Curriculum: Geography





Deepcar St. John's C.E. Junior School

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Vision

At Deepcar St John's C of E Junior School we believe that a high quality geography curriculum should inspire in the children a curiosity and fascination about the world and its people that will remain with them for the rest of their lives.

Children investigate a diverse range of places, both in Britain and abroad, to help develop their knowledge and understanding of the Earth's physical and human processes. We aim for children to have opportunities to investigate and make enquiries about their local area of Deepcar, Sheffield, so that they can develop a real sense of who they are, their heritage and what makes our local area so unique and special. We want children to enjoy and love learning about geography, not just through experiences in the classroom, but also with the use of fieldwork and educational visits.

Geography is, by nature, an investigative subject. Our teaching aims to ensure the progressive development of geographical concepts, knowledge and skills. Through our teaching, we intend to provoke thought whereby children will ask questions and also have to skills to discover answers to these questions.

Children at Deepcar St. John's will display the following characteristics of a geographer:

- An excellent knowledge of where places are and what they are like.
- A comprehensive understanding of the ways in which places are interdependent and interconnected and how much human and physical environments are interrelated.
- An extensive base of geographical knowledge and vocabulary.
- Fluency in complex, geographical enquiry and the ability to apply questioning skills and use effective analytical and presentational techniques.
- The ability to reach clear conclusions and explain their findings.
- Excellent fieldwork skills as well as other geographical skills and techniques.
- The ability to express well-balanced opinions, rooted in very good knowledge and understanding about current issues in society and the environment.
- A genuine interest in the subject and a real sense of curiosity about the world and the people who live here.

Intent

1	Develop knowledge of location and space
2	Develop knowledge of place
3	Understanding of environmental processes
4	Develop geographical enquiry skills
5	Have a rich geographical vocabularly

- Key Concepts
- 1. Location
- 2. Place
- 3. Scale- inc map reading
- 4. Environment
- 5. Fieldwork
- 6. Human and physical features- explain
- 7. Interconnections- explain

Implementation

Geography, at Deepcar St John's, is taught in each year group as part of a **termly topic**. The knowledge and skills stated in the National Curriculum have been broken down and planned for across the key stage to ensure progression, with further input into the **progression of skills**.

Each teacher is given the specific knowledge and skills that children are required to cover in each of the topics for their year group, which has been mapped out and is overseen by the geography coordinator. Teachers use this in **planning lessons** to tailor them to the interests and needs of the children in their class.

Each topic will begin with a 'hook' to engage and excite children. They will use this to begin to think about what they know already and would like to find out. Teachers use the children's input in this initial lesson, along with targeted questioning to **assess the children's prior knowledge** and are then able to adapt the series of lessons within that topic accordingly. Lessons incorporate various strategies from independent tasks to paired and group work, including practical hands-on, computer-based, collaborative tasks and map/atlas work.

We also use **knowledge mats** to provide children with the key vocabulary and knowledge required for that topic, along with suggestions of additional books and websites which they can use to deepen their learning. Children are provided with copies and we look back at the knowledge mats throughout the year to help children retain knowledge. Geography Ninjas is also used at the start of lessons to recap previous learning.

We are exceptionally lucky at Deepcar St John's to have an extensive outdoor space and teachers use this as well as visits and walks in the local area for **fieldwork opportunities**. They are also encouraged to take the children on at least one **educational visit** per year linked to one or more of their topics.

Before each half-term holiday, children are set a '**homework menu**' linked to their topic where they can choose a task based on something they'd like to learn more about and work on researching and presenting their learning in a variety of ways which link to other areas of the curriculum.

Cross-curricular links are made and prepared for in the long-term planning for the year.

Impact

Our children will be confident geographers and be able to clearly and enthusiastically discuss their learning from past and current topics. We will assess this through pupil voice.

Children will have had the opportunity to explore the outdoor learning environments both within the school grounds and the local community.

Children will have had opportunities to develop skills as part of educational visits.

Children's work is assessed against Chilli Challenges: Chilli 2 being a task set at their age related expectation and Chilli 3 being a task to go deeper in their learning (Chilli 1 would be selected if the child had completed the age-related task with additional support). These ongoing formative assessments provide evidence for a summative assessment at the end of the Autumn, Spring and Summer term.

We also measure impact through work scrutinies. Theme books are passed up through school allowing us to see how the quality of work improves year on year as well as the progression of skills.

Children's work is celebrated on displays around school and photographs are uploaded onto the school website and social media accounts.

National Curriculum

Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge.

Pupils should be taught to:

Locational knowledge

- locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

Place knowledge

 understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America

Human and physical geography

describe and understand key aspects of:

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies

Ove	Overview of learning							
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2		
Year 3	Where in the world is Europe?				What is my lo	cal area like?		
Year 4	When and how can maps be used in my day to day life? (Map focus)							
Year 5		n Great Britain? nd expansion of	in? America?		over Local ar	cality changed time? ea study		
Year ó		ce and what is it ke?	How is our world constantly being shaped? (mountains, earthquakes and volcanoes)		(inc river slody, cr	ties and counties)		

Subject progression

Locational Knowledge

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Locational knowledge

- locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)



Year 3 and Year 4Year 5 and Year 6Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major citiesLocating some major cities of the countries studied.Locating more countries in Europe and North and South America using maps.Locating some major cities of the countries studied.Locating some key physical features in countries studied on a map including significant environmental regions.Locating some key physical features in countries studied.Locating key physical features in countries studied.Locating some key physical features in countries studied.Locating some key physical features in countries studied.Locating key human features in countries studied.Locating some key human features in countries studied.Locating the world's most significant mountain ranges on a world map and identifying any patterns.Locating very human features in countries studied.Locating some of the world's volcances are on a map and identifying any patterns.Locating some significant rivers and identifying any patterns.Using maps to show the distribution of the world's climate zones, biomes and vegetation belts.			
 countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major Locating some key physical features in countries studied on a map including significant environmental regions. Locating some key human features in countries studied. Locating the world's most significant mountain ranges on a world map and identifying any patterns. Locating some of the world's most significant Locating some of the world's most significant 		Year 3 and Year 4	Year 5 and Year 6
	countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major	Locating some countries in Europe and North and South America using maps. Locating some major cities of the countries studied. Locating some key physical features in countries studied on a map including significant environmental regions. Locating some key human features in countries studied. Locating the world's most significant mountain ranges on a world map and identifying any patterns. Locating where the world's volcanoes are on a map and identifying the 'Ring of Fire'. Locating some of the world's most significant	Locating more countries in Europe and North and South America using maps. Locating major cities of the countries studied. Locating key physical features in countries studied on a map. Locating key human features in countries studied. Identifying significant environmental regions on a map. Using maps to show the distribution of the world's climate zones, biomes and vegetation

	To know where North and South America are on a world map. To know the names of some countries and major cities in Europe and North and South America. To know the names of some of the world's most significant mountain ranges. To know the names of some of the world's most significant rivers. To know that mountains, volcanoes and earthquakes largely occur at plate boundaries. To know that climate zones are areas of the world with similar climates.* To know the world's different climate zones (equatorial, tropical, hot desert, temperate and polar).* To know that biomes are areas of world with similar climates, vegetation and animals.* To know the world's biomes * To know the world's biomes *	To know the name of many countries and major cities in Europe and North and South America. To know the location of key physical features in countries studied. To name and describe some of the world's vegetation belts (ice cape, tundra, coniferous forest, deciduous forest, evergreen forest, mixed forest, temperate grassland, tropical grassland, Mediterranean, desert scrub, desert, highland).*
Name and locate	Year 3 and Year 4 Locating some counties in the UK (local to your	Year 5 and Year 6
counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time	Locating some clothes in the UK (local to your school). Beginning to locate the twelve geographical regions of the UK Identifying key physical and human characteristics of geographical regions in the UK. Identifying how topographical features studied have changed over time using examples. Describing how a locality has changed over time, giving examples of both physical and human features To know the name of some counties in the UK (local to your school). To know the name of some cities in the UK (local	Locating many counties in the UK. Locating many cities in the UK. Confidently locating the twelve geographical regions of the UK. Identifying key physical and human characteristics of the geographical regions in the UK. Understanding how land-use has changed over time using examples. Explaining why a locality has changed over time, giving examples of both physical and human features To know the name of many counties in the UK.
	 To know the name of the county that they live in and their closest city. To begin to name the twelve geographical regions of the UK. To know the main types of land use.* To know some types of settlement.* Year 3 and Year 4 	To confidently name the twelve geographical regions of the UK. To know that London and the South East regions have the largest population in the UK.

Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)	 Finding the position of the Equator and describing how this impacts our environmental regions. Finding lines of latitude and longitude on a globe and explaining why these are important. Identifying the position of the Tropics of Cancer and Capricorn and their significance. Identifying the position of the Northern and Southern hemispheres and explaining how they shape our seasons. Identifying the position and significance of both the Arctic and Antarctic Circle. 	Identifying the location of the Prime/Greenwich Meridian and time zones (including day and night) and explaining its significance. Using longitude and latitude when referencing location in an atlas or on a globe.
	 To know that countries near the Equator have less seasonal change than those near the poles. To know that the Equator is a line of latitude indicating the hottest places on Earth and splitting our globe into the Northern and Southern Hemispheres. To know lines of longitude are invisible lines on the globe that determine how far east or west a location is from the Prime Meridian. To know lines of latitude are invisible lines on the globe that determine how far north or south a location is from the Equator. To know the Tropics of Cancer and Capricorn are lines of latitude and mark the equatorial region; the countries with the hottest climates. To know the Northern and Southern hemisphere are 'halves' of the Earth, above and below our Equator and have alternate seasons to each other. To know the boundaries of the polar regions are marked by the invisible lines the Arctic and Antarctic circle and the Equatorial regions. 	To know the Prime/Greenwich Meridian is a line of longitude which goes through 0° and determines the start of the world's time zones.

2 Place Knowledge

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Place knowledge

• understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America



and an and the state of the sta	Year 3 and Year 4	Year 5 and Year 6
Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America	 Describing and beginning to explain similarities between two regions studied. Describing and beginning to explain differences between two regions studied. Describing how and why humans have responded in different ways to their local environments. Discussing how climates have an impact on trade, land use and settlement. Explaining what measures humans have taken in order to adapt to survive in cold places. Describing and explaining how people who live in a contrasting physical area may have different lives to people in the UK. 	 Describing and explaining similarities between two regions studied. Describing and explaining differences between two regions studied. Explaining how and why humans have responded in different ways to their local environments in two contrasting regions. Comparing the climate studied in a region of the UK with that of a region of North and South America and discussing how both climates have an impact on trade, land use and settlement. Explaining what measures humans have taken in order to adapt to survive in hot places. Using maps to explore wider global trading routes.
	To know the negative effects of living near a volcano. To know the positive effects of living near a volcano. To know the negative effects an earthquake can have on a community. To know ways in which communities respond to earthquakes.	To know some similarities and differences between the UK and a European mountain region. To know why tourists visit mountain regions.
3	Human and physical geography	

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Human and physical geography describe and understand key aspects of:

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water



Year 3 and Year 4

Describe and understand key aspects	Mapping and labeling the seven biomes on a world map.	Describing and understanding the key aspects
of: Physical geography, including: climate zones,	Understanding some of the causes of climate	of the six biomes.
biomes and vegetation belts, rivers, mountains,	change.	Describing and understanding the key aspects of the six climate zones.
volcanoes and earthquakes, and the water cycle	Describing how physical features, such as mountains and rivers are formed, and why volcanoes and earthquakes occur.	Understanding some of the impacts and causes of climate change.
	Describing where volcanoes, earthquakes and mountains are located globally.	Describing and understanding the key aspects and distribution of the vegetation belts in relation to the six biomes, climate and weather.
	Describing and explaining how physical features such as rivers, mountains, volcanoes and earthquakes have had an impact upon	Giving examples of alternative viewpoints and solutions regarding an environmental issue and
	the surrounding landscape and communities.	explaining its links to climate change.
	Describing how humans use water in a variety of ways.	
	To know that the water cycle is the processes which move water around our Earth and to be able to name those processes.	To know vegetation belts are areas of the world that are home to similar plant species.*
	To know the key features of a river.	To name and describe some of the world's vegetation belts.
	To know the different types of mountains and volcanoes and how they are formed.	To know why the ocean is important.
	To know that an earthquake is the intense shaking of the ground.	
	To know that a biome is a region of the globe sharing a similar climate, landscape, vegetation and wildlife.*	
	To know the world's biomes.*	
	To know that the hottest biomes are found between the Tropics of Cancer and Capricorn.	
	To know that climate zones are areas of the world with similar climates.*	
	To know the world's different climate zones.*	
	To know that climates can influence the foods able to grow.	
Describe and understand key aspects of: Human geography,	Describing and understanding types of settlement and land use.	Describing and understanding economic activity including trade links.
including: types of settlement and land use, economic activity	Explaining why a settlement and community has grown in a particular location.	Suggesting reasons why the global population has grown significantly in the last 70 years.
including trade links, and the distribution of natural	Explaining why different locations have different human features.	Describing the 'push' and 'pull' factors that people may consider when migrating.
resources including energy, food, minerals and water	food, minerals Explaining why people might prefer to live in	Understanding the distribution of natural resources both globally and within a specific region or country studied.
	Describing how humans can impact the environment both positively and negatively, using examples.	Recognising geographical issues affecting people in different places and environments.
		Describing and explaining how humans can impact the environment both positively and negatively, using examples.

Т	o know the main types of land use.*	To know the global population has grown significantly since the 1950s.
-	To know the different types of settlement.*	
-		To know which factors are considered before
	o know water is used by humans in a variety of vays.	people build settlements.
		To know migration is the movement of people
	o know an urban place is somewhere near a own or city.	from one country to another.
		To know that natural resources can be used to
	o know a rural place is somewhere near the countryside.	make energy.
		To know some positive impacts of humans on
	o know that a natural resource is something hat people can use which comes from the	the environment.
r	natural environment.	To know some negative impacts of humans on the environment.
	o know the threats to the rainforest both on a	
lo	ocal and global scale.	To know the threats to oceans and corals.
Т	o know that fair trading is the process of	
	ensuring workers are paid a fair price, have	
	afe working conditions and are treated with	
r	espect and equality.	
Т	o know the UK grows food locally and imports	
	ood from other countries.	
Ge	ographical skills and fieldwork	

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Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies

Year 3 and 4

Year 5 and 6

Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied	 Beginning to use maps at more than one scale. Using atlases, maps, globes, satellite images and beginning to use digital mapping to locate countries studied. Using atlases, maps, globes and beginning to use digital mapping to recognise and describe physical features and human features in countries studied. Using the scale bar on a map to estimate distances. Finding countries and features of countries in an atlas using contents and index. Zooming in and out of a digital map 	Confidently using and understanding maps at more than one scale. Using atlases, maps, globes and digital mapping to locate countries studied. Using atlases, maps, globes and digital mapping to describe and explain physical and human features in countries studied. Identifying, analysing and asking questions about distributions and relationships between features using maps (e.g settlement distribution). Using the scale bar on a map to calculate distances. Recognising an increasing range of Ordnance Survey symbols on maps and locating features using six-figure grid references. Recognising the difference between Ordnance Survey and other maps and when it is most appropriate to use each. Beginning to use thematic maps to recognise and describe human and physical features studied. Using models and maps to talk about contours and slopes. Selecting a map for a specific purpose.
Use the eight points of a compass, four and six- figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world	 Beginning to use the key on an OS map to name and recognise key physical and human features in regions studied. Accurately using 4-figure grid references to locate features on a map in regions studied. Beginning to give instructions using the 8 points of a compass. Using a simple key on their own map to show an example of both physical and human features. Following a route on a map with some accuracy. Saying which directions are N, S, E, W on an OS map. Making and using a simple route on a map. Labelling some features on an aerial photograph and then locating these on an OS map of the same locality and scale in regions studied. 	 Confidently using the key on an OS map to name and recognise key physical and human features in regions studied. Accurately using 4 and 6-figure Grid References to locate features on a map in regions studied. Confidently giving instructions using the 8 points of a compass. Following a short pre-prepared route on an OS map. Identifying the 8 compass points on an OS map. Planning a journey to another part of the world using six figure grid references and the eight points of a compass.

Use fieldwork to observe, measure, record and present the human and	observ e	Mapping land use in a small local area using sketch maps and plans.	Making sketch maps of areas studied including labels and keys where necessary.
physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital		Making a plan for how they wish to collect data to answer an enquiry based question, with the support of a teacher.	Making an independent or collaborative plan of how they wish to collect data to answer an enquiry based question
technologies.		Asking and answering one- step and two-step geographical questions.	
		Observing, recording, and naming geographical features in their local environments.	
	measur e	Using simple sampling techniques appropriately.	Selecting appropriate methods for data collection.
		Making digital audio recordings for a specific purpose.	Designing interviews/questionnaires to collect qualitative data.
		Designing a questionnaire / interviews to collect quantitative fieldwork data.	Using standard field sampling techniques appropriately.
	record	Taking digital photos and labeling or captioning them.	Using GIS (Geographical Information Systems) to plot data sets (e.g prevalence of crime in certain areas) onto base maps which can then
		Making annotated sketches, field drawings and freehand maps to record observations during fieldwork.	be analysed. Conducting interviews/questionnaires to collect
		Drawing simple maps and plans to scale (e.g 1 m = 1 square)	qualitative data. Interpreting and using real- time/live data.
		Using a simplified Likert Scale to record their judgements of environmental quality.	
	presen †	Using a questionnaire/interviews to collect qualitative fieldwork data.	
		Presenting data using plans, freehand sketch maps, annotated drawings, graphs, presentations, writing and digital technologies when communicating geographical information.	Deciding how to present data using plans, freehand sketch maps, annotated drawings, graphs, presentations, writing at length and digital technologies when communicating geographical information.
		Suggesting different ways that a locality could be changed and improved.	Drawing conclusions about an enquiry using findings from fieldwork to support your reasonings.
		Finding answers to geographical questions through data collection.	Evaluating evidence collected and suggesting ways to improve this.
		Analysing and presenting quantitative data in charts and graphs.	Analysing quantitative data in pie charts, line graphs and graphs with two variables.

Vocabulary						
Year 3	Year 4	Year 5	Year 6			
Tier 2 Continent - North America, South America, Africa, Europe Asia, Australasia, Antarctica Oceans - Southern Ocean, Indian Ocean, Pacific Ocean, Atlantic Ocean, Arctic Ocean Countries Europe Europea European United Kingdom location characteristics changes continuity countries and cities of the United Kingdom borders counties - West Yorkshire, South Yorkshire, North Yorkshire, East Riding of Yorkshire, Lincolnshire, Derbyshire, Nottlinghamshire Sheffield Local area Regions sketch map plan attases globe rivers symbol key direction index attas South North east South North east South North West Communicate Capital City Europe Equator Northern Hemisphere, Southern Hemisphere Tropic of Cancer, Tropic of Capricom Arctic Circle, Antarctic Circle North Pole, South Pole Brussels, Belgium Paris, France Berlin, Germany Reykjavik, Iceland Dublin, Ireland Rome, Italy Amsterdam, Netherlands Wassfw, Poland Lisbon, Portugal Madrid, Spain Stockholm, Sweden London, United Kingdom Mountain Ranges: Les Alpes, Le Jura, Le Masif Central, Les Pyrénées, Les Vosges Rivers: La Garonne, La Loire, Le Rhin, Le Rhone, La Seine Main Cities: Bordeaux, Brest, Caen, Clermont-Ferrand, Dijon, Grenoble, Lille, Lyon, Marseile, Metz, Montpellier, Nice, Paris, Pau, Orléans, Reims, Rennes, Rouen, Strasbourg, Toulouse	AS Year3 plus grid references (4 figure) eastings northings ordnance survey symbol key direction compass (8 points) index atlas co-ordinates latitude longitude Compass north south east west north east south east south west north west Silva compass	Tier 2 North and south America mountainous capacity valley population density economy trade economic activity imports exports primary/secondary/tertiary job sectors topography coastline transport links South America deforestation canopy understory emergent savannah grasslands desert tundra indigenous biomes undergrowth exposure Our Valley delta estuaries deposition transportation erosion meander oxbow lake upper/middle/lower course source highest source mouth contour lines grid references (6 figure) grid squares	As Year 5 plus: Land use patterns (change over time) Lines of latitude and longitude Prime/Greenwich Meridian and time zones (including day and night) axis rotation equator Physical Geography: Climate zones Biomes Vegetation belts Mountains, Volcanoes and earthquakes Water Cycle Topography World rivers Northern/Southern Hemisphere Precipitation Rainfall Human Geography: Natural resources – energy, food, minerals and water. Ancient Greece World seas: Adriatic Sea, Aegean Sea and Mediterranean Sea Extreme Earth summit glacier crevasse ridge face 'death zone' altitude co-ordinates grid references (6 figure) scale crust mantle chamber tectonic plate epicentre fault line magma plate pyroclastic flow Himalayas Contour lines Compass direction Dome Erode erosion Pressure			