# GCSE GEOGRAPHY REVISION SURVIVAL KIT

# PAPER 1

## PHYSICAL GEOGRAPHY

This revision booklet has been designed to help support your revision across the two years. Your class teacher may set one of these tasks as a homework revision activity or you may complete one as part of your independent revision.

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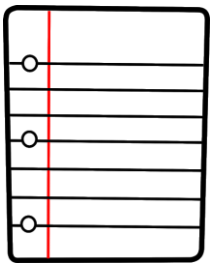
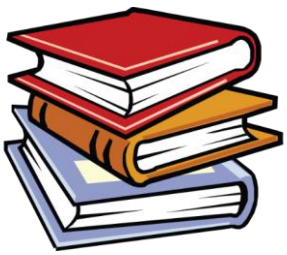




# EXAM DETAILS

| Unit title | Topics | Length | Marks | Worth |
|---|---|---|---|---|
| **Paper 1: Living with the physical environment** | Section A: The challenge of natural hazards<br>Section B: The living world<br>Section C: Physical landscapes in the UK | 1.5 hours | 88 | 35% |
| **Paper 2: Challenges in the human environment** | Section A: Urban issues and challenges<br>Section B: The changing economic world<br>Section C: The challenge of resource management | 1.5 hours | 88 | 35% |
| **Paper 3: Geographical applications** | Section A: Issue Evaluation (pre release booklet)<br>Section B: Fieldwork | 1.5 hours | 76 | 30% |

*"Geography is the subject which holds the key to our future."*

**Michael Palin**

*"The study of geography is about more than just memorizing places on a map. It's about understanding the complexity of our world, appreciating the diversity of cultures that exists across continents. And in the end, it's about using all that knowledge to help bridge divides and bring people together."*

Barack Obama

# How to respond to command words

| Command Word | Marks | How to structure |
|---|---|---|
| **Describe** | Max 4 marks | Describe questions receive **1 mark per point**.<br><br>Here you need to **use adjectives or locational descriptions** of what something looks like or where it is.<br><br>If you are describing a graph you must **include data** in your answer. |
| **Outline** | 3-4 marks max | Outline means to **briefly explain**. It is usually worth 2 marks but some have been between 3 and 4 marks.<br><br>You need to be clear on **WHY or HOW** something has or does occur. |
| **Explain** | 3 to 9 marks | Explain is the same as outline but requires more development. Here you need to **state HOW or WHY**, for example, why are rainforests found along the equator or why volcanoes form on a destructive plate boundary.<br><br>**You can get up to 3 marks for one explanation.** |
| **Discuss** | 6 to 9 marks | This key word involves you having a discussion around a key issue or event. To do this effectively, you need to **all aspects of the question**. **One developed point will get you 3 marks max (like explain). You DO not need a counterargument.**<br><br>**If this is a 9 mark question it will also need a conclusion**. |
| **Suggest** | 6 to 9 marks | Here you need to explain **potential reasons why or how something happens e.g. plate boundaries**. Again you can get up to 3 marks for a developed point and so a minimum of two will be required. This doesn't have to have a two sided argument but if you have the opportunity to include this you should.<br><br>**If this is a 9 mark question it will also need a conclusion** |
| **Evaluate** | 6 to 9 marks | Here you need **to explain the positive and negative points** of something e.g. evaluating the use of hard engineering to protect the coast. You can get up to 3 marks for one developed point. You will always need at least two.<br><br>**If this is a 9 mark question it will also need a conclusion** |
| **To what extent** | 6 to 9 marks | To what extent means 'how far do you agree'. Again you can get up to 3 marks for one developed point and you should be using the words of the question e.g. ***"to some extent I agree".*** **Whether a question is worth 6 or 9 marks you should always have a 2 sided argument to show more knowledge.**<br><br>**If this is a 9 mark question it will also need a conclusion** |

# REVISION

## How to revise

Flash Cards

Simply create your own revision resources using flashcards. You can write on both sides of them, colour code them or use them to quiz yourself and others.

How to do this in geography

- Formations & processes – diagrams, step-by-step descriptions
- Key terms – key terms, definitions and examples
- Evaluations – advantages/disadvantages or most important factors
- Case studies & examples – location, background info, causes, effects and responses

Dual Coding

Simply create your own revision resources using flashcards. You can write on both sides of them, colour code them or use them to quiz yourself and others.

How to do this in Geography

1. Look for visuals (maps, graphs, pictures, diagrams) in your classwork/revision guide, and compare them to the information they represent.
2. Look at the visuals on their own and try and explain them in your own words
3. As you create your revision notes/flash cards create visuals of your own to help you memorise the information

Retrieval Practice

During your exams you will need to be able to recall large amounts of information from your brain quickly. To get better at this, you need to practise! Not only will you get better at recalling information, but the information you recall is more likely to stick in your memory.

How to do this in Geography

- Total recall – start with a blank sheet of paper. Write down everything that you can remember about a topic (without looking at your notes). Then open your notes and write down anything you have missed on the same sheet of paper. Repeat this often and each time you will recall more information. You can use this method for case studies, diagrams, key terms etc.
- Quiz yourself – using your revision notes, quiz yourself or your friends, or get someone to test you

Deliberate Practice

Set time aside to practice what you will be doing in the exam – answering exam questions!

How to do this in Geography

Revision power hour – 1. Pick a question 2. Spend 20 minutes revising for that question 3. Spend 20 minutes answering the question 4. Use the mark scheme to mark your answer.

Practise questions from your book, old assessments and from revision guides

# HOW REVISION WORKS

Consistent revision is important to enable you to succeed in GCSE Geography as we will not get any revision time in lessons before your exams!

This revision booklet has been designed to help you complete revision across the two years. Your class teacher may set one of these tasks as a homework revision activity or you may complete one as part of your independent revision.

**Remember, everyone is different, however a combination of revising knowledge and exam practice is essential to do well in GCSE geography.**

See below a range of alternative revision tasks you may wish to also consider!

Seneca Learning
Seneca has been designed by cognitive scientists to help students remember topics better and reduce their stress levels. You can access revision notes on each of your topics and then take quick tests to check your learning. It has been proven to make learning 2 x faster than traditional methods.
https://www.senecalearning.com/

Internet Geography
*Website contains revision pages, quizzes, and revision activities and timetables you could use.*
https://www.internetgeography.net/

BBC Bitesize
Revision site that has lots of really useful subject and exam board revision and quick quizzes
https://www.bbc.co.uk/bitesize/subjects/zrw76sg

Time for Geography
Videos, model answers and exam tips
https://timeforgeography.co.uk/

Google revision classroom:
**Join using the following code: sxnje6e**
School resources, example questions, knowledge organisers and sheets for case studies.

# SECTION A:

# CHALLENGES OF NATURAL HAZARDS

Tectonic hazards
Weather hazards
Climate change





| Topic – Challenge of Natural Hazards | R | A | G |
|---|---|---|---|
| **Tectonic Hazards** | | | |
| I can define a natural hazard and give some examples of the different types. | | | |
| I can explain the different factors that affect risk. | | | |
| I can describe the distribution of earthquakes and volcanoes. | | | |
| I explain the differences between destructive, constructive and conservative plate margins. | | | |
| I know the main features of an earthquake and two different ways of measuring earthquakes. | | | |
| I know and named tectonic example in a LIC (Haiti 2010) and can explain why it happened, primary and secondary effects and immediate/long term responses. | | | |
| I know an named tectonic example in a HIC (Christchurch 2011)and can explain why it happened, primary and secondary effects and immediate/long term responses. | | | |
| I can explain why people continue to live in areas at risk of tectonic hazards. | | | |
| I can explain how monitoring, prediction, preparation and protection of tectonic hazards can reduce their effects. | | | |
| **Weather Hazards** | | | |
| I know and can explain what happens in low and high pressure. | | | |
| I can describe the global atmospheric circulation model. | | | |
| I can explain how the global atmospheric circulation model affects weather around the world. | | | |
| I can describe the distribution of tropical storms. | | | |
| I can explain the causes of a tropical storm. | | | |
| I know a named example of a tropical storm (Typhoon Haiyan) and can explain the primary /secondary effects and immediate/long term responses. | | | |
| I can explain how tropical storms might be affected by global warming. | | | |
| I can explain how monitoring, prediction, preparation and protection of tropical storms can reduce their effects. | | | |
| I can explain the cause of an extreme weather event using a UK example (Somerset Levels floods 2014) | | | |
| I can describe and explain the social, economic and environmental impacts of an extreme weather event in the UK (Somerset levels floods 2014)). | | | |
| I can give evidence of the weather in the UK becoming more extreme. | | | |
| **Climate Change** | | | |
| I can explain a range of short term and long term evidence that climate change is occurring. | | | |
| I can explain both the natural and human causes of climate change. | | | |
| I can assess and evaluate the economic, social, environmental and political impacts/effects of climate change both on the world and the UK. | | | |
| I can describe and evaluate mitigation strategies used to combat of global climate change. | | | |
| I can describe and evaluate adaptation strategies used to combat of global climate change. | | | |

Definition of a natural hazard:

Types of natural hazards:

Factors affecting hazard risk:

Draw a label a diagram of the earth's structure

Explain how convection Currents work and how links to plate tectonics theory

# Tectonics Hazards

Outline four differences between types of crust

| Oceanic | Continental |
| --- | --- |
| | |

Draw and label a diagram of the three plate margins (include how what direction plates moving and what is created;

Destructive

Constructive

Conservative

What is an earthquake?

Where are they found?

Define the following key terms:

Focus –

Epicentre –

Seismic waves –

What is a primary effect of an earthquake (provide examples)

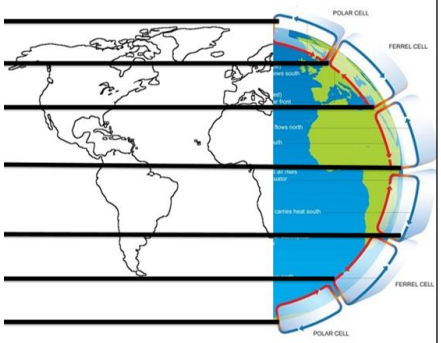
What are secondary effects of an earthquake (provide examples)

# Weather Hazards

What happens in:

High pressure

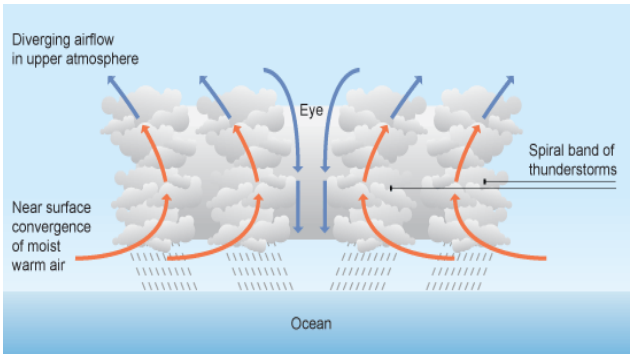
Low pressure




1) Add on location of TRF and hot deserts to the figure.

2) Explain how these biomes distribution are linked to the GAC

What conditions (ingredients) are needed for tropical storms to form?




What are the 3 different names for tropical storms and where are they found?

What are the main features of a tropical storm?

Typhoon Haiyan case study

Primary and secondary effects

Give 2 reasons why a tropical storm may lose power

Short and long term responses

Managing tropical storms

Prediction

Preparation

Protection

How may climate change affect tropical storms in the future?

What evidence is there that weather is becoming more extreme in the UK?

Example of Extreme weather in UK – Beast from the East (2018)/Somerset levels (2014)

# Climate Change

**Evidence of Climate Change – how do these methods indicate changes in past climates?**

Temperature Data:

Ice Cores

Tree Rings:

**Draw a labelled diagram explaining how the enhanced greenhouse effect works**

Social effects of climate change:

- 
- 
- 

Environmental effects of climate changes

- 
- 
- 

**Adaptation to Climate change - how will this strategies combat climate change?**

Changes in agriculture (drought resistant crops):

Managing water Supplies:

Reducing Risk – coastal defences:

**Natural causes of Climate Change**

Orbital Change:

Volcanic Eruptions:

Sunspots:

**Human causes of Climate Change**

Burning fossil Fuels:

Deforestation:

Agriculture:

**Mitigation of Climate change – how will this strategies combat climate change?**

Alternative Energy production (renewable energy):

Carbon capture:

Afforestation (Planting Trees):

International Agreements (COP meetings):

Definition of Mitigation:

Definition of Adaptation

# CASE STUDIES

## Take 10

## Christchurch, NZ (2011) – HIC Earthquake

| What happened? | Where and why did it happen? |
|---|---|
| Primary effect 1 | Primary effect 2 |
| Secondary effect 1 | Secondary effect 2 |
| Immediate response 1 | Immediate response 2 |
| Long term response 1 | Long term response 2 |

Compare the effects of the earthquakes in Haiti and Christchurch. Suggest reasons for the differences.

# CASE STUDIES

## Take 10

## Haiti (2010)– LIC Earthquake

| What happened? | Where and why did it happen? |
| --- | --- |
| Primary effect 1 | Primary effect 2 |
| Secondary effect 1 | Secondary effect 2 |
| Immediate response 1 | Immediate response 2 |
| Long term response 1 | Long term response 2 |

| Why did Haiti suffer to this extent? Hint: link to 3Ps |
| --- |

# CASE STUDIES

## Take 10

## Typhoon Haiyan (2013)– Tropical storm

| What happened? | Where and why did it happen? |
|---|---|
| Primary effect 1 | Primary effect 2 |
| Secondary effect 1 | Secondary effect 2 |
| Immediate response 1 | Immediate response 2 |
| Long term response 1 | Long term response 2 |

"Long-term responses are more important than immediate responses to a tropical storm." Do you agree? Why?

# CASE STUDIES

## Take 10

### Somerset Levels (2014) – UK extreme weather

| | |
|---|---|
| What happened? | Physical causes of the flood |
| Human causes of the flood | 2 social impacts |
| 2 economic impacts | 2 environmental impacts |
| Immediate responses 1 | Immediate response 2 |
| Long term response | "The UK's weather is becoming more extreme." In addition to this case study, is there any other evidence to support this statement? |

# PLUGGING YOUR KNOWLEDGE GAPS

Identify a weakness in topic covered so far. This could be an area you don't feel as confident with or an area identified as a weakness in an assessment or quiz.

Use a revision guide, notes etc. to help you create a set of summary revision notes below to review this knowledge gap. Present this in a way which helps you e.g. mind map/ diagrams etc.

# KNOWLEDGE QUIZ

Complete the 20 quiz recap questions reviewing knowledge. Do what you can from memory first. If you have to use notes to complete these, write these answers in a <u>different colour.</u>

1) Which plate boundary involves tectonic plates moving away from each other?

2) Name a characteristic of the oceanic plate?

3) Name the four layers of the Earth?

4) What is meant by the subduction zone?

5) What happens at a conservative plate boundary?

6) Name 2 features of a composite volcano?

7) Name the 3Ps.

8) Give one reason why people live in areas of tectonic risk?

9) What is a secondary effect?

10) Name 3 examples of primary effects?

11) Describe 2 conditions required for a tropical storm to form?

12) What is the key term for updating old buildings to help them withstand earthquakes?

13) Describe weather conditions in the eye of a tropical storm?

14) What was the death rate in Typhoon Haiyan (2013)?

15) Describe how tree rings indicate past climates?

16) Explain how deforestation leads to warming.

17) Explain a natural (physical) cause of climate change?

18) What is meant by the term mitigation?

19) Identify a mitigation method for climate change?

18) Outline 2 effects of climate change?

19) What are your case studies for HIC and LIC tectonic hazards?

20) How does adaptation deal with climate change

# EXAM PRACTICE

Look at the question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

| Suggest why the effects of a tectonic hazard vary between areas of contrasting levels of wealth.<br><br>[6 marks] | |
|---|---|
| Point:<br>One in which the effects vary is...<br><br>(give examples of primary and secondary effects, why are primary/secondary effects different in richer and poorer countries?) | |
| Point:<br>One in which the effects vary is...<br><br>(give examples of primary and secondary effects, why are primary/secondary effects different in richer and poorer countries?) | |

# EXAM PRACTICE

Look at then question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

Explain how living in areas that are at risk from a tectonic hazard(s) may have both advantages and disadvantages. ( 6 marks)

# EXAM PRACTICE

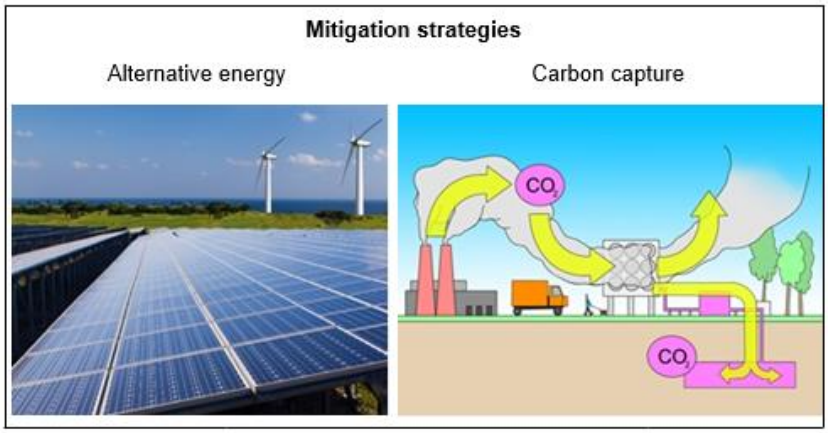
Look at then question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

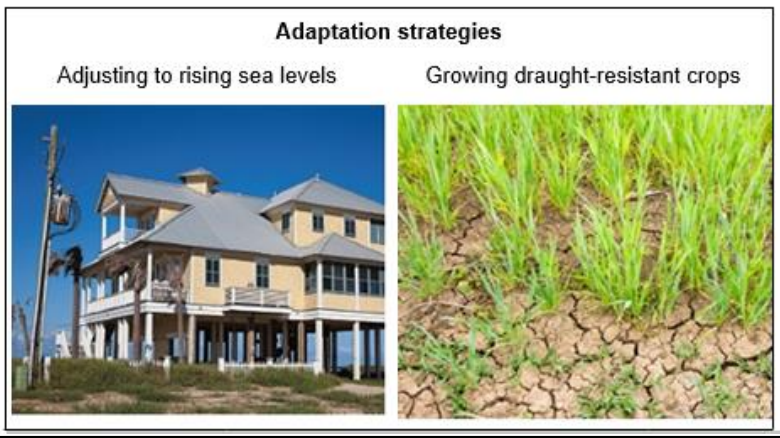
Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

Study the photographs below showing strategies used to manage climate change.

**'Managing climate change involves both reducing causes (mitigation) and responding to change (adaptation).'**

Do you agree? Explain your answer. Use the photographs above and your own understanding. (9 marks)



# PAPER 1

# SECTION B:

# THE LIVING WORLD

Ecosystems
Tropical Rainforests
Hot Deserts

| Topic – The Living World | R | A | G |
|---|---|---|---|
| **Ecosystems** | | | |
| I know the components of an ecosystem e.g producer, consumer, decomposer, food chain etc. | | | |
| I can explain their interdependence of each of the above and explain how changes might affect each other. | | | |
| Using an example from the UK, I can explain the interrelationship within the natural system. | | | |
| I know factors which may cause ecosystem disturbance and can explain how they affect the balance and functioning of an ecosystem . | | | |
| I can explain the nutrient cycle. | | | |
| I can describe the distribution and characteristics of global ecosystems around the world – e.g. deserts, TRF, tundra, polar | | | |
| **Tropical Rainforests** | | | |
| I can describe the distribution of tropical rainforests. | | | |
| I can describe the physical characteristics (climate, structure) of the tropical rainforests | | | |
| I can explain the interdependence of the climate, water, soils, plants, animals and people in a tropical rainforest | | | |
| I can explain how plants and animals have adapted to the climate of tropical rainforests. | | | |
| I can describe and explain the changing rates of deforestation. | | | |
| I can use a case study (Amazon rainforest) to explain the causes of deforestation: Subsistence and commercial farming, Logging, Road Building, Mineral Extraction, Energy Development, Settlement, Population Growth | | | |
| I can use a case study (Amazon) to explain the impacts of deforestation: Economic development, Soil erosion, Contribution to climate change. | | | |
| I can explain the importance and value of the tropical rainforests on a local, national and international scale. | | | |
| I can explain why it is important the tropical rainforest should be managed sustainably. | | | |
| I can explain how the tropical rainforest can be managed sustainably using a range of methods: Selective logging and replanting, Conservation and education, Ecotourism, International agreements about the use of tropical hardwoods, Debt reduction. | | | |
| **Hot Deserts** | | | |
| I can describe the distribution of hot deserts. | | | |
| I can describe the physical characteristics of the hot desert. | | | |
| I can explain the interdependence of the climate, water, soils, plants, animals and people in a hot desert. | | | |
| I can explain how plants and animals have adapted to the climate of hot deserts. | | | |
| I can use a case study (Western Desert) to explain development opportunities in hot deserts Agriculture, Mineral Extraction, Energy Development, Farming, Tourism. | | | |
| I can use a case study (Western Desert) to explain challenges to development in hot deserts: Water supply, extreme temperatures and inaccessibility. | | | |
| I can define and describe desertification. | | | |
| I can explain the human and natural causes of desertification. | | | |
| I can explain a how desertification can be managed using: Water and soil management, Tree planting (African Green Wall), and appropriate technology (solar cookers) using an example (Sahel). | | | |

# Ecosystems

What is an ecosystem?

Define the following key terms

Biotic –

Abiotic –

Food chain –

Food Web –

Producer –

Consumer –

Decomposer -

Impact of change on ecosystems:

Climate change/extreme weather –

Invasive species –

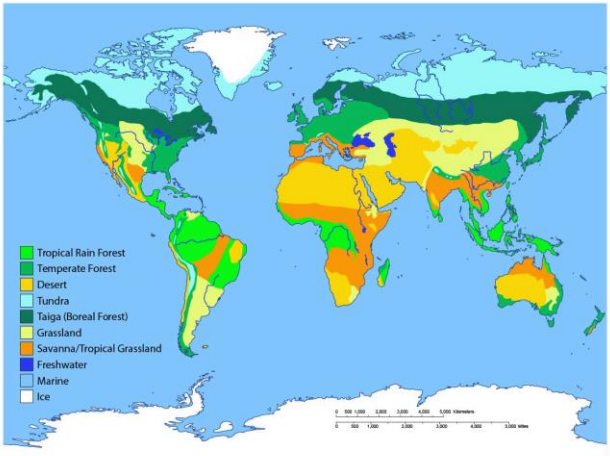
Fertilisers –

Land use change –

Hunting –

Fires -

Draw and label a diagram explaining the nutrient cycle




Location of Tropical rainforests:

Climate of TRF –

Water in TRF –

Soils in TRF –

Plants & animals inn TRF –

People in TRF -

TRF interdependence -

Key characteristics of global ecosystems;

Tropical rainforest –

Desert –

Deciduous Forest –

Polar/tundra –

Coniferous Forest –

Mediterranean –

Temperate Grassland –

Savanna (tropical grassland) -

# Tropical Rainforests

Describe each layer of the rainforest, giving ways, the plants have adapted to the environment:

Emergent layer –

Canopy –

Under-canopy –

Shrub Layer –

Forest floor-

Why are TRF so biodiverse?

What are the threats to biodiversity?

Why are tropical rainforests important?
1)

2)

3)

What is deforestation (Amazon)?

Causes of deforestation ( try and explain 3)

Provide examples of how animals adapt to TRF:

Impacts (effects) of deforestation

Provide examples of how plants adapt to TRF:

How can TRF be managed sustainably? Explain each method:
1) Selective logging

2) Debt relief

3) Ecotourism

4) International agreements

5) Conservation and education

# Hot Deserts

Characteristics of Hot deserts:
Location –

Climate –

Why are deserts located 15-30 N and S of equator? (think type of pressure!)

How do plants adapt –

How do animals adapt -

How is a hot environment interdependent?
How biodiverse are hot environments?
•Hot deserts are limited in their biodiversity. Only plants that need little water or which can store water survive here.
•There are limited animals due to the extreme temperatures in the day and cold temperatures at night.

Development Opportunities (case study – Western Desert):

Mineral Extraction –

Energy –

Farming –

Tourism -

What is the Sahel and where is it's location?
•The Sahel is a stretch of land from west to east Africa located just south of the Sahara desert.

What are the human causes of desertification?
Explain each cause:

Deforestation

Cattle grazing

Development Challenges (case study – Western Desert):
Extreme Temperatures –

Water Supply –

Population growth -

What are the natural causes of desertification?
Explain each cause:
Climate change and droughts:

Strategies to reduce desertification in the Sahel – explain how this reduces desertification:

African Green Wall project-

Solar cookers-

# CASE STUDIES

## Take 10

## Epping Forest– Small UK ecosystem

| | |
|---|---|
| What is the difference between a food web and food chain? | Define 'producer'? Give an example |
| Define 'consumer'? Give an example | Define 'decomposer'? Give an example |
| Natural disturbances to this ecosystem include | Human disturbances to this ecosystem include |
| Describe the energy transfers between trophic levels | Give an example of a _____ from Epping Forest.<br>a) Herbivore =<br>b) Omnivore =<br>c) Carnivore = |

Discuss interdependence in Epping Forest (links between soil, plants, climate, animals and people)

1)

2)

# CASE STUDIES

## Take 10

## Amazon, Brazil– Tropical rainforest

<table>
<tr><td>Describe location of Amazon rainforest.</td><td>Cause 1 of deforestation</td></tr>
<tr><td>Cause 2 of deforestation</td><td>Impact 1 of deforestation</td></tr>
<tr><td>Impact 2 of deforestation</td><td>Reason that the Amazon is important</td></tr>
<tr><td>2nd reason Amazon is important</td><td>Sustainable management: Ecotourism</td></tr>
<tr><td rowspan="4">TRF adaptations ( plants and animals)</td><td>Effects of deforestation in Amazon</td></tr>
<tr><td><table><tr><td>+</td><td>-</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
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# CASE STUDIES

## Take (less than) 10

## Western Desert- Hot desert

| | |
|---|---|
| Describe the location | Opportunity 1 for development - Tourism |
| Opportunity 2 for development –Energy (solar/hydroelectric) | Opportunity 3 for development - Agriculture |
| Challenge 1 for development – Water supply | Challenge 2 for development – Inaccessibility |
| How water is being managed to manage supply in Western desert. | |

# CASE STUDIES

## Take 10

## Sahel region - Desertification

| | |
|---|---|
| Define desertification + describe where it happens | Human cause 1 of desertification in the Sahel |
| Human cause 2 of desertification in the Sahel | Physical cause of desertification in the Sahel |
| Impact 1 of desertification | Impact 2 of desertification |
| Management strategy : African Green Wall | Disadvantage of management strategy |
| 2 facts about the Sahel desert that show understanding of the place and people | To what extent is human activity the cause of desertification in areas on the fringes of hot deserts? |

# PLUGGING YOUR KNOWLEDGE GAPS

Identify a weakness in topic covered so far. This could be an area you don't feel as confident with or an area identified as a weakness in an assessment or quiz.

Use a revision guide, notes etc. to help you create a set of summary revision notes below to review this knowledge gap. Present this in a way which helps you e.g. mind map/ diagrams etc.

# KNOWLEDGE QUIZ

Complete the 20 quiz recap questions reviewing knowledge. Do what you can from memory first. If you have to use notes to complete these, write these answers in a <u>different colour.</u>

1) Define the term abiotic

2) What is an ecosystem?

3) Identify the 3 stores in the nutrient cycle?

4) What is meant by litter?

5) Explain the role of a producer?

6) Explain the role of a decomposer?

7) What % of energy is transferred in each stage of a food chain trophic levels?

8) Identify the 4 layers of a TRF?

9) Why are TRF located on and around the equator?

10) Explain one reason why TRF are globally important?

11) What % deforestation in Amazon rainforest is caused by cattle farming?

12) Apart from cattle farming, identify 2 other causes of deforestation.

13) Suggest how deforestation contributes towards climate change?

14) Describe a benefit of deforestation?

15) Describe one ways camels have adapted to a hot desert?

16) Describe how a plant has adapted to a hot deserts?

17) Why do deserts have a diurnal temperature range?

18) What is meant by interdependence?

19) What does desertification mean?

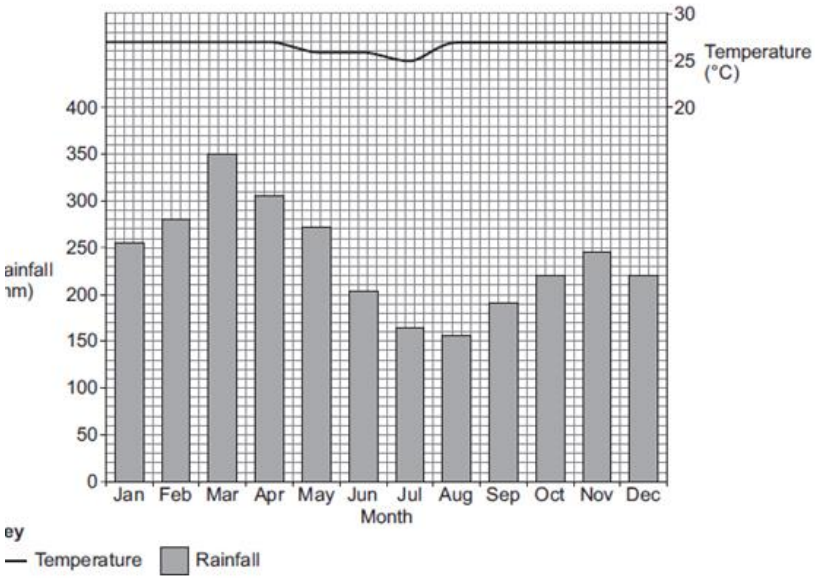
20) Explain how the African Green wall project will manage desertification?

# EXAM PRACTICE

Look at then question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

Study the figures below. Suggest how plants are adapted to the climate in tropical rainforests (6 marks).
Use the figure above and your own understanding.




# EXAM PRACTICE

Look at the question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

**Extreme environments provide opportunities for economic development. These opportunities include energy, farming, fishing, mining and tourism.**

Choose either a hot desert environment or a cold environment.

**Discuss the opportunities for economic development in your chosen environment**

**Use a case study and your own understanding ( 9 marks) .**

Chosen environment : ……..

# PAPER 1

# SECTION C:

# PHYSICAL LANDSCAPES

Rivers
Coasts

| Topic – Physical Landscapes (Rivers / Coasts) | R | A | G |
|---|---|---|---|
| I can describe the location of the major upland and lowland areas within the UK. | | | |
| I can describe the location of the major river systems within the UK. | | | |
| **Coastal Landscapes in the UK** | | | |
| I can describe the different features of constructive and destructive waves. | | | |
| I can name and describe 3 processes of weathering. | | | |
| I can name and describe 3 processes of mass movement. | | | |
| I can name and describe 4 processes of erosion. | | | |
| I can understand factors that will affect rates of erosion along the coastline. | | | |
| I can explain how sediment is transported along the coastline by describing the process of longshore drift. | | | |
| I know what deposition is and why this occurs in a coastal environment. | | | |
| I can explain the formation of headlands and bays (erosional landform). | | | |
| I can describe the sequence and explain formation of arch, caves, stacks and stumps (erosional landforms). | | | |
| I can explain the formation of a wave cut platform (erosional landform). | | | |
| I can explain the formation of a beach (depositional landform). | | | |
| I can explain the formation of a spit (depositional landform). | | | |
| I can explain the formation of a bar (depositional landform). | | | |
| I can explain the formation of a sand dune and the different characteristics of dune types. (depositional landform). | | | |
| I can explain and evaluate the 4 methods of hard engineering – sea wall, rock armour, gabions and groynes. | | | |
| I can explain and evaluate the 4 methods of soft engineering –beach nourishment, beach re-profiling, dune management and managed retreat. | | | |
| I know an example of coastal management (Medmerry or Holderness) and can evaluate this approach in managing the coastline. | | | |
| **River Landscapes** | | | |
| I can describe the river's long profile and how this changes as you move downstream. | | | |
| I can describe the river's cross profile and how this changes as you move downstream. | | | |
| I can describe 4 processes of erosion in river. | | | |
| I can describe 4 processes of transportation of sediment in a river. | | | |
| I can explain the reasons why a river deposits its eroded material. | | | |
| I can explain the formation of V shaped Valleys and Interlocking spurs linking to key processes. | | | |
| I can explain the formation of waterfall and gorges (erosional landform) | | | |
| I can explain how meanders and ox bow lakes are created by both erosion and deposition. | | | |
| I can explain how levees, estuaries and floodplains are created by deposition. | | | |
| I know an example (River Tees) of a river valley to demonstrate understanding of key river landforms . | | | |
| I can explain how physical and human factors affect the risk of flooding. | | | |
| I understand the features of a hydrograph e.g. rising limb, peak discharge, lag time, base flow etc. | | | |
| I know factors that will influence river discharge and explain how this will affect the shape of the hydrograph. | | | |
| I can explain and evaluate how hard engineering methods reduce the risk of flooding or the effects of flooding – dams, levees, river straightening, flood relief channel. | | | |
| I can explain and evaluate how soft engineering methods reduce the risk of flooding or the effects of flooding – flood warning systems, floodplain zoning, afforestation, river restoration. | | | |

# Coastal Processes

Energy of waves is determined by:

1)

2)

3)

Types of erosion:

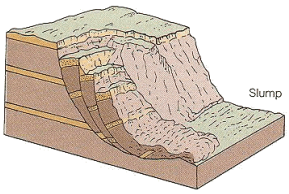
Hydraulic Action –

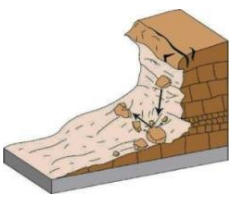
Abrasion –

Attrition –

Solution -

Mass movement – label each type and write a brief description of how each works



Why & where does deposition occur?

Key characteristics of Constructive waves:

Key characteristics of destructive waves:

Draw and annotate Longshore Drift

Chemical weathering:

Mechanical weathering:

Biological weathering:

Transportation processes:

Traction –

Saltation –

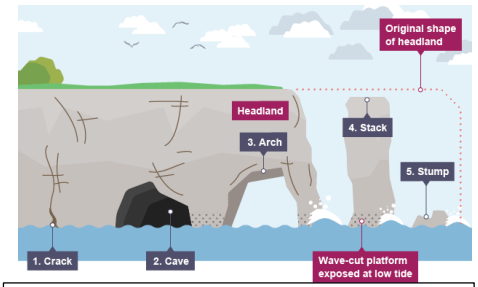
Suspension –

Solution -

# Coastal Landforms and Management

Draw a labelled diagram(s) explaining bays & headlands:

Draw a labelled diagram of wave cut platform:

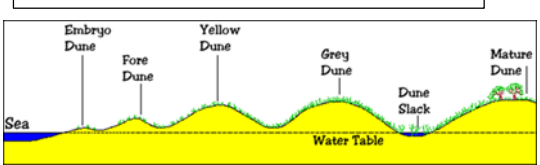



Draw a labelled diagram of both a spit and a bar:

Explain the formation of a sea stump (make sure you refer to specific processes!)

What is the difference between hard and soft engineering?

| How works | Costs | Benefits |
|---|---|---|
| Gabions: | | |
| Groynes: | | |
| Sea Wall: | | |
| Rock Armour: | | |
| Dune regeneration | | |
| Managed retreat | | |
| Beach Nourishment | | |




Explain the formation of a sand dune:

# River Landscapes

Define the following key terms:

Hydraulic Action –

Abrasion –

Attrition –

Solution -

Vertical erosion –

Lateral erosion –

Traction –

Saltation –

Suspension –

Solution –

Where and why does deposition occur?

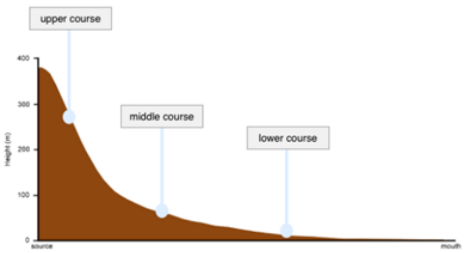
How do rivers change as you go downstream?

1)

2)

3)

What theory supports this?




Draw a simple diagram of interlocking spurs and explain where they are found, why & how?

Where are meanders found?

Explain how meanders are formed:

Draw and label a cross section of a meander:

Draw a diagram(s) explain how waterfalls & gorges are formed

Explain how levees and floodplains are formed – you may want to draw a diagram!

What are estuaries?

Where are they found?

What are there characteristics?

What is flooding:

Physical Causes:

1)

2)

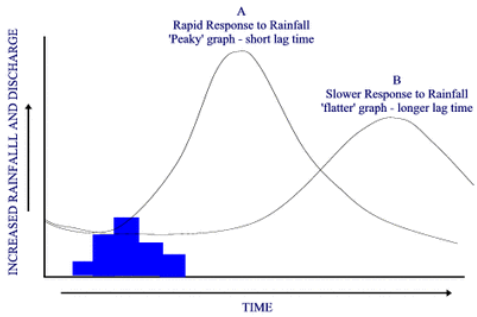
Human Causes:

1)

2)

| How works | Costs | Benefits |
|---|---|---|
| Flood warnings : | | |
| Floodplain Zoning: | | |
| Planting Trees: | | |
| River Restoration: | | |

| How works | Costs | Benefits |
|---|---|---|
| Dams & reservoir | | |
| Channel Straightening: | | |
| Embankments: | | |
| Flood relief channels: | | |




What factors may lead to ma more flashy response hydrograph (steeper rising limb/shorter lag time).

Explain how these factors lead to a shorter ;lag time:

<u>Flood management Scheme – Banbury 2012</u>

What did they do:

1)

2)

3)

Positive impacts

Negative impacts

# CASE STUDIES

## Take 10

## Holderness Coast- Coastal management

| | |
|---|---|
| Describe the location of Mappleton | Why is this area so vulnerable to erosion? |
| What are the average rates of erosion? | Coast defence strategy 1 : groynes – how do they prevent erosion? |
| Coast defence strategy 2: rock armour how do they prevent erosion? | Impact of coastal defences – did they work? |
| Advantages of management strategies | Disadvantages of management strategies |
| "Soft engineering strategies are most effective strategy at preventing erosion at the coast." How far do you agree? | Consider the costs of this project and the benefits. Do you think it was worthwhile? |

# CASE STUDIES

## Take 10

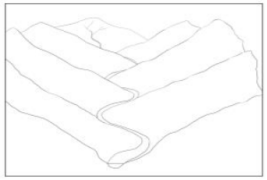
## Banbury, UK- Flood management

| | |
|---|---|
| Describe the location of Banbury | Why is this area vulnerable to flooding? |
| Soft engineering strategy: Biodiversity Action plan | Flood defence strategy 1: Flood water storage area |
| Flood defence strategy 2: Embankments | Flood defence strategy 3: Roads raising |
| Social effects of management project | Economic effects of management project |
| Environmental effects of management project | Which physical and human factors contribute to flooding in Banbury? |

# River Tees: Source to Mouth

CASE STUDIES

***Explain*** the formation of the landforms shown in the diagram.



***Label*** **the diagram**

***Explain*** the formation of High Force Waterfall.

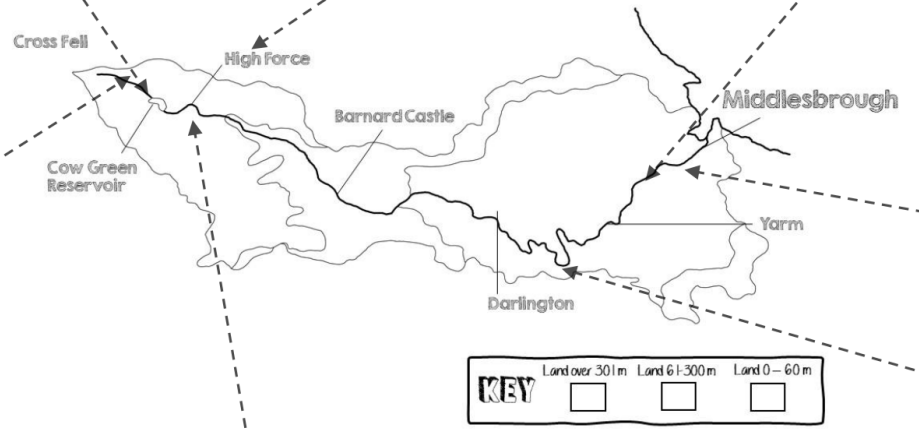
***Describe*** how a meander may turn into an oxbow lake.

Complete the sequential diagrams.

***Describe*** the source area of River Tees.

Draw a picture of the bedload in the upper course of the river. Annotate to explain why it is **angular.**

***Colour in*** the different elevations of the drainage basin, using the key.




***Describe*** how the river is used in its lower section.

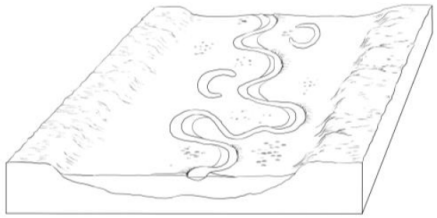
***Describe*** what the bedload is like at this section of the river.

Use geographical language to ***describe*** the location of the River Tees.

**Label** the diagram of High Force using the keywords.

**Keywords**
Waterfall
Undercutting
Hard rock
Soft rock
Hydraulic Action
Abrasion
Plunge Pool

***Label*** the diagram of the flood plain using the keywords.



**Keywords**
Meander, ox-bow lake, slip off slope, alluvium, floodplain, river cliff, lateral erosion

**Draw** a picture of the bedload in the ***middle course*** of the river. Annotate to explain how it has been rounded.

# PLUGGING YOUR KNOWLEDGE GAPS

Identify a weakness in topic covered so far. This could be an area you don't feel as confident with or an area identified as a weakness in an assessment or quiz.

Use a revision guide, notes etc. to help you create a set of summary revision notes below to review this knowledge gap. Present this in a way which helps you e.g. mind map/ diagrams etc.

# KNOWLEDGE QUIZ

Complete the 20 quiz recap questions reviewing knowledge. Do what you can from memory first. If you have to use notes to complete these, write these answers in a <u>different colour.</u>

1) What is meant by the term fetch?

2) What is the key term for water moving up the beach?

3) Identify a characteristic of a constructive waves?

4) What impact will destructive waves have on the coastline?

5) Identify the 3 types of weathering?

6) Which mass movement involves large pieces of hard rock falling from top of the cliffs?

7) What is a bay?

8) How will a bay change over time?

9) Crack, cave, arch, ....., .....

10) Which process transports sediment along the coastline?

11) Identify 2 coastal landforms created by deposition.

12) What does deposition mean?

13) What forms behind a bar?

14) What is meant by hard engineering?

15) Identify 4 coastal hard engineering methods.

16) What is involved in managed retreat?

17) Identify the other 3 soft engineering methods.

18) What is your coastal management case study?

19) Describe an advantage of this management strategy.

20) Describe a disadvantage of this management strategy.

# KNOWLEDGE QUIZ

Complete the 20 quiz recap questions reviewing knowledge. Do what you can from memory first. If you have to use notes to complete these, write these answers in a different colour.

1) What is the start of a river called?

2) Describe 2 ways a river changes as it moves downstream?

3) Why does the river widen as you move downstream?

4) Identify the 4 processes of erosion?

5) What is the key term for boulders rolling along the river bed?

6) What is the key term for water soaking into the soil?

7) Where are waterfalls formed in a river?

8) What is the feature formed at the bottom of a waterfall where the soft rock has eroded?

9) Name another landform created in the upper course of a river?

10) Where does deposition occur on a meander bend and why?

11) How will a meander change over time?

12) What feature is formed on the outside bend of a meander?

13) Identify 2 landforms formed in the lower course of a river?

14) Which process forms this landforms?

15) What is the lag time?

16) How would deforestation affect the shape of a hydrograph?

17) Why is this?

18) Identify 2 examples of hard engineering river management methods?

19) What is your example of a flood management scheme?

20) Outline a benefit of the flood management scheme.

# EXAM PRACTICE

Look at then question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

Study the photograph showing a coastal landscape in Pembrokeshire, South Wales.

Explain how different coastal landforms are created by erosion.
Use the photograph and your own understanding (6 marks)

# EXAM PRACTICE

Look at then question below. Spend 15 minutes revising to help you answer this question. Summarise key knowledge you would need to include in box below...

Now, attempt the question. Use the command word support at the front of this booklet to help you if you are stuck!

Study the diagram below showing flood management strategies.

**Discuss how flood management strategies may have impacts on people and the environment (6 marks)**
Use the diagram below and an example you have studied.