Y11 Mock GCSE AQA Geography Revision Booklet

In this you will find personalised learning checklists, command words, exam technique and case study information.

To find revision materials for the content, please use your green CGP revision guide.

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BUG and Command words

1. BUG your exam question

Box your command word

Underline the key words

Glance at the marks so you know the structure of your answer

Examine the impacts of a tectonic hazard you have studied on the economy. (6 marks)

2. If needed reword the question in your own words

3. Understand your command word:

Give	**Produce a brief answer from recall.**
State	**Express simply and clearly.**
Calculate	**Work out the value of something.**
Complete	**Add information to finish the task.**
Describe	**Say what something is like, no need to explain or offer reasons.**
Identify	**Name an example, sometimes from a map.**
Outline	**Summarise the main points or characteristics.**
Compare	**Identify similarities and differences.**
Explain	**Give reasons why something is the case**
Assess	**Weigh up which is the most / least important**
Justify	**Give evidence to support your ideas**
Discuss	**Give the points on both sides of an argument and come to a conclusion**
Evaluate	**Make judgements about which is most or least effective**
Suggest	**Give a well-reasoned guess to explain something where you can't be sure of the answer**
To what extent…	**Judge the importance of something.**
Use evidence to support this statement	**Choose information to prove or disprove something.**

Exam Technique

Point = give your answer/make your point

Example = Give information from the figure or a case study/example

Explain & Elaborate = explain what happens as a result of what you have just said using 'this means that'

Link = answer the exam question for the paragraph you have just written (9 mark questions only!)

2 mark questions: Point Point OR Point Explain if the question specifies one.

4 mark questions: 2 x Point, Evidence, Explain

6 mark questions: 2 x Point, Evidence, Explain, Elaborate + Conclusion

9 mark questions: 2 or 3 (depending on time) x Point, Evidence, Explain, Elaborate, conclusion

IF the question is asking you to describe a process or landform (paper 1 only), you need to exp
Ignore the above exam technique if this is the case!

Use of figures

Its really important to read the question a minimum of two times so that you don't miss anything

If the figure says 'use figure x', you must EXPLICITLY mention the figure in your answer. For example...

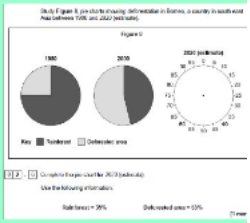


Photo... say what you see in the photo
Graph... use data from the graph
Map... use information from the map

A good phrase to use is:
'As seen in figure X, the...'

To get a high grade, you have to show in-depth and detailedknowledge of our case studies.

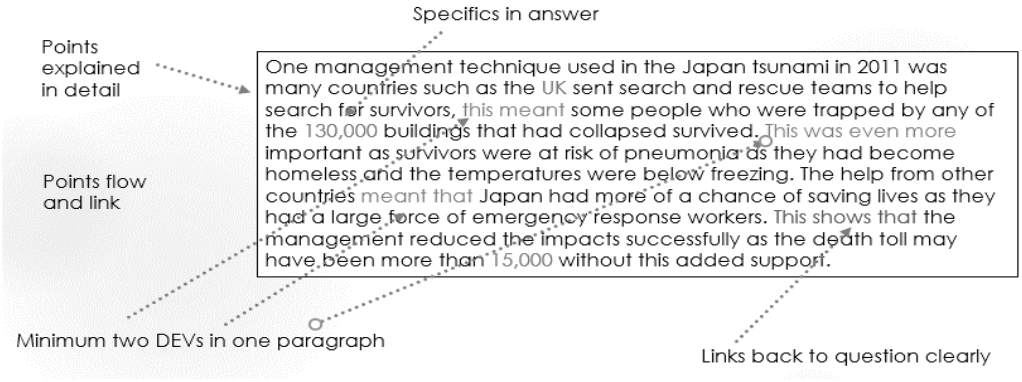
Use facts, figures, statistics, place names, business names, names ofplaces etc to show in-depth knowledge

If you haven't learnt any/can't remember…make it up! (within reason)

This means that...

Squeeze as much explanation as possible. This is how you get marks for developed points.

For 9 mark questions (and some 6 mark questions), you MUST write a conclusion where you give your opinion (I believe that...) and justify it (this is because...)



Success criteria for 9 mark questions:

- ✓ Have you written the answer appropriately to respond to command word?
- ✓ Have you included the right number of paragraphs?
- ✓ Have you DEVed enough times?
- ✓ Do you have specifics points?
- ✓ Have you used evidence if about a case study?
- ✓ Have you explicitly discussed the figure? (Only if question says 'use figure x')
- ✓ Is it written in detail?
- ✓ Have you stayed focused on exam question?
- ✓ Have you linked back to question at the end of the paragraph?

Personalised Learning Checklists (PLCs)

Personalised learning checklists are a revision tool for you to use to prioritise the topics to revise. Next to the topic you will find the page number in the green CGP revision guide/revision booklet, where you will find all the information needed to turn it into a green.

- Green = I am confident on this and could answer an exam question without revising
- Amber = I know bits and pieces about this but would need to revise before answering an exam question
- Red = I know very little about this and need to revise it

Paper 1 – Natural Hazards

Tectonic Hazards PLC	Attended Lesson?	Red	Amber	Green	Revision page number
1. Can you define a natural hazard?					2
2. Do you know the two main types of hazard and can you give examples of natural hazards?					2
3. Do you know factors that change the risk of impacts from hazards?					2-3
4. Do you know the structure of the earth?					4
5. Do you know what convection currents are and what causes them?					4
6. Do you know how the Earth's surface is separated into tectonic plates?					4
7. Do you know what happens at these three plate boundaries (destructive, constructive, and conservative)?					4-5
8. Do you know where volcanoes and earthquakes occur?					5
9. Do you know how volcanoes form on destructive and constructive plate boundaries?					4-5
10. Do you know how an earthquake is caused?					4-5
11. Do you know the difference between primary and secondary effects for earthquakes and volcanoes? Give examples.					3
12. Do you know the difference between immediate and long-term responses for earthquakes and volcanoes? Give examples.					3
13. CASE STUDY: CHILE EARTHQUAKE - 2010 Primary and Secondary Effects (impacts/ consequences) Immediate and Long-Term Responses (management)					CS 1
14. CASE STUDY: NEPAL EARTHQUAKE – 2015 Primary and Secondary Effects (impacts/ consequences) Immediate and Long-Term Responses (management)					CS 2
15. **CASE STUDY:** Do you know how the two earthquakes vary? Relationship between development on impacts and responses					CS 3
16. Do you know why people continue to live in an area at risk from a tectonic hazard?					8
17. Do you know how buildings can be changed to withstand an earthquake? (Protection)					8
18. Do you know how earthquakes can be managed through; monitoring, prediction, protection, and planning?					8
19. Do you know how volcanoes can be managed through; monitoring, prediction, protection, and planning?					8

Weather Hazards Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision page number
1. Do you know the difference between low and high pressure?					9
2. Do you know how wind moves around the world (global atmospheric circulation)?					9
3. Do you know which way the air moves and where high and low pressure is created?					9
4. Do you know the types of pressure that occur at the equator and the tropics?					9
5. Do you know where tropical storms are distributed?					10
6. Do you know how tropical storms form?					10
7. Do you know the structure of a tropical storm? (e.g. eye, spiral clouds).					10
8. Do you know how climate change may impact the distribution (where found), frequency and intensity of tropical storms?					12
9. Do you the primary effects of tropical storms?					11
10. Do you the secondary effects of tropical storms?					11
11. Do you the immediate responses of tropical storms?					11
12. Do you the long-term responses of tropical storms?					11
CASE STUDY: TROPICAL STORM – Typhoon Haiyan 2013 13. Do you know the primary and secondary effects of this storm? 14. Do you know the immediate and long-term responses of this storm?					11 & CS 4
15. Do you know how monitoring, prediction, planning and protection can reduce the effects of a tropical storm?					12
16. Can you name 5 weather hazards the UK gets?					13
CASE STUDY: UK WEATHER HAZARD – THE BEAST FROM THE EAST 2018. 17. Do you know the causes of this storm? 18. Do you know the social, economic, and environmental impacts? 19. Do you know how the storm was managed to reduce risk?					CS 5
20. Can you give evidence of how the weather is becoming more extreme in the UK?					13

Changing Climates Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision page number
1. Can you define Quaternary period, Glacial period, and Interglacial period?					15
2. Do you know the pattern of climate change from the beginning of the Quaternary Period to the present day?					15
3. Do you know a range and evidence relating to climate change including evidence from sea ice positions, ice cores, global temperature data, paintings, and diaries?					15
4. Can you outline the causes of natural climate change including sunspots, volcanic eruptions and orbital changes?					16
5. Do you know what the greenhouse effect is?					16
6. Do you know what impact humans have on the atmosphere – fossil fuels, agriculture, and deforestation?					16
7. Do you know what the enhanced greenhouse effect is?					16
8. Do you know a range of the effects of climate change on people and the environment?					17
9. Do you know how to mitigate (reduce effects) climate change through alternative energy production, carbon capture, planting trees and international agreements?					18
10. Do you know how people can adapt to climate change through change in agricultural systems, managing water supply, reducing risk from rising sea levels?					18

Physical landscapes in the UK - Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision page number
1. Do you know where upland, lowland and river areas are in the UK?					39
2. Do you know the difference between destructive and constructive waves?					40
3. Do you what mechanical and chemical weathering is?					40
4. Do you know what mass movement is; sliding, slumping, and rock falls?					40
5. Do you know these types of erosional processes; hydraulic power, abrasion, and attrition?					40
6. Do you know how sand is transported along the coast; longshore drift?					40
7. Do you know what deposition is and why this happens in some coastal areas?					40
8. Do you know how geological structure and rock type influence coastal landforms?					42
9. Do you know how erosion forms headlands and bays?					42
10. Do you know how erosion forms wave cut platforms?					42
11. Do you know how erosion forms caves, arches and stacks?					42
12. Do you know how deposition forms beaches and sand dunes?					42
13. Do you know how deposition forms spits, bars and tombolos?					42
14. CASE STUDY – Named examples of coastal landforms Do you know named examples of coastline erosional and depositional features?					CS 9
15. Do you know the difference between soft and hard engineering?					46
16. Do you know the costs (negatives) and benefits (positives) of hard engineering strategies? 17. -sea wall 18. -rock armour 19. -gabions 20. -groynes					46
21. Do you know the costs (negatives) and benefits (positives) of soft engineering strategies? 22. -beach nourishment and re-profiling 23. -dune regeneration **24.** - managed retreat (coastal realignment)					46
CASE STUDY – Dawlish Warren, Coastal Management					CS 10
25. Do you know why the spit is under threat at Dawlish Warren?					CS 10
26. Do you know what needs protecting at Dawlish Warren?					CS 10
27. Do you know how Dawlish is being managed; what sea defences they have?					CS 10

28. Do you know the effects of the management at Dawlish and what conflicts have been created?					CS 10
29. Do you know what the long profile of a river and its valley is?					49
30. Do you know what the cross profile of a river and its valleys is?					49
31. Do you know how and why the long and cross profile of a river changes?					49
32. Do you know the fluvial process of erosion; hydraulic action, abrasion, attrition, solution?					50
33. Do you know how a river transports material; traction, saltation, suspension, and solution?					50
34. Do you know what deposition is and why they deposit sediment?					50
35. Do you know how erosional landforms form on a river; interlocking spurs, waterfalls, gorges?					51
36. Do you know how erosional and depositional landforms form on a river; meanders and ox-bow lakes?					52
37. Do you know how depositional landforms form on a river; levees, flood plains and estuaries?					53
38. CASE STUDY – Named examples of River Landforms Are you able to give named examples of river landforms					CS 11
39. Do you know how physical and human factors affects the flood risk					56
40. Do you know what a hydrograph is?					56
41. Do you understand what a hydrograph shows?					56
42. Do you know the costs (negatives) and benefits (positives) of the following hard engineering strategies? - dams and reservoirs - straightening - embankments - flood relief channels					57
43. Do you know the costs (negatives) and benefits (positives) of the following soft engineering strategies? - flood warnings and preparation - flood plain zoning - planting trees - river restoration					57
CASE STUDY – Banbury Flood Alleviation Scheme (2012)					CS 12
44. Do you know why a flood management scheme was needed?					CS 12
45. Do you know what flood management that have installed and how it reduces the risk of flooding?					CS 12
46. Do you know the social, economic, and environmental issues are with the management?					CS 12

Paper 2 – Urban Issues and Challenges

Urban Issues and Challenges – Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision Page
1. Do you know the global pattern of people moving to the city?					69
2. Do you know why more people are moving to urban areas in LICs and NEEs compared to HICs					69
3. Can you define urbanisation?					69
4. Do you know the factors that affect the rate of urbanisation?					69
5. Do you know what push and pull factors are?					69
6. Do you know examples of push and pull factors?					69
7. Do you know how migration and natural increase, increases urban populations?					69
8. Do you know what a megacity is?					69
CASE STUDY – Major city in an NEE – Rio De Janeiro					CS 13
9. Do you know the location of Rio De Janeiro?					CS 13
10. Do you know the regional, national, and international importance of Rio De Janeiro?					CS 13
11. Do you know why the population of Rio De Janeiro is increasing (urban growth)?					CS 13
12. Do you know how urban growth has created opportunities socially and economically?					CS 13
13. Do you know how urban growth has created challenges; slums, providing water, providing energy, health, education, crime, unemployment, waste disposal etc?					CS 13
14. Do you know how urban planning (improving slums) is improving the quality of life in Rio De Janeiro?					CS 13
CASE STUDY – Major City in UK - Brighton					CS 14
15. Do you know the regional, national, and international importance of Brighton?					CS 14
16. Do you know why the population of Brighton is increasing (urban growth) and the impact it is having on Brighton?					CS 14
17. Do you know how urban growth has created opportunities socially, economically, and environmentally?					CS 14
18. Do you know how urban growth has created challenges; deprivation, inequality in housing and education, health, dereliction, building on brownfield and greenfield sites etc?					CS 14
19. Do you know an urban regeneration project in Brighton; why it is being regenerated and the main features of the project?					CS 14
20. Do you the features of sustainable living; water and energy conservation, recycling, and green space?					77
21. Do you know a transport strategy used to reduce traffic congestion?					79

Changing Economic World – Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision Page
1. Do you know what; HIC, NEE and LIC stand for?					81
2. Do you know what Gross National Income is? (economic development indicatory)					81
3. Do you know what a social development indicator is? (birth and death rate, infant mortality rate, life expectancy, literacy rates, people per doctor, access to safe water)					81
4. Do you know the limitations to these development indicators?					81
5. Do you know what three development indicators make up HDI (Human Development Index)?					81
6. Can you explain the physical, economic and historical causes of uneven development?					84
7. Can you explain the consequences of uneven development? (disparities in health and wealth, migration)					84
8. Do you know what the DTM is?					83
9. Do you which each stage is like in the DTM?					83
10. Can you explain the strategies used to reduce the development gap? Industrial development, investment, tourism, aid, intermediate technology, fairtrade, debt relief, microfinance loans					86
CASE STUDY – TOURISM : JAMAICA 11. Can you explain how the growth of tourism has helped Jamaica close the development gap?					CS 15
CASE STUDY – NEE – NIGERIA					CS 16
12. Do you know the location of Nigeria?					CS 16
13. Do you know the regional, national and global importance of Nigeria?					CS 16
14. Do you know the wider political, social, cultural and environmental context of Nigeria?					CS 16
15. Do you know how employment sectors (primary/secondary/ tertiary/quaternary) have changed over time?					CS 16
16. Do you know what a TNC is?					CS 16
17. Do you know what TNC is located in Nigeria?					CS 16
18. Do you know what positives and negatives the TNC created for Nigeria?					CS 16
19. Do you know how the TNC has impacted the environment?					CS 16
20. Do you know how people's quality of life has improved in Nigeria?					CS 16
21. Do you know how aid has impacted Nigeria?					CS 16
22. Do you know how the UK's economy is changing?					91 onwards

23. Do you know the cause of the UK's changing economy? Industrialisation and industrial decline, globalisation and changing government policies					91 onwards
24. Do you know what a post industrial economy is? Development of IT, service industries and finance, science and business parks, research					91 onwards
25. Do you know how industry impacts the physical environment?					91 onwards
26. Can you give an example of how modern industrial development can be environmentally sustainable?					91 onwards
27. CASE STUDY: ENVIRONMENTALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT: Southampton Science Park Do you know how this development is achieving environmental sustainability					CS 17
28. Do you know the features of the UK transport system?					91 onwards
29. Do you know how the UK is connected to other countries?					91 onwards
30. Do you know how changes in the UK economy are changing rural areas?					91 onwards
31. Do you know what the north-south divide is and evidence for it?					91 onwards
32. Do you know what the UK government is doing to try and close the north-south divide?					91 onwards

Paper 3 – Fieldwork and Geographical skill

Fieldwork – Personalised Learning Checklist	Attended lesson?	Red	Amber	Green	Revision Page
1. Can I calculate the mean, median, mode, range, and interquartile range and percentage change?					122
2. Do I know the difference between a choropleth map, isoline map, proportional symbol map and flow line map?					122
3. Do I know the difference between a bar chart, line graph, dispersion graph, scatter graph, pictogram, and pie chart?					122
4. Do I know the 3 types of sampling and their advantages and disadvantages?					122
PHYSICAL FIELDWORK – DAWLISH WARREN					
5. Do I know the physical fieldwork enquiry question?					Booklet
6. Do I have good knowledge of the coastal management scheme?					Booklet
7. Do I know whether the data I collected is primary or secondary?					Booklet
8. Do I know why it was an appropriate fieldwork location?					Booklet
9. Do I know what the risks of fieldwork were and how we reduced them?					Booklet
10. Do I know how we measured and recorded the data?					Booklet
11. Can I justify why we used these data collection methods?					Booklet
12. Do I know how I presented the data?					Booklet
13. Can I explain why I presented the data that way?					Booklet
14. Can I explain what the presented data shows?					Booklet
15. Can I identify and explain any anomalies in the data?					Booklet
16. Can I answer the fieldwork enquiry question using evidence?					Booklet
17. Do I know the problems of the data collection methods I used?					Booklet
18. Do I know the limitations of the data I collected?					Booklet
19. Can I suggest some other data that would be useful to collect?					Booklet
20. Do I know how reliable my conclusions are?					Booklet
HUMAN FIELDWORK – NEW ENGLAND QUARTER, BRIGHTON					
21. Do I know the physical fieldwork enquiry question?					Booklet
22. Do I have good knowledge of the urban regeneration scheme?					Booklet
23. Do I know whether the data I collected is primary or secondary?					Booklet
24. Do I know why it was an appropriate fieldwork location?					Booklet
25. Do I know what the risks of fieldwork were and how we reduced them?					Booklet
26. Do I know how we measured and recorded the data?					Booklet
27. Can I justify why we used these data collection methods?					Booklet
28. Do I know how I presented the data?					Booklet
29. Can I explain why I presented the data that way?					Booklet
30. Can I explain what the presented data shows?					Booklet
31. Can I identify and explain any anomalies in the data?					Booklet

32. Can I answer the fieldwork enquiry question using evidence?					Booklet
33. Do I know the problems of the data collection methods I used?					Booklet
34. Do I know the limitations of the data I collected?					Booklet
35. Can I suggest some other data that would be useful to collect?					Booklet
36. Do I know how reliable my conclusions are?					Booklet

Case Studies

Case Study 1: HIC earthquake: Chile 2010

Causes

- On 27th February 2010 **, an 8.8 earthquake** on the Richter scale occurred with the epicentre 325 km SW of the capital, Santiago, 8km off the coast.
- Chile lies on a **destructive plate boundary** where the oceanic Pacific and continental South American plates. meet
- Chile is an **HIC** (GNI per capita of $24,190).

Impacts

Primary

- 500 people were killed and around 12,000 people were injured.
- 220,000 homes destroyed, as well as other buildings, including over 50 hospitals, 4,500 schools.

Secondary

- Electricity, water and sanitation affected
- Cost of earthquake $30 bn
- Several Coastal towns were cutoff by Tsunamis
- 1,500 km of roads damaged meaning people could not get supplies and livelihoods effected

Responses

Short-term

- A national appeal raided over $60m – enough to build 30,000 small emergency shelters.
- Temporary repairs to important route 5 N-S highway enabling emergency supplies to be transported
- Emergency services active swiftly. International support to build field hospitals

Long-term

- A month after the earthquake, government launched a housing reconstruction scheme to repair 200,000 homes
- The president announced it would take 4 years to fully recover from damages to ports and buildings.
- Chiles strong economy based on Cooper imports, could be rebuilt without the need for foreign investment

Case Study 2: LIC Earthquake: Nepal 2015

Causes

- On 25th April 2015 **, an 7.9 earthquake** on the Richter scale occurred with the epicentre 60 km NW of the capital, Kathmandu. Was a shallow earthquake at only 8km depth.
- Chile lies on a **collision plate boundary** where the continental Indian and Eurasian plates. meet
- Chile is an **LIC** (GNI per capita of $3,100).

Impacts

Primary

- 9,000 people were killed and around 20,000 people were injured. 8 m affected in total
- Avalanche on mount Everest killed at least 19 people
- 7,000 schools destroyed and hospitals destroyed

Secondary

- 3 m people left homeless due to destruction of homes
- 1.4m people needed food, water and shelter
- International airport could not cope with high levels of foreign aid
- Landslides blocked roads hampering aid effort

Responses

Short-term

- Field hospitals set up to support overcrowded hospitals
- 500,000 tents supplied by other countries.
- Temporary repairs to important route 5 N-S highway enabling emergency supplies to be transported
- Emergency services active swiftly. International support to build field hospitals

Long-term

- Roads repaid and landslides cleared
- Stricter controls on building regulations.
- Thousands of homes rebuild . Over 7,000 schools rebuilt
- Tourism, a major source of income boosted by July 2015, with key world heritage sites re-opened.

Case Study 3: Comparison between Chile and Nepal earthquakes

- Refer to details in Case Study 1 and 2.
- Chile experienced a much larger earthquake (8.8 vs 7.8), yet Nepal suffered far more deaths because:
    - Nepal was less developed
    - buildings were weaker with less regulation
    - emergency response was slower
    - access to affected areas was harder (Himalayan region)

- This shows that vulnerability and capacity to respond are often more important than magnitude.

Case Study 4: Tropical Storm: Typhoon Haiyan, Philippines 2013

Causes

- On 8th November 2013 **, a category 5 Tropical storm** hit the Philippines, in South-East Aisa.
- Conditions Required for Tropical storm:
    1. Warm deep ocean at least 27 degrees c. Pacific Ocean
    2. Within 5 -30 degrees latitude.
    3. Low sheer winds

Impacts

Primary Impacts:

- 280mm of rainfall in worst affected areas
- Wind speed upto 195 mph
- Storm surge and high tide combined to create 7m waves.
- Over 6,300 people killed and more than 28,000 injured
- About 90% of Tacloban was destroyed

Secondary Impacts

- 1.9 m people were made homeless.
- Fishing communities lost their jobs as 30,000 boats were destroyed.
- Flooding knocked over a barge, causing an oil spill.
- Rice fields destroyed which affected food production.
- Disease spread due to poor sanitation
- Power supplies were cut off

Responses

Short-term responses

- UK government provided aid (food, medicine, water) to 800,000.
- International charities provided search and rescue workers

Long-term responses

- Charities repaired fishing boats and distributed rice .
- The UN pledged $480m to help rebuild.
- Improved warnings systems put in place.

Judgement

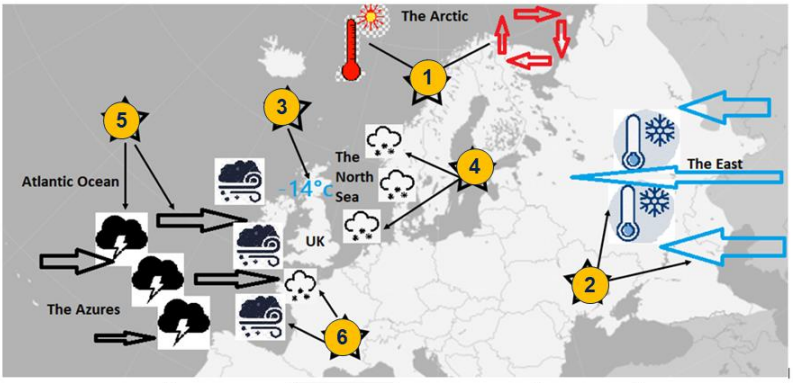
Although the storm was extremely powerful physically, the effects were made worse by:

- Poverty in the Philippines
- Many people living in unsafe coastal areas
- Weak housing
- Limited infrastructure
- Dependence on farming and fishing

Case Study 5: UK weather hazard: The beast from the East 2018

Causes

- Beginning on 24 February 2018. Change to the northern polar jet stream – it bought air in from the East. The air picked up moisture from the North Sea, creating snow. Storm Emma happened at the same time and hit Cornwall and Devon.



Impacts

Primary Impacts

- 50cm of snow Dartmoor
- Temperatures below -14 degrees Celsius
- Crops destroyed
- 8,260 collisions on the road
- 10 people died in the UK
- People trapped in their cars on the road for over 24 hours

Secondary impacts

- Flights and trains were cancelled
- Shortages of food as supply chain was impacted and panic buying
- London airports closed
- 1000's of schools were closed

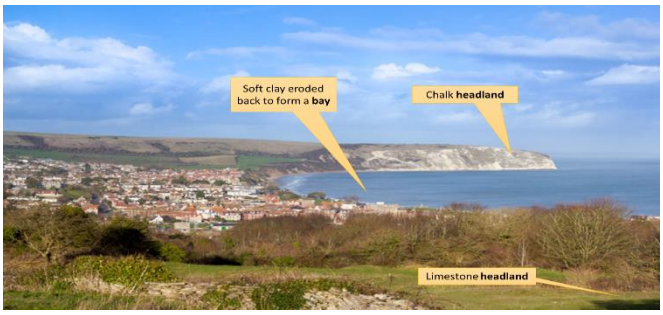
Responses

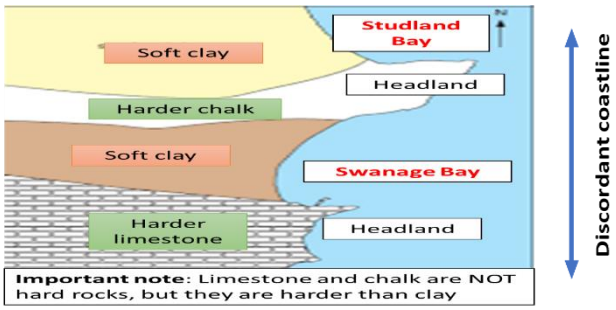
National responses

- Snow ploughs and gritters cleared roads
- Met office released red weather warning
- The RAF helped to transfer doctors
- Emergency Shelters were set up to help homeless people

A. Headland and bay: ***Swanage Bay and Ballard Point***

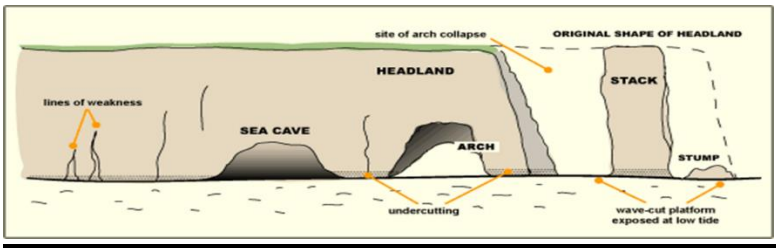
- Swanage on the Dorset Coast, located in the south of England on the English Channel
- Headland and bays occur along a **discordant** coastline which has a band of soft rock such as clay and hard rock such as chalk. (Discordant coastlines is where the geology alternates between hard and soft rock)
- Weaker rock >> eroded at a faster rate (hydraulic action and abrasion) as it is less **resistant**.
- This forms an inlet called a **bay**. For example, Swanage Bay.
- The resistant rock is eroded at a slower rate creating an outcrop **headland** such as Ballard point.





B. Cave, Arch, Stack: ***Old Harry Rocks***

- Swanage on the Dorset Coast, located in the south of England on the English Channel
- Hydraulic action widens the **crack** in the headland.
- Over time, hydraulic action and abrasion widens the crack to form a **sea cave**.
- The cave becomes larger and eventually breaks through the headland to form an **arch**.
- Over time the roof of the arch becomes unsupported and collapses into the sea forming a **stack**.
- The stack is undercut at the base until it collapses to form a **stump**.



C. Spit: ***Dawlish Warren***

- **South coast of Devon, near Dawlish** In the Southwest of England, at the mouth of the River Exe
- **Longshore drift** transports material along the beach in a zig-zag motion (**prevailing wind)**.
- When the **coastline changes shape**, the area becomes sheltered and has less energy. This causes material to be deposited, which bults up to form a thin ridge of sand called a **spit**.
- Secondary winds cause the end of the spit to become recurved called a **hook**.
- The area behind the spit becomes sheltered forming a **saltmarsh**.

Reasons to protect Dawlish Warren:

- A salt marsh that is home to 23,000 roosting birds in the summer and 600 species of wildflower
- The trainline that runs from Plymouth to London, which many people rely on to commute to work
- Settlements such as Dawlish, Easton and Starcross, where many people live
- Businesses at the beginning of the spit such as cafés, caravan parks, shops, and a golf course, that rely on business from tourists in the summer
- The spit acts as a natural defence against storm waves

The beach management scheme

- The Environment Agency and Teignbridge District Council worked together on the £12million scheme to reduce the risk of flooding to nearly 2,900 properties around the River Exe and it was completed ahead of schedule in October 2017.
- Construction of the main scheme started in January 2017 and took around 9 months to complete.
- The work improved the quality of Dawlish Warren beach and benefited by continuing to shelter communities and the main railway line from storms is estimated at £158million.

Sea wall	*Beach nourishment*	*Groynes*
The scheme will raise the wall from its current height of 5m to 7.5m, widen the walkway to 4m from its current 3.1m width, and include a barrier between the pedestrians and the edge of the sea stop people falling off the wall. A footpath runs alongside the railway which forms part of the South West Coast Path.	Recent storms have ripped hundreds of tons of sand away from the vulnerable beach at Dawlish Warren. While the beach will repair itself over time, it could be more than a decade before the sand is restored. A £14m reconstruction project aims to add sand to the narrow section of the spit. The scheme involved increasing sand levels to protect defences through beach nourishment. More than 100 Olympic swimming pools full of sand were pumped on to the beach, but since then there have been several storms, most recently Storm Emma, that have caused changes to beach levels.	As part of the Dawlish Warren Beach Management Scheme new timber groynes are being constructed and existing groynes are being extended to increase their effectiveness. These will retain sediment being moved along the shore through longshore drift and help retain the beach nourishment being added to the spit. This should ensure the spit is maintained and continue to act as a natural barrier to the waves.

Im me

- each is sta he gro gshore drift. Here, the sand dunes are being eroded
- The biodiversity of the saltmarsh (2,300 wildflower and 600 bird species) has been protected
- Businesses on the spit are thriving as many tourists walk along the sea wall and visit the shops.
- 2,900 properties are being protected.
- The council had to cancel funding for other services to pay for the coastal management scheme (£12 million).
- Sea level rise and more storms have led beach becoming smaller, undoing the beach nourishment efforts.

Long profile of the river Tees

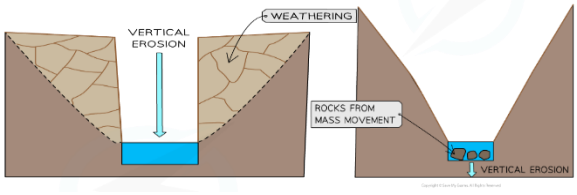
- The river Tees is located in the north of England. It flows 137 km (85 miles) east from its source in the Pennines to its mouth on the North Sea coast.

A. Waterfall – High Force

- The UK's largest waterfall, High Force, is located in the upper course of the river Tees. An area of hard rock, called **Whin Sill** (Igneous), is located above a layer of **sandstone** and **limestone** (sedimentary rocks).
- Process
    1. Water passes over the **hard rock,** and the s**oft rock**.
    2. **Hydraulic action** erodes the soft rock at a faster rate as it is **less resistant**, forming a **plunge pool**.
    3. The hard rock is more resistant to erosion and is undercut forming an **overhang**. Due to a **lack of support** the overhang collapses, sending rocks into the plunge pool increasing erosion by **abrasion.**
    4. This process of undercutting and collapsing r**epeats** many times, and slowly the waterfall **retreats** upstream, leaving a **steep-sided gorge**.

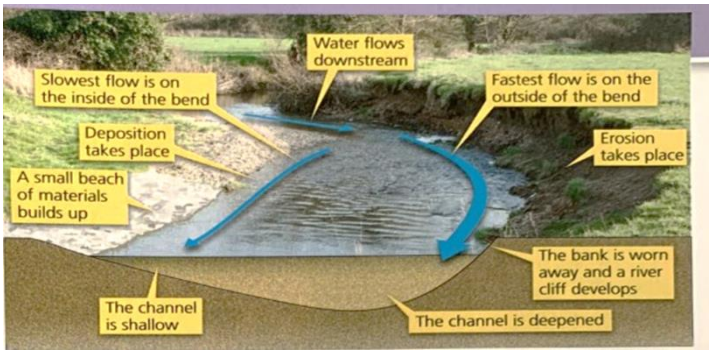
B. V Shaped Valleys- Upper course of the river Tees

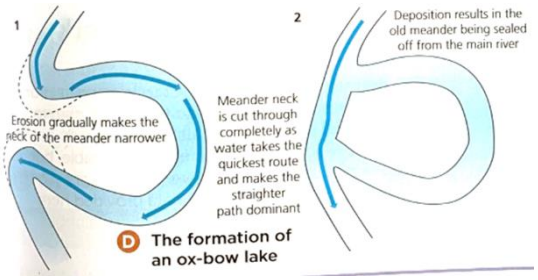
- In the upper course, the Tees is a narrow channel, it flows quickly downhill causing vertical erosion. The river cuts a **deep notch** down into the landscape via **hydraulic action** and **abrasion**.
- As the river erodes downwards the sides of the valley are exposed to **freeze-thaw weathering** which loosens the rocks.
- Under the influence of **gravity**, the loosen material falls into the river and is swept downstream further eroding the riverbed via **abrasion**.
- This leaves behind a **V-shaped valley** in the upper course.



C. Meanders – middle course of the river Tees

- In its Middle Course, near Barnard Castle, the River Tees begins to **erode laterally (sideways)** to form meanders or bends. On the outside of the meander, the water is deeper and flows faster, meaning it has more energy. It undercuts the bank, forming a river cliff.
- On the inside of the bend, the current is slower, and the water has less energy. Sand and pebbles are deposited to form a gentle **slip-off slope**.
- Continued erosion and deposition cause the loop to become tighter and the neck to become small. As the river breaks through, e.g. during a flood when the river has a higher discharge and more energy, and the ends join, the loop is cut-off from the main channel. This cut-off loop is called an oxbow lake.

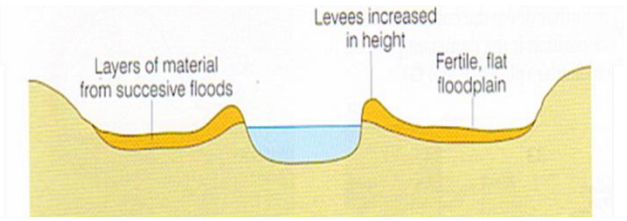




D. Floodplains and levees: *lower course of River Tees*

- Levees are formed during periods of flooding. When the rivers banks burst the friction increases reducing the energy of the flood water. This causes the water to deposit the heaviest sediment first close to the river channel forming riverbank known as a levee.
- The finer material is transported further away from the river before it is deposited. This creates fertile soil over the flat floodplains.

The River Tees' floodplain just outside Darlington, showing a natural levee.



Case Study 12: Flood Management: Banbury Flood Alleviation Scheme

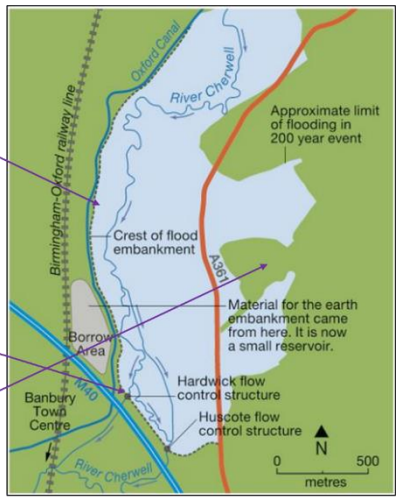
- Banbury is in the south-east of England located within an hour's drive of London, Birmingham and Oxford, a prime location for businesses and commuting workers.
- However, the town was destroyed during major flooding of the River Chadwell in Easter 1998.Causing £12.5m in damage

Features of the Scheme

A **2.9km embankment** *was built a flood storage area with a height of 4.5m. capable of holding 1200 Olympic size swimming pools (3million cubic metres of water)*

Two flood water storage structures were built in the embankment. *The opening controls the rate of flow downstream towards Banbury.*

A biodiversity Action Plan (BAP) has created a habitat by planting trees to absorb more water during periods of heavy rain. Also supports ecosystems and encourages biodiversity



Impacts of the Scheme

People living downstream have an increased flood risk, which could plunge them into poverty

A natural way to protect against flooding by creating habitats and improving biodiversity

This money could have been spent on improving local services and infrastructure

Social	Environmental	Economic
😊 House owners are no longer worried about damage to their property. Uninsured houses are especially at risk during flooding, because homeowners lose everything and must pay for repairs themselves. 😊 New footpaths and parks surrounding the flood water storage. Dog walkers and families can take advantage of the pathways, which will improve their quality of life.	🌲 The new biodiversity plan will increase vegetation - trees, hedges, ponds - to reduce the risk of flooding. This will improve the environment. 🌲 During construction of the flood water storage, heavy machinery damaged the nearby vegetation. 🌲 Soil was removed from areas surrounding Banbury to make embankments. This will disrupt habitats and wildlife.	💰 The construction work cost £18.5 million. 💰 Construction jobs were created in the process, as well as some jobs to maintain the biodiversity plan. 💰 It is estimated that the storage scheme has saved £100 million in avoiding damages.

People are physically healthier, reducing the strain on the NHS

Compact soil and vegetation absorb rainwater, this could increase the flood risk

Local people increase their income, which could trigger a positive economic multiplier effect

Case Study 13: Major city in an NEE – Rio De Janeiro, Brazil

A. Location of Rio De Janeiro

Rio De Janeiro is a mega city located in the South-East of Brazil in the continent of South America (southern hemisphere). The Atlantic Ocean is located to the south of Rio.

B. Importance of Rio De Janeiro

Regional (in SE of Brazil)	• Rio provides essential services such as schools, hospitals, and universities • Rio is a cultural and transport hub, with many people visiting from the surrounding rural areas via transport links
National (in the country of Brazil)	• Many of Brazil's largest companies, including those in mining, oil, and telecommunications, have their headquarters in Rio • Rio is a leading centre for industries such as clothing, processed food, and pharmaceuticals, contributing 5% of Brazil's GDP
Global (around the world)	• Rio attracts global attention as a tourist destination, with landmarks like Christ the Redeemer, Sugarloaf Mountain, and Copacabana Beach. • Rio hosts sporting events like the 2016 Olympics and 2014 World Cup

C. Population growth in Rio De Janeiro

Despite no longer being Brazil's capital, Rio de Janeiro remains one of the country's most important cities - economically, culturally, and symbolically. As a result, it continues to experience significant population growth, with the Greater Rio area estimated to house over 13.5 million people.

Natural increase – particularly in lower-income areas

Rural to Urban Migration – people from rural areas and smaller towns in Brazil continue to migrate to Rio in search of jobs, education, and better services, especially from northern and north-eastern regions of the country.

D. Social and Economic Opportunities in Rio De Janeiro

Social	Economic
Rio has better access to services and resources than rural Brazil: 1) **Healthcare:** Free access to healthcare with 3 public and 6 private hospitals. 2) **Water supply:** largest water treatment plant in world. Since 1998 > 300km of new pipes. 3) **Energy supply:** >99% have access to electricity 4) **Better Schools** – 400 secondary schools and 6 universities. 95% of children over 10 can read in Rio. NGO's like "Schools for tomorrow" collaborate with local communities 5) **Culture:** Rio is famous for its annual carnival, samba schools, and sporting events.	Rural Brazil is very poor- most people come to Rio in search of better jobs 1) Rapid growth of the city means there are lots of **construction jobs** 2) Rio is a major **trading port**, with important oil refining and ship-building industries. The main exports from Rio are crude petroleum and semi-finished iron and steel products. 3) **Sport** - football is the national sport in Brazil, and major global sporting events take place here. 4) **Tourism** – provides 1000s of jobs. Rio is one of the most visited cities in the southern hemisphere. Major attractions include the Christ the Redeemer statue

E. Social, Economic and Environmental Challenges in Rio De Janeiro

Social	Economic	Environmental
Average population density in Rio is 6,000 people per km2. This puts pressure on the supply of housing, services and infrastructure. 1) **Slum housing-** over 25% of the population live in slums, E.g. Rocinha. Often built on steep slopes made from wood, metal and rubbish which are unstable and can collapse 2) **Communal toilets-** in Dharavi there is 1 toilet per 500 people 3) Only 30% of people have access to **healthcare** 4) Poor **sanitation-** diseases spread quickly, e.g. cholera 5) High levels of **crime**, violence and drug abuse blight many of the favelas 6) **Traffic**: cars increased by 40% due to crime	1) **Income inequality**: Huge gap between rich and poor. 2) **Unemployment** rates can be greater than 20% in the favelas. 3) People who work in the **informal** sector do not pay taxes and therefore do not receive insurance Cover or unemployment benefit. Around one-third of workers in Rio are in the informal sector	1. 3.1 million tons of **waste** is generated in Rio every year. Most is taken to landfill. As materials decompose in landfill sites, they release gas which could be harnessed to fuel vehicles and provide a source of energy for electricity. 2. High **water pollution-** sewage and industrial waste in dumped into rivers. E.g. Guanabara Bay, fishing declined by 90% in 20 years 3. High **air pollution**- overreliance on using fossil fuels to meet energy demands, increase emissions from vehicle use, causes 5,000 deaths per year

F. Example of an Urban Planning Project in Rio De Janeiro

What is it?	The Favela Bairro Project is an example of an urban planning project with an objective of improving the quality of life for Rio's urban poor, favelas.

Where is it	Located in Complexo de Alemao, in North of Rio, in SE Brazil, with more than 60,000 residents

Why Needed	What was done?	How effective was it?
Unemployment	▪ Cable car built to connect the favela to the central business district (CBD), so residents can access employment	▪ One free ride for the inhabitants per day ▪ The cable car would often break down resulting in people not being able to get to work.
Crime	▪ Creating a Pacifying Police Unit (UPP) to help tackle crime and violent gangs	▪ The Pacifying Police Unit (UPP) worked in some areas, but, struggled with the violent gangs ▪ Continued widespread stealing of electricity and 'tap' in the supply, resulting in black-outs and no power for many homes.
Access to water and electricity supply	▪ New sewers and water pipes to increase a healthier water supply and sanitation.	▪ New water pipes and sewers reduced illness and disease across the population
Informal poor quality of housing	▪ Access to 100% mortgages and loans allowed ownership and improvements to peoples home and quality of life	▪ Rent rises due to improvements, meaning some people can no longer afford to live there.

Overall Evaluation: Positives	▪ The quality of life, and employment prospects of the slums' inhabitants have improved. ▪ Project recognised by UN as a successful model and been used in other Brazilian cities.
Overall Evolution: Negative	▪ $1 billion budget was not enough to cover every favela in Rio ▪ Newly build housing, not been maintained as residents lack skills and materials ▪ Rents rise meaning some people can no longer afford to live there.

Case Study 14: Major City in UK – Brighton

A. The location of Brighton

Brighton is located in the county of East Sussex in the SE of England. It is 80 km South of London. It sits on the English Channel.

B. The Importance of Brighton

Importance to the UK	▪ Several **universities**, including the University of Brighton and Brighton and Sussex Medical School. ▪ The **LGBTQ+** capital of the UK. It is home to one of the biggest Pride festivals in the UK, and the city's inclusive attitude makes it a beacon of equality and social progress in the country. ▪ Its commitment to being a '**green city**' sustainability and environmental conservation. It had the first MP in the UK from the Green Party, Caroline Lucas ▪ Premier Legue Brighton & Hove Albion **football** team.
Importance Globally	▪ Attracts **tourists** from around the world. Its multicultural atmosphere, beach and city life, and easy access to London, makes it a vital part of the UK's tourism economy. ▪ **Diverse population**. The city attracts people from around the world with a wide range of ethnic, cultural, and socio-economic backgrounds. ▪ Key location for global **creative and digital industries**, with companies in tech, design, and media. ▪ World-famous DJ Fatboy Slim has become a symbol of Brighton's **musical** and cultural identity.

C. How Urban change has created social and economic opportunities for Brighton

Economic

- **Employment and Business:** 140,000 jobs and 16,000 businesses. With strong economic growth, 14,300 jobs have been created since 2011, and there are 2,700 more businesses in the city compared to 2012.
- **Wider Region:** Net daily outflow of more than 5,000 people; the majority of these commutes elsewhere in the City Region (48%) or to London (25%)
- **Enterprising Economy:** there were 2,100 business start-ups in 2015, and the city is home to a greater concentration of homeworkers than any other UK City.
- **ICT and Digital:** Brighton & Hove has a strong and rapidly growing ICT and Digital sector. The sector now supports nearly 1,500 businesses and 6,800 jobs, having grown by over 40% over 5 years.
- **Tourism:** continues to be an important driver of the Brighton & Hove economy: the sector supports around 1 in 5 jobs in the city, e.g. pier and expenditure of around £860m.
- **Skilled workforce:** half of working age residents have a degree level qualification, compared to around 38% nationally.

Social

- **Culture mix:** A welcoming and diverse city, strengthen by domestic and international migration. Known as the LGBTQ+ community that has helped shaped the city identity, including Pride event. Large variety of independent shops, including Taj (world foods) and restaurants (Donatello's)
- **Recreation and entertainment:** Coastal location a key attraction, also the Lanes, and modern leisure facilities. Wide range of entertainment, including the Pier, Brighton dome, music venues and festivals. All improve QOL and desirability of city. Also, home to Brighton and Hove Albion Football Club – a premier league club.

D. How Urban change has created social and economic challenges for Brighton – Comparison of Hove Park and Whitehawk

Context:

Hove Park

- An affluent suburb, to the west of the city.
- Surrounds Hove Park, a large, green and well-maintained space, popular with dog walkers.
- Victorian and Edwardian architecture, with many new builds taking inspiration from this style.
- Hove is a very popular area to live.

Whitehawk (East Brighton)

- 1920s, area consisted mainly of pig farms, smallholdings and allotments.
- 1920 and 1931 Council began a program of slum clearances. Replaced with new homes, designed to have "all modern conveniences" including electricity, gas and running water. However, some people found it very difficult to adjust. E.g. rag and bone men, which was hard to do from so far out of town.
- Post-war Brighton suffered a housing shortage and so further building work was carried out in the Whitehawk area. **New high-rise flats** were built to the west of Whitehawk (known as the **Bristol Estate**) and **private housing** was also started, most notably a large self-build scheme in Wilson Avenue at the far east of the estate.
- Whitehawk is one of the most **deprived areas** in the whole of the **UK (bottom 5%).**

Factor	Evidence (data)
House prices	▪ Whitehawk 20 % less value than Hove ▪ Whitehawk losing value (4% in 2022 than previous year) hove park gaining value (6% more than 2022). ▪ 17% rent in Hove while 33% in Whitehawk.
Life expectancy	▪ Seven years younger in Whitehawk than Brighton average
Education	▪ 12% of Whitehawk pupils receive 5 GCSE grade C and above compared to Brighton Average.
Crime rates	▪ 79 crimes in March 22 in Hove while 96 in Whitehawk.
Unemployment	▪ 2.4% unemployment rate in Hove while 5.7% in Whitehawk.

E. How Urban change has environmental challenges for Brighton Impact of urban sprawl on Brighton

Issues in Brighton

Dereliction 	**When buildings in an urban area are abandoned and become run down**	▪ **Brighton Hippodrome** is a historic theatre that has remained unused for many years. ▪ As the building has deteriorated, concerns have been raised about waste from decay and the missed opportunity to redevelop the site for housing or green space. ▪ In Brighton, derelict sites can have a negative impact on the environment as they often become neglected spaces that attract littering and fly-tipping. They may also reduce the visual quality of an area and create unsafe conditions
Urban Sprawl 	**the expansion of urban areas into rural areas when new developments are built**	▪ Nearby sensitive areas such as Stanmer Park are affected by the **Bluebell Heights development**, as expansion can disrupt ecosystems and reduce accessible green space for both people and wildlife. ▪ In Brighton's case, developments such as Bluebell Heights on the edge of the urban area show how the city is spreading into previously undeveloped land. This often involves building on greenfield sites, which are areas that have never been built on before, such as farmland or natural landscapes
Commuter Settlement 	**A smaller urban area located next to a city, where the majority of population commutes (travels) for work**	▪ Increased commuting leads to higher levels of traffic congestion and air pollution, particularly where car use is common. It also increases carbon emissions due to longer daily journeys and places additional pressure on transport networks and surrounding countryside ▪ **Burgess Hill** is an example of this, as it has expanded significantly in recent years due to demand for housing within commuting distance of major employment centres

Sustainable solutions

***Urban Greening*: Turning urban areas into green spaces**	▪ The Old Steine area has been redesigned with more green space and plants. ▪ More trees are being planted in areas with low levels of greenery. ▪ Preston Park is being improved to support wildlife and increase biodiversity.
***Zero Waste*: Brighton's Sustainable Action Plan - By 2027 they hope that 70% of waste will be recycled or composted, open further recycling facilities in Brighton to cope with demand.**	▪ A new food waste collection service is being introduced across the city. ▪ The Beryl bike hire scheme helps people travel without cars. ▪ The council is promoting a circular economy (reuse, repair, recycle).
***Integrate Tansport Systems* = a coordinated network of different transportation modes (buses, trains, bicycles etc)**	▪ Electric buses are being introduced to reduce pollution. ▪ More cycle lanes are being built along Lewes Road

F. Example of Urban Regeneration project: New England Quarter, Brighton

- Located on the northern edge of Brighton's city centre, an area popular with shoppers and full of independent retailers and food outlets.

Previous use

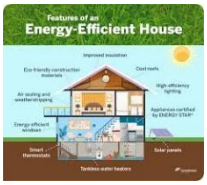
- A goods yard for rail equipment, with some small businesses and garages that, that closed, and as a result the area became run down, which attracted crime.
- A prime **Brownfield** site (derelict land) which was vacant (empty) and ready for new development.
- By building new homes/businesses here, the council avoided building on Greenfield sites This preserves the wildlife and rural environment.
- It is a large area with existing **infrastructure** (roads, power, water)

Features

- New employers and small businesses attracted to the area created over 1000 new jobs
- The building of the Jury's Inn, a 3-star, 230 room hotel. Creating over 200 jobs, bringing more tourists to Brighton and boosting the local economy.
- A large supermarket (Sainsbury's) was also built with underground parking facilities. Created 100 jobs.

Homes for the future

- 350 new homes (mainly flats) enough for over 1000 people.
- 30% of the new homes have been built as "affordable housing" a further 10% have been built as "social housing" to enable people on low incomes to rent. The remainder aimed at young professionals and young couples with small families.
- The new homes are environmentally friendly and sustainable for a number of reasons.
    - All homes have water meters in them to reduce the amount of water used.
    - Toilets have dual flush and this also reduces water used.
    - Homes are well insulated to keep them warm, and to lower energy bills.
    - There are solar panels on the roofs to heat water. Saves energy and pollution from non-renewable energy.
    - Residents recycle 70% of their waste – avoids it going to landfill sites.
    - The area is pedestrianised, no cars allowed and this reduces atmospheric pollution.



- Finally, the area is landscaped with trees, bushes and flowers. This makes it look attractive and pleasant.

Evaluation

- Unfortunately, due to the close location to the city centre, house prices of homes in the New England Quarter is very high, which has forced some local people to leave the area as they can no longer afford to live there. This has resulted in the number of school children in the local primary school falling, and the school sadly was forced to close.

Case Study 15: Tourism: Jamaica

- Many people visit every year (**1.9 million stopover tourists in 2011**) People visit for the beaches such as Montego Bay, deep sea fishing at Port Antonio, caves at Cockpit County, golf courses such as next to Kingston Town and water sports in Montego Bay.

- More cultural activities include various historic plantation houses such as at Port Maria and there are environmental tourist attractions such as bird sanctuaries inland from Montego Bay and Botanic Gardens and a National Park in the Blue Mountains.

- Tourism contributes to **24% of Jamaica's GDP.**

Positives	Negatives
▪ Generating jobs in service sector, this improves quality of life ▪ Local businesses getting more customers ▪ Improved local infrastructure ▪ More taxes to improve government services.	▪ conflict between tourists and locals ▪ Profits can be leaked to overseas companies ▪ Damage to natural landscapes and wildlife ▪ Tourists may not leave all-inclusive hotels ▪ jobs are seasonal and low-paid ▪ overcrowding.

Case Study 16: Nigeria

A. The location of Nigeria?

- Nigeria is a country in West Africa, located on the Atlantic Ocean.
- It is bordered by Niger to the north, Chad to the northeast, Cameroon to the east, and Benin to the west.
- Situated north of the equator, its capital is Abuja, and it serves as a central hub in the West African region

B. The regional, national and global importance of Nigeria?

Regional (Africa)	▪ Fastest growing economy in Africa ▪ Highest GDP in Africa ▪ Largest population in Africa ▪ Highest farming output in Africa ▪ Leads the way of an example of how to get out of poverty for other African countries.
Global	▪ 21st largest economy in the world ▪ World's 12th largest supplier of oil ▪ 5th largest contributor to peacekeeping missions

C. The wider political, social, cultural and environmental context of Nigeria?

Political	Social	Cultural	Environmental
▪ Colonized by British ▪ **Independen**t from UK in **1960**, ▪ Instability: Civil War **1967-1979** ▪ **1999** was its first stable government attracting foreign investment.	▪ Multifaith **over 300 ethnic tribes**. Can create conflict between the religions there ▪ Terrorist groups such as Boko Haram make the country still unstable. ▪ Huge variation in wealth where people in the city have a better quality of life compared to people in the countryside	▪ Music: **Afropop** ▪ Films: **Nollywood** ▪ **Football** team has won the Africa cup of Nations three times	▪ North of country – Savana / desert. Difficult to grow food ▪ South of country – wetter milder easier to grow food

D. Change in Nigeria's economy

Nigeria's main export is dominated by oil, but also natural gas, rubber and cocoa.

Primary sector: Rubber and cocoa farming was the main source of employment. Now declined due to mechanisation. 2020 22%

Tertiary sector: Now 53%.

People's lives are improving as there are more jobs in oil extraction and manufacturing as opposed to farming and fishing. People can afford a home, to send their children to school, to buy clothing and have access to water and food. This change in economy has started to benefit the people living in Nigeria.

E. TNC – Shell (oil company) and Nigeria

TNC = Transnational Cooperation

Shell located in Nigeria to have a lower tax bill, get cheap labour, there was a source of oil and the environmental law is not strict. It located there in 1958 and is based in Niger Delta where there are large reserves of oil.

Advantages and disadvantages of TNC(s) to Nigeria

Advantages	Disadvantages
▪ Local people are employed, and they learnt new skills (employed 65,000 workers). ▪ More money is spent in local community ▪ Shell invests in local healthcare and education e.g. building a new school. ▪ Local companies make money as Shell order materials from them e.g. metal for pipes creating 250,000 indirect jobs	▪ Workers are paid a low wage. ▪ In 2008 and 2009, two **oil spills** devastated the livelihoods of thousands of farmers and fishermen living in swamps around the town of Bodo in the Niger delta. ▪ Fish sources have died as water is polluted so fisherman cannot make money. ▪ Management roles given to people from other countries. ▪ Majority of Shell profit will do abroad and not be spent in Nigeria. ▪ Local people steal oil as they feel it belongs to Nigeria

F. How has people's quality of life improved in Nigeria?

- Reliable, better paid jobs in manufacturing industries or services (for example health care and education).
- Higher disposable income to spend on schooling, home improvements, food, clothes and recreation.
- Higher quality health care, with more doctors and better equipped hospitals
- Better access to safe water and sanitation.
- Improved access to a more nutritious diet means higher productivity at work and in school.
- Reliable electricity supplies providing lighting and heating- easier to go out at night and for children to do homework.
- Improvements to infrastructure such as roads.

Indicator	**1990**	**2000**	**2005**	**2010**	**2013**
Life expectancy	46	47	49	51	52
Death rate (per 1000)	213	188	159	131	177
Access to safe water (%)	46	55	59	63	64

Secondary school enrolment (%)	25	26	35	44	46

G. How has aid impacted Nigeria?

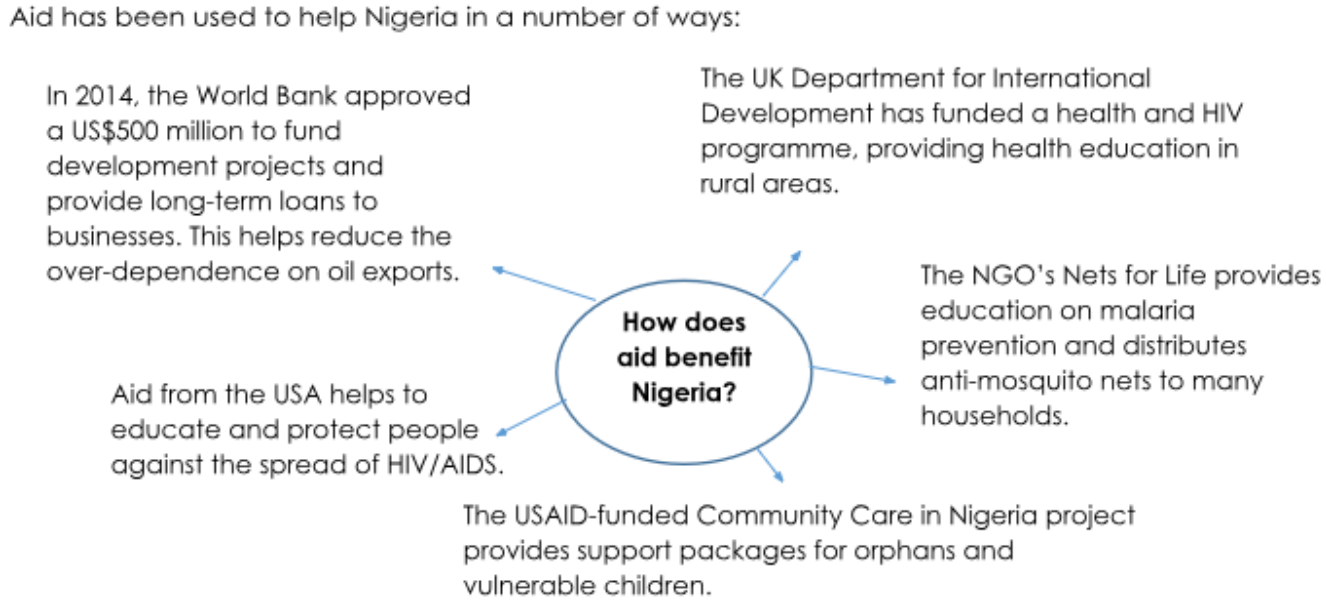
Aid is money given by a high-income country (HIC) to a low-income country (LIC) to help with development. Types:

- Short-term aid - needed after sudden disasters.
- Long-term aid - money given for a specific project over a long period of time.
- Tied aid - aid that is given with conditions attached.
- Charitable aid - raised by donations from charities.
- Bilateral aid - when one country gives money to another. Only two countries are involved.
- Multilateral aid - when more than one country gives money, eg through the World Bank
- Top-down aid – where aid is given to fund a large government project eg a dam
- Bottom-up aid – where aid is given directly to a community e.g. providing village taps

Why is aid needed in Nigeria:

- Low life expectancy (53.87 in 2017 the World Bank)
- High birth rates (5.5 children per woman)
- High infant mortality rate at 100 child deaths under-5 (per 1,000 live births)
- Low literacy rates with (44% of children attending secondary school)
- High death rate from Malaria

Examples of aid in Nigeria:



What has held back aid in Nigeria

Official aid to Nigeria delivered through the government has been less successful than aid delivered directly to communities. There are several reasons why aid may not be used effectively.

- Corruption in the government, and by individuals, is a major factor in loss of aid.
- The government may divert money to be used for other purposes.
- Donors may have a political influence over what happens to aid.

Case Study 17: Environmentally sustainable modern industrial development: Rolls Royce

The Rolls-Royce manufacturing plant in Goodwood, West Sussex, England, is a premier example of sustainable, eco-friendly industrial design. Opened in 2003, the facility integrates high-end luxury manufacturing with environmental responsibility.

The "Living Roof": The building features an eight-acre (22,500 square metres) "living roof" covered with sedum plants, which is the largest of its kind in the UK. This roof improves insulation, reduces energy usage, and camouflages the structure within the surrounding South Downs National Park.

Energy Efficiency & Design: The assembly hall uses natural light through floor-to-ceiling windows and features timber louvre panels that automatically adjust to control light, reducing the demand for artificial electricity.

Water Management & Biodiversity: A large central lake at the entrance serves as a sustainable water management system, storing excess water to prevent flooding while providing a habitat for wild birds. The 42-acre site includes over 400,000 plants and trees, with a "Wildlife Garden" that helps sustain local ecosystems.

Biodiversity & Wildlife Protection: The site hosts breeding pairs of skylarks and 250,000 European honeybees, part of an effort to foster local flora and fauna.

ISO Certification: The facility has been accredited with **ISO 14001** for environmental management and pollution prevention since its inception in 2003.

Human and Physical Fieldwork Enquiry summaries

Human fieldwork enquiry:

Enquiry Question	**Has the regeneration of the New England Quarter in Brighton been successful?**
Location	New England Quarter in Brighton, is suitable because: • Regeneration is currently occurring so we can look at the impact. • Can collect data relevant to our enquiry question. • Local – easy to travel to and collect data in a day. • Accessible – all public land
Risk	• Getting lost – stayed in groups and never on our own. Staff periodically took registers. Wore school uniform so that we were easily identifiable. • Traffic accidents – Stuck to the footpaths, used sensible crossing points, staff on hand to patrol the journey
Sampling	**Stratified** – we introduced our own bias by selecting one site that has been regenerated, one that was undergoing regeneration, and one where no regeneration has occurred
Data collection methods	**Environmental quality index** – uses observers' judgements to assess environmental quality against a range of indicators (litter, building condition, road condition, safety, noise pollution). Works on a bipolar scale (+5 to -5). The regenerated areas should have a better environmental quality index. + easy to complete without specialist equipment. + quantifiable data is produced to help answer enquiry question. - human error when calculating index - based on our own personal observations – could be biased **Footfall** – this assesses the popularity of the area. We counted the number of people that walked past a selected point in one minute. The regenerated areas should attract more people as it is more attractive and feels safer. + easy to complete without specialist equipment. + quantifiable data is produced to help answer enquiry question. - human error when counting - collecting data during working hours meant that footfall was low
Data presentation	**Radar graphs** to compare environmental quality at each site. The bigger the radar graph shape, the better the environmental quality. + simple to construct + easy to compare different sites. - complex, easy to make an error - difficult to read multiple axes on one graph **Proportional symbol maps** to compare footfall at each site. The bigger the symbol (circle) the more attractive the site. + simple to construct + easy to compare different sites. - circle sizes are not quantifiable – cannot get precise data
Results	The regenerated site (Royal William Yard) had the highest environmental quality index. The site that had not experienced any regeneration (Union Street) had the lowest environmental quality index
Conclusion	The regeneration was mostly effective: • Effective because the environmental quality was significantly better at the regenerated site. • Not totally effective because the footfall was highest at the non-regenerated site
Evaluation	Conclusions could be unreliable because… • Results only apply for the day and time that we collected them. • Different people collected data at each site – methodology could be unreliable. • Only took 3 samples (sites) – didn't get whole picture of New England Quarter. • Some data was based on subjective personal opinion (EQI) Could further enquiry by collecting data from more sites at multiple times of the day/week, compare regeneration of Millbay with another location.

Physical fieldwork enquiry:

Enquiry Question	**Are the groynes at Dawlish Warren effective at reducing longshore drift?**
Location	Dawlish Warren spit, Dawlish, Devon is suitable because… • Coastal management scheme is in place so we can look at the impact. • Can collect data relevant to our enquiry question. • Local – easy to travel to and collect data in a day. • Accessible – all public land
Risk	• Drowning – ensured we checked tide times in advance and students were not allowed to swim/paddle. • Dune collapse on a student – ensure we stuck to designated footpaths and didn't trample the dunes
Sampling	**Systematic** – we had a system to select the groynes to collect data at. Our system was every 4th groyne
Data collection methods	**Measurement of height of sediment updrift and downdrift**. We measured the distance from the height of the groyne down to the sand both updrift and downdrift at each location. If the groynes are effective, sand will be higher updrift. + allows us to see whether sediment is being trapped. + collects quantifiable data. - tide levels were changing through the day and impacted results - beach nourishment had recently occurred, so some groynes showed little difference between updrift and downdrift **Field sketch**. We identified the landscape and drew an outline of the main physical and human features of the landscape. If the groynes are effective, the field sketch will show evidence of the sediment being higher updrift. + allows us to observe features of the landscape without visiting site. + shows difference in sediment height updrift and downdrift. - based on personal observations and ability to draw – may omit features - not quantifiable as it is qualitative data and subjective
Data presentation	**Bar graphs** – we used bar graphs to present height of sediment updrift and downdrift. The Y axis was the groyne and the bars represented updrift and downdrift. + simple to construct + allows us to compare updrift and downdrift at each groyne. - an average, calculated from 3 measurements, may omit anomalies **Annotated field sketch** – we added labels and colour to our field sketches and identified evidence of the groynes being effective. + allows us to observe features of the landscape without visiting site. + shows difference in sediment height updrift and downdrift. - based on personal observations and ability to draw – may omit features - not quantifiable as it is qualitative data and subjective
Results	2 out of the 3 groynes – sediment was higher updrift than downdrift. Field sketch showed that one groyne was trapping sediment
Conclusion	The groynes are mostly effective at reducing longshore drift because: • At most groynes (not all), the sediment measured was higher updrift than downdrift, therefore most groynes are trapping sediment and reducing longshore drift. • Field sketch showed evidence of groynes trapping sediment and reducing longshore drift
Evaluation	Conclusions could be unreliable because… • Only collected data at 3 groynes • Tide times meant data was only relevant for the day/time we collected data. • Different people collected data at each groyne – methodology could be inconsistent. • Tape measures became wet and sandy – difficult to take measurements