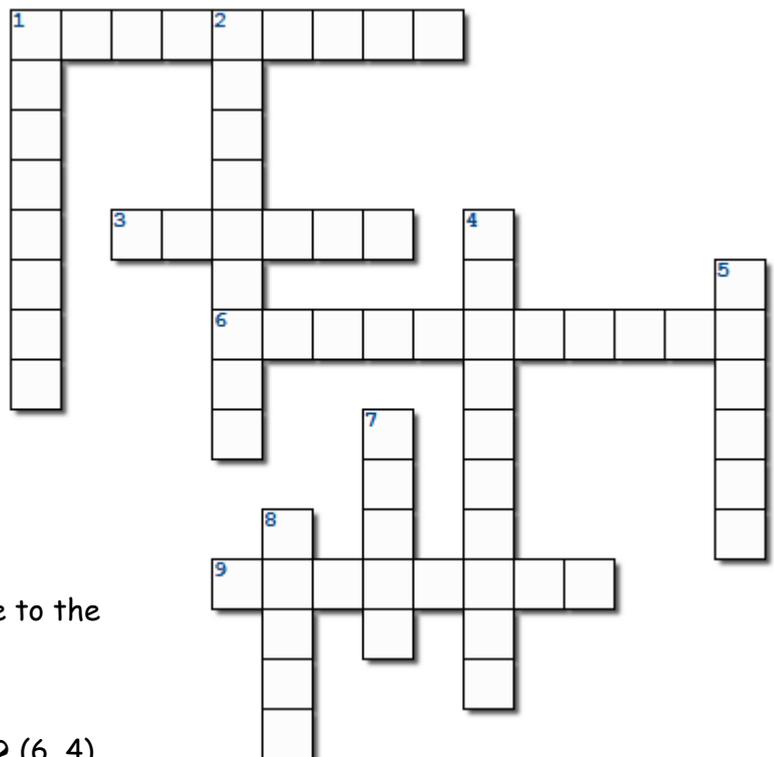
**EXTENSION: Odd one out.** Read through the words and identify which word is the odd one out. Explain your reasoning.

Number	Words			Reasoning
1	Abrasion	Mouth	Hydraulic action	
2	Source	V shaped valley	Wide	
3	Narrow	Mouth	Flat	
4	Plunge pool	Waterfall	V shaped valley	
5	Saltation	Transportation	Mouth	
6	Gorge	V shaped valley	Waterfall	
7	Undercut	Hard rock	Narrow	
8	Suspension	Solution	Interlocking spurs	
9	Iguazu falls	Argentina	Silverdale school	
10	Brazil	Waterfalls	Slow flowing	

**Crossword.** Read the clues, complete the crossword.

Across:

- When rocks jump along the riverbed (9).
- The Iguazu falls measure 82m in \_\_\_\_\_ (6)
- Mrs Papaspyrou's favourite geographical feature (6,5).
- The type of rock found underneath hard rock in a waterfall (4, 4).



Down:

- A type of transportation that may be invisible to the eye (8).
- Rocks knocking together (9).
- What is located at the bottom of a waterfall? (6, 4)
- The shape of the land in the upper course of the river (1, 5).
- The widest parts of the river (5).
- What is left behind as the waterfall moves back (retreats) (5).

## TRECH AND CHALLENGE EXTENSION

Research your own favourite waterfall. Some ideas may include the Victoria Falls, the Angel Falls (tallest in the world) or the Niagara Falls (possibly the most famous, but what is it that makes them famous?)... or any other waterfall you are interested in.

Find out the following information:

- its location (include a map)
- statistics (i.e. measurements and figures, like the ones you looked up for the Iguazu falls)
- what made you choose these waterfalls
- what is unique about these waterfalls
- interesting facts e.g. the environment (nature), the country, its location etc.

Ways you can present this are:

- as a poster
- as an annotated drawing
- collage of photos and information
- as a fact file
- any other creative way you can think of e.g. create a website

## **ALTERNATIVE STRETCH AND CHALLENGE EXTENSION**

You are going to create your own TikTok challenge.

You can either research your own waterfall song or use this one

<https://www.youtube.com/watch?v=8WEtxJ4-sh4>

Create a 15 second challenge (dance/sing etc.) to the chorus (or most relevant part - to waterfalls - of the song).

Here's an example <https://vm.tiktok.com/WyFUeg/>