PREPARING FOR SEDGEHILL

A LEVEL

GEOGRAPHY

THE DEFINITIVE GUIDE

Welcome to the Sedgehill Guide to A Level Preparation
and what a treat we have in store for you! Let us take you through the purpose of this guide and what you can expect from it.

what is the purpose of this guide?

This guide has been designed to help you ‘get ahead’ and prepare for the transition to advanced level. Moreover, it will be of use to you throughout your studies, as it provides hundreds, if not thousands of opportunities to further engage with the wonderful subject of geography!

How should I use it?

Imagine it as a geographical pick-n-mix if you will! You can choose the activities which best suit your learning style, geographical interests, and time commitments.

There is a lot to choose from here, how many activities should I choose?

Don’t try and do everything at once – nor should you try to do everything! This is an opportunity to explore geography in ways you wouldn’t usually. Different activities take different amounts of time. See the final page for further advice.

Should I keep a record of the activities I complete?

Absolutely! Not only is this going to give you a head-start into the A -Level but your explorations will be invaluable for future UCAS applications (whether you decide to apply for a geography degree or not!). Make sure you keep a log of what you read, watch, write and take part in - and be sure to tell us in September!

Geography @ Home

There are so many ways to stay engaged with geography. We have compiled a list of our top websites, online newsrooms, podcasts, online courses, journals documentaries, films and even Netflix shows to keep you engaged with geography and develop your geographical understanding ahead of and during your A Level.

1. ONLINE NEWS ARTICLES AND JOURNALS

BBC NEWS https://www.bbc.co.uk/news
An excellent source of up-to-date articles – explore the key headings such as Science, Business, as well as the UK, World and other stories.

THE GUARDIAN https://www.theguardian.com/uk
Again, many useful articles and logically ordered – keep an eye on the Environment, Science, Society, Global Development stories in particular.

THE FINANCIAL TIMES https://www.ft.com/
An invaluable source of economic and geopolitical articles
.

2. PODCASTS

Give your eyes a break and pop your headphones in instead to broaden your geographical understanding. These podcasts come highly recommended by the department; a departmental favourite is the 'Ask the Geographer' series.

Costing the Earth
https://www.bbc.co.uk/programmes/b006r4wn/episodes/player
including climate change, carbon, urban greening, deforestation, alternative power There are some great podcasts here to pick from on a wide variety of geographical issues, plastics etc.

Royal Geographical Society – "Ask the Geographer podcasts"
https://www.rgs.org/schools/teaching-resources/ask-the-expert-podcasts/
A fantastic set of podcasts to keep A Level studies up-to-date with the latest geographical research – pick out some that interest you and give them a go!

The Inquiry
https://www.bbc.co.uk/programmes/p029399x/episodes/downloads
BBC podcasts exploring the trends, forces and ideas shaping the world beyond the headlines.

Talks from the Royal Geographical Society
https://www.rgs.org/geography/online-lectures/
From microplastics to microfinance, the RGS have released over 50 free geographical talks for you to watch and listen to.

3. ONLINE COURSES

Learning is the best way to stay engaged with the world. Whether you're looking for a new subject, are seeking out a new skill, or are hoping to get ahead of the curve with some preparation for A Level, there are hundreds of online courses available to you.

The Royal Geographical Society Online Lectures

https://www.rgs.org/geography/online-lectures/

This is a comprehensive catalogue of online lectures facilitated by the Royal Geographical Society. Delivered by academics from leading universities in the UK, you will be spoilt for choice. Titles include: **Feeding 9 billion, Digital Technology in Africa, Mobile Middle Classes and Air Quality for all?**

The Open University

https://www.open.edu/openlearn/free-courses/full-catalogue

The Open University is the leading university for flexible, distance teaching and more than 1,000 free courses are available online. Courses accommodate a range of expertise and time required for study. Most also come with a free 'certificate' on completion. Here are suggestions for the geographically minded: **Ecology and Ecosystems, Biofuels, Earthquakes, The Frozen Planet, Introduction to Geology, and Water and Human Health.**

Future Learn

https://www.futurelearn.com/

Future Learn is a online hub for free online courses from top UK and European universities. You can filter by subject, the amount of time you'd like to spend, and the duration of your course. Most courses have a set start date, but don't worry, you can join after it starts. Future Learn is powered by cutting edge research in education, favouring micro-learning principles and interactivity. Our top picks: **Ecology and Wildlife Conservation – University of Leeds; Come Rain or Shine: Understanding the Weather – University of Reading; Exploring Our Ocean – University of Southampton.**

UN CC: e-Learn

https://unccelearn.org/

UN CC: eLearn is the official United Nations learning partnership for all things related to climate change. They offer self-paced courses, meaning you can dip in and out of them as and when you please. You can learn about climate policy, green economies, sustainable diets and personal finance, and lots more with these interactive courses. Take a look at some of the examples: **Introduction to Green Economy, Climate Change and Cities.**

4. GEOGRAPHICAL LITERATURE

Evidence suggests that students who read for enjoyment not only perform better in tests than those who don't, but also develop a broader vocabulary, increased general knowledge and a better understanding of other cultures. In the Geography Department, we believe it is one of the most valuable things you can do to enhance your academic performance. Remember you can make use of digital books (Kindles/e-Readers) – you don't have to access hard copies.

Prisoners of Geography (Tim Marshall)

An insightful book which helps understand how physical geography impacts on political reality and really helps to understand how decisions of world leaders have been shaped by geography – a great introduction to geopolitics.

Factfulness: Ten reasons we're wrong about the world – and why things are better than you think (Hans Rosling)

Hans Rosling has written what is a must-read book from a geography perspective – this takes a more realistic view of the world, presenting issues in fact-based context. It is a rational look at actually how far the world has measurably improved and what's left to be done

.

Divided (Tim Marshall)

Author Tim Marshall attempts to explain why we are living in an age of walls by delving into our past and present to reveal the fault lines that will shape our world for years to come. Another Sunday Times Best Seller from the author.

Unruly Places (Alistair Bonnet)

At a time when Google Maps can take you on a virtual tour of most places on the planet, it's hard to imagine there's any unchartered ground left on the planet. Unruly Places goes to some of the most unexpected, offbeat places in the world to re-inspire our geographical imaginations.

Brick Lane (Monica Ali)

A fictional novel which explores the rich cultural heritage of East London's Brick Lane. A less academic approach to key urban issues and cultural tensions in inner-city London.

China's Asian Dream (Tom Miller)

Combining a concise overview of the situation with on-the-ground reportage from over seven countries, China's Asian Dream offers a fresh perspective on one of the most important questions of our time: what does China's rise mean for the future of Asia and of the world?

On the Map (Simon Garfield)

Maps fascinate us. They chart our understanding of the world and they log our progress, but above all they tell our stories. From the early sketches of philosophers and explorers through to Google Maps and beyond, Simon Garfield examines how maps both relate and realign our history.

The Power of Place (Harm De Blij)

The world is not as mobile or as interconnected as we like to think. As Harm de Blij argues in The Power of Place, in crucial ways--from the uneven distribution of natural resources to the unequal availability of opportunity--geography continues to hold billions of people in its grip. Incorporating a series of persuasive maps, De Blij describes the tremendously varied environments across the planet and shows how migrations between them are comparatively rare. De Blij also looks at the ways we are redefining place so as to make its power even more potent than it has been, with troubling implications.

The Revenge of Geography (Robert D Kaplan)

NEW YORK TIMES BESTSELLER • In this provocative, startling book, Robert D. Kaplan, the bestselling author of Monsoon and Balkan Ghosts, offers a revelatory new prism through which to view global upheavals and to understand what lies ahead for continents and countries around the world.

Landmarks (Robert Macfarlane)

Words are grained into our landscapes, and landscapes are grained into our words. Landmarks is about the power of language to shape our sense of place. It is a field guide to the literature of nature and a glossary containing thousands of remarkable words used in England, Scotland, Ireland, and Wales to describe land, nature, and weather.

Mountains of the Mind (Robert Macfarlane)

Combining accounts of legendary mountain ascents with vivid descriptions of his own forays into wild, high landscapes, Robert McFarlane reveals how the mystery of the world's highest places has came to grip the Western imagination—and perennially draws legions of adventurers up the most perilous slopes.

Notes from a Small Island (Bill Bryson)

The New York Times bestseller is Bill Bryson's hilarious journey through the beloved island nation he called home for two decades. From Downing Street to Loch Ness, this is a delightful look at the United Kingdom.

A History of the World in 12 Maps (Jeremy Brotton)

Jerry Brotton examines the significance of 12 maps - from the almost mystical representations of ancient history to the satellite-derived imagery of today. He vividly recreates the environments and circumstances in which each of the maps was made, showing how each conveys a highly individual view of the world. Brotton shows how each of his maps both influenced and reflected contemporary events and how, by considering it in all its nuances and omissions, we can better understand the world that produced it.

The Phantom Atlas (Edward Brooke-Hitching)

The Phantom Atlas is a guide to the world not as it is, but as it was imagined to be. It's a world of ghost islands, invisible mountain ranges, mythical civilizations, ship-wrecking beasts, and other fictitious features introduced on maps and atlases through mistakes, misunderstanding, fantasies, and outright lies.

Longitude (Dava Sobel)

Longitude is the dramatic human story of an epic scientific quest and of Harrison's forty-year obsession with building his perfect timekeeper, known today as the chronometer. Full of heroism and chicanery, it is also a fascinating brief history of astronomy, navigation, and clockmaking, and opens a new window on our world.

The Happy City (Charles Montgomery)

Charles Montgomery's Happy City is revolutionizing the way we think about urban life. After decades of unchecked sprawl, more people than ever are moving back to the city. Dense urban living has been prescribed as a panacea for the environmental and resource crises of our time. But is it better or worse for our happiness? Are subways, sidewalks, and condo towers an improvement on the car dependence of the suburbs?

Map head: Charting the Weird World of Geography Wonks (Ken Jennings)

Ken Jennings takes readers on a world tour of geogeeks from the London Map Fair to the bowels of the Library of Congress, from the prepubescent geniuses at the National Geographic Bee to the computer programmers at Google Earth. Each chapter delves into a different aspect of map culture: highpointing, geocaching, road atlas rallying, even the “unreal estate” charted on the maps of fiction and fantasy. Jennings also considers the ways in which cartography has shaped our history, suggesting that the impulse to make and read maps is as relevant today as it has ever been.

Atlas of Improbable Places (Travis Elborough)

With beautiful maps and stunning photography illustrating each destination, Atlas of Improbable Places is a fascinating voyage to the world's most incredible destinations. As the Island of Dolls and the hauntingly titled Door to Hell — an inextinguishable fire pit - attest, mystery is never far away. The truths and myths behind their creation are as varied as the destinations themselves. Standing as symbols of worship, testaments to kingships or even the strange and wonderful traditions of old and new, these curious places are not just extraordinary sights but reflections on man's own relationship with the world around us.

5. GEOGRAPHICAL FILMS AND DOCUMENTATIES

If you are in need of respite from your latest book or Geographical podcast, why not spend some down time with one of the following documentaries or films? Instead of watching re-runs of Friends or keeping up with Joe Exotic on Tiger King, make sure you are even making use of your Netflix and 'chill' time by watching something geographical. Your brain absolutely needs to rest but watching any of the following means your brain is still learning and engaging with the subject.

5.i Netflix

Into the Inferno: With stunning views - it captures the raw power of volcanoes.

The Boy who harnessed the wind: About water shortage in Malawi and a boy who makes a windmill to pump water.

Cowspiracy: Investigation of the food and meat industry

Rotten: Docu-series travels deep into the heart of the food supply chain to reveal unsavoury truths

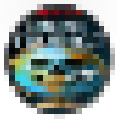
Africa: Documentary series about Africa. Narrated by David Attenborough

Our Planet: Stunning Sir David Attenborough series investigating the different biomes and their varied flora and fauna.

Planet Earth and Planet Earth 2: The Irreplaceable Sir David Attenborough explores some of the world's different biomes

Blue Planet: More geographical joy from Sir David who takes us deep underwater to explore the world's oceans and seas.

Wild Caribbean: Explore the turbulent natural history and rich diversity of the Caribbean islands.



The Dark Tourist: David Farrier's eight-part series looks at unconventional destinations across the world. From the radioactive villages of Japan following the 2013 tsunami to the voodoo villages of South Africa. Farrier explores tourist's dark desires for the 'never seen before'.

Explained: From YouTube sensations, VOX Creators, each episode is 16-18 minutes long with each focusing on a different topic. There are plenty of geographical based ones to choose from including the World's Water Crisis.

72 Dangerous Places to Live: Get up close and personal with avalanches, fiery volcanoes and other natural disasters and learn why some people choose to live in their destructive paths

5.ii Films/ Documentaries

Before the Flood (2016): Before the Flood, presented by National Geographic, features Leonardo DiCaprio on a journey as a United Nations Messenger of Peace, travelling to five continents and the Arctic to witness climate change first-hand. He goes on expeditions with scientists uncovering the reality of climate change and meets with political leaders fighting against inaction.

An Inconvenient Truth and An Inconvenient Sequel (2006, 2016): These films follow Al Gore on the lecture circuit as the former presidential candidate campaigns to raise public awareness of the dangers of global warming and calls for immediate action to curb its destructive effects on the environment.

The Impossible (2012): The story of a tourist family caught in the destructive and chaotic aftermath of one of the world's most devastating natural disasters. Based on real life events of the 2004 Boxing Day tsunami which killed 200,000 people.

Slumdog Millionaire (15): A Mumbai teenager reflects on his life after being accused of cheating on the Indian version of 'Who Wants to be a Millionaire'. Based on life in the slums of Mumbai and the realities of urban life in one of the world's largest megacities. A favourite of Mr Thomas!

Hotel Rwanda (12): The true story of hotel manager who houses and protects Tutsi refugees – this is a hard-hitting film based on the Rwandan Conflict of the 1990s.

The Last King of Scotland (15): Based on the events of the brutal Ugandan dictator Idi Amin's regime as seen by his personal physician during the 1970s.

Lion (2016): An Indian man who was separated from his mother at the age of 5 and adopted by an Australian family return home determined to find his birth family. Highlights the realities of slum life.

5.iii TV Documentary series

There are some great geographical documentaries which will help develop your general geographical knowledge and understanding and help you see what an amazing world we live in.

BBC iPlayer: http://bbc.co.uk/iplayer

David Attenborough Box Sets https://www.bbc.co.uk/iplayer/group/p06m42d9

The Americas with Simon Reeve
https://www.bbc.co.uk/iplayer/episodes/m00095p0/the-americas-with-simon-reeve

Simon Reeve around the world
https://www.bbc.co.uk/iplayer/group/p06rrnkm
Mediterranean with Simon Reeve https://www.bbc.co.uk/iplayer/episodes/b0bnb6tt/mediterranean-with-simon-reeve

ITV Player: http://www.itv.com/hub/itv
Britain Underwater: Fighting the Floods
https://www.itv.com/presscentre/ep1week10/britain-underwater-fighting-floods

Joanna Lumley's Hidden Caribbean: Havana to Haiti
https://www.itv.com/presscentre/ep1week11/joanna-lumleys-hidden-caribbean-havana-haiti

Channel 4 On Demand:

When the Immigrants Leave (Dispatches)
https://www.channel4.com/programmes/dispatches/on-demand/69555-001

China's Lonely Hearts (Unreported World)
https://www.channel4.com/programmes/unreported-world/on-demand/56011-011

The world's dirtiest river (Unreported world)
https://www.channel4.com/programmes/unreported-world/on-demand/58399-001

Forests of Fear (Unreported World) -
https://www.channel4.com/programmes/unreported-world/on-demand/69224-006

Hurricane Hell (Unreported World)
https://www.channel4.com/programmes/unreported-world/on-demand/69224-007

The World's Dirtiest Air (Unreported World)
https://www.channel4.com/programmes/unreported-world/on-demand/67193-002

6. GEOGRAPHICAL COMPETITIONS

When students write for teachers, it can feel like an assignment. When they write for a real purpose, they are empowered! Student writing contests are an easy and inspiring way to try writing for an authentic audience. Furthermore, essays and competitions are a great way to explore your subject of interest in greater depth and allows you to develop and experience independent study skills which are needed in order to do well at A level and university.

The Royal Geographical Society's: Young Geographer of the Year Competition

https://www.rgs.org/schools/competitions/young-geographer-of-the-year/

The Young Geographer competition, run by the Royal Geographical Society and Journal 'Geographical', has been running for over 20 years and in 2019 over 15,000 young people took part. This year's Young Geographer of the Year competition gives young people the chance to explore the potential that geography holds. The competition this year is asking young people to explore their wider geographical horizons by providing entries to explore the geography of 'The world beyond my window'. We strongly advise you enter this particular competition, particularly as an A Level Geographer and somebody who may be considering Geography at University. The deadline is the end of June so you still have lots of time to enter. If you think you might be interested next year – get a sense of what you need to do …

The Royal Geographical Society

https://www.rgs.org/geography/

Over the course of your studies to date, your geography teachers have been accessing resources and support from the UK's Royal Geographical Society, based in London. Now is a good time to familiarise yourself with their wider work. Within this guide there are several link to talks and lectures. The link above is a good link to start exploring their position on the importance of geography and why you should study it

NB· Most resources are free· If you encounter closed resources, and are not sure if your current school is a School Member of the Society, please email education@rgs·org with your school name and postcode; if your school is a Member, they will email you a login and password· We will give external students Sedgehill membership details in September·

Royal Canadian Geographical Society's Online Classroom

We are highlighting this organisation as they have a great web-presence, but in particular, their 'The Anthropocene Education Programme' is impressive and we suggest you explore it.
https://anthropocene.canadiangeographic.ca/

7. GEOGRAPHICAL WEBSITES

Finally, these are a couple of websites that explore geographical issues and between them, they really capture geography's breadth – from earth sciences, to geopolitics.

Earth sciences

Dynamic Earth Online https://www.dynamicearth.co.uk/learning/dynamicearthonline

Dynamic Earth will be sharing a series of fun and thought-provoking content that will range from hands-on experiments that you can carry out at home, through to fascinating insights about the history of our planet and the science behind climate change.

Geopolitics, global risk & the need for global responses

NB: These reports were produced in 2020 pre-Covid.
World Economic Forum – Global risks report
https://www.weforum.org/agenda/2020/01/top-global-risks-report-climate- change-cyberattacks-economic-political/

UN Global issues overview https://www.un.org/en/sections/issues-depth/global-issues-overview/ & https://news.un.org/en/story/2020/01/1054811

RECORD OF ENGAGEMENT & REMINDERS

Use this time to explore geography and in ways you wouldn't usually. Keep a log of what you read, watch and write. This Guide, remember, will be of use to you throughout your studies – it's designed as a 'pick-n-mix'. A Record of Engagement will help you to refer back to books/films/ courses/ websites; we would love to hear what you've done and it will be useful for UCAS, whichever direction in life you decide to travel.

How much you do is up to you and activities will take different amounts of time. Pace yourself. Don't try and do everything at once; nor should you try to do everything! An article could take you about 15 -minutes to read, maybe longer if you digest it and discuss it with someone; a film will last a couple of hours – you could encourage your family to watch it with you, or watch it in parallel with friends, then discuss it afterwards; an-online course might take a couple of hours and run for 6-weeks. You could have a book on the go throughout … It's up to you how you record your activities. Use these headings as a prompt – you could sketch-out your own table – or set it out in other ways

Type of resources & name of series or course	If relevant, which part looked at e.g. titles of article / documentary series / episode	Author / producer &date	Brief notes	Questions / areas I don't understand or want to know more about	www link (if relevant – so you can easily find it again

Geography A-level 2021
Compulsory Bridging Unit Summer Task

We would like you to explore (independently study) and then produce four summaries of resources that relate to topics/ issues covered by the Edexcel A level geography specification.

Instructions:

 Investigate the '**PREPARING FOR SEDGEHILL A LEVEL GEOGRAPHY'** (see attachments). After exploring this, select and make notes on a minimum of **four** resources relating to four **very different issues/topics from the A-level Geography course**: **one news article and one podcast/documentary** relating to **human geography** topics, and the same for **physical geography** topics. *You can find a list of the topics and the human/physical geography split under the heading Course Information - Assessment Outline.*

 Make **selective notes, as shown in the exemplar below** of **no more than one page for each** (font size 11 minimum), including images where appropriate. *Use the two exemplars which follow as a template guide to setting this out, including the table and headings provided.*

 The chosen article/podcast/documentary must link to **an enquiry question/key idea/detailed content from the Geography A-level Specification.** *The part of the specification detailing the eight topics is also attached.* Making this link, or connection to the specification, **is part of the challenge;** the specification is wide-ranging and a large document and **we would like you to explore it and start to connect the issues** you are investigating (reading about/listening to/watching), **with the A-level content**.

You will be assessed on:

 Your choice of resource. As well as linking to the specification, it also needs to be sufficiently challenging - *see exemplars below*.

 Task completion, according to the specific instructions given.

 Recognition of the '**geography'*** being discussed in the articles/ podcasts/ documentaries – and your understanding of this. Specifically, you need to have identified and be confident about **key locations** and **communities/ organisations** mentioned, and to have identified and be able to actively use **key geographical language** (look-up and learn definitions if needed).

You are not expected to fully understand all the issues you are studying (that's what your A level is for), but you are expected to be able to **reflect on, discuss and ask pertinent questions** about them, using appropriate language and building on the facts presented.

Submission/ Assessment:

This task is designed to assess your ability to navigate large documents (i.e. the specification) and follow instructions (i.e. task development/ presentation/submission guidelines), **as well as** your geographical understanding.

1. Written submission: Present your notes/findings in two separate, typed documents split according to the human/physical topics (2 resources per document). If you do not have access to technology at home, handwritten documents must be well–presented and set out in exactly the same way as shown in the template example.
2. Verbal testing: Come ready to discuss your findings, share your opinions about them and ask/ answer questions about them.

Deadline: You should bring these documents with you on the first day of school, ready for your first lesson. If you are unable to print at home, email your work in Word/PDF documents, as 2 separate attachments, to dedmonds@sedgehillacademy.org.uk (the weekend before school commences, no later); ensure your full name is on each Word/PDF document.

AREAS OF STUDY: COURSE SPECIFICATIONS – PICK ONE HUMAN AND ONE PHYSICAL KEY IDEA TO RESEARCH

Area of study 1: Dynamic Landscapes
Topic 1: Tectonic Processes and Hazards

Overview

Tectonic hazards – earthquakes, volcanic eruptions and secondary hazards such as tsunamis – represent a significant risk in some parts of the world. This is especially the case where active tectonic plate boundaries interact with areas of high population density and low levels of development. Resilience in these places can be low, and the interaction of physical systems with vulnerable populations can result in major disasters. An in-depth understanding of the causes of tectonic hazards is key to both increasing the degree to which they can be managed, and putting in place successful responses that can mitigate social and economic impacts and allow humans to adapt to hazard occurrence.

Content Enquiry question 1: Why are some locations more at risk from tectonic hazards?	
Key idea	**Detailed content**
1.1 The global distribution of tectonic hazards can be explained by plate boundary and other tectonic processes.	a. The global distribution and causes of earthquakes, volcanic eruptions and tsunamis. (1)
b. The distribution of plate boundaries resulting from divergent, convergent and conservative plate movements (oceanic, continental and combined situations).	
c. The causes of intra-plate earthquakes, and volcanoes associated with hot spots from mantle plumes.	
1.2 There are theoretical frameworks that attempt to explain plate movements.	a. The theory of plate tectonics and its key elements (the earth's internal structure, mantle convection, palaeomagnetism and sea floor spreading, subduction and slab pull).
b. The operation of these processes at different plate margins (destructive, constructive, collision and transform). (2)	
c. Physical processes impact on the magnitude and type of volcanic eruption, and earthquake magnitude and focal depth (Benioff zone).	
1.3 Physical processes explain the causes of tectonic hazards.	a. Earthquake waves (P, S and L waves) cause crustal fracturing, ground shaking and secondary hazards (liquefaction and landslides).
b. Volcanoes cause lava flows, pyroclastic flows, ash falls, gas eruptions, and secondary hazards (lahars, jökulhlaups).	
c. Tsunamis can be caused by sub-marine earthquakes at subduction zones as a result of sea-bed and water column displacement. (3)	

Enquiry question 2: Why do some tectonic hazards develop into disasters?	
Key idea	**Detailed content**
1.4 Disaster occurrence can be explained by the relationship between hazards, vulnerability, resilience and disaster.	a. Definition of a natural hazard and a disaster, the importance of vulnerability and a community's threshold for resilience, the hazard risk equation.
b. The Pressure and Release model (PAR) and the complex inter-relationships between the hazard and its wider context.	
c. The social and economic impacts of tectonic hazards (volcanic eruptions, earthquakes and tsunamis) on the people, economy and environment of contrasting locations in the developed, emerging and developing world.	
1.5 Tectonic hazard profiles are important to an understanding of contrasting hazard impacts, vulnerability and resilience.	a. The magnitude and intensity of tectonic hazards is measured using different scales (Mercalli, Moment Magnitude Scale (MMS) and Volcanic Explosivity Index (VEI)).
b. Comparing the characteristics of earthquakes, volcanoes and tsunamis (magnitude, speed of onset and areal extent, duration, frequency, spatial predictability) through hazard profiles.	
c. Profiles of earthquake, volcano and tsunami events showing the severity of social and economic impact in developed, emerging and developing countries. (4)	

1.6 Development and governance are important in understanding disaster impact and vulnerability and resilience.	a. Inequality of access to education, housing, healthcare and income opportunities can influence vulnerability and resilience.
b. Governance (***P: local and national government***) and geographical factors (population density, isolation/accessibility, degree of urbanisation) influence vulnerability and a community's resilience.	
c. Contrasting hazard events in developed, emerging and developing countries to show the interaction of physical factors and the significance of context in influencing the scale of disaster. (5)	

Enquiry question 3: How successful is the management of tectonic hazards and disasters?	
Key idea	**Detailed content**
1.7 Understanding the complex trends and patterns for tectonic disasters helps explain differential impacts.	a. Tectonic disaster trends since 1960 (number of deaths, numbers affected, level of economic damage) in the context of overall disaster trends. (6); research into the accuracy and reliability of the data to interpret complex trends.
b. Tectonic mega-disasters can have regional or even global significance in terms of economic and human impacts. (🌍 2004 Asian tsunami, 2010 Eyafjallajokull eruption in Iceland (global interdependence) and 2011 Japanese tsunami (energy policy))	
c. The concept of a multiple-hazard zone and how linked hydrometeorological hazards sometimes contribute to a tectonic disaster (🌍 the Philippines).	
1.8 Theoretical frameworks can be used to understand the predication, impact and management of tectonic hazards.	a. Prediction and forecasting (***P: role of scientists***) accuracy depend on the type and location of the tectonic hazard.
b. The importance of different stages in the hazard management cycle (response, recovery, mitigation, preparedness). (***P: role of emergency planners***)	
c. Use of Park's Model to compare the response curve of hazard events, comparing areas at different stages of development.	
1.9 Tectonic hazard impacts can be managed by a variety of mitigation and adaptation strategies, which vary in their effectiveness.	a. Strategies to modify the event include land-use zoning, hazard – resistant design and engineering defences as well as diversion of lava flows. (***P: role of planners, engineers***) (7)
b. Strategies to modify vulnerability and resilience include hi-tech monitoring, prediction, education, community preparedness and adaptation. (**F: models forecasting disaster impacts with and without modification**)	
c. Strategies to modify loss include emergency, short and longer term aid and insurance (***P: role of NGOs and insurers)*** and the actions of affected communities themselves.	

Topic 2: Landscape Systems, Processes and Change
Option 2B: Coastal Landscapes and Change

Overview

Coastal landscapes develop due to the interaction of winds, waves and currents, as well as through the contribution of both terrestrial and offshore sources of sediment. These flows of energy and variations in sediment budgets interact with the prevailing geological and lithological characteristics of the coast to operate as coastal systems and produce distinctive coastal landscapes, including those in rocky, sandy and estuarine coastlines. These landscapes are increasingly threatened from physical processes and human activities, and there is a need for holistic and sustainable management of these areas in all the world's coasts. Study must include examples of landscapes from inside and outside the UK.

Content Enquiry question 1: Why are coastal landscapes different and what processes cause these differences?	
Key idea	**Detailed content**
2B.1 The coast, and wider littoral zone, has distinctive features and landscapes.	a. The littoral zone consists of backshore, nearshore and offshore zones, includes a wide variety of coastal types and is a dynamic zone of rapid change.
b. Coasts can be classified by using longer term criteria such as geology and changes of sea level or shorter term processes such as inputs from rivers, waves and tides.	

c. Rocky coasts (high and low relief) result from resistant geology (to the erosive forces of sea, rain and wind), often in a high-energy environment, whereas coastal plain landscapes (sandy and estuarine coasts) are found near areas of low relief and result from supply of sediment from different terrestrial and offshore sources, often in a low-energy environment.	
2B.2 Geological structure influences the development of coastal landscapes at a variety of scales.	a. Geological structure is responsible for the formation of concordant and discordant coasts.
b. Geological structure influences coastal morphology: Dalmatian and Haff type concordant coasts and headlands and bays on discordant coasts.	
c. Geological structure (jointing, dip, faulting, folding) is an important influence on coastal morphology and erosion rates, and also on the formation of cliff profiles and the occurrence of micro-features, e.g. caves (🌍 Glamorgan Heritage Coast). (2)	
2B.3 Rates of coastal recession and stability depend on lithology and other factors.	a. Bedrock lithology (igneous, sedimentary, metamorphic) and unconsolidated material geology are important in understanding rates of coastal recession.
b. Differential erosion of alternating strata in cliffs (permeable/impermeable, resistant/less resistant) produces complex cliff profiles and influences recession rates. (3)	
c. Vegetation is important in stabilising sandy coastlines through dune successional development on sandy coastlines and salt marsh successional development in estuarine areas.	

Enquiry question 2: How do characteristic coastal landforms contribute to coastal landscapes?	
Key idea	**Detailed content**
2B.4 Marine erosion creates distinctive coastal landforms and contributes to coastal landscapes.	a. Different wave types (constructive/destructive) influence beach morphology and beach sediment profiles, which vary at a variety of temporal scales from short term (daily) through to longer periods (4)
b. The importance of erosion processes (hydraulic action, corrosion, abrasion, attrition) and how they are influenced by wave type, size and lithology.	
c. Erosion creates distinctive coastal landforms (wave cut notches, wave cut platforms, cliffs, the cave-arch-stack-stump sequence).	
2B.5 Sediment transport and deposition create distinctive landforms and contribute to coastal landscapes.	a. Sediment transportation is influenced by the angle of wave attack, tides and currents and the process of longshore drift. (5)
b. Transportation and deposition processes produce distinctive coastal landforms (beaches, recurved and double spits, offshore bars, barrier beaches and bars, tombolos and cuspate forelands), which can be stabilised by plant succession.	
c. The Sediment Cell concept (sources, transfers and sinks) is important in understanding the coast as a system with both negative and positive feedback, it is an example of dynamic equilibrium (🌍 Portland Bill to Selsey Bill).	
2B.6 Subaerial processes of mass movement and weathering influence coastal landforms and contribute to coastal landscapes.	a. Weathering (mechanical, chemical, biological) is important in sediment production and influences rates of recession.
b. Mass movement (blockfall, rotational slumping, landslides) is important on some coasts with weak and/or complex geology.	
c. Mass movement creates distinctive landforms (rotational scars, talus scree slopes, terraced cliff profiles).	

Enquiry question 3: How do coastal erosion and sea level change alter the physical characteristics of coastlines and increase risks?	
Key idea	**Detailed content**
2B.7 Sea level change influences coasts on different timescales.	a. Longer-term sea level changes result from a complex interplay of factors both eustatic (ice formation/melting,

	thermal changes) and isostatic (post glacial adjustment, subsidence, accretion) and tectonics.
b. Sea level change has produced emergent coastlines (raised beaches with fossil cliffs) and submergent coastlines (rias, fjords and Dalmatian). (6)	
c. Contemporary sea level change from global warming or tectonic activity is a risk to some coastlines.	
2B.8 Rapid coastal retreat causes threats to people at the coast.	a. Rapid coastal recession is caused by physical factors (geological and marine) but can be influenced by human actions (dredging or coastal management) (🌍 the Nile Delta or Guinea coastline or Californian coastline). ***(A: actions of different players may alter natural systems)***
b. Subaerial processes (weather and mass movement) work together to influence rates of coastal recession.	
c. Rates of recession are not constant and are influenced by different factors both short- and longer term (wind direction/fetch, tides, seasons, weather systems and occurrence of storms). (7)	
2B.9 Coastal flooding is a significant and increasing risk for some coastlines.	a. Local factors increase flood risk on some low-lying and estuarine coasts (height, degree of subsidence, vegetation removal); global sea level rise further increases risk (🌍 Bangladesh or the Maldives).
b. Storm surge events can cause severe coastal flooding with dramatic short-term impacts (depressions, tropical cyclones) can cause severe coastal flooding.	
c. Climate change may increase coastal flood risk (frequency and magnitude of storms, sea level rise) but the pace and magnitude of this threat is uncertain. ***(F: this risk is creating an uncertain future and needs mitigation and adaptation)***	

Enquiry question 4: How can coastlines be managed to meet the needs of all players?	
Key idea	**Detailed content**
2B.10 Increasing risks of coastal recession and coastal flooding have serious consequences for affected communities.	a. Economic losses (housing, businesses, agricultural land, infrastructure) and social losses (relocation, loss of livelihood, amenity value) from coastal recession can be significant, especially in areas of dense coastal developments.
b. Coastal flooding and storm surge events can have serious economic and social consequences for coastal communities in both developing and developed countries.	
c. Climate change may create environmental refugees in coastal areas.	
2B.11 There are different approaches to managing the risks associated with coastal recession and flooding.	a. Hard engineering approaches (groynes, sea walls, rip rap, revetments, offshore breakwaters) are economically costly and directly alter physical processes and systems. (8) ***(A: actions by different players may have unforeseen consequences)***
b. Soft engineering approaches (beach nourishment, cliff re-grading and drainage, dune stabilisation) attempt to work with physical systems and processes to protect coasts (9) and manage changes in sea level.	
c. Sustainable management is designed to cope with future threats (increased storm events, rising sea levels) but its implementation can lead to local conflicts in many countries. ***(F: mitigation and adaptation will both be needed for future stability)***	
2B.12 Coastlines are now increasingly managed by holistic integrated coastal zone management (ICZM).	a. Coastal management increasingly uses the concept of littoral cells to manage extended areas of coastline. Throughout the world, countries are developing schemes that are sustainable and use holistic ICZM strategies.
b. Policy decisions (No Active Intervention, Strategic Realignment and Hold The Line Advance The Line) are based on complex judgements (engineering feasibility, environmental sensitivity, land value, political and social reasons) (7); Cost Benefit Analysis (CBA) and Environmental Impact Assessment (EIA) are used as part of the decision- making process.	
c. Policy decisions can lead to conflicts between different players (homeowners, local authorities, environmental pressure groups) with perceived winners and losers in countries at different levels of development (developed and developing or emerging countries) (🌍 Happisburgh **and** Chittagong). ***(A: attitudes of differing players may vary)***	

Area of study 2: Dynamic Places
Topic 3: Globalisation

Overview

Globalisation and global interdependence continue to accelerate, resulting in changing opportunities for businesses and people. Inequalities are caused within and between countries as shifts in patterns of wealth occur. Cultural impacts on the identity of communities increase as flows of ideas, people and goods take place. Recognising that both tensions in communities and pressures on environments are likely, will help players implement sustainable solutions.

Content Enquiry question 1: What are the causes of globalisation and why has it accelerated in recent decades?	
Key idea	**Detailed content**
3.1 Globalisation is a long-standing process which has accelerated because of rapid developments in transport, communications and businesses.	a. Globalisation involves widening and deepening global connections, interdependence and flows (commodities, capital, information, migrants and tourists). (1)
b. Developments in transport and trade in the 19th century (railways, telegraph, steam-ships) accelerated in the 20th century (jet aircraft, containerisation), contributing to a 'shrinking world'.	
c. The 21st century has been dominated by rapid development in ICT and mobile communication (mobile phones, internet, social networking, electronic banking, fibre optics), lowering communication costs and contributing to time-space compression.	
3.2 Political and economic decision making are important factors in the acceleration of globalisation.	a. International political and economic organisations ***(P: role of World Trade Organization (WTO), International Monetary Fund (IMF), World Bank)*** have contributed to globalisation through the promotion of free trade policies and foreign direct investment (FDI).
b. National governments are key players in terms of promoting free trade blocs ***(P: role of European Union (EU), The Association of Southeast Asian Nations (ASEAN))*** and through polices (free-market liberalisation, privatisation, encouraging business start-ups). ***(P: role of governments in economic liberalisation)***	
c. Special economic zones, government subsidies and attitudes to FDI (🌍 China's 1978 Open Door Policy) have contributed to the spread of globalisation into new global regions ***(P: role of governments in attracting foreign direct investment (FDI))***	

Enquiry question 1: What are the causes of globalisation and why has it accelerated in recent decades?	
Key idea	**Detailed content**
3.3 Globalisation has affected some places and organisations more than others.	a. Degree of globalisation varies by country and can be measured using indicators and indices (AT Kearney index, KOF index). (2)
b. TNCs are important in globalisation ***(P: role of TNCs)*** both contributing to its spread (global production networks, glocalisation and the development of new markets) and taking advantage of economic liberalisation (outsourcing and offshoring).	
c. There are physical, political, economic and environmental reasons why some locations remain largely 'switched off' from globalisation (🌍 North Korea or Sahel countries). (3)	

Enquiry question 2: What are the impacts of globalisation for countries, different groups of people and cultures and the physical environment?	
Key idea	**Detailed content**
3.4 The global shift has created winners and losers for people and the physical environment.	a. The movement of the global economic centre of gravity to Asia via the global shift of manufacturing (🌍 China) and outsourcing of services (🌍 India) can lead to changes in the built environment that can bring benefits (infrastructure investment, waged work, poverty reduction, education and training) but also costs (loss of productive land, unplanned settlements, environmental and resource pressure).

b. Some communities in developing countries have experienced major environmental problems (including air and water pollution, land degradation, over-exploitation of resources, and loss of biodiversity), which impact on people's health and wellbeing.	
c. Some deindustrialised regions in developed countries face social and environmental problems as a result of economic restructuring (dereliction, contamination, depopulation, crime and high unemployment). (4)	
3.5 The scale and pace of economic migration has increased as the world has become more interconnected, creating consequences for people and the physical environment.	a. Rural-urban migration (push and pull factors), and/or natural increase, is responsible for the growth of megacities (🌍 Mumbai or Karachi); rapid urban growth creates social and environmental challenges. (5)
b. International migration has increased in global hub cities and regions, deepening interdependence between regions (elite migration (🌍 Russian oligarchs to London) and mass low-wage economic migration (🌍 India to UAE or the Philippines to Saudi Arabia)).	
c. Migration has economic, social, political and environmental costs and benefits for both host and source locations.	
3.6 The emergence of a global culture, based on western ideas, consumption, and attitudes towards the physical environment, is one outcome of globalisation.	a. Cultural diffusion occurs as a result of globalisation; TNCs, global media corporations ***(P: role of TNCs)***, tourism and migration create and spread an increasingly 'westernised' global culture which impacts on both the environment and people (🌍 Changing diets in Asia). The spread of a global culture has also led to new awareness of opportunities for disadvantaged groups (🌍Athletes at the Rio 2016 Summer Paralympics) particularly in emerging and developing countries. ***(P: opportunities for these groups)*** (6)
b. In some locations, cultural erosion (loss of language, traditional food, music, clothes, social relations (🌍 loss of tribal lifestyles in Papua New Guinea) has resulted in changes to the built and natural environment (de-valuing local and larger-scale ecosystems).	
c. Concern about cultural impacts, economic and environmental exploitation has led to opposition to globalisation from some groups. **(*A: attitudes of pro- and anti- globalisation groups, environmental movement*)**	

Enquiry question 3: What are the consequences of globalisation for global development and the physical environment and how should different players respond to its challenges?	
Key idea	**Detailed content**
3.7 Globalisation has led to dramatic increases in development for some countries, but also widening development gap extremities and disparities in environmental quality.	a. Economic measures (both single and composite indices) of development (income per capita, economic sector balance) contrast with those focused on social development (Human Development Index (HDI), Gender Inequality Index (GII)) and environmental quality (air pollution indices). (7)
b. Trends in widening income inequality, globally and nationally (measured using the Gini Coefficient), suggest globalisation has created winners and losers for people and physical environments between and within developed, emerging and developing economies. (8)	
c. Contrasting trends in economic development and environmental management between global regions since 1970 indicate differential progress that can be related to the outcomes from globalisation.	
3.8 Social, political and environmental tensions have resulted from the rapidity of global change caused by globalisation.	a. Open borders, deregulation and encouragement of foreign direct investment has created culturally mixed societies and thriving migrant diasporas in some locations, but tensions have resulted elsewhere (🌍 Rise of extremism in Europe **and** trans-boundary water conflicts in south-east Asia).
b. Attempts have been made in some locations to control the spread of globalisation by censorship (🌍 China or North Korea), limiting immigration (🌍 UK or Japan) and trade protectionism. **(*P: role of government*) (*A: attitudes of pro- and anti-immigration groups*)**	
c. Some groups seek to retain their cultural identity within countries and seek to retain control of culture and physical resources (🌍 First Nations in Canada), whereas others embrace its economic advantages.	

3.9 Ethical and environmental concerns about unsustainability have led to increased localism and awareness of the impacts of a consumer society.	a. Local groups and NGOs promote local sourcing (🌍 Transition towns) as one response to globalisation by increasing sustainability ***(A: actions of local pressure groups)****;* this has economic, social and environmental costs and benefits.
b. Fair trade and ethical consumption schemes may reduce the environmental degradation, the inequalities of global trade and improve working conditions for some people. ***(A: actions of NGOs and pressure groups)***	
c. Recycling has a role in managing resource consumption and ecological footprints, but its use varies by product and place (🌍 local authorities in the UK or local NGOs such as Keep Britain Tidy). ***(F: environmental consequences of different patterns of resource consumption)***	

Topic 4: Shaping Places
Option 4A: Regenerating Places

Overview

Local places vary economically and socially with change driven by local, national and global processes. These processes include movements of people, capital, information and resources, making some places economically dynamic while other places appear to be marginalised. This creates and exacerbates considerable economic and social inequalities both between and within local areas. Urban and rural regeneration programmes involving a range of players involve both place making (regeneration) and place marketing (rebranding). Regeneration programmes impact variably on people both in terms of their lived experience of change and their perception and attachment to places. The relative success of regeneration and rebranding for individuals and groups depends on the extent to which lived experience, perceptions, and attachments to places are changed.

Students should begin by studying the place in which they live or study in order to look at economic change and so inequalities. They will then put this local place in context in order to understand how regional, national, international and global influences have led to changes there. They should then study one further contrasting place through which they will develop their wider knowledge and understanding about how places change and are shaped.

Enquiry question 1: How and why do places vary? An in-depth study of the local place in which you live or study and one contrasting place	
Key idea	**Detailed content**
4A.1 Economies can be classified in different ways and vary from place to place.	a. Economic activity can be classified by sector (primary, secondary, tertiary and quaternary) and also by type of employment (part-time/full-time, temporary/permanent, employed/self-employed.
b. There are differences in economic activity (employment data and output data) and this is reflected through variation in social factors (health, life expectancy and levels of education). (1)	
c. The inequalities in pay levels across economic sectors and in different types of employment are reflected in quality of life indices.	

Enquiry question 1: How and why do places vary? An in-depth study of the local place in which you live or study and one contrasting place	
Key idea	**Detailed content**
4A.2 Places have changed their function and characteristics over time.	a. Over time, places have changed their functions (administrative, commercial, retail and industrial) and demographic characteristics (gentrification, age structure and ethnic composition).
b. Reason for changes in a place might be explained by physical factors, accessibility and connectedness, historical development and the role of local and national planning. (2)	
c. Change can be measured using employment trends, demographic changes, land use changes and levels of deprivation (income deprivation, employment deprivation, health deprivation, crime, quality of the living environment, abandoned and derelict land). (3)	
4A.3 Past and present connections have shaped the economic and social characteristics of your chosen places.	a. Regional and national influences have shaped the characteristics of your chosen places. These places can be represented in a variety of different forms, giving contrasting images to that presented more formally and statistically. How the lives of students and those of others are affected by this continuity and change, both real and imagined.

b. International and global influences that have shaped your chosen places. These places can be represented in a variety of different forms, giving contrasting images to that presented more formally and statistically. How the lives of students and those of others are affected by this continuity and change, both real and imagined. ***(P: increasing roles of TNCs and IGOs)***
c. Consideration of the way in which economic and social changes in your chosen places have influenced people's identity. (4) ***(A: Attitudes on changes range from cultural erosion to enrichment)***

Enquiry question 2: Why might regeneration be needed?	
Key idea	**Detailed content**
4A.4 Economic and social inequalities changes people's perceptions of an area.	a. Successful regions (🌍 San Francisco Bay area) have high rates of employment, inward migration (internal and international) and low levels of multiple deprivation but also high property prices and skill shortages in both urban and rural areas.
b. In some regions (🌍 The Rust Belt, USA) economic restructuring has triggered a spiral of decline, which includes increasing levels of social deprivation (education, health, crime, access to services and living environment) in both deindustrialised urban areas and rural settlements once dominated by primary economic activities.	
c. There are priorities for regeneration due to significant variations in both economic and social inequalities (gated communities, 'sink estates', commuter villages, declining rural settlements).	
4A.5 There are significant variations in the lived experience of place and engagement with them.	a. There are wide variations in levels of engagement in local communities (local and national election turnout, development and support for local community groups). ***(A: local communities vary in attitudes)***
b. Lived experience of, and attachment to, places varies according to age, ethnicity, gender, length of residence (new migrants, students) and levels of deprivation; these in turn impact on levels of engagement. ***(A: Attachment to places influence attitudes)***	
c. Conflicts can occur among contrasting groups in communities that have different views about the priorities and strategies for regeneration, these have complex causes (lack of political engagement and representation, ethnic tensions, inequality and lack of economic opportunity). ***(P: Players vary attitudes(A) and may have contrasting approaches (F)***	
4A.6 There is a range of ways to evaluate the need for regeneration.	a. The use of statistical evidence to determine the need for regeneration in your chosen local place. (🌍) (5)
b. Different media can provide contrasting evidence, questioning the need for regeneration in your chosen local place. (🌍) (6)	
c. How different representations of your chosen local place could influence the perceived need for regeneration. (🌍) (7)	

Enquiry question 3: How is regeneration managed?	
Key idea	**Detailed content**
4A.7 UK government policy decisions play a key role in regeneration.	a. Infrastructure investment (high speed rail, airport development) in order to maintain growth and improve accessibility to regenerate regions. ***(P: national government facilitate regeneration often in partnerships with charities and developers)***
b. Rate and type of development (planning laws, house building targets, housing affordability, permission for 'fracking') affecting economic regeneration of both rural and urban regions. ***(A: Government actions may prioritise national over local needs and opinions.)***	
c. UK government decisions about international migration and the deregulation of capital markets (🌍 enabling foreign investment in prime London real estate) have significant impacts on the potential for growth and both direct and indirect investment. ***(P: Government may create open or closed doors policies)***	
4A.8 Local government policies aim to represent areas as being attractive for inward investment.	a. Local governments compete to create sympathetic business environments with local plans designating areas for development for a range of domestic and foreign investors (Science Parks). ***(A: the actions of local authorities will affect their success)***

b. Local interest groups (Chambers of Commerce, local preservation societies, trade unions) play a key role in decision-making about regeneration; there are often tensions between groups that wish to preserve environments and those that seek change. (🌍 London Olympics 2012) ***(A: differing attitudes may cause conflicts)***	
c. Urban and rural regeneration strategies include retail-led plans, tourism, leisure and sport (🌍 London Olympics 2012), public/private rural diversification (🌍 Powys Regeneration Partnership).	
4A.9 Rebranding attempts to represent areas as being more attractive by changing public perception of them.	a. Rebranding involves re-imaging places using a variety of media to improve the image of both urban and rural locations and make them more attractive for potential investors.
b. For UK deindustrialised cities, rebranding can stress the attraction of places, creating specific place identity building on their industrial heritage; this can attract national and international tourists and visitors (🌍 Glasgow 'Scotland with Style'). (8)	
c. There are a range of rural rebranding strategies in the post- production countryside based on heritage and literary associations, farm diversification and specialised products, outdoor pursuits and adventure in both accessible and remote areas; these strategies are intended to make these places more attractive to national and international tourists and visitors (🌍 'Brontë country, Kielder Forest).	

Enquiry question 4: How successful is regeneration?	
Key idea	**Detailed content**
4A.10 The success of regeneration uses a range of measures: economic, demographic, social and environmental.	a. The success of economic regeneration can be assessed using measures of income, poverty and employment (both relative and absolute changes) both within areas and by comparison to other more successful areas.
b. Social progress can be measured by reductions in inequalities both between areas and within them; social progress can also be measured by improvements in social measures of deprivation and in demographic changes (improvements in life expectancy and reductions in health deprivation).	
c. Regeneration is successful if it leads to an improvement in the living environment (levels of pollution reduced, reduction in abandoned and derelict land). (9)	
4A.11 Different urban stakeholders have different criteria for judging the success of urban regeneration.	a. A study of the strategies used in the regeneration of an urban place (🌍 Salford Quays) and the contested nature of these decisions within local communities. (10) ***(A: Attitudes will include NIMBYism)***
b. The changes that have taken place as a consequence of national and local strategies can be judged using a range of economic, social, demographic and environmental variables in an urban area. ***(F: future success depends on past decisions)***	
c. Different stakeholders (local and national governments, local businesses and residents) will assess success using contrasting criteria; their views will depend on the meaning and lived experiences of an urban place and the impact of change on both the reality and the image of that place.	
4A.12 Different rural stakeholders have different criteria for judging the success of rural regeneration.	a. A study of the strategies used in the restructuring of a rural place (🌍 North Antrim coast) and the contested nature of these decisions within local communities.
b. The changes that have taken place as a consequence of national and local strategies can be judged using a range of economic, social, demographic and environmental variables in a rural area. ***(F: future success depends on past decisions)***	
c. Different stakeholders (local and national governments, local businesses and residents) will assess success using contrasting criteria; their views will depend on the meaning and lived experiences of a rural place and the impact of change on both the reality and the image of that place.	

Area of study 3: Physical Systems and Sustainability
Topic 5: The Water Cycle and Water Insecurity

Overview

Water plays a key role in supporting life on earth. The water cycle operates at a variety of spatial scales and also at short- and long-term timescales, from global to local. Physical processes control the circulation of water between the stores on land, in the oceans, in the cryosphere, and the atmosphere. Changes to the most important stores of water are a result of both physical and human processes.
Water insecurity is becoming a global issue with serious consequences and there is a range of different approaches to managing water supply.

Content Enquiry question 1: What are the processes operating within the hydrological cycle from global to local scale?	
Key idea	**Detailed content**
5.1 The global hydrological cycle is of enormous importance to life on earth	a. The global hydrological cycle's operation as a closed system (inputs, outputs, stores and flows) driven by solar energy and gravitational potential energy. (1)
b. The relative importance and size (percentage contribution) of the water stores (oceans, atmosphere, biosphere, cryosphere, groundwater and surface water) and annual fluxes between atmosphere, ocean and land.	
c. The global water budget limits water available for human use and water stores have different residence times; some stores are non-renewable (fossil water or cryosphere losses).	
5.2 The drainage basin is an open system within the global hydrological cycle.	a. The hydrological cycle is a system of linked processes: inputs (precipitation patterns and types: orographic, frontal, convectional) flows (interception, infiltration, direct runoff, saturated overland flow, throughflow, percolation, groundwater flow) and outputs (evaporation, transpiration and channel flow).
b. Physical factors within drainage basins determine the relative importance of inputs, flows and outputs (climate, soils, vegetation, geology, relief).	
c. Humans disrupt the drainage basin cycle by accelerating processes (deforestation; changing land use) and creating new water storage reservoirs or by abstracting water. (🌍 Amazonia)	

Enquiry question 1: What are the processes operating within the hydrological cycle from global to local scale?	
Key idea	**Detailed content**
5.3 The hydrological cycle influences water budgets and river systems at a local scale.	a. Water budgets show the annual balance between inputs (precipitation) and outputs (evapotranspiration) and their impact on soil water availability and are influenced by climate type (🌍 tropical or temperate or polar examples). (2)
b. River regimes indicate the annual variation of discharge of a river and result from the impact of climate, geology and soils as shown in regimes from contrasting river basins. (🌍 Yukon, Amazon, Indus). (3)	
c. Storm hydrographs shape depends on physical features of drainage basins (size, shape, drainage density, rock type, soil, relief and vegetation) as well as human factors (land use and urbanisation). ***(P: the role of planners in managing land use)***. (4)	

Enquiry question 2: What factors influence the hydrological system over short- and long-term timescales?	
Key idea	**Detailed content**
5.4 Deficits within the hydrological cycle result from physical processes but can have significant impacts.	a. The causes of drought, both meteorological (short-term precipitation deficit, longer trends, ENSO cycles and hydrological. (5) (6)
b. The contribution human activity makes to the risk of drought: over-abstraction of surface water resources and ground water aquifers. (🌍 Sahelian drought or Australia)	
c. The impacts of drought on ecosystem functioning (wetlands, forest stress) and the resilience of these ecosystems.	

5.5 Surpluses within the hydrological cycle can lead to flooding, with significant impacts for people.	a. Meteorological causes of flooding, including intense storms leading to flash flooding, unusually heavy or prolonged rainfall, extreme monsoonal rainfall and snowmelt. (5) (6)
b. Human actions that can exacerbate flood risk (changing land use within the river catchment, mismanagement of rivers using hard engineering systems.)	
c. Damage from flooding has both environmental impacts (soils and ecosystems) and socio-economic impacts (economic activity, infrastructure and settlement). (🌍 UK flood events 2007 or 2012)	
5.6 Climate change may have significant impacts on the hydrological cycle globally and locally.	a. Climate change affects inputs and outputs within the hydrological cycle: trends in precipitation and evaporation.
b. Climate change affects stores and flows, size of snow and glacier mass, reservoirs, lakes, amount of permafrost, soil moisture levels as well as rates of runoff and stream flow.	
c. Climate change resulting from short-term oscillations (ENSO cycles) and global warming increase the uncertainty in the system; this causes concerns over the security of water supplies. ***(F: projections of future drought and flood risk)***	

Enquiry question 3: How does water insecurity occur and why is it becoming such a global issue for the 21st century?	
Key idea	**Detailed content**
5.7 There are physical causes and human causes of water insecurity.	a. The growing mismatch between water supply and demand has led to a global pattern of water stress (below 1,700 m^3 per person) and water scarcity (below 1000 m^3 per person). (7)
b. The causes of water insecurity are physical (🌍 climate variability, salt water encroachment at coast) as well as human (🌍 over abstraction from rivers, lakes and groundwater aquifers, water contamination from agriculture, industrial water pollution).	
c. The finite water resource faces pressure from rising demand (increasing population, improving living standards, industrialisation and agriculture), which is increasingly serious in some locations and is leading to increasing risk of water insecurity. ***(F: projections of future water scarcity)***	
5.8 There are consequences and risks associated with water insecurity.	a. The causes of and global pattern of physical water scarcity and economic scarcity and why the price of water varies globally. (8)
b. The importance of water supply for economic development (industry, energy supply, agriculture) and human wellbeing (sanitation, health and food preparation); the environmental and economic problems resulting from inadequate water.	
c. The potential for conflicts to occur between users within a country, and internationally over local and trans-boundary water sources (🌍 Nile or Mekong). ***(P: role of different players)***. (9)	
5.9 There are different approaches to managing water supply, some more sustainable than others.	a. The pros and cons of the techno-fix of hard engineering schemes to include water transfers, mega dams and desalination plants (🌍Water transfers in China).
b. The value of more sustainable schemes of restoration of water supplies and water conservation (smart irrigation, recycling of water) (🌍 Singapore). ***(A: contrasting attitudes to water supply)***	
c. Integrated drainage basin management for large rivers (🌍 Nile or Colorado) and water sharing treaties and frameworks (United Nations Economic Commission for Europe (UNECE), Water Convention, Helsinki, and the Water Framework Directive and Hydropower, Berlin). ***(P: role of players in reducing water conflict risk)***	

Topic 6: The Carbon Cycle and Energy Security

Overview

A balanced carbon cycle is important in maintaining planetary health. The carbon cycle operates at a range of spatial scales and timescales, from seconds to millions of years. Physical processes control the movement of carbon between stores on land, the oceans and the atmosphere. Changes to the most important stores of carbon and carbon fluxes are a result of physical and human processes. Reliance on fossil fuels has caused significant changes to carbon stores and contributed to climate change resulting from anthropogenic carbon emissions.

The water and carbon cycles and the role of feedbacks in and between the two cycles, provide a context for developing an understanding of climate change.

Anthropogenic climate change poses a serious threat to the health of the planet. There is a range of adaptation and mitigation strategies that could be used, but for them to be successful they require global agreements as well as national actions.

Content Enquiry question 1: How does the carbon cycle operate to maintain planetary health?	
Key idea	**Detailed content**
6.1 Most global carbon is locked in terrestrial stores as part of the long-term geological cycle.	a. The biogeochemical carbon cycle consists of carbon stores of different sizes (terrestrial, oceans and atmosphere), with annual fluxes between stores of varying size (measured in Pg/Gt), rates and on different timescales. (1)
b. Most of the earth's carbon is geological, resulting from the formation of sedimentary carbonate rocks (limestone) in the oceans and biologically derived carbon in shale, coal and other rocks.	
c. Geological processes release carbon into the atmosphere through volcanic out-gassing at ocean ridges/subduction zones and chemical weathering of rocks.	
6.2 Biological processes sequester carbon on land and in the oceans on shorter timescales.	a. Phytoplankton sequester atmospheric carbon during photosynthesis in surface ocean waters; carbonate shells/tests move into the deep ocean water through the carbonate pump and action of the thermohaline circulation.
b. Terrestrial primary producers sequester carbon during photosynthesis; some of this carbon is returned to the atmosphere during respiration by consumer organisms.	
c. Biological carbon can be stored as dead organic matter in soils, or returned to the atmosphere via biological decomposition over several years.	

Enquiry question 1: How does the carbon cycle operate to maintain planetary health?	
Key idea	**Detailed content**
6.3 A balanced carbon cycle is important in sustaining other earth systems but is increasingly altered by human activities.	a. The concentration of atmospheric carbon (carbon dioxide and methane) strongly influences the natural greenhouse effect, which in turn determines the distribution of temperature and precipitation. (2)
b. Ocean and terrestrial photosynthesis play an important role in regulating the composition of the atmosphere. Soil health is influenced by stored carbon, which is important for ecosystem productivity.	
c. The process of fossil fuel combustion has altered the balance of carbon pathways and stores with implications for climate, ecosystems and the hydrological cycle.	

Enquiry question 2: What are the consequences for people and the environment of our increasing demand for energy?	
Key idea	**Detailed content**
6.4 Energy security is a key goal for countries, with most relying on fossil fuels.	a. Consumption (per capita and in terms of units of GDP) and energy mix (domestic and foreign, primary and secondary energy, renewable versus non-renewable). (3)
b. Access to and consumption of energy resources depends on physical availability, cost, technology, public perception, level of economic development and environmental priorities (national comparisons: USA versus France).	
c. Energy players ***(P: role of TNCs, The Organisation of the Petroleum Exporting Countries (OPEC), consumers, governments)*** have different roles in securing pathways and energy supplies.	
6.5 Reliance on fossil fuels to drive economic development is still the global norm.	a. There is a mismatch between locations of conventional fossil fuel supply (oil, gas, coal) and regions where demand is highest, resulting from physical geography.

b. Energy pathways (pipelines, transmission lines, shipping routes, road and rail) are a key aspect of security but can be prone to disruption especially as conventional fossil fuel sources deplete (🌍 Russian gas to Europe). (4)	
c. The development of unconventional fossil fuel energy resources (tar sands, oil shale, shale gas, deep water oil) has social costs and benefits, implications for the carbon cycle, and consequences for the resilience of fragile environments. (🌍 Canadian tar sands, USA fracking, Brazilian deep water oil) ***(P: role of business in developing reserves, versus environmental groups and affected communities)***	
6.6 There are alternatives to fossil fuels but each has costs and benefits.	a. Renewable and recyclable energy (nuclear power, wind power and solar power) could help decouple fossil fuel from economic growth; these energy sources have costs and benefits economically, socially, and environmentally and in terms of their contribution they can make to energy security. (🌍 changing UK energy mix)
b. Biofuels are an alternative energy source that are increasing globally; growth in biofuels however has implications for food supply as well as uncertainty over how 'carbon neutral' they are. (🌍 Biofuels in Brazil) (5)	
c. Radical technologies, including carbon capture and storage and alternative energy sources (hydrogen fuel cells, electric vehicles) could reduce carbon emissions but uncertainty exists as to how far this is possible.	

Enquiry question 3: How are the carbon and water cycles linked to the global climate system?	
Key idea	**Detailed content**
6.7 Biological carbon cycles and the water cycle are threatened by human activity.	a. Growing demand for food, fuel and other resources globally has led to contrasting regional trends in land-use cover (deforestation, afforestation, conversion of grasslands to farming) affecting terrestrial carbon stores with wider implications for the water cycle and soil health. (6)
b. Ocean acidification, as a result of its role as a carbon sink, is increasing due to fossil fuel combustion and risks crossing the critical threshold for the health of coral reefs and other marine ecosystems that provide vital ecosystem services.	
c. Climate change, resulting from the enhanced greenhouse effect, may increase the frequency of drought due to shifting climate belts, which may impact on the health of forests as carbon stores. (🌍 Amazonian drought events)	
6.8 There are implications for human wellbeing from the degradation of the water and carbon cycles.	a. Forest loss has implications for human wellbeing but there is evidence that forest stores are being protected and even expanded, especially in countries at higher levels of development (environmental Kuznets' curve model). ***(A: attitudes of global consumers to environmental issues)***
b. Increased temperatures affect evaporation rates and the quantity of water vapour in the atmosphere with implications for precipitation patterns, river regimes and water stores (cryosphere and drainage basin stores) (🌍 Arctic) ***(F: uncertainty of global projections)***. (7)	
c. Threats to ocean health pose threats to human wellbeing, especially in developing regions that depend on marine resources as a food source and for tourism and coastal protection.	
6.9 Further planetary warming risks large-scale release of stored carbon, requiring responses from different players at different scales.	a. Future emissions, atmospheric concentration levels and climate warming are uncertain owing to natural factors (the role of carbon sinks), human factors (economic growth, population, energy sources) and feedback mechanisms (carbon release from peatlands and permafrost, and tipping points, including forest die back and alterations to the thermohaline circulation). (8) ***(F: uncertainty of global projections)***
b. Adaptation strategies for a changed climate (water conservation and management, resilient agricultural systems, land-use planning, flood-risk management, solar radiation management) have different costs and risks.	
c. Re-balancing the carbon cycle could be achieved through mitigation (carbon taxation, renewable switching, energy efficiency, afforestation, carbon capture and storage) but this requires global scale agreement and national actions both of which have proved to be problematic. ***(A: attitudes***	

Area of study 4: Human Systems and Geopolitics
Topic 7: Superpowers

Overview

Superpowers can be developed by a number of characteristics. The pattern of dominance has changed over time. Superpowers and emerging superpowers have a very significant impact on the global economy, global politics and the environment. The spheres of influence between these powers are frequently contested, resulting in geopolitical implications.

Content Enquiry question 1: What are superpowers and how have they changed over time?	
Key idea	**Detailed content**
7.1 Geopolitical power stems from a range of human and physical of characteristics of superpowers.	a. Superpowers, emerging and regional powers can be defined using contrasting characteristics (economic, political, military, cultural, demographic and access to natural resources). (1)
b. Mechanisms of maintaining power sit on a spectrum from 'hard' to 'soft' power, which vary in their effectiveness.	
c. The relative importance of these characteristics and mechanisms for maintaining power has changed over time (Mackinder's geo-strategic location theory).	
7.2 Patterns of power change over time and can be uni-, bi- or multi-polar.	a. The maintenance of power during the imperial era by direct colonial control (British Empire, multipolar world 1919–1939).
b. Multi-faceted, indirect control (political, economic, military, cultural) including neo-colonial mechanisms has become more important (Cold War era; emergence of China as a potential rival to the USA's hegemony). (2)	
c. Different patterns of power bring varying degrees of geopolitical stability and risk.	
7.3 Emerging powers vary in their influence on people and the physical environment, which can change rapidly over time.	a. A number of emerging countries, including Brazil, Russia, India and China (BRIC) and other G20 members, are considered increasingly important to global economic and political systems, as well as global environment governance (UN Climate Change Conference).
b. Each has evolving strengths and weaknesses (economic, political, military, cultural, demographic and environmental) that might inhibit or advance their economic and geopolitical role in the future.	
c. Development Theory (World Systems Theory, Dependency Theory, Modernisation Theory) can be used to help explain changing patterns of power.	

Enquiry question 2: What are the impacts of superpowers on the global economy, political systems and the physical environment?	
Key idea	**Detailed content**
7.4 Superpowers have a significant influence over the global economic system.	a. Superpowers influence the global economy (promoting free trade and capitalism) through a variety of IGOs (World Bank, IMF, WTO, World Economic Forum (WEF)). (3)
b. TNCs (public and state-led) are dominant economic forces in the global economy and economic and cultural globalisation in terms of technology (patents) and trade patterns. ***(P: role of TNCs in maintaining power and wealth)***	
c. Global cultural influence (the arts, food the media) and 'westernisation' is an important aspect of power, linked to economic influence and technology.	
7.5 Superpowers and emerging nations play a key role in international decision making concerning people and the physical environment.	a. Superpowers and emerging nations play a key role in global action (crisis response, conflict, climate change). ***(P: role of powerful countries as 'global police')***
b. Alliances, both military (North Atlantic Treaty Organisation (NATO), The Australia, New Zealand and United States Security Treaty (ANZUS) and economic (EU, North American Free Trade Agreement (NAFTA), ASEAN) and environmental (IPCC) increase interdependence and are important in geostrategy and global influence.	
c. The UN (Security Council, International Court of Justice, and peacekeeping missions and climate change conferences) are important to global geopolitical stability. ***(A: actions and attitudes of global IGOs)***	
7.6 Global concerns about the physical environment are disproportionately influenced by superpower actions.	a. Superpower resource demands (food, fossil fuels, and minerals) can cause environmental degradation and their carbon emissions contribute disproportionately to global warming. (4)

b. There are differences in the willingness to act (USA, EU, China, and Russia) to reduce carbon emissions and reach global agreements on environmental issues. ***(A: attitudes and actions of different countries)***
c. Future growth in middle-class consumption in emerging superpowers has implications for the availability and cost of key resources (rare earths, oil, staple grains and water), as well as for the physical environment.

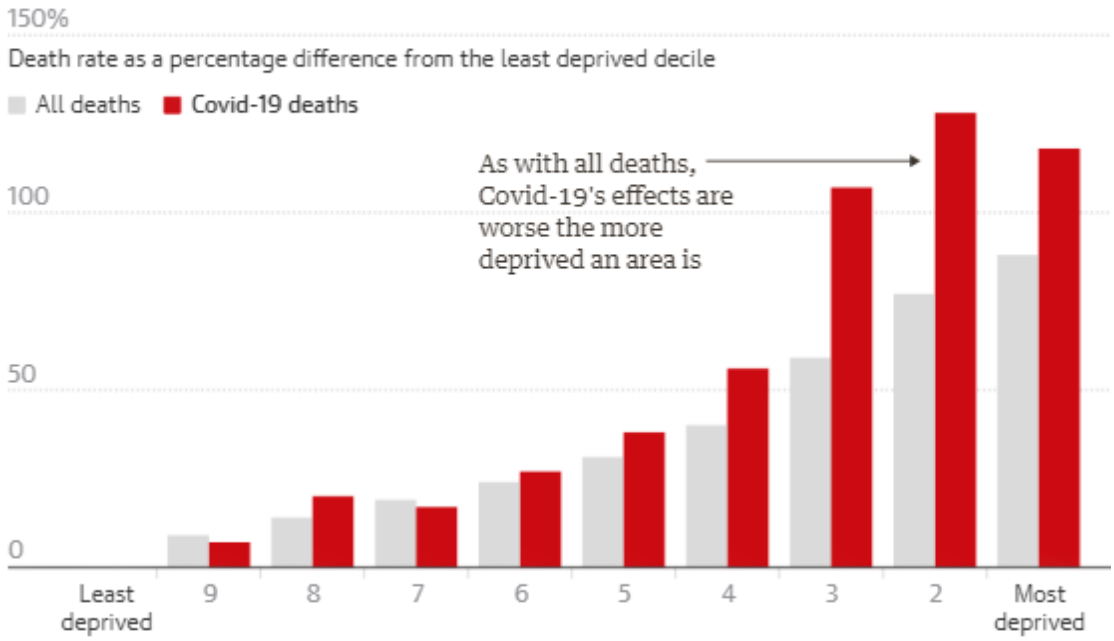
Enquiry question 3: What spheres of influence are contested by superpowers and what are the implications of this?	
Key idea	**Detailed content**
7.7 Global influence is contested in a number of different economic, environmental and political spheres.	a. Tensions can arise over the acquisition of physical resources (Arctic oil and gas) where ownership is disputed and disagreement exists over exploitation. ***(A: attitudes and actions in relation to resources)***
b. The global system of intellectual property rights can be undermined by counterfeiting, which strains trade relations and TNC investment.	
c. Political spheres of influence can be contested leading to tensions over territory and physical resources (🌍 South and East China Seas) and in some cases resulting in open conflict (🌍 Western Russia/Eastern Europe) with implications for people and physical environments.	
7.8 Developing nations have changing relationships with superpowers with consequences for people and the physical environment.	a. Developing economic ties between emerging powers and the developing world (China and African nations) increase interdependence, generate environmental impacts and bring opportunities and challenges. ***(P: role of emerging powers)***
b. The rising economic importance of certain Asian countries (🌍 China or India) on the global stage increases the geopolitical influence of the region but also creates economic and political tensions within the region. (5)	
c. Cultural, political, economic and environmental tensions in the Middle East represent an ongoing challenge to superpowers and emerging powers due to complex geopolitical relations combined with the supply of vital energy resources. ***(A: contrasting cultural ideologies)***	
7.9 Existing superpowers face ongoing economic restructuring, which challenges their power.	a. Economic problems (debt, unemployment, economic restructuring, social costs) represent an ongoing challenge to the USA and EU.
b. The economic costs of maintaining global military power (naval, nuclear, air power, intelligence services) and space exploration are questioned in some existing powers.	
c. The future balance of global power in 2030 and 2050 is uncertain and there are a range of possible outcomes (continued USA dominance, bi-polar and multi-polar structures). ***(F: uncertainty over future power structures)*** (6)	

Compulsory tasks: Exemplar – Human Geography

Link to specification topic	Specific enquiry question	Source, title (and media link)	Author and date published	Key terms/ institutions etc (put in italics or underline as shown)
4A Regenerating Places AND Option 8A Health, Human Rights and Interventions	*Enquiry question 3: How is regeneration managed?* *Enquiry question 4: How successful is regeneration?* *Enquiry question 1: What is human development and why do levels vary from place to place?*	Newspaper: The Guardian 'Every day I hear about a Covid-19 death': life in the UK's worst affected area. https://www.theguardian.com/uk-news/2020/may/01/covid-19-coronavirus-newham-london-uk-worst-affected-area?CMP=share_btn_link	Aamna Mohdin; 1st May 2020;	Mortality rate; Office for National Statistics (ONS); Pandemic; Regeneration; Legacy; Deprivation; Coronavirus; National minimum wage; Ethic minority; Intergenerational households; Health inequalities; Social distancing; PPE; BAME;

- The east London borough of Newham has recorded the worst *mortality rate* in England and Wales. The borough's rate – 144.3 deaths per 100,000 people – is closely followed by Brent in north London (141.5), and Newham's neighbour Hackney (127.4), SOURCE: Office for National Statistics. The data confirms that people living in the poorest parts of the country are dying at a much higher rate than those in the richest.
- The *pandemic* comes almost a decade after Newham hosted the 2012 Olympic Games, and acts as a reminder that the better jobs, housing and quality of life that were promised have failed to materialise. Parts of the borough have undergone *regeneration*, but the *legacy* of the games has not benefitted all residents.
- The borough's *deprivation* and diversity makes it particularly vulnerable to the *coronavirus*. More than half of children live in poverty, while the rate of households in temporary accommodation is one of the highest in England. A study commissioned by the council found that up to 36,000 people are not paid the legally required *national minimum wage*. Newham also has the most diverse population profile of any local authority in the country. 78% of residents are from *ethnic minority* communities, which has been reported as a risk factor for the coronavirus. Many live in *intergenerational* households and there are longstanding *health inequalities*.
- Some believe guidelines on *social distancing* are needed in different languages. He said that many people don't speak English and were simply unaware of the dangers they faced. There is a call for *PPE* for taxi drivers, care workers etc, who are disproportionately from a *BAME* background.

Covid-19 has had a proportionally higher impact on the most deprived areas of England



Guardian graphic. Source: ONS. Note: Age-standardised mortality rates, all deaths and deaths involving the coronavirus (Covid-19), Index of Multiple Deprivation, England, deaths occurring between 1 March and 17 April 2020

Compulsory tasks: Exemplar – Physical Geography

Link to specification topic	Specific enquiry question	Source, title (and media link)	Author and date published	Key terms/phrases and institutions
5: The Water Cycle & Insecurity	*Enquiry question 3: How does water insecurity occur and why is it becoming such as global issue in the 21st century?*	Newspaper: The Guardian Are we running out of water? https://www.theguardian.com/news/2018/jun/18/are-we-running-out-of-water (accessed 18/5/2020)	Fiona Harvey; 18 June 2018	Inaccessible Unevenly distributed Sanitation Preventable diseases Irrigating Grey water Desalination Water-scarce Hotspots Depleted Vulnerable Tipping points Aquifers

- Most of the Earth's water resources are *inaccessible*, and those that are accessible are *unevenly distributed* across the planet. Water is hard to transport over long distances, and our needs are growing, both for food and industry. Everything we do requires water, for drinking, washing, growing food, and for industry, construction and manufacturing. The amount of water needed to produce some goods can be surprising. With approximately 7.5 billion people on the planet, and the population projected to top 10 billion by 2050, the situation is set to grow more urgent.
- Currently, about one in nine of the planet's population, lack access to clean, affordable water within 30 minutes of their homes, and every year nearly 300,000 children under five die of diarrhoea, linked to dirty water and poor *sanitation*. Providing water to those who need it is not only vital to human safety and security, but has huge social and economic benefits too. Children lose out on education and adults on work when they are sick from easily *preventable diseases*.
- E.G. Cape Town in South Africa provides a stark example. For years the city was using more water than it could sustainably supply, and attempts to curb wastage and distribute water supplies more equitably to rich and poor had fallen short of what was needed. Last year, a crisis point had been reached, but crisis was narrowly averted, in part by public exhortations to use water more efficiently, rationing, changes in practices such as *irrigating* by night and reusing *"grey" water* from washing machines or showers, and eventually a new *desalination* plant.
- The number of *water-scarce areas* is increasing: Cape Town is just the beginning. A ground-breaking new study based on data from the *NASA* Grace – Gravity Recovery and Climate Experiment – satellites over a 14-year period discovered 19 *hotspots* around the world where water resources are being rapidly *depleted*, with potentially disastrous results. They include areas of California, north-western China, northern and eastern India, and the Middle East. Overall, as climate change scientists had predicted, areas of the world already prone to drought were found to be getting drier, and areas that were already wet getting wetter.
- Some of the most *vulnerable* areas are "already past sustainability *tipping points*" as their major *aquifers* are
- being rapidly depleted, in particular the Arabian peninsula, the north China plain, the Ogallala aquifer under the great plains of the US, the Guarani aquifer in south America, the north-west Sahara aquifer system and others. "When those aquifers
- can no longer supply water – and some, like the southern half of the Ogallala, may run out by 2050 – where will we be producing our food and where will the water come from?" NASA.