Name & Surname: _____ Class: _____ Date: _____

Rivers and River Landforms

From source to sea in three courses

About 60 minutes Level ★★★☆☆



How Rivers Shape the Land

A river flows from its **source** in high land to its **mouth** where it meets the sea. Along the way, **erosion**, transportation and deposition shape different landforms.

- Upper course: steep land, fast water, vertical **erosion**, V-shaped valleys, waterfalls, gorges, interlocking spurs and potholes.
- Middle course: flatter land, wider channel, lateral **erosion** and deposition, meanders that migrate across the valley.
- Lower course: widest channel, flat land, floodplains, levees and **deltas** where mud and sand are deposited.
- Rivers flood after heavy or long **rainfall**, on steep slopes, where rocks and soils let little water soak in, and where towns and paving increase runoff.



Task A

/7

Tick fact or opinion for each statement about rivers. Then explain in one sentence how you can tell for one of them.

Statement	Fact	Opinion
The upper course often has steep land and V-shaped valleys.		
Rivers shape land by erosion, transportation and deposition.		
Heavy or long rainfall can make a river flood.		
A waterfall is the most beautiful river landform.		
Everyone should love living beside a meander.		
Building on floodplains increases the risk from flooding.		

How can you tell that one of them is an opinion?

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Why Rivers Flood

Plan a strong argument about living with flood risk.

Key words

source: where a river starts in high land

erosion: wearing away of rock and soil by water

meander: a bend in a river

levee: raised bank of mud beside a river channel

mouth: where a river meets the sea

deposition: dropping of sand and mud carried by water

floodplain: flat land beside a river that floods

Task B

Plan a persuasive answer using evidence about rivers. Give facts for each reason, then write a short conclusion.

Goal **Our town should take river flooding seriously and prepare for it.**

Reason 1

Heavy or long rainfall can fill the channel and cause overbank flow.

Fact 1a _____

Fact 1b _____

Fact 1c _____

Reason 2

Steep slopes and hard rocks and soils let less water soak in, so runoff is faster.

Fact 2a _____

Fact 2b _____

Fact 2c _____

Reason 3

Building on floodplains puts more homes and roads in the path of floods.

Fact 3a _____

Fact 3b _____

Fact 3c _____

Conclusion

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Most Important Landforms

Rank which river features matter most to people.

Task C

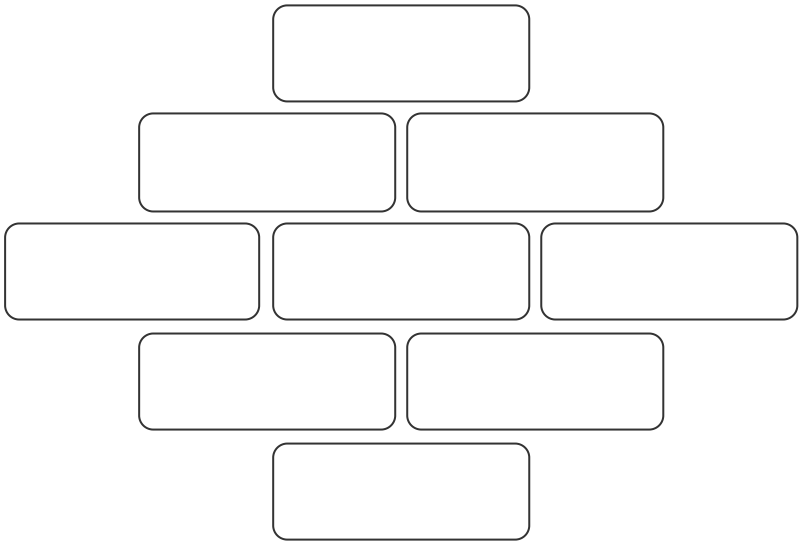
Cut out the seven cards and add two of your own. Arrange them in a diamond from most important at the top to least important at the bottom.

Which river landforms and processes affect people most?

Cut out the cards.

Waterfalls and gorges form where hard rock lies over soft rock	V-shaped valleys are cut down by vertical erosion	Meanders grow as outside bends erode and inside bends deposit
Oxbow lakes form when a flood cuts through a meander neck	Floodplains give flat farmland but are covered in floods	Levees build up from deposition beside the channel
Deltas form where a river drops mud and sand at its mouth	Your own idea	Your own idea

▲ **Most important**



▼ **Least important**

Why did you put your top card at the top?

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What You Know

Check what you know and what you have learnt.

Task D

Complete the Know / Want to know / Learnt chart about rivers. Use the prompts to start your thinking.

Think about: How does a river and its valley change from source to mouth? · Why do some places flood more than others? · How does erosion and deposition turn a meander into an oxbow lake?

K What I know	W What I want to know	L What I learnt

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Judge Flood Defences

Judge ideas for a floodplain and tackle harder questions.

Task E

Judge the idea using your feelings, good points, bad points and ideas to improve it.

building new homes on a floodplain

	Red hat: feelings	Yellow hat: good points	Black hat: bad points	Green hat: ideas to improve
Leave the floodplain as farmland and parkland				
Build homes but raise them and leave room for water				

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Rivers and River Landforms

Task F /6

Answer from easy to hard. Use full sentences and evidence about rivers.

Remember State one **landform** found in the upper course of a river.

Understand Describe how **deposition** differs from erosion in a meander.

Apply A town on a **floodplain** has heavy rain for three days. Predict what happens.

Analyse Explain how a **waterfall** retreats upstream to leave a gorge.

Evaluate Is it sensible to build on a **floodplain**? Give reasons for and against.

Create Design a short **plan** to reduce flood damage for a riverside school.

How did I do?

Circle a face for each line.

I can describe how a river changes from source to mouth.	☹	😐	☺
I can explain how erosion and deposition form river landforms.	☹	😐	☺
I can explain why rivers flood and how people are affected.	☹	😐	☺

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Answer sheet: Rivers and River Landforms

Task A

1. Fact
2. Fact
3. Fact
4. Opinion
5. Opinion
6. Fact

Task B

Answers will vary, e.g. Heavy or long rainfall can fill the channel and cause overbank flow. Steep slopes and hard rocks and soils let less water soak in, so runoff is faster. Building on floodplains puts more homes and roads in the path of floods.

Task C

Answers will vary.

Task D

Answers will vary.

Task E

Answers will vary.

Task F

1. Waterfall / gorge / V-shaped valley / interlocking spur / pothole.
2. Erosion wears away the outside bend where water is fastest, forming a river cliff. Deposition drops sand and mud on the inside bend where water is slowest.
3. The river level rises, the channel fills, water spills overbank onto the floodplain and can flood homes, roads and fields.
4. Soft rock below hard rock erodes faster by hydraulic action and abrasion, forming a plunge pool and an overhang. The overhang collapses, the waterfall moves back, and repeated collapse leaves a steep-sided gorge.
5. For: flat land near water and transport. Against: high flood risk, damage to homes and cost of defences. Overall, avoid building or leave room for water and use defences.
6. Check rainfall forecasts, keep floodplain clear for storage, raise electrics, have sandbags and evacuation route upstairs, and practise the plan.

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