

Rayner Stephens
HIGH SCHOOL

**Curriculum
Intent
for
Geography**

The intent of geography at Rayner Stephens is to provide students with essential and transferable skills to deal with, and understand, the rapidly changing world in which they will be living. The world is increasingly interconnected, with large scale economic movements and migration across the globe, and within the country. Geography gives students the opportunity to be able to understand the reasons for these changes, and their consequences. We want to create discerning and inquisitive geographers who can use their geography skills to interpret the world around them. We want our students to see a world beyond Tameside, so that they can access it, if they choose to. We want to be developing students love of learning and research, as well as helping students to create their own enquiries, making justifiable decisions, cost-benefit analyses and being able to see issues from a range of viewpoints, not just their own. We seek to create global citizens who are aware of, and passionate about, the diverse physical world in which we live.



Sustaining Ecosystems

Students will investigate the global ecosystems and the link between human wellbeing and ecosystem wellbeing and how vital that connection is. Students will explore the distribution and characteristics of the Earth's global biomes. Students will investigate the two contrasting ecosystems of tropical rainforests and polar environments, exploring physical cycles and processes that make these ecosystems distinctive, the threats posed to their existence and how humans are attempting to manage them for a more sustainable future.

UK in the 21st Century and Fieldwork

Students will discover a range of cultures, identities and economies within the UK. Students will analyse the changing nature of people's lives and work in the UK in the 21st century. Students will the global significance of the UK, this will be investigated through a study of the UK's political and cultural connections with the rest of the world. This topic will also include a piece of fieldwork for students to investigate the industrial decline and regeneration of Salford Quays.

Resource Reliance
Students will investigate emerging patterns, where demand is outstripping the supply of food, water and energy, before taking the issue of food security and considering the question 'can we feed nine billion people?'. Students will explore what it means to be food secure, how countries try to achieve this and reflect upon the sustainability of strategies to increase food security

YEAR 11

Distinctive Landscapes

Students will gain a deeper understanding of the different geomorphic processes that shape river and coastal landscapes within the UK. The process of one coastal area and one river basin in the UK will be examined along with human impact on these environments.

Dynamic Development

Students will consider the changing nature and distribution of countries along the development spectrum before examining the complex causes of uneven development. Students will investigate and analyse an in-depth study of one country, considering its development journey so far, how its global connections may influence the future and possible alternative development strategies.

Climate and Change

Students will analyse patterns of climate change from the start of the Quaternary period to the present day, considering the reliability of a range of evidence for the changes. Students will study the theories relating to natural climate change and consider the influence of humans on the greenhouse effect. Social, economic and environmental impacts of climate change at both local and global scales will be examined.

Fieldwork

Using knowledge from previous units students will investigate the human impact on one coastal area in the UK by visiting this area and collecting data.

Global Hazards

Students will investigate both weather and tectonic hazards, analysing and assessing the causes, impacts and responses to each of the different hazards through two case studies, one from the UK and one non UK based weather hazard.

YEAR 10

Exploring Rivers

Students will study the different geomorphic processes that change the river landscapes in the UK and assess the many impacts that these can have on a variety of groups of people.

Urban Futures

Students will explore how and why the global pattern of urbanisation is changing and assess the varied opportunities and challenges through an in-depth analysis and evaluation of two major cities. One city from the developing and one from the developed.

Exploring the Middle East

Students will study the physical and human features of the Middle East including the conflicts arising from oil production and the methods they are using to increase sustainability.

Exploring Resources

Students will explore the increasing demand an increasing population and climate change can have on food, water and energy resources.

Exploring Inequality

Students will explore the process of globalisation by examining the interconnected nature of different countries and how this can impact development. Students will investigate the cause and impact of these connection on countries of varying levels of development.

YEAR 9

Exploring Fieldwork

Using knowledge from previous topics students will assess the ability of the school to withstand natural hazards and suggest how the school could become earthquake proof.

Exploring Fieldwork

Using knowledge from previous units students will complete a river study discussing the varying features of the rivers different courses.

Exploring Cities

Students will understand the global pattern of urbanization and the challenges and opportunities that a rapidly urbanizing world can create.

Exploring Biomes

Students will explore the different global hot and cold biomes looking at, hot and cold deserts, the polar regions and the Tropical Rainforest.

Exploring Coasts

Students will investigate the dynamic coast of the UK looking at the different physical processes that impact the coastline and the features that are created as a result.

YEAR 8

Exploring the UK

Students will explore the physical and human geography of the UK exploring its unique geographical features. This will include differing weather patterns and the changing population.

Exploring Climate

Students will study how climate has changed over different geological periods of time. They will be introduced to the concepts of both natural and human influenced climate change.

Exploring Hazards

Students will develop an understanding of both weather and tectonic hazards studying specific case studies and studying the impacts of these hazards in different parts of the world.

Exploring Africa

Students will learn that the continent of Africa is one of the most diverse on the planet. Students will investigate the features of Africa and the significance of Nigeria and Ghana.

YEAR 7

Exploring Asia

Students will investigate the different human and physical features of the world's largest continent. A study of India and China's rapid population growth, their differing population policies and economies.

Exploring Fieldwork

Students will use their knowledge from the previous topic to measure the micro-climates around school. Students will design and implement an investigation and analyse and conclude on their own results.

Year 8 – Geography

Curriculum intent	<p>The year 8 curriculum is based on extending and deepening geographical knowledge and processes from a local to a global scale. This starts with students expanding their knowledge on the key physical landscapes of the UK which is an island. This is then followed by the study of human landscapes have changed in the UK and globally allowing students to see the similarities and differences of these processes on different scales. This will then allow our students to move on to the interactions between humans and the physical landscape by discussing issues of global biomes and hazards. The use of fieldwork to then investigate these geographical processes on a smaller scale will deepen students understanding of the similarities and differences that humans face in responding to these processes and the responses that can be implemented when discussing the processes of urbanisation, counter urbanisation and regeneration.</p>				
	Topic 1 Exploring Coasts	Topic 2 Exploring Hazards	Topic 3 Exploring Biomes	Topic 4 Exploring Cities	Topic 5 Exploring Fieldwork
Knowledge	<ul style="list-style-type: none"> • Geomorphic processes that shape the coastline. • The influence of geology on the landforms found at the coastline. • The different landforms created by geomorphic processes along the coast. • The threats that face communities along the UK coast. • The different management strategies that can be found along the Norfolk coast. 	<ul style="list-style-type: none"> • Tectonic plate theory and the movement of tectonic plates. • Japan 2011 earthquake and tsunami – study of an earthquake in a developed country. • The mitigation of tectonic hazards in countries at different levels of development. • The dangers of weather and how this can impact on different people. • Hurricane Katrina, the events and the impacts on people. • The Pakistan floods 2021, the causes and effects. 	<ul style="list-style-type: none"> • The distribution of global biomes and climate zones. • The location and characteristics of the tundra, polar, temperate and tropical rainforest biomes. • The adaptations of flora and fauna in the polar/tundra biome and the tropical rainforest. • The threats facing the tropical rainforest including deforestation and climate change. • The threats facing the arctic and tundra environments including overmining and climate change. 	<ul style="list-style-type: none"> • The changing pattern of urbanisation since the 1950's. • Push and pull factors of different types of internal migration in countries at different stages of development. • Urbanisation patterns in the UK and urban deprivation. • The growth and regeneration of Manchester. • The challenges and opportunities in London. • The challenges and opportunities of Rio de Janeiro. 	<ul style="list-style-type: none"> • Application of Exploring Cities. • The structure of a geographical investigation. • The different types of data collection methods and their benefits and disadvantages. • How to select appropriate data collection methods and construct a hypothesis. • How to construct an investigation and conduct it, including introduction, methodology, analysis, conclusion and evaluation.

New Procedural Knowledge	Thematic Map			Proportional Symbols	Sketch maps
Assessments	Extended writing Evaluation of the coast management	<u>KS3 Exam 1</u> Multiple choice questions. Recall Questions. Procedural Knowledge Extended piece of writing.	Extended Writing Assess the different methods of sustainable development in the tropical rainforest.	<u>KS3 Exam 1</u> Multiple choice questions. Recall Questions. Procedural Knowledge Extended piece of writing.	Fieldwork write up Data Analysis and Conclusion and Evaluation of fieldwork investigation.
Enrichment	Virtual fieldtrip along the Dorset coastline.		Protecting Tropical Rainforests	GIS Tours of the World's megacities.	Virtual Fieldwork

YEAR 8 HALF TERM 4 – EXPLORING CITIES

Vocab	Definition
Urbanisation	The movement of people into urban areas.
Push Factors	Factors that drive people away from a rural area that makes them leave.
Pull Factors	Factors that drive people towards urban areas that attract them.
Migration	The movement of people from one place to another.
AC	Advanced Country – High literacy rates, high life expectancy and high literacy rates.
EDC	Emerging Developing Country – Improving economy and life expectancy, jobs in manufacturing.
LIDC	Low Income Developing Country – High death rate and high birth rates.
Counter Urbanisation	The movement of people out of urban areas and into rural areas. Typical in AC's.
Regeneration	The renewal and improvement of urban areas.
Urban Deprivation	Areas where standards of living are below what you would expect in a country with that level of development.



1. Causes of Urbanisation

Push Factors	Pull Factors
<ul style="list-style-type: none"> Natural disasters War and conflict Low paying farming jobs Drought 	<ul style="list-style-type: none"> More Jobs Better education and healthcare Increased quality of life. Following family members.

2. Causes of Counter - Urbanisation in AC's

<ul style="list-style-type: none"> Overcrowding and pollution. Unemployment increases. Deindustrialisation of centre. Traffic congestion increases CO². 	<ul style="list-style-type: none"> Green spaces & family friendly. New modern housing estates. Improved public transport. Rents cheaper on outskirts.
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3. Regeneration of Manchester

<p>Growth during the industrial revolution from making cotton.</p> <p>Cottonopolis</p>	<p>By the late 1980s gang violence, stabbings and shootings becoming common.</p> <p>Gunchester</p>	<p>Hosted the 2002 Commonwealth Games and a new stadium and velodrome were built in East Manchester.</p> <p>Sport City</p>	<p>2011 Media City is built on the old Salford Quays site and BBC moves its children and sports branches.</p> <p>Media City</p>
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The challenges and opportunities facing Rio de Janeiro

Illegal and squatter settlements found in favelas.

Slumming

4. London

London is the capital city of the United Kingdom. It is located in the South East of England and has a population of roughly 9 million people.

5. The challenges facing London.

Housing costs in London has risen exponentially in inner and outer London. This is due to international investors buying property in the city centre.

Air quality in London is dangerously poor in London – a congestion charge was implemented in 2003 to deter people from driving into the city centre at peak times.

6. Opportunities for London

It was the UK's first large-scale mixed use sustainable community, with 100 homes, office space for around 100 workers and community facilities

Pedestrian only zones created in the city centre
Healthy streets - £2.1 billion were invested in cycling and public transport use to improve road safety and air quality.

7. Rio de Janeiro

Rio de Janeiro is one of Brazil's largest cities, it is not the capital city. It is on the south east coast of Brazil. The population of Rio de Janeiro is 6.7 million people.

8. The challenges facing Rio de Janeiro

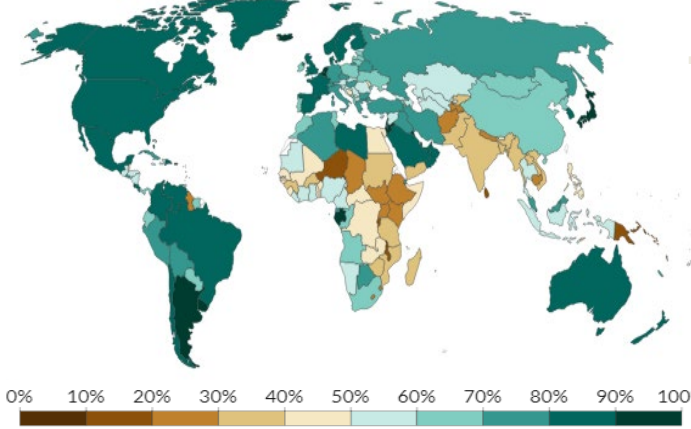
Violence can be a barrier to education as in some neighbourhoods it is not always safe for children to travel to school.

Urban sprawl is an issue as the city continues to grow rapidly, encroaching on surrounding rural (countryside) areas. Air pollution can be a problem, particularly from traffic congestion in the city centre and from industrial zones.

9. Opportunities for Rio de Janeiro

To reduce congestion, Rio de Janeiro has invested in public transport. The city has a series of BRT (bus rapid transit) corridors.

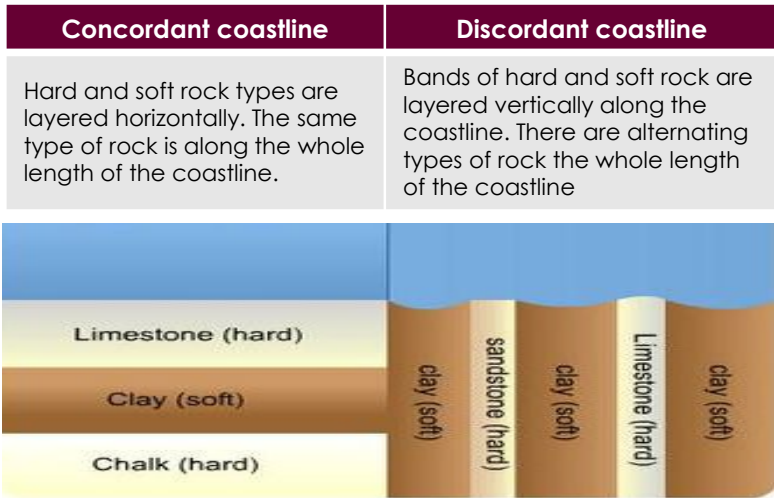
The Schools of Tomorrow programme has helped to improve the quality of education across the city. The programme targeted 155 schools in Rio's most violent neighbourhoods.



<p>1980's centre of music and creativity making the universities attractive to students.</p> <p>Madchester</p>	<p>1996 the city centre was devastated and 200 people were injured when the IRA set off a bomb.</p> <p>IRA Bombing</p>	<p>Former housing estates transformed by developer Urban Splash to create a new urban community.</p> <p>New Islington</p>
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YEAR 8 HALF TERM 1 – EXPLORING COASTS

Key vocab	Definition
Coastline	Where the land meets the sea.
Deposition	The dropping of material when the sea loses energy
Erosion	The breaking down of rocks
Transportation	The movement of material from one place to another
Hard rock	Rock that is more resistant to erosion
Soft rock	Rock that is eroded very quickly
Soft Engineering	The natural environment is used to help stop coastal erosion
Hard Engineering	Building structures out of wood or concrete which try to stop coastal erosion
Impact	Something that happens because of a previous action. This can be positive or negative
Prevailing wind	Wind that is continuously coming from a certain direction
Climate change	A change in long term weather patterns



Type of erosion	Definition
Hydraulic action	The sheer power of the waves smash against the cliff. And traps air in cracks causing them to break apart
Abrasion	Pebbles grind along the rock platform, over time the rock becomes smooth.
Attrition	Rocks carried by the sea knock against each other, break apart and become more rounded.
Solution	Sea water dissolves certain types of rock such as limestone and chalk

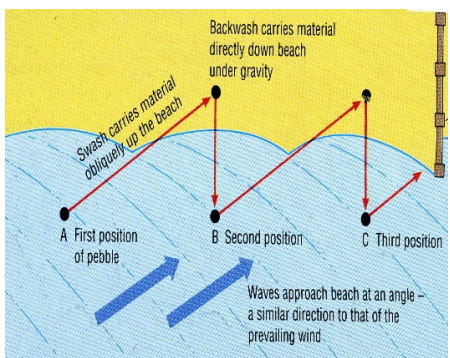
Coastal management: Dorset

Hard engineering strategies	Soft engineering strategies
<p>Groynes – timber or rock frames built out to sea. Trap sediment moved by longshore drift and create a wider beach. Found at Swanage</p>	<p>Beach nourishment – Sand from further along the coast is added to a beach to make it higher or wider. Found at Bournemouth, Poole and Weymouth</p>
<p>Rock armour – Large boulders dumped at the foot of a cliff to absorb wave energy and stop hydraulic action Found at West Bay</p>	<p>Managed retreat – Allowing low lying coastal areas to flood and become salt marshes. Salt marshes absorb all wave energy instead of the headlands</p>
<p>Sea walls - Concrete walls built at the foot of cliffs. Can be curved to reflect wave energy back into the sea Found at Lyme Regis</p>	

Longshore drift

Longshore drift is a type of transportation.

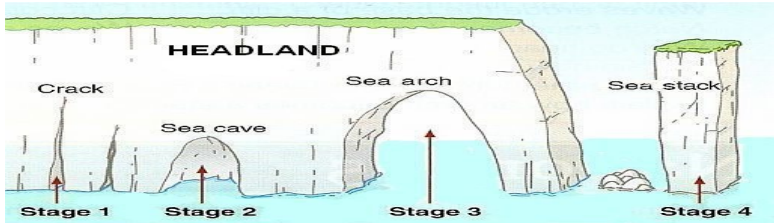
- Waves approach the coastline at an angle because of the prevailing wind.
- Swash carries the material up the beach at a diagonal angle.
- Backwash then pulls beach material down towards the sea at a 90 degree angle.



Headlands	Bays
A section of hard rock jutting out into the sea that has been eroded over time.	Soft rock at the coast is eroded quicker so recedes back from the headland. A beach is formed

Headland landforms

Cave	Arch
Waves attack a weakness in the cliff. The crack widens by hydraulic action and becomes deeper and hollow	The back of the cave is punched through by attrition and abrasion to create an arch
Stack	Stump
The material above the arch becomes unstable and collapses into the sea to create a stack that is no longer connected to the headland	Further erosion happens on the stack to make the top unstable and smaller. This is called a stump.



YEAR 8 HALF TERM 3 – EXPLORING BIOMES

Vocab	Definition	2. Biome Characteristics				3. Threats facing Tropical Rainforests.	
Biome	A global area that has flora and fauna similarities.	Tundra	Locations Latitudes of 65 degrees north and south of the equator. E.g. Canada, Russia, Alaska/.	Climate Rainfall: Low, below 500mm annually. Temperature: Cold winters and cool summers (below 10°C)	Flora and Fauna Small plants grow close to the ground and only in summer. Low number of animal species, most found along the coastline.	Logging <ul style="list-style-type: none"> Most widely reported cause of destructions to biodiversity. Timber is harvested to create commercial items such as furniture and paper. Has lead to violent confrontation between indigenous tribes and logging companies. 	Agriculture <ul style="list-style-type: none"> Large scale 'slash and burn' of land for ranches and palm oil. Increases carbon emission. River saltation and soil erosion increasing due to the large areas of exposed land Increase in palm oil is making the soil infertile.
Ecosystem	A small scale community of interconnected plants and animals.						
Flora	The different types of plants in an area.						
Fauna	The different types of animals in an area.						
Adaptation	The way organisms change to better suits its environment.	Polar	The points furthest north and south on the planet. Antarctica and the Arctic circle.	Rainfall: Very low less than 250mm per year. Temperature: Very low all year round, can be as low as -30°C.	Low biodiversity for flora and fauna. Extreme adaptations are needed to survive the harsh conditions.	Mineral Extraction <ul style="list-style-type: none"> Precious metals are found in the rainforest. Areas mined can experience soil and water contamination. Indigenous people are becoming displaced from their land due to roads being built to transport products. 	Tourism <ul style="list-style-type: none"> Mass tourism is resulting in the building of hotels in extremely vulnerable areas. Has caused negative relationships between the government and tribes Tourism has affected wildlife (apes) by exposing them to human diseases.
Deforestation	Clearing a large area of trees.						
Biodiversity	The variety of plant and animal life in a particular habitat.						
Deciduous	A tree or forest that sheds its leaves seasonally.	Tropical	Along the equator.	Rainfall: Very High over 200mm per year. Temperature: Hot all year round.	Highest biodiversity on the planet. Tall trees forming a canopy. Most animals living in the canopy layer.		
Tundra	The biome just below the polar biome, it is cold and has limited biodiversity.						
Permafrost	A layer of ground in the Tundra biome that is permanently frozen throughout the year.						
Agriculture	The practise of farming.						
Mineral Extraction	Means the removal of minerals, including, sand, gravel, shale, rock, coal, soil for profit.	Temperate	Between latitudes 40 degrees and 60 degrees north of the equator.	Rainfall: Variable rainfall 500-1500mm annually. Temperature: Warm summers and mild winters, no temperature extremes.	Mainly deciduous trees; a variety of species. Animals adapted to the warmer summer and cooler winter. Some species migrate.		
Temperate	An area that has no extreme weather and climate.						
Afforestation	The process of planting trees after deforestation.						

4. Threats facing Tundra/Polar Biomes

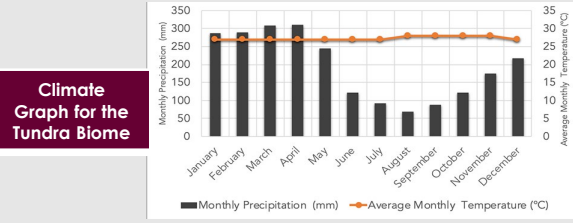
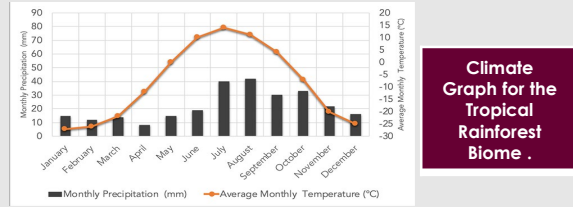
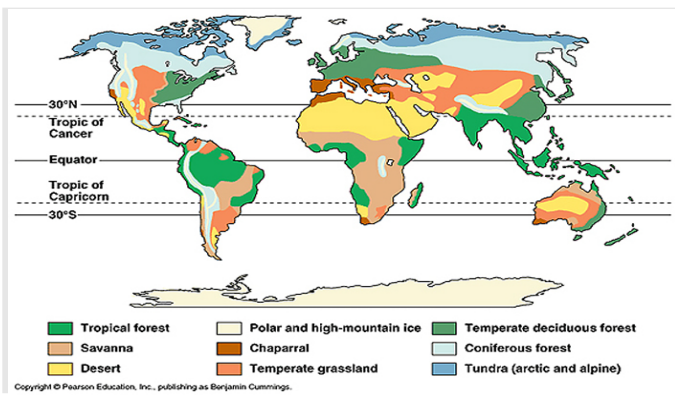
Oil and Gas Exploration.	Whaling
<ul style="list-style-type: none"> Arctic holds a large amount of untapped oil and gas. Oil spills would threaten ecosystems as clean up operations would be slow. 	<ul style="list-style-type: none"> Hunting of whales is a major industry – this led to a rapid decline in whale populations. Many countries have banned whaling, but some still continue

Fishing	Tourism
<ul style="list-style-type: none"> Has made area possible to fish large untapped stocks. The polar areas are difficult to police due to harsh conditions. Collapse of the fish stocks might damage ecosystems. 	<ul style="list-style-type: none"> The tourism industry is steadily growing within polar regions. Travel by tourists have increase emissions further. Wildlife may become disturbed by tourists getting up close.

5. Different types of management

International agreements and debt for nature swaps, selective logging, afforestation.

1. Global Distribution of biomes



YEAR 8 HALF TERM 6 – FIELDWORK

Vocab	Definition
Primary Data	Data that you personally collect when doing fieldwork.
Secondary Data	Data that someone else has collected.
GIS	Geographical Information Systems – online maps and interactive maps that help represent data.
Quantitative Data	Data with a numerical value such as statistics.
Qualitative Data	Data that is words or images, usually containing views, opinions or feelings.
Analysis	Detailed examination of something usually data.
Conclusion	Drawing together results to reach an answer. In fieldwork drawing results from data to answer the enquiry question.
Evaluation	Weighing up the positives and negatives of something. In fieldwork it refers to considering how reliable and accurate the results are.
Accuracy	How limited errors have been, therefore making data more likely to give true results.
Reliability	How trustworthy data is based on it being a good representation of possible data to be collected.
Bias	When something is not done fairly as there is a preference given.
Correlation	When there is a link or relationship between two pieces of data.
Physical Fieldwork	Enquiry questions based around the natural environment and processes.
Human Fieldwork	Enquiry questions based around human interactions with the environment and man-made environments.

1. Types of Data

	Primary Data	Secondary Data
Quantitative	Cloud cover using the Okta Scale Wind Direction Wind Speed	Weather data ArcGIS Online
Qualitative	Environmental quality survey People counts Questionnaires and interviews Photographs Land use mapping	OS maps and maps of schools Satellite images

2. Risk Assessments

It is important to carry out a risk assessment in order to ensure that I stay safe. By identifying a risk in advance, I can put in measures to reduce the risk. For example, by wearing waterproof clothing I can avoid getting wet if it rains.

	Risk	Mitigation
Weather	Wet weather is dangerous due to slippery groyne etc. Hot weather also poses the risk of dehydration.	Students advised to bring plenty of water and sun cream if the weather forecast is hot. If the weather forecast is wet, students are advised to bring appropriate clothing and footwear.
General public	Risk of verbal abuse from members of the public especially when carrying out questionnaires. Also risk of abduction.	Students told to walk around in pairs or more. Meeting point given to students to meet at regular times and a head count to be done. Students to be polite when asking questionnaires.

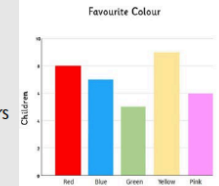
3. Fieldwork Techniques

Maps	There are many different types of maps. Maps display information and data that geographers may find useful when studying a particular place. OS maps show relief (height and shape of the land) and we can use four figure and six figure grid references to locate places.
Questionnaire	A questionnaire is designed and the investigator asks their chosen audience questions.
Field Sketch	Sketch of the area of investigation. Add detailed annotations on features that provide information for your investigation. You could describe processes shown within the field sketch and comment on the noticeable interactions which you find particularly important.
Photos	Photographs of areas within the investigation that present relevant aspects of the investigation, e.g. litter in a park or destroyed outdoor furniture.
Bipolar Survey	A survey where a chosen aspect is rated using polar opposite ratings (e.g. from -5 to +5) For example: On a scale of -5 (completely against) to +5 (completely for), what is your opinion of.....
Land Use Survey	Prior to the survey, choose a relevant area that will be representative of what is being investigated. Walk down your chosen area and note down (tallies are useful) how an area of land is being used (entertainment, public building, commercial, service, outdoor etc.)
Environmental Quality Survey	The area of a chosen environment is rated using a scale, for example 1-5. Different aspects of the environment are rated such as noise, building condition, greenery etc. Before conducting, investigation sites should be chosen and your survey should be made specific to your investigation purpose.

Presentation and Analysis: e.g. Bar Chart

Bar charts are used to show the number of things (or frequency) in several categories.

- Plot categories on the x-axis.
- Leave gaps between the bars as data is not continuous.



Analysis

What are the highest and lowest bars? Is there any data that surprises you? Use data to help support your points.

Presentation and Analysis: e.g. Line Graph

A line graph is used to show changes over time, for example, Changes in temperature through a day. More than one line can be plotted so that a comparison can be made over time.



- Both the x and y axis are numerical and continuous.
- If time is one of the variable, always plot it on the x-axis.

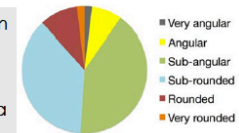
Analysis

Is the line going up or down? Is the line steep or does it go up or down slowly? Is the line smooth or does it zig-zag? Use data to help support your points.

Presentation and Analysis: e.g. Pie Chart

A pie chart is a circle divided in to sections. Each section represents a percentage.

- Sectors can be shaded or coloured, and need labels or a key.
- Multiple pie charts can be used where the size of each circle shows ration.



Analysis

Which categories are the smallest or largest sections of the pie chart? Are the categories divided up equally? Use data to help support your points.

Conclusion and Evaluation

Refer back to your hypothesis, in two simple sentences try to provide an overview of your findings. Did you disprove your hypothesis? Ensure that your hypothesis is consistent with what you are saying in your analysis. What were the strongest or most reliable sections of your investigation? How could you develop your investigation? What else could you have investigated? Were there any problems with your techniques? Were there any limitations?