



# **Topic Tests for GCSE Edexcel B Geography**

Component 2: Topic 4b:  
The UK's Evolving Physical Landscape:  
River Processes and Pressures

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# Contents

Thank You for Choosing ZigZag Education.....	
Teacher Feedback Opportunity.....	
Terms and Conditions of Use .....	
Teacher's Introduction.....	
<b>Write-on Tests .....</b>	
Test 1 – Landscapes Along a River's Course .....	
Test 2 – River Process and Landforms .....	
Test 3 – Human Activity, Channel Modification and Flooding.....	
Test 4 – River Flooding.....	
Test 5 – Flood Risk Management – Costs and Benefits of Engineering Projects.....	
<b>Non-write-on Tests .....</b>	
Test 1 – Landscapes Along a River's Course .....	
Test 2 – River Process and Landforms .....	
Test 3 – Human Activity, Channel Modification and Flooding.....	
Test 4 – River Flooding.....	
Test 5 – Flood Risk Management – Costs and Benefits of Engineering Projects.....	
<b>Answers .....</b>	

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# Teacher's Introduction

This resource has five tests covering *Component 2, Topic 4b – River processes and pressures* for the Edexcel B GCSE (1GB0) Geography curriculum. Every key aspect of the specification is covered in this resource.

These topic tests are designed to test the student's knowledge and enable the teacher to diagnose the student's strengths and weaknesses in certain areas. Each test covers a range of question types, and there is a wide variety of stimulus material. These tests are not intended to mimic exam papers.

Mark schemes for each topic test can be found at the back of this resource. For 'closed' questions, where one answer is acceptable, a model answer has been provided. For 'open' and extended writing questions, sample content has been included.

## When to Use This Resource

This resource can be used at the end of a particular topic area, or at the end of the whole course for consolidation of knowledge. The students can also use the tests towards the end of the course, either before or after revision. There is scope to provide your students with one test per year of the GCSE course over two years.

## How to Use This Resource

The tests can be completed individually in class, or set as homework tasks. The tests can be used by the student or the teacher, at home or in the classroom, as answers are provided.

These structured tests provide an opportunity to mark and score students in order to monitor progress. They are provided in write-on and non-write-on formats to suit the requirements of the teacher.

## The Benefits to the Student

Students can be confident they have been tested on every key aspect of the specification. They will know which areas they are strong in, and which require further work, and can set their own learning. The answer sections also provide students with an indication of what a good answer looks like.

## Differentiation

In order to support lower ability students whilst pushing the more able each test has two sections. The first section has approximately 40 marks and has been written to test knowledge of the specification. These questions are for all students and the difficulty or complexity of the questions varies throughout the test. The second section has approximately 12 further marks of extension questions. This extension is written as a single 12 mark extended writing question and should be marked as 4 SPaG marks, in line with the Edexcel examinations.

### Free Updates!

Register your email address to receive any future free updates made to this resource or other Geography resources that your school has purchased, and details of any promotions for this subject.

\* resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers

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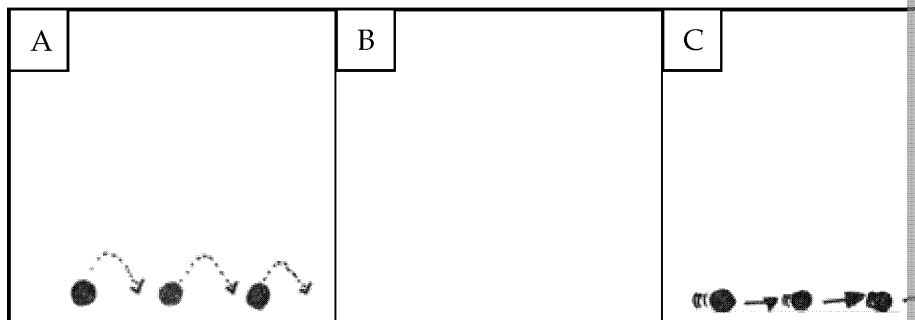


## Test 2 – River Process and Landforms

1. Outline **four** types of erosion which occur within rivers.

1. ....
2. ....
3. ....
4. ....

2. Study the diagram below which shows **four** types of transport within a river. Fill in the table to identify and explain the types of transport.



	Name	Description
A		
B		
C		
D		

3. Outline why rivers deposit their load.

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4. Complete the following paragraph using words from the list below.  
*Allow one mark for every two correct answers.*

In the upper course of the river, the channel is .....  
 because there is a lot of ..... erosion. The bed load  
 ..... because not much .....  
 material can move during ....., and is subject to all  
 especially ..... action.

In the middle course, material transported downstream is .....  
 ..... This leads to an increased amount of .....  
 ..... erosion occurs, meaning that the channel is .....  
 There is more scope for .....

In the lower course, the channel is wide and the load is .....  
 material occurs, and there are few ..... landforms.

hydraulic	suspension	wider	deep	erosion
rounded	vertical	horizontal	fine	smaller

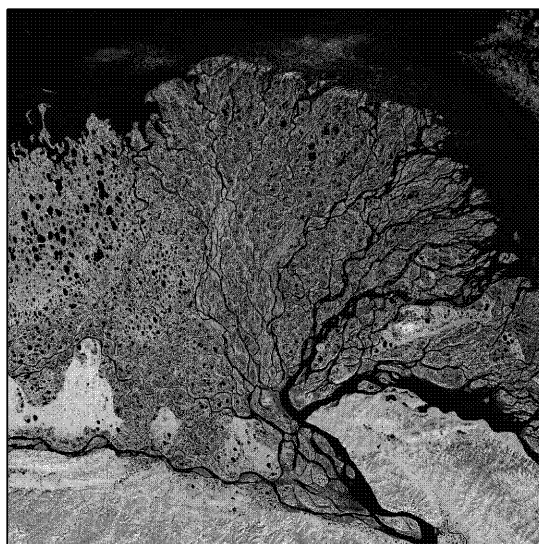
5. Name and describe **two** upland erosional landforms.

- .....  
 .....
- .....  
 .....

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6. Name, and state the stage of a river where you would find the feature below.



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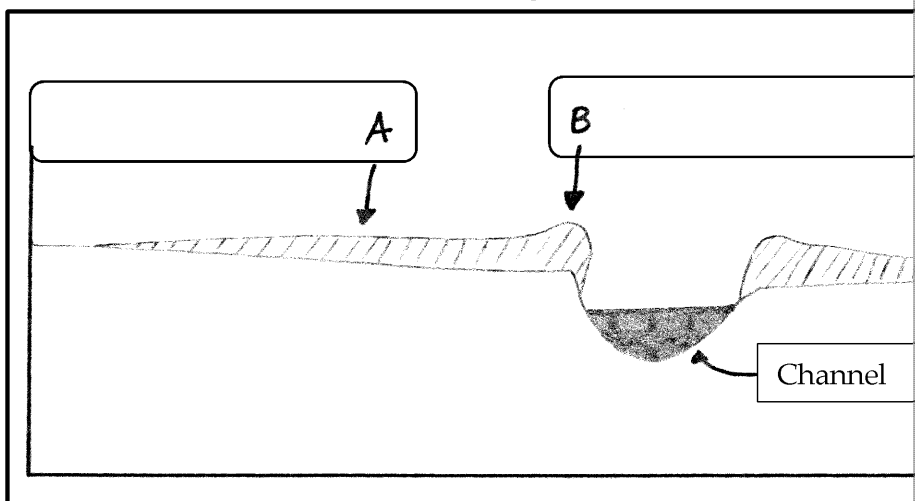
7. Discuss how erosion and deposition work together to form ox-bow lakes.

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- 8a. Label the features 'A' and 'B' on the diagram below.



- 8b. For the features that you have identified above, explain their formation.

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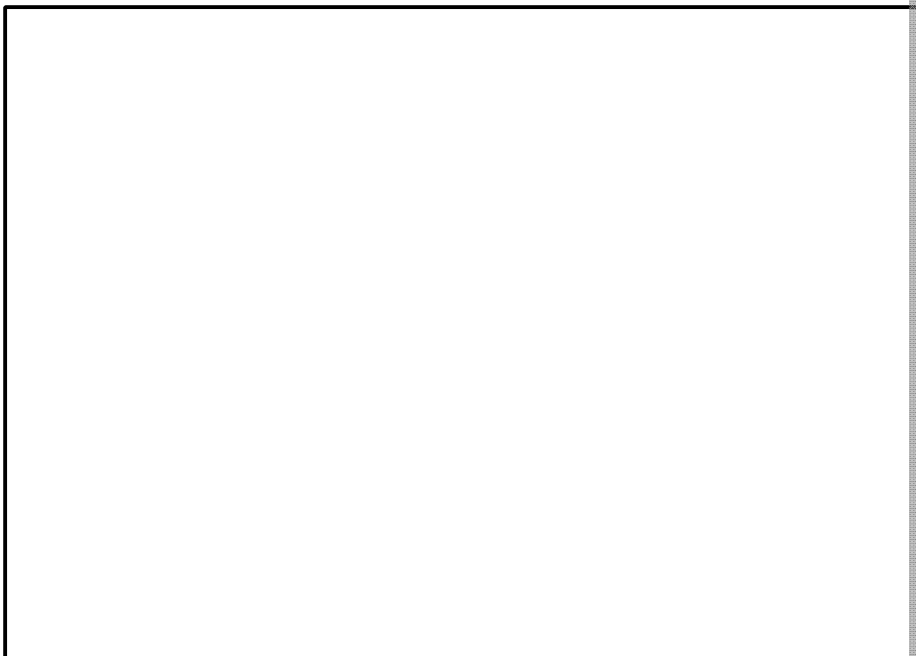
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9. Using a diagram to help you, outline the formation and features of a w



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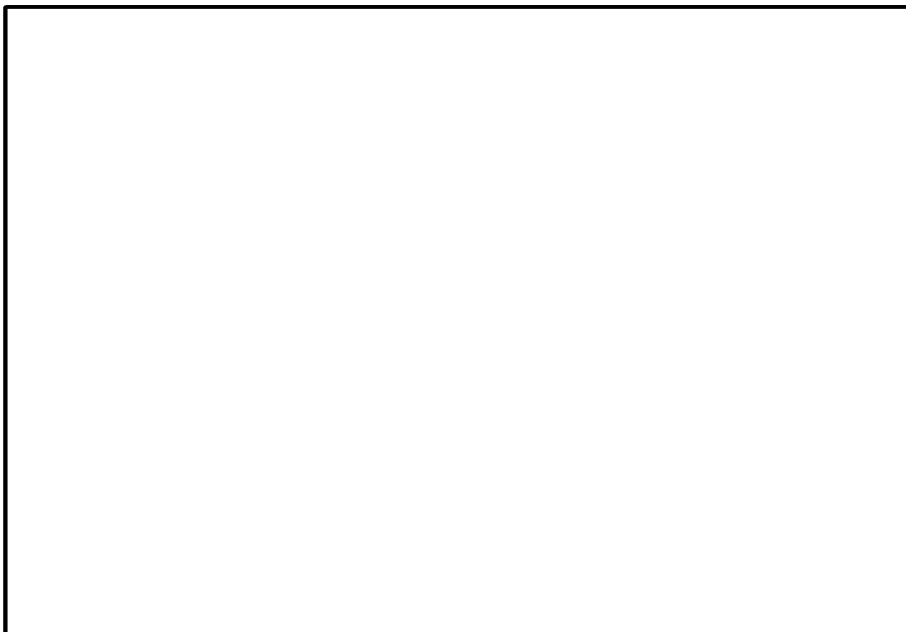
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## Extension Question

10. Using diagrams if you wish, explain how the landforms of erosion and a river's course.



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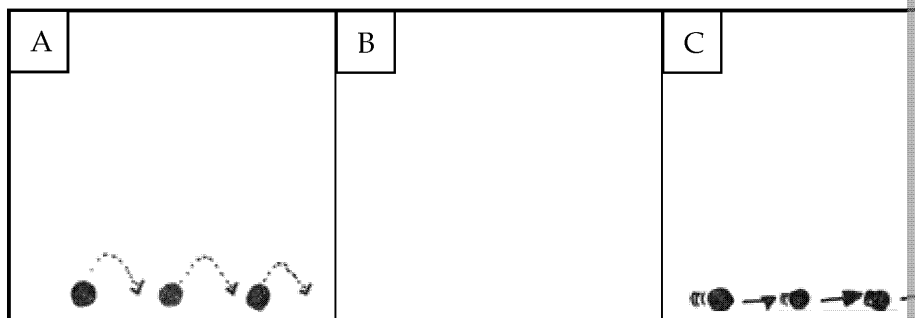
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## Test 2 – River Process and Landforms

- Outline **four** types of erosion which occur within rivers.
- Study the diagram below which shows **four** types of transport within rivers. Label each of the types of transport (A-D).



- Outline why rivers deposit their load.
- Complete the following paragraph using words from the list below.  
*Allow one mark for every two correct answers.*

In the upper course of the river, the channel is (1)..... because there is a lot of (2)..... erosion. The bed is (3)..... because not much (4)..... material can move during (5)....., and is subject to especially (6)..... action.

In the middle course, material transported downstream is (7)..... (8)..... This leads to an increased amount of (9)..... More (10)..... erosion occurs, meaning that the channel is (11)..... There is more scope for (12).....

In the lower course, the channel is wide and the load is (13)..... this material occurs, and there are few (14)..... lateral.

hydraulic	suspension	wider	deep	erosion
rounded	vertical	horizontal	fine	smaller

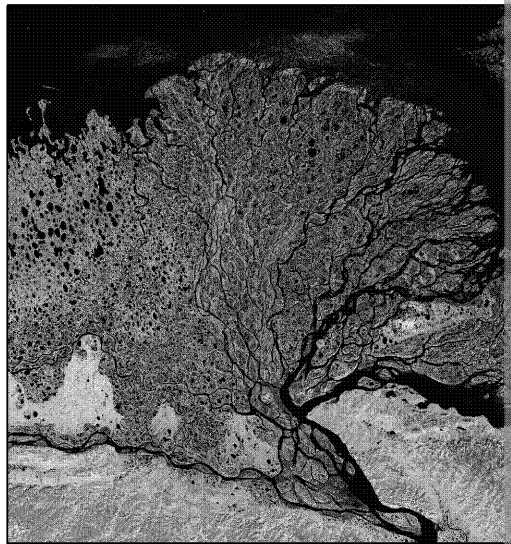
- Name and describe **two** upland erosional landforms.

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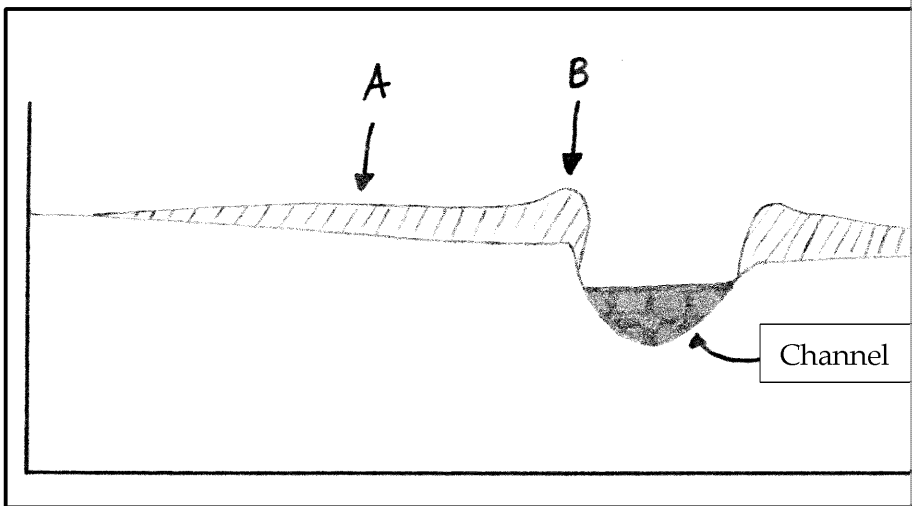
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6. Name, and state the stage of a river where you would find the feature below.



7. Discuss how erosion and deposition work together to form ox-bow lakes.
- 8a. Name the features 'A' and 'B' on the diagram below.



- 8b. For the features that you have identified above, explain their formation.
9. Using a diagram to help you, outline the formation and features of a waterfall.

### Extension Question

10. Using diagrams if you wish, explain how the landforms of erosion and deposition shape a river's course.

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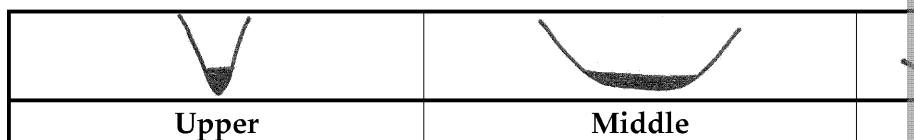
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This is a limited inspection copy. Sample of questions ends here to avoid students previewing questions before they are set. See contents page for details of the rest of the resource.

## Answers

### Test 1 – Landscapes Along a River's Course

1a.

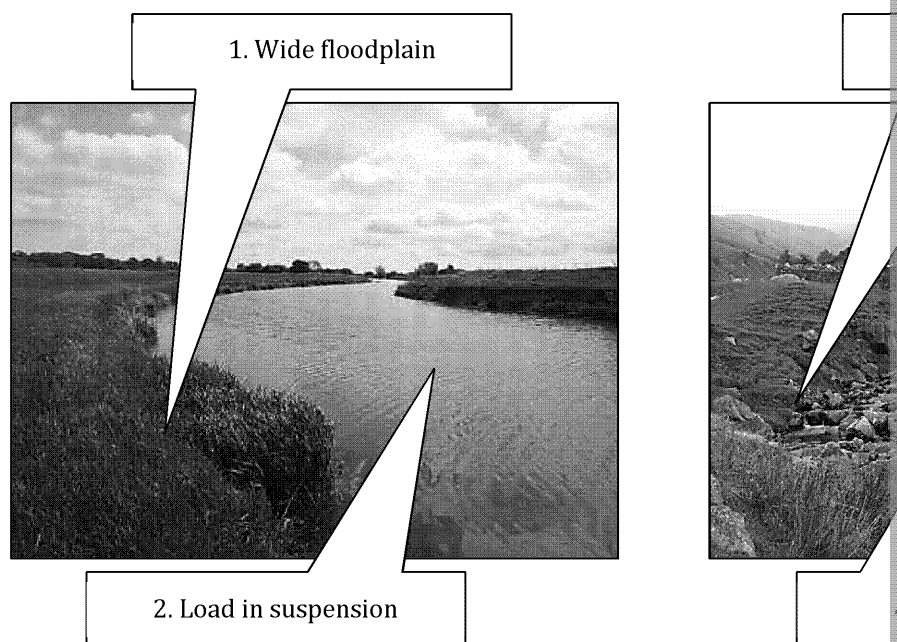


- 1b. Upper course – shallow and narrow (1 mark) due to horizontal erosion (1 mark) the increased height (1 mark). There is relatively less water in the river (1 mark friction) from the large, angular bedload (1 mark).

Middle and lower courses – there is more water in the rivers (1 mark) and efficiency is smaller and rounded (1 mark). The river becomes wider because there is more

Lower course – a wide floodplain develops (1 mark) because material is deposited from friction from the river's bed.

2a.



- 2b. Photograph A.

- 2c. Photograph A – likely to be sedimentary rocks (1 mark), laid down by deposition (1 mark). These rocks are soft, and easy to erode (1 mark).

Photograph B – igneous (volcanic) rocks (1 mark) are likely to be found in upland areas (1 mark). These rocks are very hard and difficult to erode (1 mark).

- Award marks for appropriate shape (convex) at each stage.
- Increases from tributaries.  
Inputs from groundwater flow, surface runoff, etc.
- High levels of vertical erosion (1 mark) cause deep, narrow valleys (1 mark). Mass movement of rock and soil into the river (1 mark). The river transports this material

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6. Differential geology (alternating areas of hard and soft rock) (1 mark) results in different river features (1 mark). Rocks and soils of different hardness can affect the depth (1 mark) and width (1 mark). Rock type also affects the features found in a river, such as interlocking spurs (as they form around bands of hard rock) (1 mark), as well as features such as waterfalls and gorges (1 mark). In limestone, deep gorges can form (1 mark), rivers can dissolve the rock easily (1 mark) and meanders (1 mark). Soil type also affects the rate (1 mark) and susceptibility (1 mark) of river erosion.
- 7a.
- Discharge increases due to increased tributaries and inputs from soil water.
  - Channel width and depth increase because there is more water flowing in the channel.
  - Velocity (the speed of flow) increases due to the increased flow of water, and the reduced friction.
  - Load quantity increases because there is more erosion downstream. Particles are smaller, meaning that they are easily entrained into the river's flow. The increased velocity means that material can be suspended for longer.
  - Load particle size decreases because more erosion (such as attrition) takes place further down the river.
  - The bed becomes smoother as the bedload decreases in size, i.e. there are less large rocks upstream.
  - The slope angle decreases towards the sea – the sources of rivers are often found in high mountains, usually slopes more gently nearer the sea.
  - Allow any other valid point(s).
- 7b. By name, this is only a model (1 mark), therefore it will apply to many, but not all, rivers. It has its own characteristics<sup>1</sup> (1 mark).

## Extension Question

8. Allow any suitable techniques, such as choosing three sites based on Ordnance Survey maps, and choosing locations for each stage.
- Cross-profile studies to create a graph of depth.
  - Channel roughness (Manning's n).
  - Calculation of slope.
  - Calculation of wetted perimeter/cross-sectional area.
  - Flow measurements, discharge calculations.
  - Measurements of sinuosity.
  - Any other valid technique.

<sup>1</sup> Although there are none in the UK, think of rivers emerging from the base of a glacier – the daily!) discharge from their source, and a lot of sediment load too (called rock flour).

## **Preview of Answers Ends Here**

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This is a limited inspection copy. Sample of answers ends here to stop students looking up answers to their assessments. See contents page for details of the rest of the resource.