

Year 7
Raging Rivers
Workbook
ANSWERS

Part 1



Name: _____

Instructions

This booklet covers 3 main areas of the Rivers topic:

- What is the water cycle?
- What are the main features of a drainage basin?
- The journey of a river

Please do what you can. Try and complete as much as you can, but if you don't complete all of it, it's not a problem; **WORK TO YOUR SPEED**.

Each topic has several activities for you to complete, these are designed to take anywhere between 5 minutes, for the really quick tasks (like writing a list of things you can think of), to longer 15-20 minute ones.

There is a learning review at the end for you to check what you've understood completely and what you might need to revisit and go over. 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.

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. Do what you can and don't panic if you don't finish it all, it's not a problem.

We hope you enjoy!

What is the water cycle?

1. List as many different forms of water you can think of e.g. icebergs.

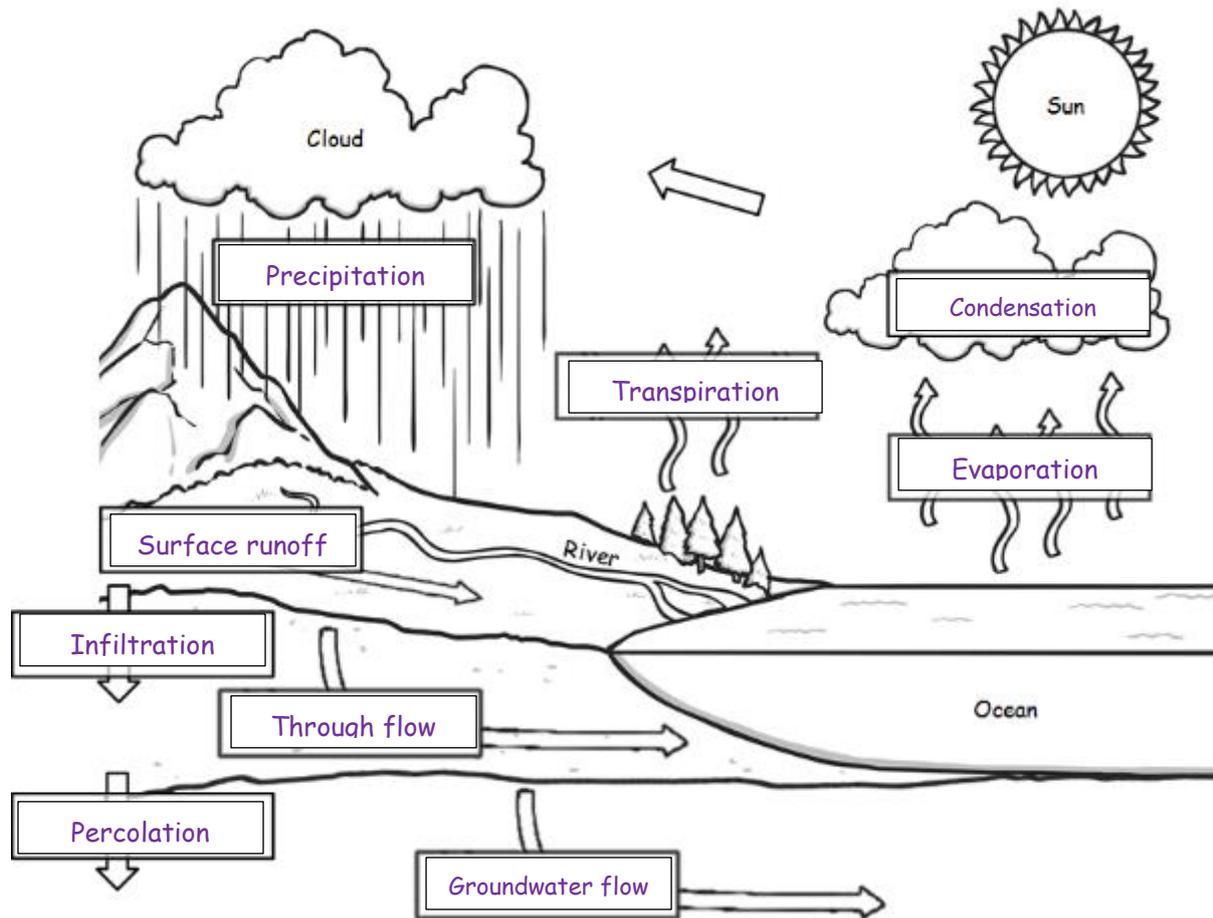
Lakes	Air
Oceans/seas	Cloud
Icebergs	Hail
Puddles	Snow
Rain	

The **water cycle** is the process by which water moves from the sea to the air and then to the land.

2. Read through the Key Word Sheet. Then, have a go at matching the correct water cycle keyword with the correct meaning (without using the key word sheet). Try guessing first, you can then use the key word sheet if you're really stuck.

Keyword	Meaning
Evaporation	Moisture that falls from the air to the ground. Includes rain, snow, hail, sleet, drizzle and fog.
Surface run-off	Water flows through the soil.
Condensation	Water that sinks deep into the rocks underground.
Precipitation	The sun heats liquid water which turns into a gas called water vapour.
Infiltration	Water flows through the rocks deep underground.
Percolation	When water hits the land, some of it flows across the ground into rivers.
Throughflow	Water vapour cools in the sky and turns back into water liquid.
Groundwater flow	Water is soaked up by the soil.

3. Have a go at labelling the diagram of the **water cycle** using the matched keywords and meanings. Use <https://www.bbc.co.uk/bitesize/guides/z4bk7ty/revision/1> if you need extra help.



Precipitation	Condensation	Evaporation	Surface run-off	Groundwater flow	Percolation	Infiltration	Through flow	Transpiration
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4. Write a story telling the journey of a raindrop from sea to air and land and back to the sea around the **water cycle**. In your story make sure you use some of the keywords you have learnt.

One bright morning I woke next to my brothers and sisters and like every day, we bobbed around the deep blue ocean. Suddenly, at around 12pm, I had this strange feeling, like I was being sucked up upwards. I remember it was hot, the sun was out. I felt light and airy. I closed my eyes to try and enjoy the moment and next thing you know, I was surrounded by grey and it was way way colder. The other droplets around me saw my confused expression and promptly explained to me I had just experienced evaporation first and then condensation. I made friends with these new droplets and we travelled around for a few days, however it started to get a little cramped in my cloud and slowly some of my friends started to jump. Despite it being pretty high, I decided to give it a go. I could see that some of my friends were aiming for the grass patches, but I could see them disappearing into the soil (I think this is called infiltration - I have learnt a thing or two you see, while being stuck in this cloud). Instead, I decided to jump and aim for some trees, shorter fall I thought. I landed on a leafy tree which meant I didn't get to splatted. Anyway, I noticed I wasn't alone, so I thought I best introduce myself and find out what was going on, as I started to speak I noticed the droplets around me get smaller and smaller and I started to feel warm and lightheaded, the sun was out again. I remember this feeling I thought, except this time, I'm not in an ocean... I wondered what was going to happen to me. I waited... I got smaller and lighter and next thing I was travelling up high again, all the way to the clouds, but this time things seemed a little brighter, there was a mixture of white and blue. On my way up another droplet informed me that we had just experienced transpiration. Anyway, up in my white fluffy cloud, I decided I was going to anchor down and wait for the right time to jump, maybe try the soil and infiltration next time...

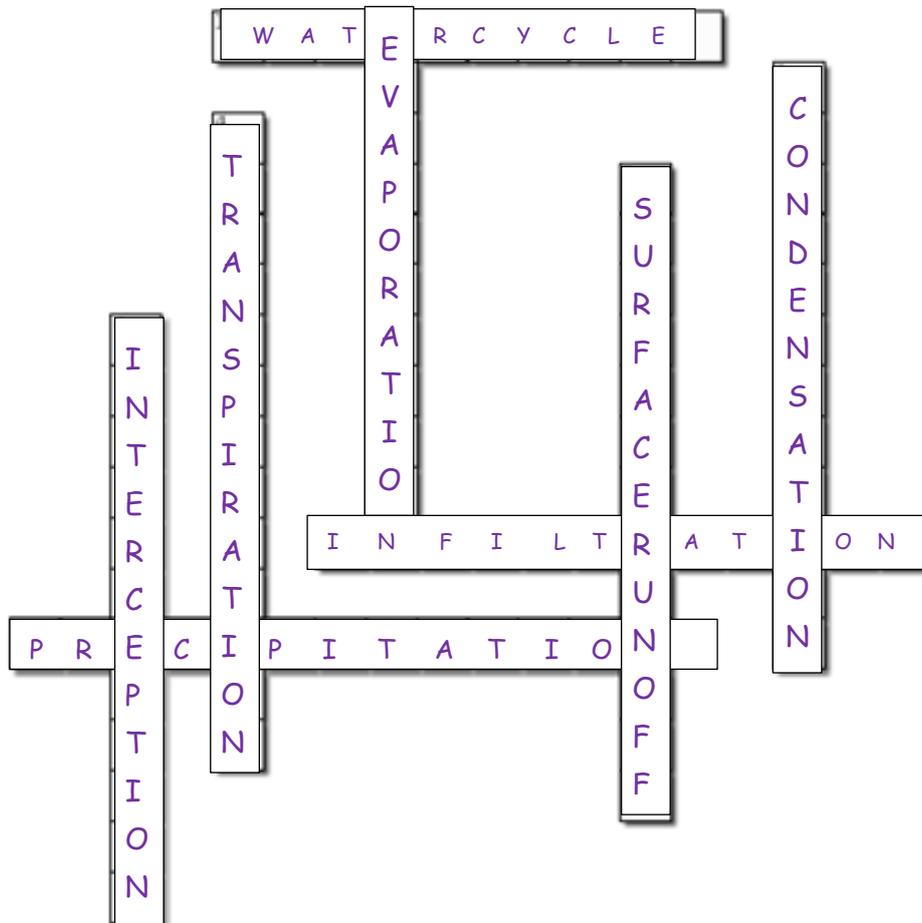
Extension task: Complete the water cycle crossword.

Across

- 1. The name given to the constant process where water is continually recycled
- 7. The name given to water that has sunk into the soil
- 8. Any form of moisture that falls to the Earth's surface from the atmosphere

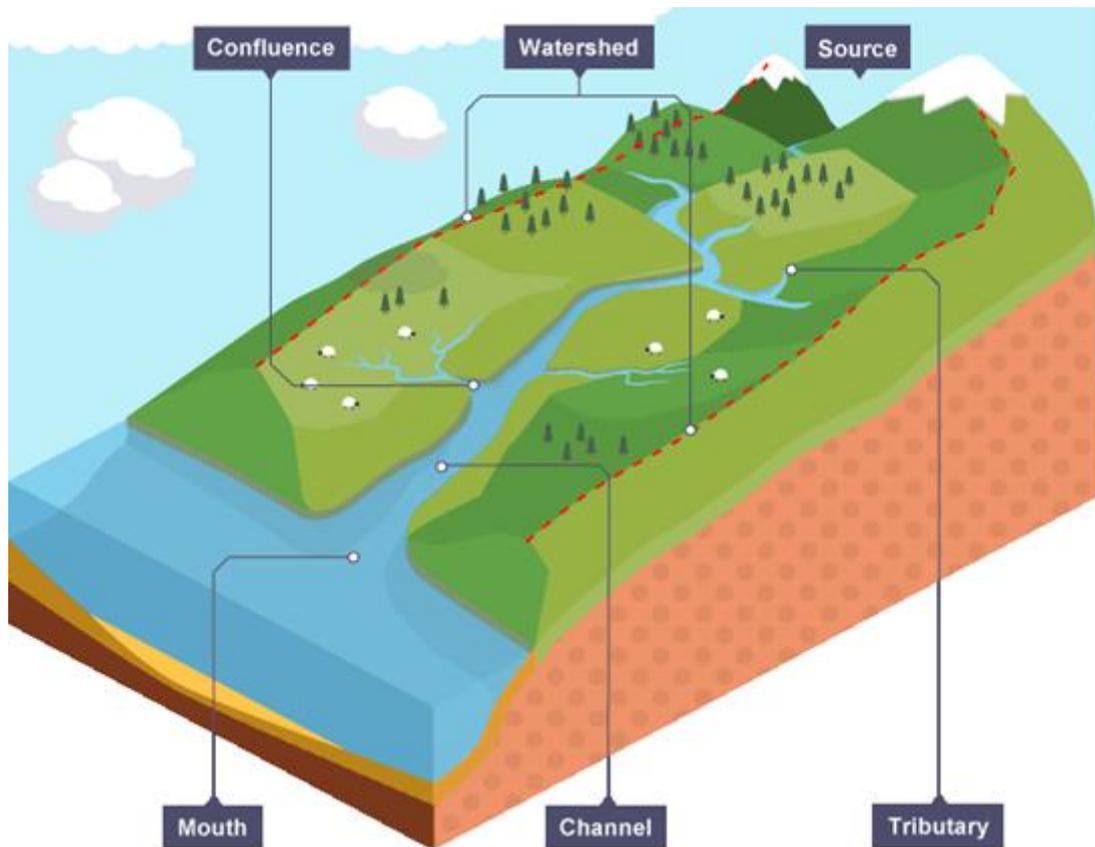
Down

- 2. The name of the process whereby liquid changes into a vapour
- 3. The name given to the process of a vapour turning into a liquid
- 4. This is the process in which trees and plants release water vapour into the atmosphere
- 5. The name given to the movement of water over the land
- 6. The name given to the process in which trees and plants prevent rainfall getting to the ground



What are the main features of a drainage basin?

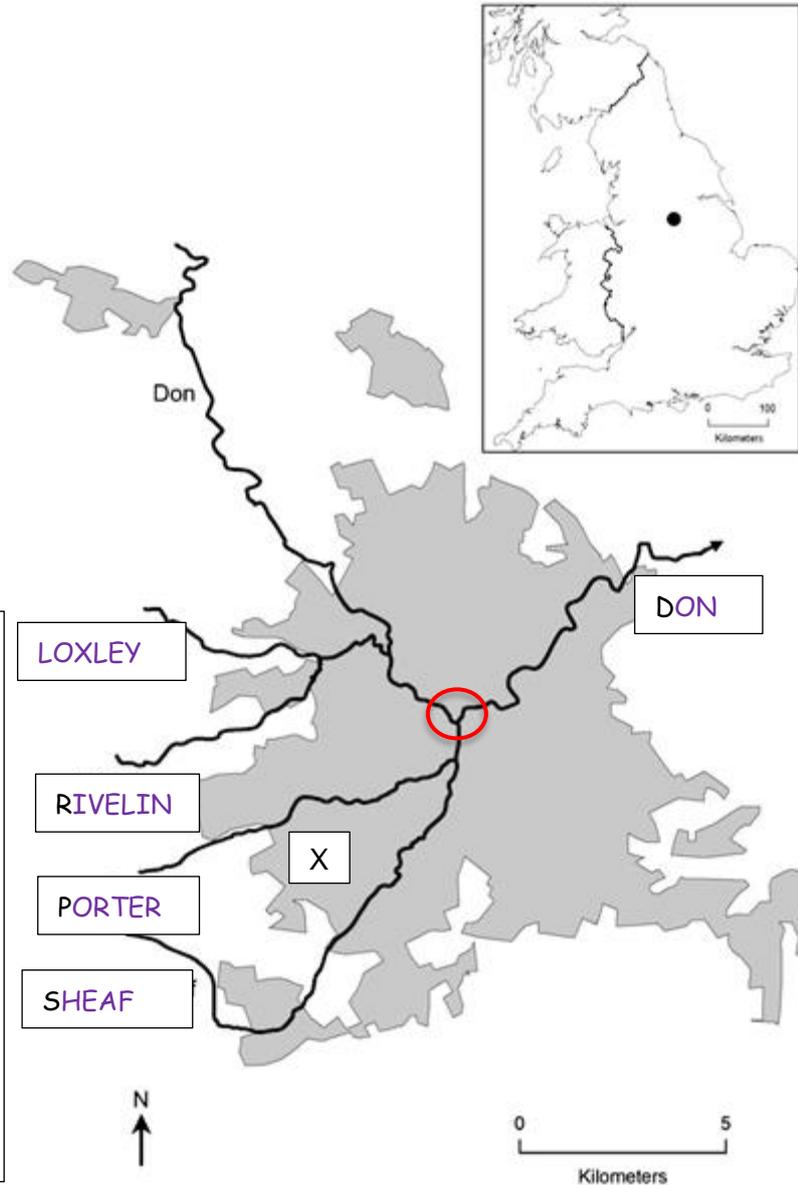
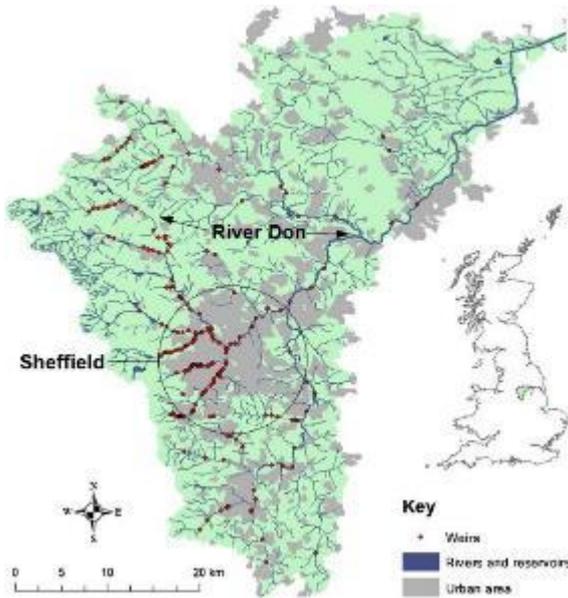
A **drainage basin** is the area of land drained by a river and its tributaries. The edge of the drainage basin is known as the **watershed**. This can be compared to a sink, which catches the water falling into it. The water flowing through the river system will eventually leave the drainage basin through its mouth and enter the sea or a lake.



1. Complete the following sentences using the diagram:

- The place where a river begins is SOURCE
- The watershed is THE BOUNDARY OF A DRAINAGE BASIN
- The place where the river meets the sea is MOUTH
- The point at which two rivers meet is CONFLUENCE
- A tributary is A SMALLER RIVER JOINING A BIGGER ONE

All rivers have a drainage basin. Use internet to help you label the map of part of the River Don's drainage basin.



L/R/P/S are tributaries of the Don. X marks a place and D is the name of a river.

LOXLEY _____

RIVELIN _____

PORTER _____

SHEAF _____

DON _____

X SILVERDALE SCHOOL _____

2. Use your map to answer the following questions:

a. How many tributaries does the river Don have?

___4_____

b. Which 2 rivers meet the Don in Sheffield's city centre?

___PORTER & SHEAF_____

c. On which sea will you find the mouth of the River Don?

___NORTH SEA_____

d. Which river has its source north west of Silverdale school?

___PORTER_____

e. Which direction is the River Don flowing?

___WEST TO EAST_____

Extension task: Complete the drainage basin wordsearch.

Clues:

a. Where a river starts.

SOURCE

b. The V-shape a river travels down.

VALLEY

c. A smaller river joining a big river. TRIBUTARY

d. The flat land next to a river. FLOOD PLAIN

e. An imaginary line separating one river from the next.

WATER SHED

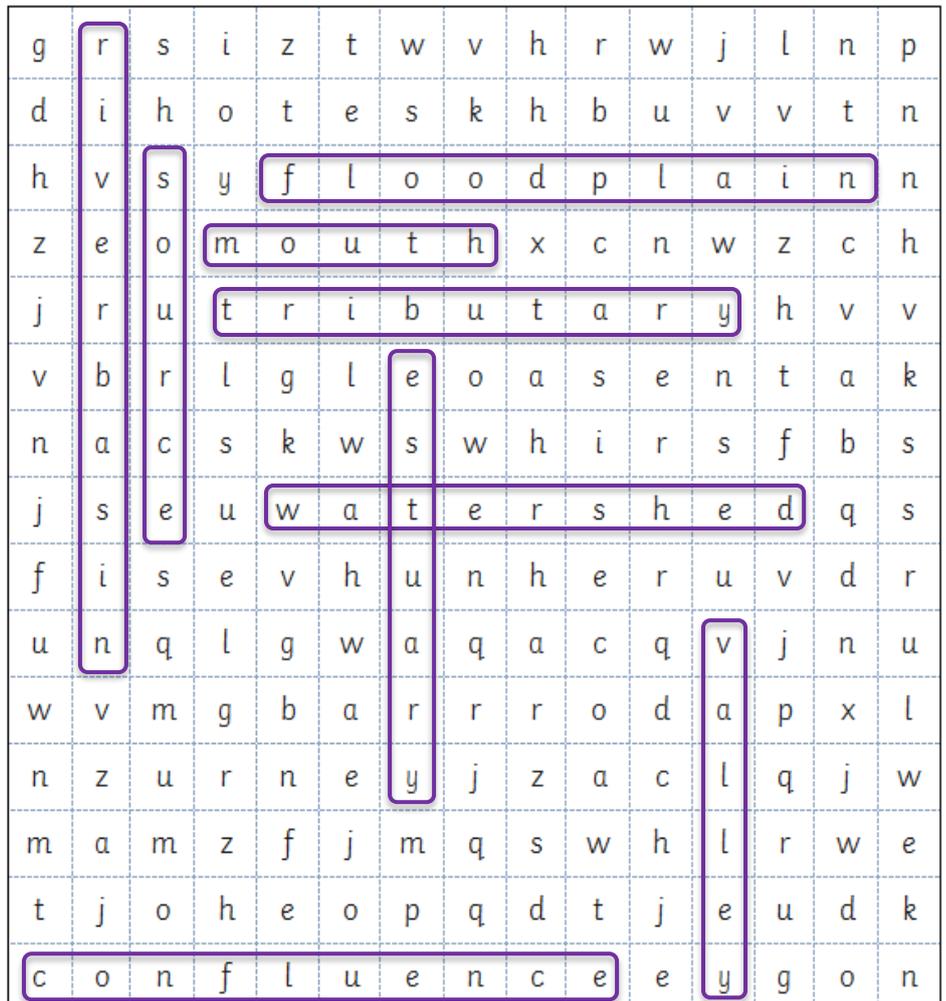
f. The point where the river meets the sea.

MOUTH

g. The area where freshwater mixes with salty sea water. ESTUARY

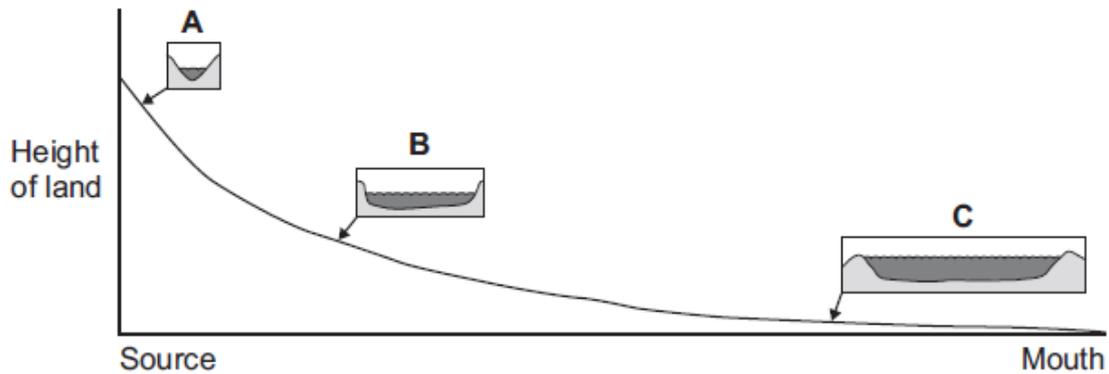
h. Rain falling inside this will drain into the river. RIVER BASIN

i. Where two rivers join together. CONFLUENCE



The journey of a river

The way a river looks and behaves changes as you move towards the sea, we call this a river long profile.



1. Describe what you can see in the three pictures below:

<p>Upper course (A)</p>		<p><i>e.g. large rocks and boulders in the river.</i> RIVER NOT VERY DEEP OR WIDE VALLEY SIDES QUITE STEEP NO TREES HIGH UP RIVER IS QUITE STRAIGHT</p>
<p>Middle course (A)</p>		<p>FLATTER LAND RIVER BENDS A LOT RIVER IS WIDER THERE ARE TREES</p>
<p>Lower course (A)</p>		<p><i>e.g. very flat land at the side of the river</i> RIVER IS VERY WIDE THE LAND IS VERY FLAT THERE IS MUD/SOIL AROUND THE RIVER THERE ARE SOME TREES THE RIVER STILL BENDS A LITTLE</p>

2. Use the diagram and pictures to help you complete the table describing how the river changes as it flows from its source to its mouth.

	Upper Course (A)	Middle Course (B)	Lower Course (C)
Width and depth of river	NARROW AND SHALLOW	WIDER AND DEEPER	Very wide, very deep
Size and shape of the river valley	Narrow, V-shaped valley with steep slopes	WIDE VALLEY, FLAT	VERY WIDE VALLEY AND VERY FLAT
Main features	Waterfalls, gorges and interlocking spurs	Meanders and ox-bow lakes	Floodplains, estuaries and deltas

3. Fill in the blanks with the keywords to add a description to your river long profile diagram.

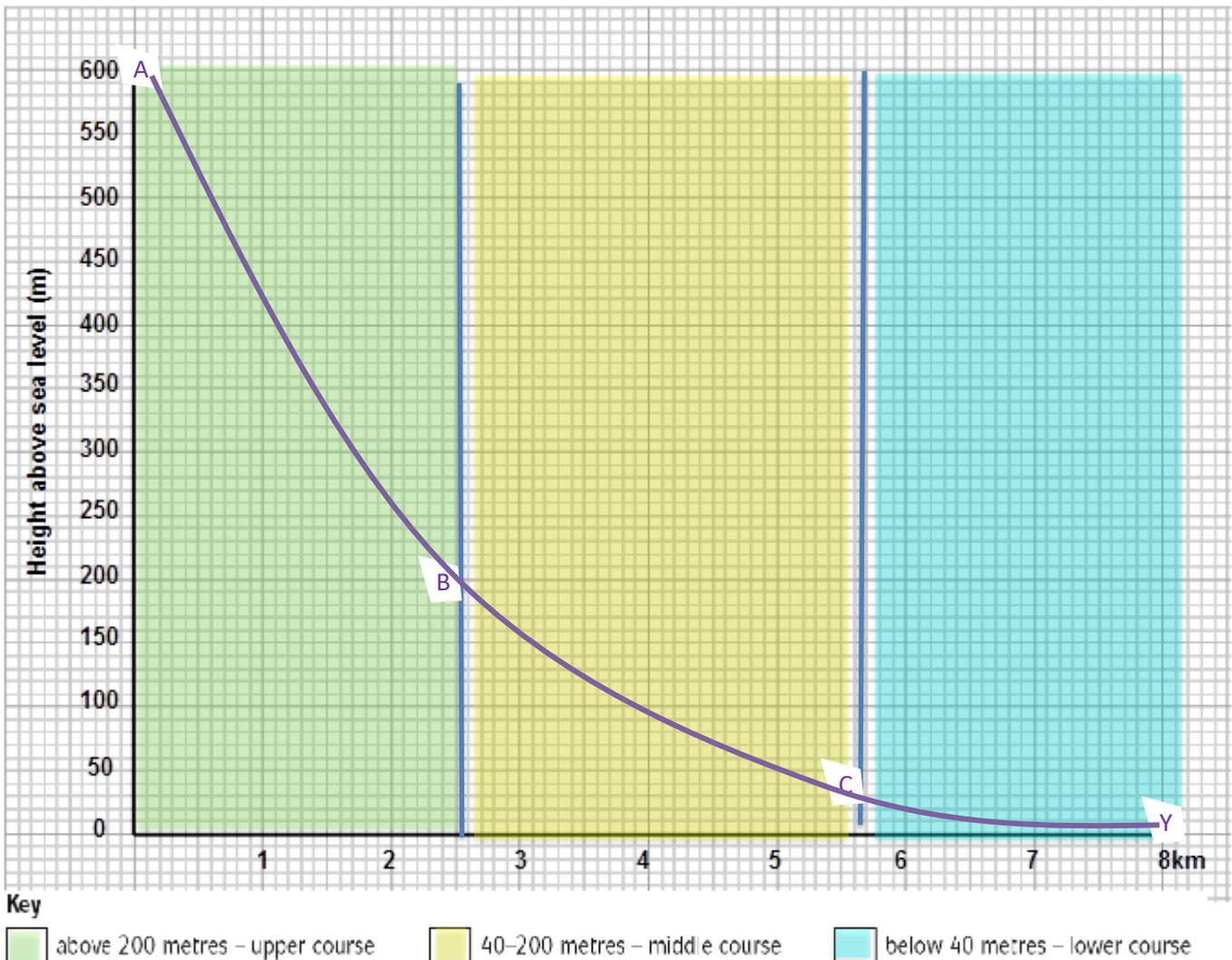
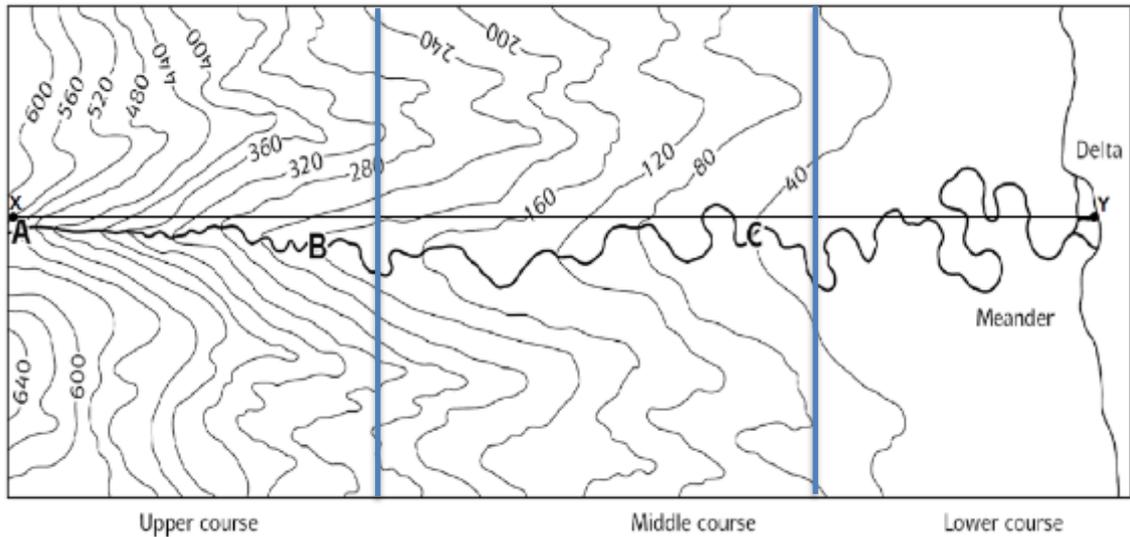
A river changes **SHAPE** as it flows from its **SOURCE** (where a river starts) to its mouth (where a river flows into a sea or lake). The shape of the **LONG** profile changes. The long profile of the river shows the **THREE** courses of the river profile in relation to the **HEIGHT** of the land and **DISTANCE** from the source and mouth.

long	three	distance
source	height	shape

STRETCH AND CHALLENGE EXTENSION (to complete this, it may be easier to print this page)

Remember that contour lines join places of equal height on a map and a cross-section 'cuts a slice' through the ground.

4. Draw a cross-section of the river valley between point X and Y. Make sure you add points A, B and C to your cross-section and colour-code it using the key at the bottom.



ALTERNATIVE STRETCH AND CHALLENGE EXTENSION

You are going to create your own TikTok dance challenge.

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

<https://www.youtube.com/watch?v=02QUmKVsyFY>

Create a 15 second challenge dance to the chorus (or most relevant part - to rivers - of the song)

Here's an example <https://vm.tiktok.com/W69mjb/>

REVIEW

5. Based on what you have learnt are the following statements **true** or **false**.

Q.	Statement	True or false?
1.	The source is the end of the river.	FALSE
2.	A small river which joins a larger river is called a tributary.	TRUE
3.	A confluence is where two rivers meet.	TRUE
4.	The watershed is the edge of the drainage basin.	TRUE
5.	A river is split into four parts or courses.	FLAS
6.	A V-shaped valley can be found in the upper course of a river.	TRUE
7.	The lower course of a river is very narrow and steep.	FALSE
8.	A river gets wider as it flows from its source to its mouth.	TRUE
9.	Tributaries are only found in the middle course of a river.	FLASE
10.	Rivers always flow into the sea.	FALSE