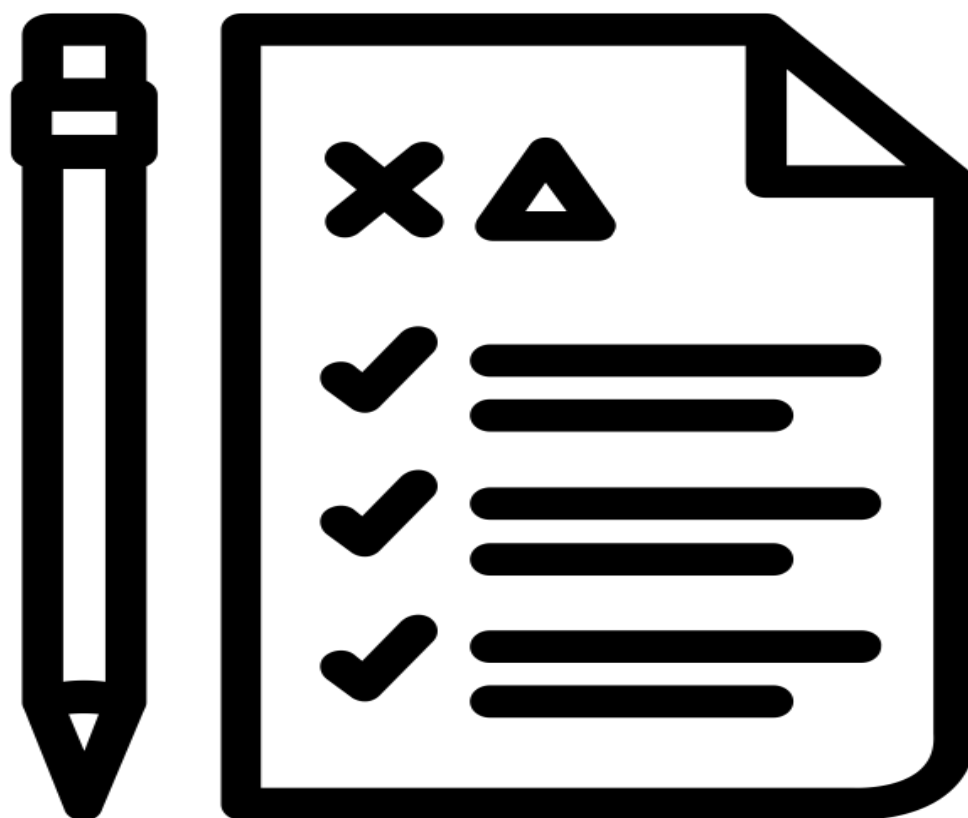


# Parent and student question and answer booklet



## Geography Paper 2



The purpose of this booklet is to support your child with their revision for their GCSE examination.

This booklet is a summary of all the content that your child needs to know and will assist them with regards to preparation for the subject knowledge that they need to apply in the examination. Although the booklet is by no means a guarantee, it will make a significant contribution to their success.

This booklet should be used as a question and answer test booklet so that you can help coach your child into answering content correctly with accuracy. Ideally questions should be worked through at random and use a priority red, amber, green system to prioritise areas to work on.

This booklet is the **minimum**/basic amount of work that your child needs to complete based on the knowledge that they need to have.

What else can your child be doing to revise?

**They should not:**

Simply read over the material. This will not help you remember it.

Highlight lots of text, this gives you a feeling that you are learning it when in fact you are not.

Type up lots of notes.

Revise for hours at a time on the same topic.

**They should:**

Transform the notes.

Create diagrams

Create pictures to represent the material.

Produce flashcards. The process of doing this helps you to learn it.

Test yourself using your flash cards.

Get others to test you using the flash cards.

Turn the events into a storyboard.

Prioritise- chose the three key points to learn for a given topic.

Go through exemplar answers given in class and learn the rules of how to approach each question.

## **Section A: The UK's Evolving Physical Landscape (Q1 in the exam)**

### **Sub topic: Coastal change and conflict**

#### **1. What is a concordant coastline?**

A coastline when the alternating geology is parallel to the sea.

## 2. What is a discordant coastline?

A coastline where alternating geology is at right angles to the sea.

## 3. What is the difference between a joint and a fault?

A joint is a small vertical crack found in brittle geology whereas a fault is a larger crack caused by past tectonic activity.

## 4. What landforms are found on concordant coastlines?

Cliffs, wave cut platforms, beaches

## 5. What landforms are found on discordant coastlines?

Headlands and bays, caves, arches, stacks

## 6. What three factors influence wave energy?

Wind strength, length of time the wind has been blowing, fetch

## 7. What is the fetch?

The distance over the sea which the wind has blown. E.g. it crosses the Atlantic Ocean before reaching the south west of the UK

## 8. What is the difference between the swash and backwash?

Swash is the wave moving forward and backwash is the wave moving backwards (down the beach)

## 9. What are the differences between a destructive and constructive wave?

Destructive waves: high frequency waves with a short wave length and a high wave height. They are steep and have a weak swash but a strong backwash. They create steep beaches and are associated with storm conditions. Their role is to destroy beaches.

Constructive waves: low frequency waves with a long wave length and low wave height. They break gently and have a strong swash and weak backwash. They create gentle beaches and are associated with summer conditions. Their role is to construct beaches.

## 10. What is 'Hydraulic action'?

The sheer force of the waves hitting off the cliffs. Trapped air is blasted into holes and cracks in the rock.

## 11. What is 'attrition'?

Rocks hit into each other and become smaller and rounder

## 12. What can 'abrasion' often be described as?

Sandpaper effect of rocks wearing away.

## 13. What is 'solution'?

When rocks are dissolved by seawater. An example of a vulnerable rock would be limestone.

## 14. What is longshore drift?

The lateral movement of material along the coast in the direction of the prevailing wind.

## 15. Define 'prevailing wind'.

The strongest wind direction.

## 16. How is a spit formed?

Longshore drift moves material laterally along the coast.

When there is a change in the shape of the coastline, deposition occurs. A long thin ridge of material is deposited. This is the spit.

A hooked end can form if there is a change in wind direction.

Waves cannot get past a spit, therefore the water behind a spit is very sheltered. Silts are deposited here to form salt marshes or mud flats.

## 17. How is a tombolo formed?

A spit joins to an island.

## 18. How is a bar formed?

A spit connects two headlands with a lagoon behind.

**19. What is a beach?**

A deposit of sand or shingle at the coastline.

**20. What are the three types of weathering?**

Physical, chemical, biological

**21. What is freeze-thaw weathering and how does it occur?**

An example of physical weathering. Water gets into cracks in the rock. The water then freezes and expands. This pressure causes the rock to break into parts.

**22. Explain biological weathering.**

Burrowing animals or the roots of vegetation break apart rock.

**23. What is mass movement?**

The downhill movement of rock or land under the influence of gravity.

**24. What is the difference between 'mass movement' and 'weathering'?**

Weathering is the breaking down of rocks and mass movement is a large area of rock moving at once.

**25. What is unconsolidated rock and how does this impact erosion?**

Young sedimentary rocks that are more susceptible to erosion and therefore landslides or slumps at the beach, rocks of this nature are usually limestone.

**26. What is the difference between a 'wave cut platform' and a 'wave cut notch'?**

A wave cut platform is a wide gently sloping rocky surface. Whereas a wave cut notch is a small indentation (notch) cut into the cliff at a level of high tide.

**27. Explain the formation of stacks such as Old Harry in Dorset.**

Hydraulic action attacks a joint in a headland and widens it to form a crack.

Over time this crack is eroded further to form a cave

The continual erosion by destructive waves leads to the cave opening and breaking through the headland to form an arch.

The roof of the arch collapses to leave a free standing pillar of rock called a stack.

**28. What is the main cause of rising sea levels?**

Global warming impacting the melting of ice caps.

**29. What happened at Happisburgh North Yorkshire?**

There was a cliff collapse and the stability of the whole area is under threat.

**30. Why are the cliffs prone to collapsing at Happisburgh?**

They are a mixture of sand and clay and therefore easily eroded

The water is held on the rock face adding weight and adding pressure

Coastline faces the direct force of the prevailing wind

Building on the tops of cliffs have added both pressure and weight.

**31. What is the 'SMP'?**

Shoreline management plan.

**32. Is there a legal obligation for councils in the UK to protect the coast?**

No, but they must have an SMP to show that they have assessed the area.

**33. What is hard engineering?**

Building artificial structures to protect the coastline.

**34. What is soft engineering?**

A sustainable more natural approach to managing the coastline.

**35. Give a definition of a sea wall? (Hard engineering)**

A concrete rock or barrier built at the foot of the cliffs or the top of a beach.

**36. What is a groyne? (Hard engineering)**

A timber or rock structure built out to sea to trap sediment being moved by Longshore drift.

**37. What is 'Rock Armour'? (Hard engineering)**

Piles of large boulders dumped at the foot of a cliff to protect it by absorbing energy.

**38. What is beach nourishment? (Soft engineering)**

Adding sand or shingle to the beach to make it higher or broader.

**39. What is dune regeneration?**

Marram grass planted to help stabilise the dunes to act as a buffer.

**40. What is a storm surge?**

A rise in sea level that can cause coastal flooding, this is due to low air pressure and increased winds.

**41. Why are storm surges increasing?**

Sea surface temperatures are rising and this increases the amount of storms that are hitting the UK coastline.

**42. What are the impacts of increased storm surges on the UK coastline?**

More money to be spent on coastal defences  
Increased vulnerability of UK coastal towns  
Higher rates of flooding and landslides at the coastline

**43. What is integrated coastal zone management?**

A sustainable approach that looks at making a plan for the whole coast line rather than only small sections. The management options include 'advance the line', 'hold the line' and 'managed retreat'

**44. How does human activity impact the coastline?**

Urbanisation on the top of a cliff results in more pressure on the cliff  
Global warming that results in melting ice caps, sea surface temperatures increasing and then resulting in increased storm surges.

## **Sub topic: River processes and pressures**

**1. What is the start of a river called?**

Source

**2. What is a smaller river that joins the main channel called?**

Tributary

**3. What is the exact point at which a tributary joins the main river called?**

Confluence

**4. What is the end of the river called?**

Mouth

**5. What is a river 'long profile'?**

The change in height of the course of a river from the source of the river from its source (high up) to the mouth where it ends and is lower with more flat land.

**6. What are the characteristics of a river in its upper course (close to source)?**

Shallow, narrow channel, vertical erosion, large bed load, you will find interlocking spurs here.

**7. What are the characteristics of a river in its middle course?**

Wider, deeper channel, some vertical erosion; lateral erosion more important, load size is reduced, you are more likely to find waterfalls and gorges.

**8. What are the characteristics of a river in its lower course?**

Widest, deepest channel, less erosion, large amount of load size now very small here you will find levees and meanders.

**9. What happens to discharge (amount of water carried by a river) as you move downstream?**

The amount of water in the river increases from source to mouth. This is because tributaries add more water to the main channel. As discharge increases the width/depth must also increase

## 10. What model describes how a river changes downstream?

Bradshaw model

## 11. What happens to velocity as you move downstream?

Velocity also increases from source to mouth. As the discharge of the river increases, there is less friction from the river bed and banks. This means that the river is able to flow faster, even though the gradient becomes less steep.

## 12. Describe the formation of a river landform you would find in the upper course: waterfalls (you should also be able to produce a series of labelled diagrams to show this)

The river flows over alternating bands of hard and soft rock

The hard rock is more resistant to erosion than any softer rocks on the downstream side which are eroded more quickly

Due to vertical erosion, a waterfall forms, followed by an outcrop of overhanging rock

At the foot of the waterfall the water wears away the softer rock to form a plunge pool

The overhang continues to be undercut until eventually it collapses and waterfalls are said to 'retreat' upstream

Over thousands of years as the waterfall retreats, it 'eats' its way upstream forming a steep-sided gorge

## 13. Describe the formation of a river landform you'd find in the middle course: meanders and oxbow lakes (you should also be able to produce a series of labelled diagrams to show this)

Meanders are common in the Middle- Lower Course of the River's Long Profile (a meander is a curve or loop in a river)

### Meanders

River has large discharge, gentle gradient and lateral erosion

River develops winding pathway with large bends

Current is fastest on the outside of the meander curve because the river is deeper there – on the inside it's shallow so the current is slower

River cliffs are found on the meander's outer edge where the river causes more erosion

Point bars are on the inner edge where sandy material is deposited by the slower-moving river – above river level they are slip-off slopes

### Stages in the formation of an Oxbow lake

Meander loops become so wavy that they are inefficient

The river's easiest path is straight across (in times of flood) so it breaks through narrow neck of land

Outer part of loop is left isolated from the river as an Ox-Bow Lake

Over time the lake becomes a marsh and then completely dries up

## 14. Describe the formation of a river landform you would find in the lower course: levees and floodplains (you should also be able to produce a series of labelled diagrams to show this)

The formation of levees and floodplains involve repeated flooding and the build up of material during the period of flood.

Under normal flow conditions, the river is contained within its bed and banks

During times of flood the river overflows its banks and material is deposited.

Levéés are raised river banks either side of the river channel, made of coarse river load material, deposited during floods

The deposition of alluvium (silt) during floods make floodplains extremely fertile

## 15. Describe the formation of a river landform you would find at a river's mouth: deltas (you should also be able to produce a series of labelled diagrams to show this)

As the river reaches the sea at its mouth there is a sudden drop in velocity and energy causing deposition

Over many years deposition builds up layers of fine sediment that is above the level of the sea

The river distributes to wind around this sediment

## 16. What are the names of the four processes of erosion and how do they work?

Hydraulic action - the force of water hitting bed and banks

Abrasion – load of river repeatedly hits bed and banks, causing bits to break off

Attrition – stones and boulders carried by river hit against each other, causing bits to fall off and reduce in size (and increase roundness)

Solution – some rocks (chalk and limestone) are soluble in water so become part of the water as they are dissolved in it

**17. What are the four processes of transportation and how do they work?**

Traction – large material rolled along the river bed

Saltation – small stones are bounced along the river bed

Suspension – fine material within the water floats and is moved in the river flow

Solution – dissolved load of a river

**18. Define mass movement**

The downslope movement of rock material due to gravity

**19. What are the two types of mass movement? Give examples**

Rapid such as landslides and mudflows

Slow such as soil creep where tiny soil particles are splashed away each time it rains

**20. Why would a river deposit (drop) the material it is carrying?**

A drop in energy usually associated with a drop in velocity.

**21. What factors affect the shape of the valley?**

Rate of weathering

Rate of mass movement

River velocity and transportation

**22. What is the water cycle and how does it link to rivers?**

The water cycle shows the movement of water within a river basin and shows the inputs, storage, flows and outputs all of which may affect river discharge.

**23. Give 3 examples of flows in the water cycle and describe them.**

Surface runoff - water flows over ground when it can't infiltrate (soak in)

Infiltration - water soaks into the soil

Percolation - water soaks into bedrock after it has infiltrated

Transpiration - water that has been intercepted by vegetation is evaporated from their pores into the atmosphere

Groundwater flow - water moves through saturated rock the river

**24. What is a flood or storm hydrograph?**

Hydrographs show the relationship between precipitation and the change in river discharge (volume of water flowing per second) over a short period of time after a storm. It is used to work out when a flood might be coming.

**25. Name four natural causes of flooding.**

Precipitation: heavy rainfall over a few days -> saturates soil -> surface runoff

Slope – Steep slopes are more likely to have increased surface runoff, gentle slopes are more likely to have greater infiltration and slower surface runoff.

Snowmelt: Temperatures rise -> snow melts -> stored precipitation is released.

Geology: Slopes that are made of hard impermeable rock are more likely to cause flooding due to high surface runoff.

**26. Name three human causes of flooding.**

Deforestation: fewer trees -> reduced interception and transpiration -> increased surface runoff

Urbanisation: concrete and tarmac -> surface becomes impermeable (water cannot pass through) -> rapid increase in surface runoff

Hard engineering: When humans build dams or change the course of the river, it is more likely to cause flooding in another area.

**27. When trying to control flooding what is the difference between hard engineering and soft engineering strategies?**

Hard engineering involves the use of technology in order to try and control rivers (for example building dams or flood walls)

Soft engineering strategies try to work within the constraints of the natural river system (for example avoid building near flood plains, plant trees to increase interception and reduce surface runoff)

**28. Explain how one or more hard engineering strategy is used to control rivers? What are their costs and benefits?**

Dams & Reservoirs built in the upper valley, can control the discharge of the river (benefits include Hydro Electric Power and leisure facilities). They are very costly and can destroy habitats.

Man-made Levées (embankments) increase the height of river banks, floodwater is contained. This expensive strategy can have disastrous consequences if the barrier is breached.

Straightening Meanders increases speed of river to remove flood water quickly. This can cause flooding downstream.

**29. Explain how one or more soft engineering strategy is used to control rivers? What are their costs and benefits?**

Flood plain retention or zoning involves avoiding high value land use on flood plains and allowing them to flood when necessary. This prevents other areas from flooding and having social and economic impacts but it is challenging in densely populated areas.

River restoration involves returning a river to its original state by rebuilding meanders (which decreases velocity), removing impermeable surfaces (to allow infiltration) and planting trees (to intercept the water). This is suitable for rural areas and looks natural however it again is unsuitable for densely populated, urban areas where space is limited.

**30. When was the Sheffield flood you have studied?**

June and July 2007

**31. What were the causes of the flood?**

**Physical:**

Heavy rainfall (1 month of rainfall in 24 hours on 15 June)

Prolonged rainfall (on 25 June another storm hit adding more water to saturated soils)

Steep relief including the Pennines led to reduced infiltration

Convergence of 3 rivers to the north west of Sheffield town centre

**Human:**

Reservoirs in the upper course over flowed

Impermeable surfaces

Inadequate drainage infrastructure

**32. What were the impacts?**

2 people died

Over 1200 homes flooded

1000 businesses affected

13,000 people without power for two days

Hillsborough Football Stadium under 8 metres of water

£15 million in flood damage to Cadbury factor

## **Section B: The UK's Evolving Human Landscape (Q5 in the exam)**

**1. What is population density?**

The number of people per km<sup>2</sup>

**2. What are the UK's core urban areas?**

London, Birmingham, Manchester & Glasgow

**3. Why do people migrate to the UK's core urban areas?**

For work.

**4. What is a conurbation?**

A built-up area formed by the merging of towns and cities, e.g. Greater Manchester.

**5. How did the conurbations of the north of England begin?**

They began through the rise of industry, e.g. shipbuilding, mining and metalworking.

**6. Why do urban areas have a younger population?**

Younger people often live in cities to be closer to their jobs and/or to take advantage of the cultural life of a city.

**7. Why do older people generally live in rural areas?**

Older people generally move out of cities to retire to a quieter, more peaceful environment.

**8. What are the main sectors of employment in a UK urban area?**

Secondary (manufacturing) and tertiary (service) sectors.

**9. What are the main sectors of employment in rural areas?**

Primary industries, e.g. farming, fishing, forestry, quarrying etc.

**10. Why do some rural areas of the UK have high levels of poverty?**

They are isolated- therefore attract fewer businesses to the area.



They are difficult to farm and/or have few natural resources.  
Young people leave, which causes services to shut down.  
Some areas, e.g. NE England and Wales, have experienced deindustrialisation.

### **11. How has the UK government sought to reduce differences in wealth across the UK?**

Creating Enterprise Zones (EZs)

Improve transport infrastructure, e.g. HS2

Regional Development - the European Regional Development Fund (ERDF) & Common Agricultural Policy (CAP)

### **12. What two factors are driving the UK's population growth?**

Natural Increase (where births are greater than deaths) roughly 50%

Migration - roughly 50%

### **13. What is the distribution of migration in the UK?**

Young migrants move to cities due to jobs and universities being there.

Families tend to move to accessible rural areas (counterurbanisation)

Elderly move to coastal areas.

### **14. How has migration to the UK impacted on diversity?**

Increased it via:

Commonwealth immigration after WW2, e.g. from the Caribbean, Pakistan, India etc.

Since 1995 free movement of EU nationals has increased EU residents in the UK, e.g. Germans

2004 led to new countries from eastern Europe, e.g. Poland, joining the EU.

All has increased cultural diversity through language, food, arts, festivals, fashion etc.

### **15. Why have secondary industries declined in the UK?**

it is cheaper to manufacture abroad

### **16. What is FDI?**

Foreign Direct Investment- when a company based in one country invests money in a different country, e.g.

Nissan in the UK.

### **17. What has increased the levels of FDI in the UK?**

Globalisation- improving transport and communication links

Privatisation- services previously run by the UK government have been sold to private companies.

Free Trade- reducing tariffs and restrictions.

### **18. What are the advantages of TNCs locating in the UK?**

Job creation

Projects the government cannot afford can go ahead, e.g. offshore wind farms

Increases productivity in the UK.

### **19. What are the disadvantages of TNCs locating in the UK?**

Countries can become over-reliant on TNCs. If there's a problem elsewhere then it can affect the UK.

They can relocate if they want, causing job loss and lost productivity.

They affect local companies, e.g. local coffee shops cannot compete with Starbucks will close.

### **20. What is site?**

The land that a city is built upon,

### **21. What is situation?**

The surroundings of the settlement, e.g. the human and physical features surrounding it.

### **22. Why does Newcastle not follow the expected urban pattern as shown in the Burgess Model?**

The River Tyne prevents this from happening.

### **23. Why does the CBD of Newcastle have the tallest buildings?**

To maximise highland values

### **24. What areas of Newcastle are in the inner city zone?**

Byker, Walker, Scotswood & Elswick.

### **25. What area is the suburb of Newcastle?**

Gosforth

**26. What are the characteristics of the CBD?**

High land values  
High building density  
Dominated by commercial land uses  
Low resident population

**27. What challenges faced Newcastle from the 1970s onwards?**

Deindustrialisation  
Decentralisation  
Suburbanisation

**28. What processes have caused urban growth in Newcastle in recent years?**

Studentification  
Regeneration  
Investment

**29. What strategies have been used to regenerate Newcastle?**

Grainger Town Regeneration  
Science Central  
Property-led regeneration in Elswick  
Rebranding Newcastle's Quayside

**30. State one positive of regeneration in Newcastle.**

Creates jobs  
Improves the environment  
Improves quality of life

**31. State one negative of regeneration in Newcastle**

Forces locals out through increased house prices  
Not all areas benefit, e.g. Scotswood

**32. What are the three legs of the sustainability stool?**

Social, Economic & Environmental

**33. State the sustainable urban strategies used in Newcastle.**

Electric and low carbon vehicles  
Recycling  
Eco Housing at the Malings  
Cycling

**34. When an urban and rural area rely upon each other this is known as?**

Interdependence

**35. State an advantage of counterurbanisation**

Farmers can make large sums of money from selling land to housing developers.  
Older houses are renovated for commuters to live in, increasing employment

**36. State a disadvantage of counterurbanisation**

Pollution from congestion  
Locals priced out of rural area  
Loss of services as town becomes a commuter settlement, e.g. Post Office, bus service, schools, GP etc.  
Loss of community

**37. What are the challenges of living in an accessible rural area, such as Rothbury?**

High levels of rural deprivation  
Low incomes  
Poor health and access to health services  
Poor education

**38. What is diversification?**

When a farmer finds other ways of making money from the land other than through farming, e.g. selling ice cream (Doddingtons) or setting up a family attraction (White House Farm)

## **Section C1: Geographical Investigations Fieldwork in a Physical Environment (This is where optional questions appear. You must answer Q9)**

**1. Which question should you answer in section C1?**

Question 9

**2. What river did you use for your physical fieldwork?**

River Breamish

**3. What risks did you need to think about before going out and completing fieldwork?**

The weather in the days before the fieldwork as this would affect flow in the river and therefore cause a potential hazard. Also need to adjust something in response to weather on the day.

The accessibility of the site.

Loose rocks around the sites used. potential trip hazard.

**4. What primary data did you collect on the day?**

River width - using a tape measure.

Wetted perimeter (the width of the river bed and banks combined)- using a chain.

River depth- using a meter rule at set distances across the river.

River flow - using a float timed between two points in the river.

Sediment size- picking rocks off the river bed and measuring the x, y and z axes.

**5. What data presentation methods did you use to present your findings?**

River cross sections to show width and depth.

Bar charts for river flow.

**6. How could your methods be improved if you were to do the fieldwork again?**

Collecting sediment at set points of the river to avoid picking the biggest sediment and making the results inaccurate.

Use a flow meter in the river to avoid inaccuracies in measuring flow.

Take measurements from more sites to see how much width and depth changed downstream.

**7. Did your results answer your hypothesis that river depth and width changed downstream.**

Yes, the width and depth of the river increased as you moved downstream

## **Section C2: Geographical Investigations Fieldwork in a Human Environment (This is where optional questions appear. You must answer Q10)**

**1. Which question should you answer in section C1?**

Question 10

**2. Which two areas of Newcastle did you investigate quality of life differences in?**

Gosforth and Byker

**3. What risks did you need to think about before going out and completing fieldwork?**

Working as a group to avoid people being isolated and therefore vulnerable.

Traffic, particularly in Gosforth where the pavements were narrower and traffic was heavier.

**4. What primary data did you collect on the day?**

Environmental quality surveys

Pedestrian counts

Questionnaires

Land use surveys

Annotated photographs

**5. What secondary data was used to compare quality of life in Byker and Gosforth?**

IMD (Indices of Multiple Deprivation) Database

Census data, e.g. unemployment rates  
Crime statistics  
School Data (Ofsted reports and GCSE outcomes)

**6. What data presentation methods did you use to present your findings?**

Radar diagrams for environmental quality surveys  
Pie charts for land use  
Bar charts for pedestrian counts

**7. How could your methods be improved if you were to do the fieldwork again?**

Go at different times of the day to both locations to questionnaire different age groups  
Go at different times of the day to both locations to record pedestrian counts  
Use a class average for the environmental quality survey to even out any subjectivity

**8. Did your results allow you to answer your hypothesis that quality of life differences exist between Byker and Gosforth?**

Yes, all the data showed that quality of life was higher in Gosforth than Byker.