

***Ormiston Rivers Academy***

***GCSE Geography***

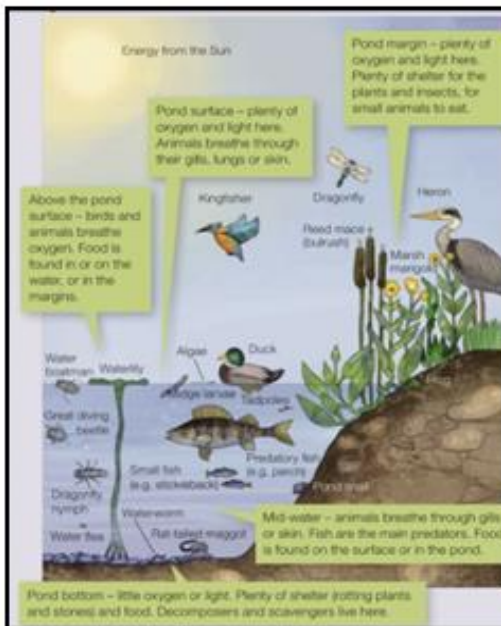
***Summer Revision***

***Activity and***

*Practice Exam Questions*



Describe and explain the features of a small-scale ecosystem in the UK (4 marks)

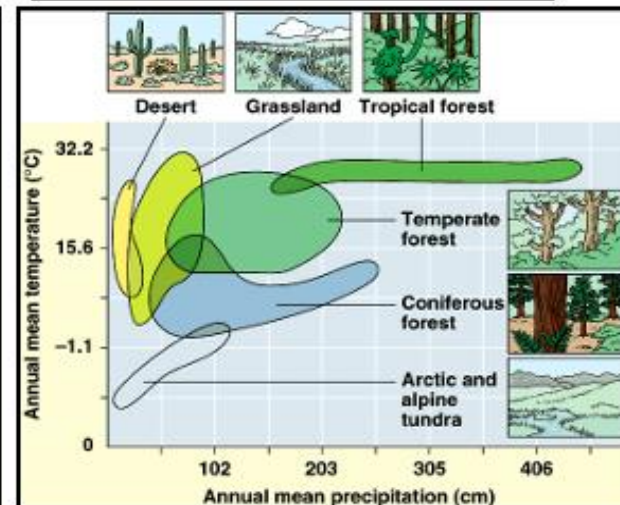


Global Ecosystems or Biomes (See diagram)

Q What two factors determine the distribution of global ecosystems?

Q What is the climate of the Tropical Forest like? (Refer to data)

Q Describe the distribution of Tropical Rainforest shown on the map below: Refer to latitude, place and location in continent.



With the help of the rainforest structure diagram, describe and explain the main plant adaptations in a tropical rainforest environment. (6 marks)

Ecosystems: Define these Key words:

Ecosystem

Food chain

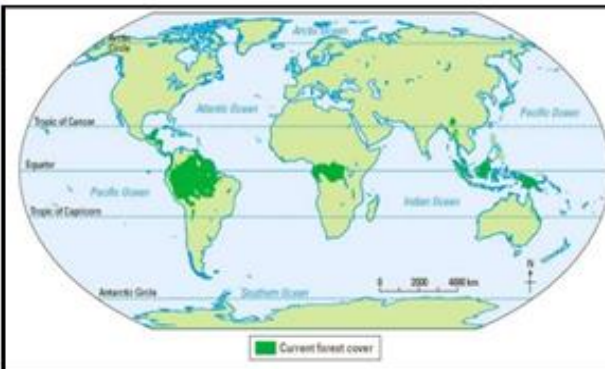
food web

Producers

Consumers

Decomposers

Nutrient re-cycling



How does change affect ecosystems? Note change can be natural, man-made, deliberate or accidental.

e.g. Cackshoot Broad, Norfolk Broads.

The problems: Cackshoot Broad like most of the Norfolk Broads suffered from the following problems:

**Bank erosion form the waves generated by tourist boats.** This led to the Broad silting up and fragile marginal habitats like reed beds suffering.

**Sedimentation or silting up.** This is partly natural but also encouraged by intensive arable farming which leaves soil exposed which later washes in to the rivers and then the broad. The area of open water shrinks.

**Eutrophication:** Is caused by nutrient enrichment resulting from Potassium and Nitrate fertilisers used in farming. This causes algal growth and the collapse of the ecosystem.

**Encroachment of willow and alder Carr (woodland):** This is natural but leads to further silting, the Broad shrinks and habitat diversity is reduced.

**Management involved:**

**De-silting by dredging and pumps removing silt.** This also helped to remove excess nutrients.

**Clearance of willow and alder woodland.**

**Bank protection using wooden stakes.**

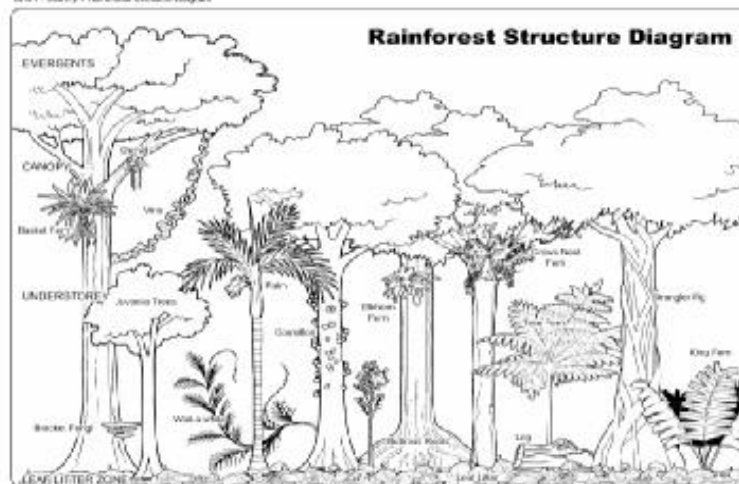
**A total ban on tourist boats to the broad.**

**The Broad was isolated from the main river called the Bure to reduce nitrate/phosphate input.**

**Water lilies and other aquatic plants were planted**

The result has been significant restoration of this wildlife habitat with fish returning and rare species like Marsh Harrier and the swallow-tail butterfly being seen.

Unit 1 - Activity 1 Rainforest Structure Diagram



# Exam Revision: The Living World 2

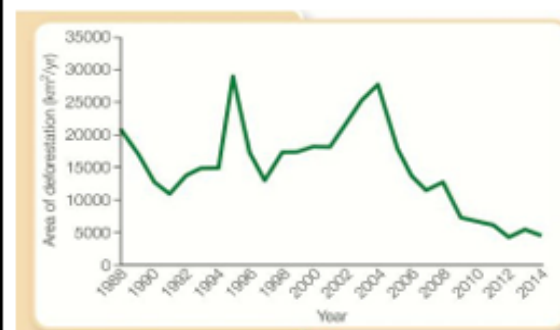
Name:

Form:

**Deforestation in Malaysia, South-East Asia:** 67% of Malaysia's land is Tropical Rainforest, notably in Sarawak on the island of Borneo. Between 2000-2013 total forest loss was the size of Denmark! See link for causes and impacts: <http://www.aljazeera.com/indepth/features/2015/03/malaysia-indigenous-hit-hard-deforestation-150329101349832.html>

List the 5 main reasons for deforestation:

1. **Habitat/biodiversity** e.g. Home to rare plants like rafflesia, orchids
  2. **Wildlife** e.g. Clouded leopard, orangutan
  3. **Soil erosion**: Heavy rain (3000mm) = soil loss
  4. **Indigenous people** e.g. Temiar people of Kelantan, E Malaysia, lives threatened
  5. **Flooding** e.g. Rivers rise and fall in December 2014 major flooding in Kelantan
- Climate change** e.g. 20% of global CO<sub>2</sub> caused by deforestation and forest degradation
- Human health** e.g. Air pollution from burning reaches Kuala Lumpur



Q Describe the trends in deforestation shown above. (4 marks) Refer to data.



Q To what extent are projects like the Bakun dam a good idea for economic development (4 marks)

Economic gains:

Economic losses:

Explain, with reference to an example, why is it important to retain biodiversity? (4 marks)

The case of the rosy periwinkle from Madagascar!

This pretty plant from Madagascar gives us two very important cancer-fighting medicines: vinblastine and vincristine. Vinblastine has helped increase the chance of surviving childhood leukaemia from 10% to 95%, while vincristine is used to treat Hodgkins' Disease.



Temiar people of Kelantan

## Biodiversity

Tropical rainforests contain half of all the plants and animals in the world. They are home to thousands of different species. Some plants may become extinct before they have even been discovered!

## Climate change

Rainforests absorb and store carbon dioxide, a gas that is partly responsible for climate change.

## Climate

Known as the 'lungs of the world', 28 per cent of the world's oxygen comes from the rainforests. They prevent the climate from becoming too hot and dry.

## Medicine

Around 25 per cent of all medicines come from rainforest plants. More than 2000 tropical forest plants have anti-cancer properties.

## Resources

Tropical rainforest trees provide valuable hardwoods as well as nuts, fruit and rubber.

## Water

Rainforests are important sources for clean water – 20 per cent of the world's fresh water comes from the Amazon Basin.

## People

Indigenous tribes live in harmony in the world's rainforests making use of the forest's resources without causing any long-term harm.

How can the rainforests be managed sustainably?

What do you understand by sustainably?

Detail the range of strategies used:

1. **Selective logging and replanting** introduced in Malaysia in 1977. This is 30-40 year cycle that regulates the timber industry.
2. **Conservation and education**: In Malaysia there are many National Parks to safeguard rainforest areas including the Taman Negara National Park regarded as the oldest rainforest in the world and is over 4000 km² in size. There are more than 10,000 species of plants, 25,000 invertebrates and 200 mammals found around the national park. See Money for Madagascar for other ideas.
3. **Ecotourism** Mutiara Taman Negara ecoresort <http://www.mutiaratamanegara.com/about-us/virtual-tour.htm>. Detail how this resort is sustainable and how it is not?



Q Is ecotourism a sustainable way of managing the rainforests?

## 4. International Agreements.

**Forest Stewardship Council**: They certify sustainably sourced tropical hardwoods like mahogany with the FSC label.

**Debt for Nature swaps**: These swaps see poorer countries have portions of their debts wiped out or paid for by richer nations or charities of richer nations in exchange for promising to protect or CONSERVE large parts of their natural environment. Madagascar, June 11, 2008 - The largest debt-for-nature swap agreement in Madagascar's history was signed today between the Government of Madagascar and the Government of France, allocating roughly \$20 million (13 million Euros) to preserve Madagascar's rich biodiversity.

WWF announced today.

The [International Tropical Timber Agreement](#) was set up in 2006 to "promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests".

Money for Madagascar. Have a look at <https://www.moneyformadagascar.org/english/our-projects.asp?idSMenu=7>

MfM are:

1. They promote alternative ways of producing food, fuel and income for poor people so that forests are not damaged.
2. Money for Madagascar helps schools both inside and outside the rainforest to set up kitchen gardens and tree nurseries, which are accompanied by agricultural training and environmental education.
3. They fund village co-operatives and women's groups to plant wildlife corridors and new buffer forests. In Maintirano local women, concerned about dwindling supplies of forest-sourced craft materials, secured land to plant their own forest.

Key words

Desert -

Diurnal temperature range -

Biodiversity -

Desertification -

Irrigation -

Over cultivation-

Over grazing -

Appropriate technology -

Interdependence -

What are hot deserts like - think physical features

Desertification -

CAUSES:

SOLUTIONS:

Where are hot deserts found?



## Living world: Hot deserts - revision map.

### CASE STUDY: Western Desert, USA.

Location:

Development opportunities in hot desert environments explained:

Challenges of developing hot desert environments explained:

What is the climate like in a desert?

Temperature -

Rainfall -

BIODIVERSITY: Plants found in the desert and how adapted?

BIODIVERSITY: Animals found in the desert and how adapted?

### Key words

Coast -

Swash-

Backwash-

Fetch -

Prevailing Wind -

Mechanical Weathering -

Chemical weathering -

Mass movement -

...

Erosion: Abrasion -

Attrition -

Solution -

Hydraulic action -

Transportation - diagram of Longshore drift

Your example of a section of coastline in the UK and its major landforms and coastal management schemes is:

Wave types - define and explain them

Constructive -

Destructive -

## Coast landscapes in the UK - revision map.

Coastal management - explain how they work, and the costs and benefits of them are.....

HARD ENGINEERING: sea walls, rock armour, groynes and gabions

SOFT ENGINEERING: beach nourishment and reprofiling, dune regeneration and managed retreat.

Erosional Landforms- How are they formed?

Headlands and Bays-

Cliffs and Wave-cut platform-

Caves, arches, stacks, stumps-

Depositional Landforms- How are they formed?

Bars-

Spit -

Beach-

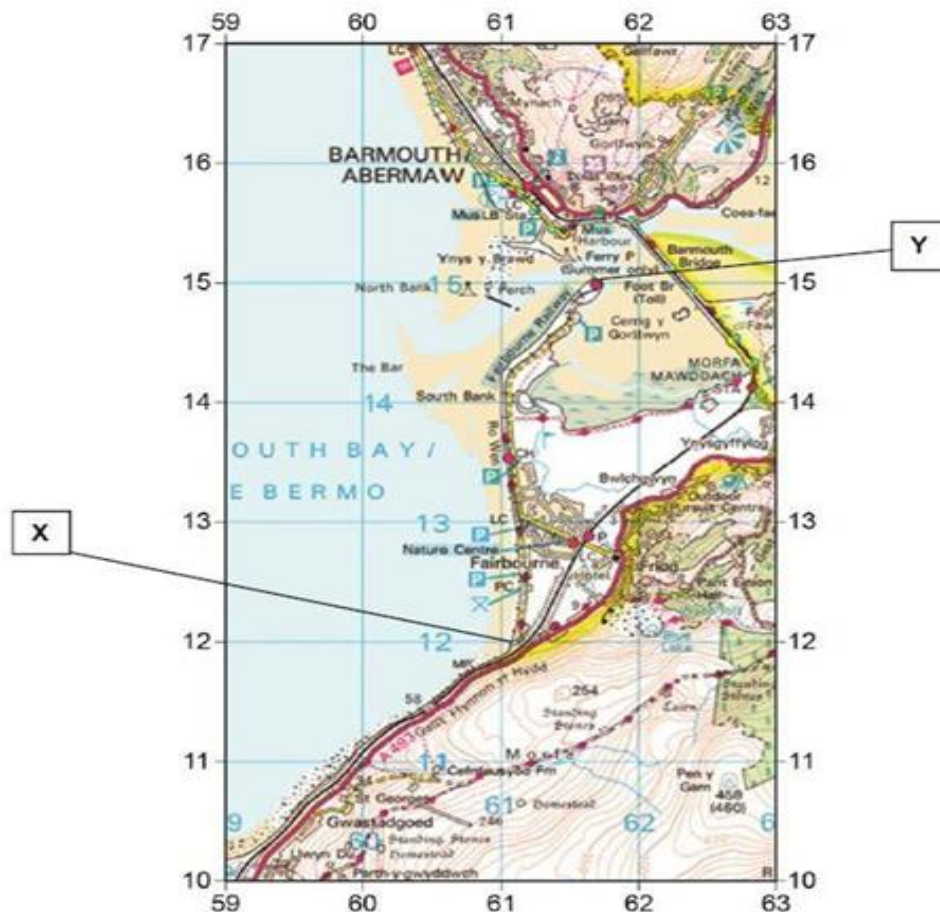
Sand dune -

Q1.

# Coastal landscapes in the UK.

Study **Figure 1**, a 1:50 000 Ordnance Survey map of the Barmouth area.

**Figure 1**



(a) Using **Figure 1**, give the 6 figure grid reference for a shingle beach.

Shade **one** circle only.

A 616138

B 609138

☐
☐

C 596106

☐

D 614147

☐

(1)

(b) Using **Figure 1**, which of the following statements best describes the features of grid square 6016?

Shade **one** circle only.

A An area of flat land, a small stream and a saltmarsh in the north.

☐

B A steep cliff, a road and railway, no buildings and narrow beach.

☐

C A long narrow piece of land, car park, railway and wide beach.

☐

D A beach with groynes, a small coastal settlement and an A road.

☐

(1)

(c) Using the **Figure 1**, how long is the coastline between X (611120) and Y (617150)?

Shade **one** circle only.

A 2.3 km

☐

B 2.7 km

☐

C 3.0 km

☐

D 3.4 km

☐

(1)

Study **Figure 2**, a photograph of part of the coastline shown in the map of Barmouth.

**Figure 2**



- (d) Using **Figures 1 and 2**, in which direction was the photographer facing when the picture was taken?

Shade **one** circle only.

- A north east  
B north west  
C south west  
D south east

☐  
☐  
☐  
☐

(1)

- (e) Using **Figures 1 and 2**, suggest **one** reason why the area in grid squares 6014 and 6015 shows evidence of deposition.

\_\_\_\_\_  
\_\_\_\_\_

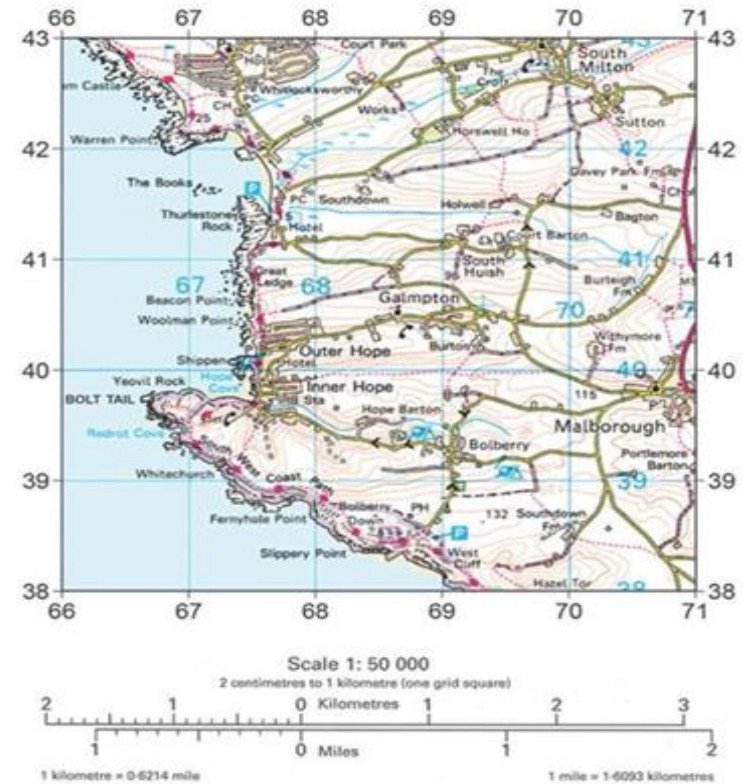
(1)

(Total 5 marks)

**Q2.**

Study **Figure A**, a 1: 50 000 Ordnance Survey map extract of part of the coast of south west England.

**Figure A**



- (a) Using **Figure A**, match the coastal feature below to the correct grid reference.

Shade **one** circle only.

Choose from the following grid references:

A 673398      B 669421      C 668428

| Coastal feature   | Grid reference          |                         |                         |
|-------------------|-------------------------|-------------------------|-------------------------|
| Wave cut platform | A <input type="radio"/> | B <input type="radio"/> | C <input type="radio"/> |

(1)

- (b) What is the straight line distance between Warren Point (6642) and Bolt Tail (6639)?

Shade **one** circle only.

- A** 1.8 km  
**B** 2.4 km  
**C** 3.0 km  
**D** 3.6 km

(c) Suggest **one** reason for the uneven shape of the coastline shown in **Figure A**.

Study **Figure B**, a photograph of Bolt Tail shown in grid square 6639 **Figure A**.

**Figure B**



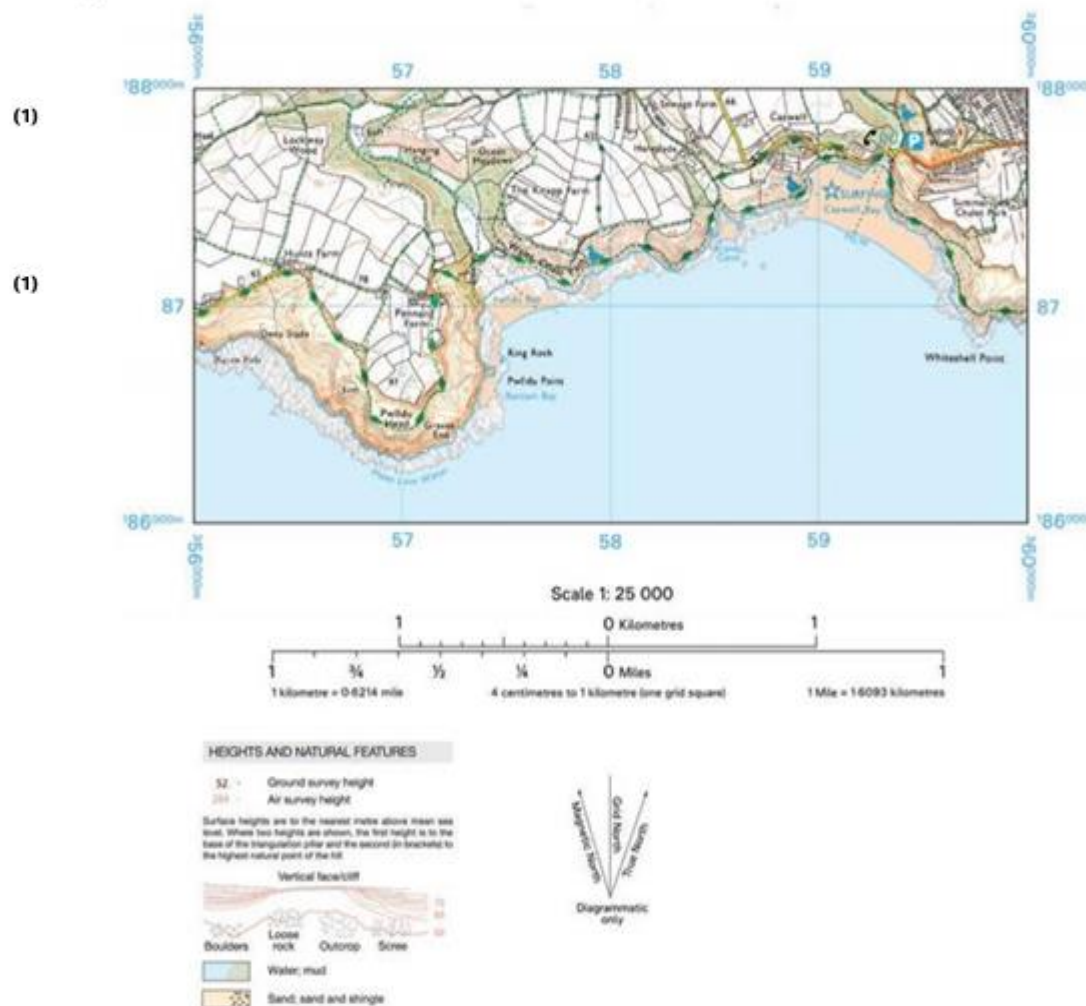
- (d) Using **Figure A** and **Figure B**, in which direction was the photographer facing when the picture was taken?

Shade **one** circle only.

- A** North east  
**B** North west  
**C** South east  
**D** South west

(e) Name **one** process of erosion that may affect these cliffs.

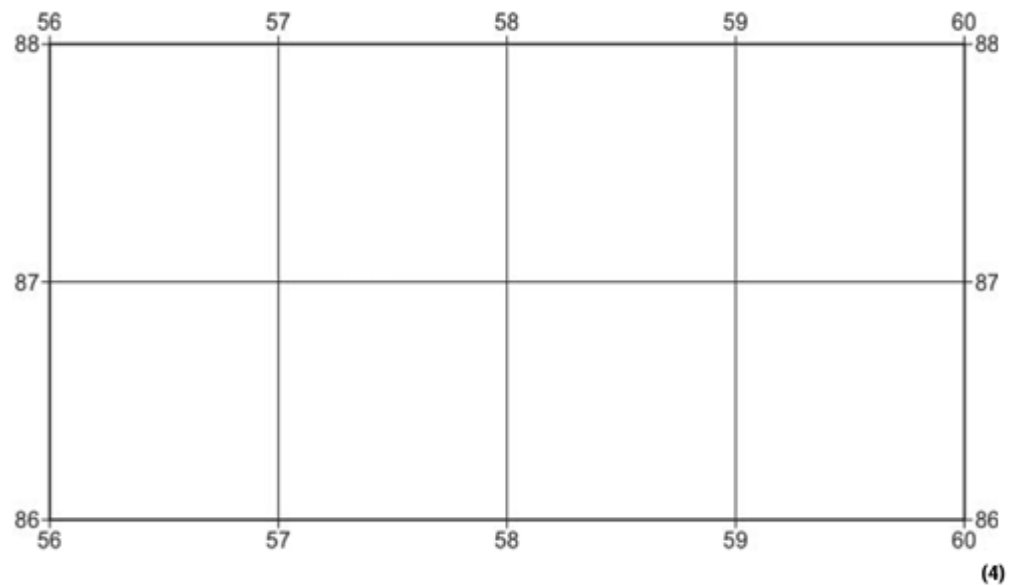
**Q3.**



- (a) Study the diagram above, a 1:25 000 Ordnance Survey map extract of the Gower Peninsula in South Wales.

Draw a labelled sketch map to show the features of this coastline.

(1)



(b) Explain the formation of headlands and bays.

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(4)

(Total 8 marks)

### Characteristics and formation of erosion:

Interlocking Spurs:

Waterfalls and gorges:

### Characteristics and formation of erosion and deposition:

Meanders:

Oxbow lakes:

### Characteristics and formation of deposition:

Levees:

Floodplains:

Estuaries:

## River landscapes in the UK - revision map.

### KEYTERMS -

Waterfall -

Gorge -

Meanders-

Oxbow lakes-

Point bar -

River cliff -

Levees-

Floodplains-

Delta -

Our **example** of a flood management scheme in the UK is.....

Why was it required?

What strategy was used?

What were the social issues?

What were the economic issues?

What were the environmental issues?

Flood management HARD engineering strategies:

+ives

-ives

Flood management SOFT engineering strategies:

+ives

-ives

## KEYTERMS:

Long river profile -

Drainage basin -

Watershed -

Source -

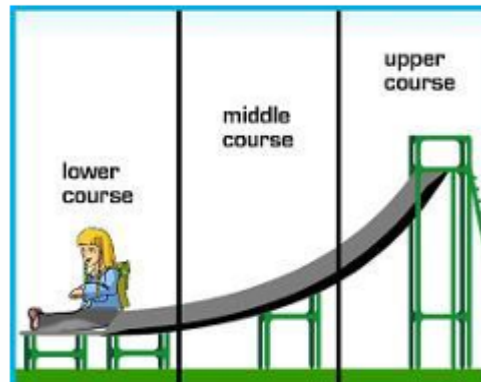
Mouth -

Tributary -

Confluence -

River Discharge -

Long river profile -



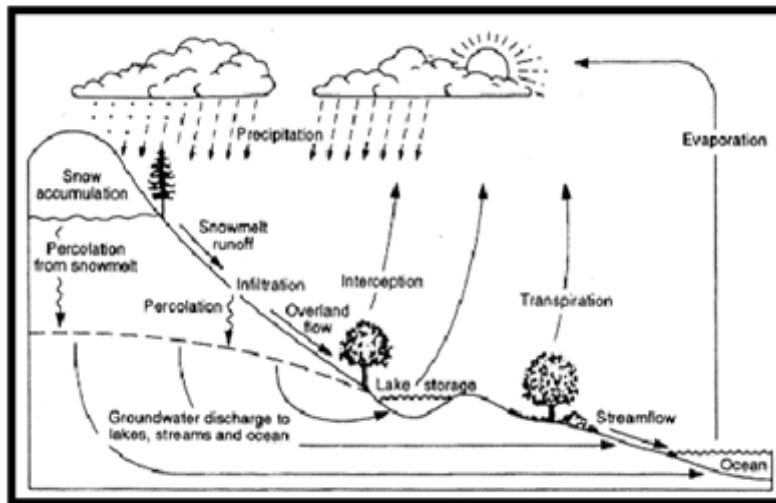
Causes of Flooding:

Physical -

Human -

## River landscapes in the UK - revision map.

A flood Hydrograph is:



Hydrological cycle -

Input -

Output -

Flows -

Stores -

Transportation -

Solution -

Traction -

Saltation -

Suspension -

Deposition -

Erosion:

Abrasion -

Attrition -

Solution -

Hydraulic action -

Our **example** of a river valley in the UK is and its major landforms are.....

### KEYTERMS:

Urbanisation -

Megacity -

Migration -

Squatter settlement/slum/favela -

NEE-

Sustainable city -

Regeneration -

Greenfield sites -

Brownfield sites -

Greenbelt -

### Location of megacities in 2014 and projected for 2030



## Mind Map Paper 2 - Urban Environments

### What causes urbanisation?

| PUSH FACTORS | PULL FACTORS |
|--------------|--------------|
|              |              |
|              |              |
|              |              |
|              |              |
|              |              |
|              |              |

**EXAMPLE:** Urban planning is improving  
QOL: Favela Barrio, Rio De Janeiro

Location -

Improvements made -

- \*
- \*
- \*
- \*
- \*

How has the project been successful?

How has the project been a failure?

### CASE STUDY - Major city in an LIC or NEE: Rio De Janeiro

Location -

Importance (regional, national and internationally) -

- \*
- \*
- \*

Causes of growth -

Opportunities -SEE

Challenges - SEE



**Paper 1: Section B:**  
**The Living World**



4 mark questions

*Explain how eco-tourism helps manage the rainforest sustainably. (4 marks)*

*Explain the role of producers in an ecosystem. (4 marks)*

*Explain how a small scale ecosystem you have studied can be affected by local change. (4 marks)*

*Explain how energy gets into and moves around an ecosystem. (4 marks)*

6 mark questions

*Explain how animals and vegetation adapt to a hot environment. (6 marks)*

*Explain how deforestation can have social and economic impacts. (6 marks)*

*Evaluate the impacts of rainforest deforestation. (6 marks)*

*Explain how animals and vegetation adapt to the rainforest. (6 marks)*

*Explain how the rainforest can be sustainably managed. (6 marks)*

9 mark questions

*To what extent do hot environments provide opportunities for economic development? (9 marks)*

*For a hot desert environment or a cold environment you have studied, assess the importance of management strategies used to reduce the risk of environmental damage. (9 marks)*

*To what extent are hot environments at risk from human activity? (9 marks)*

*To what extent can hot environments be successfully managed? (9 marks)*



**Paper 1: Section C:**  
**Physical UK Landscapes (Rivers and Coasts)**



4 mark questions

**RIVERS**

*Explain a floodplain forms. (4 marks)*

*Explain how soft engineering (or hard engineering) can prevent flooding. (4 marks)*

*Explain how a meander changes over time. (4 marks)*

*Explain the formation of a mudflat / saltmarsh. (4 marks)*

**COASTS**

*Explain how headlands and bays change over time. (4 marks)*

*Explain how transportation occurs along the coastline. (4 marks)*

*Explain the formation of a beach. (4 marks)*

*Explain how soft engineering (or hard engineering) can prevent erosion. (4 marks)*

6 mark questions

**RIVERS**

*Explain how a landform is created by erosion. (6 marks) (Waterfalls / Oxbow Lakes)*

*Evaluate hard engineering (or soft) strategies in preventing flooding. (6 marks)*

*Assess the physical and human causes of flooding. (6 marks)*

*Evaluate a river management scheme you have studied. (6 marks)*

*Assess how rivers' hydrographs can look different after the same amount of rainfall. (6 marks)*

**COASTS**

*Explain how landforms are created by erosion (or deposition). (6 marks)*

*Evaluate hard engineering (or soft) strategies in preventing erosion. (6 marks)*

*Evaluate a coastal management scheme you have studied. (6 marks)*





**Paper 2: Section A:**  
**Urban Issues and Challenges**



4 mark questions

*Explain why there are more megacities in LICs/NEEs. (4 marks)*

*Explain how regeneration can reduce urban deprivation. (4 marks)*

*Explain why there is economic inequality in urban areas. (4 marks)*

*Explain why an urban area in a HIC or LIC is nationally and internationally important. (4 marks)*

6 mark questions

*Assess how an urban area can be sustainable. (6 marks)*

*Explain how congestion is managed in urban areas in HICs. (6 marks)*

*Explain how industrialisation can lead to development. (6 marks)*

*Assess how urbanisation can lead to economic inequality. (6 marks)*

*Explain why environmental problems aren't managed in urban areas in LICs/NEEs. (6 marks)*

9 mark questions

*To what extent has urban change created environmental challenges in a HIC that you have studied? (9 marks)*

*Evaluate the effectiveness of an urban planning strategy in improving the life of the urban poor in a LIC / NEE you have studied. (9 marks)*

*To what extent does an urban area in a HIC (or LIC/ NEE) that you have studied provide opportunities? (9 marks)*

*Evaluate the impacts of a regeneration scheme you have studied in a HIC? (9 marks)*

*Evaluate how congestion is managed in a urban area in a HIC that you have studied. (9 marks)*



## ANSWERS FOR COAST EXAM QUESTIONS:

### Mark schemes

#### Q1.

- (a) One mark for the correct answer:

C. 596106

No credit if two or more answers shaded.

AO4 = 1

- (b) One mark for the correct answer:

D. A beach with groynes, a small coastal settlement and an A road

No credit if two or more answers shaded

AO4 = 1

- (c) One mark for the correct answer:

D. 3.4 km

No credit if two or more answers shaded.

AO4 = 1

- (d) One mark for the correct answer:

C. south west

No credit if two or more answers shaded.

AO4 = 1

- (e) The answer requires application of knowledge and understanding to photographic and/or map evidence.

Answers must suggest a *reason* for deposition:

E.g. The river transports considerable material / sediment downstream which is deposited at the river mouth / in the estuary (1)

Longshore drift carries material along the coast, which is deposited where the coastline changes direction (1)

There is a mixture of river and tidal currents which change direction and cause material to be dumped (1)

The river may have reduced energy levels due to gentle river gradient / impact of incoming tides (1)

The breakwater in 6115 may stop the movement of sediment and so it collects in the area behind (1)

AO3 = 1

[5]

#### Q2.

- (a) One mark for the correct answer:

B 669421.

No credit if two or more answers shaded.

AO4 = 1

- (b) One mark for the correct answer:

B 2.4 km.

No credit if two or more answers shaded.

AO4 = 1

- (c) Accept reference to the effect of:

- direction of dominant waves (1)
- differences in offshore gradient (1)
- differences in rock type and gradient, e.g. some rocks are stronger than others resisting wave attack (1)
- structural differences, e.g. faulting and jointed structures (1).

Answers must apply understanding of coastal factors to interpret the resource.

No credit for description of the coastal features or for explanations relating to different types of waves.

AO3 = 1

- (d) One mark for the correct answer:

B North west.

No credit if two or more answers are shaded.

AO4 = 1

- (e) The process only has to be named. There is no requirement to explain or describe the process. Likely to state hydraulic power (action) (1) or abrasion (corrosion) (1).

Allow solution or corrosion. No credit for attrition.

AO1 = 1

[5]

#### Q3.

*This mark scheme is from a question paper that assessed a previous specification and has not been edited.*

Click [here](#) to access a document explaining the differences that might apply to it.

- (a) 1 mark for the drawing of the coast so that it is recognisable to that which is in map. Remaining 3 marks for labels relating to the coastal features – headlands, bays or cove, contrasting size, level of indentation, cliffs, stack or stump, beaches at (head of bays). No marks for lifting from the key or writing places named on map. If a sketch map is drawn of a coast other than that in figure 20, there is a maximum of 2 marks for labels.

4 × 1

AO2 = 2

AO3 = 2

- (b) Explanation will refer to alternating bands of hard and soft rock at right angles to the coastline. The hard rock bands will be more resistant to erosion than the soft rock. The soft rock will therefore erode faster due to hydraulic action, abrasion, cavitation and the coast will retreat to form inlets – the bays, leaving areas of hard rock that protrude into the sea the headlands.

AO1 = 4

| Level        | Marks | Description                                                                                                                                                           |
|--------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2<br>(Clear) | 3 – 4 | Complete, clear sequence – the role of bands of hard and soft rock and differential erosion is understood.<br>Statements are developed and linked in a logical order. |
| 1<br>(Basic) | 1 – 2 | Simple points – partial sequence.<br>Statements are separate in a random order – jumps about / sequence not correct.                                                  |
|              | 0     | No relevant content.                                                                                                                                                  |

[8]