

# KESTEVEN AND SLEAFORD HIGH SCHOOL

## Geography Scheme of Learning

### Year 10 – Term 3 /UNIT 1 CLIMATE CHANGE/ UNIT 2: CHALLENGES IN THE HUMAN ENVIRONMENT: Section A - Urban Issues and Challenges

#### Intent – Rationale

This term starts by studying climate change where we consider natural and human causes, impacts and strategies to manage it. This human environment unit is concerned with human processes, systems and outcomes in urban environments and how they change both spatially and temporally. They are studied in a variety of places and at a range of scales and must include places in various stages of development, such as higher income countries (HICs), lower income countries (LICs) and newly emerging economies (NEEs).

<b>Sequencing – what prior learning does this topic build upon?</b>	<b>Sequencing – what subsequent learning does this topic feed into?</b>
<ul style="list-style-type: none"> <li>• Year 7 – Weather and climate in the UK (Climate change)</li> <li>• Year 7 - Journey around the world / global challenges</li> <li>• Year 8 – World cities and urbanisation / Asia – opportunities and challenges</li> <li>• Year 9 – Resource management / Geography of Crime</li> </ul>	<ul style="list-style-type: none"> <li>• Year 13 (Carbon Cycle – climate change)</li> <li>• Year 11 – The development gap</li> <li>• Year 11 – The changing UK economy</li> <li>• Year 12 – Globalisation and Diverse Places</li> <li>• Year 13 – Migration, Identity and Sovereignty / Superpowers</li> </ul>
<b>What are the links with other subjects in the curriculum?</b>	<b>What are the links to SMSC, British Values and Careers?</b>
<ul style="list-style-type: none"> <li>• History – Exploring global migration patterns, urban change in Victorian England</li> </ul>	<ul style="list-style-type: none"> <li>• SMSC – SP2,3,4; M2,3;</li> <li>• BV –</li> <li>• Careers – GB4a), b), d), e), f), g), h), i)</li> <li>• Careers – role of urban planners, architects, demographers, sustainability, engineers, aid organisations, governments.</li> </ul>
<b>What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?</b>	<b>What are the opportunities for developing mathematical skills?</b>

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<ul style="list-style-type: none"><li>• Wideworld Magazine</li><li>• GeoActive articles</li></ul> <p><b>FROM THE LIBRARY</b></p> <p><i>Climate Change-551</i></p> <p><i>Flood: The World Reacts-550</i></p> <p><i>Global Climate Change-363.73</i></p> <p><i>Globalisation-910</i></p> <p><i>Globalisation and Trade-337</i></p> <p><i>Made on Earth-684</i></p> <p><i>Urban Settlement-910</i></p> <p><i>Urban Social Geography-910</i></p> <p><i>Migration and Population-910</i></p> <p><i>Population, Growth and Migration-363</i></p>	<ul style="list-style-type: none"><li>• Using numerical data and draw informed conclusions from numerical data</li><li>• Describing population trends from graphs</li><li>• Using a variety of graphic techniques to present data</li><li>• Demonstrate an understanding of number, area and scales, and the quantitative relationships between units</li><li>• Understand and correctly use proportion and ratio, magnitude and frequency</li></ul>
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**UNIT 1: CLIMATE CHANGE/ UNIT 2: CHALLENGES IN THE HUMAN ENVIRONMENT:**  
**Section A - Urban Issues and Challenges**  
**Year 10 – Term 3**

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## Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?

### Know

#### Climate change

- Climate change is a result of natural and human factors, and has a range of effects
- Managing climate change involves both mitigation and adaptation.

#### Urban issues and challenges

- Global patterns of urban change and a growing percentage of the world's population lives in urban areas
- That urban growth creates opportunities and challenges for cities in lower income countries and newly emerging economies (Rio de Janeiro)
- To understand the factors that produce a diverse variety of human environments; the dynamic nature of these environments that change over time and place; the need for sustainable management; and the areas of current and future challenge and opportunity for these environments

### Apply

#### Climate change

- Interpret climate data over time to judge the significance of climate change
- Classify mitigation and adaptation strategies used to manage climate change

#### Urban issues and challenges

- Be able to explain how the works in increasingly urban
- To suggest why urbanisations varies around the world
- Be able to predict the likely future demographic trends
- Be able to describe the patterns of growth of megacities
- Suggest how and why Rio de Janeiro has grown so rapidly
- Interpret data and maps of the city and its growth
- Summarise the social, economic and environmental challenges in Rio
- Suggest strategies to improve the quality of life and standard of living of for the people of Rio

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## Extend

### Climate change

- Predict future trends in global warming and likely consequences
- Assess the relative importance of mitigation and adaptation strategies to manage climate change

### Urban issues and challenges

- Understand the past, present and future global population trends
- Evaluate the success of strategies to improve the quality of life for people living in Rio
- Assess the factors that contribute to low rates of urbanisation in HIC's compared with LIC's

What subject specific language will be used and developed in this topic?	What opportunities are available for assessing the progress of students?
<p><b>Adaptation</b> Action taken to adjust to natural events such as climate change to reduce damage, limit impact, take advantage of opportunities or cope with the consequences.</p> <p><b>Brownfield site</b> Land that has been used, abandoned and now awaits some new use. Commonly found across urban areas, particularly in the inner city.</p> <p><b>Dereliction</b> Abandoned buildings and wasteland.</p> <p><b>Economic opportunities</b> Chances for people to improve their standard of living through employment.</p> <p><b>Greenfield site</b> A plot of land, often in a rural or on the edge of an urban area that has not yet been subject to any building development.</p> <p><b>Inequalities</b></p>	<p>Assessment will take 3 main forms:</p> <ol style="list-style-type: none"> <li>1. In starters, plenaries and during the lessons – formative assessment to reinforce prior knowledge e.g. word searches, bingo, memory recall, definition matches etc.</li> <li>2. For homeworks -tasks that require students to research new knowledge (e.g. a Rio de Janeiro) or apply existing knowledge to exam-style Qs (e.g. Qs from CGP book)</li> <li>3. Summative assessments – past exam paper Qs in test or exam conditions, either as end-of-unit tests or in Y10 or Y11 formal exams.</li> </ol>

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Differences between poverty and wealth, as well as in peoples' wellbeing and access to things like jobs, housing and education. Inequalities may occur in housing provision, access to services, access to open land, safety and security.

## **Integrated transport systems**

When different transport methods connect together, making journeys smoother and therefore public transport more appealing. Better integration should result in more demand for public transport and should see people switching from private car use to public modes of transport, which should be more sustainable. It may also lead to a fall in congestion due to less road users.

## **Mega-cities**

An urban area with a total population in excess of ten million people.

## **Migration**

When people move from one area to another. In many LICs people move from rural to urban areas (rural-urban migration).

## **Mitigation**

Action taken to reduce the long-term risk from hazards such as international agreements to reduce greenhouse gas emissions

## **Natural increase**

The birth rate minus the death rate of a population.

## **Pollution**

The presence of chemicals, noise, dirt or other substances which have harmful or poisonous effects on an environment.

## **Rural-urban fringe**

A zone of transition between the built-up area and the countryside, where there is often competition for land use. It is a zone of mixed land uses, from out of town shopping centres and golf courses to farmland and motorways.

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## **Sanitation**

Measures designed to protect public health, including the provision of clean water and the disposal of sewage and waste.

## **Social deprivation**

The degree to which an individual or an area is deprived of services, decent housing, adequate income and local employment.

## **Social opportunities**

Chances for people to improve their quality of life, for instance access to education and health care.

## **Squatter settlement**

An area of poor-quality housing, lacking in amenities such as water supply, sewerage and electricity, which often develops spontaneously and illegally in a city in an LIC.

## **Sustainable urban living**

A sustainable city is one in which there is minimal damage to the environment, the economic base is sound with resources allocated fairly and jobs secure, and there is a strong sense of community, with local people involved in decisions made. Sustainable urban living includes several aims including the use of renewable resources, energy efficiency, use of public transport, accessible resources and services.

## **Traffic congestion**

Occurs when there is too great a volume of traffic for roads to cope with, so traffic jams form and traffic slows to a crawl.

## **Urban greening**

The process of increasing and preserving open space such as public parks and gardens in urban areas.

## **Urbanisation**

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<p>The process by which an increasing percentage of a country's population comes to live in towns and cities. Rapid urbanisation is a feature of many LICs and NEEs.</p> <p><b>Urban regeneration</b> The revival of old parts of the built-up area by either installing modern facilities in old buildings (known as renewal) or opting for redevelopment (ie demolishing existing buildings and starting afresh).</p> <p><b>Urban sprawl</b> The unplanned growth of urban areas into the surrounding countryside.</p> <p><b>Waste recycling</b> The process of extracting and reusing useful substances found in waste.</p>	
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## Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
<b>Climate change</b>			
1. Climate Change: evidence	What evidence is there for climate change from the beginning of the quaternary period?	Which pieces of evidence are the most reliable? Why?	<p>Starter: what links the pictures? (all evidence for climate change)</p> <p>Define 'quaternary period' in the context of geological time.</p> <p>Analysis of graphs showing temperature fluctuations on different timescales – shows climate has always changed.</p> <p>How do we know? What evidence can be used to show temperature changes? Slides of info then use Cambridge p54-55 – students to summarise key pieces of evidence from the past and more recently.</p> <p style="text-align: right;">Plenary: summarise key points.</p>

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<p>2. Climate Change: natural causes</p>	<p>What are the natural causes of climate change?</p>	<p>How do Milankovitch cycles link to climate change?</p>	<p>Starter: think about natural causes of climate change – link back to evidence for past fluctuations in the quaternary. Explain the 3 key causes with diagrams: changes in earth’s orbit (Milankovitch cycles), sunspot cycles and volcanic activity. Students explain the causes in their own words. Extension: research Mount Tambora’s impacts on the world. Could it ever happen again? Yellowstone supervolcano?? Plenary: True or false?</p>
<p>3. Climate change: human causes</p>	<p>What are the human causes of climate change?</p>	<p>What’s the difference between the greenhouse effect and global warming?</p>	<p>Starter: what do you know about man-made climate change? Whiteboards. Explain the difference between the greenhouse effect and global warming, and how the greenhouse effect works. Then identify the main greenhouse gases and explain how global warming can occur. Look at graph showing the increase in CO2 compared to global temperature change – what’s the link? Using Cambridge p56-7 students explain how human activities can lead to the ‘enhanced greenhouse effect’: burning fossil fuels, change in agriculture and deforestation. Plenary: think about our own carbon footprint – how do we as individuals contribute? What could we do to reduce our carbon footprint? What might happen if we don’t make changes?</p>
<p>4. Impacts and responses to climate change</p>	<p>What are the potential impacts of climate change? How can we manage the</p>	<p>Which approach is best: mitigation or adaptation?</p>	<p>Starter: Does the image show evidence of climate change? Students suggest impacts of climate change on whiteboards. Cut-and-stick activity: arrange the potential impacts around maps of the UK and the world then colour-code into positive and negative impacts. Could watch video clips of impacts e.g.</p>



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	causes and impacts?		<p>sea level rise, ice sheets melting, glaciers retreating. Are there more positives or negatives?</p> <p>Discuss how we could tackle global warming – 2 broad approaches of mitigation and adaptation. Suggest possible solutions.</p> <p>In pairs students research and prepare mini-presentations on the different strategies. Complete for homework.</p> <p>Plenary: Do we think HICs or LICs will suffer the most from global warming? But who is mostly responsible for climate change?</p>
5. Managing climate change	What are the different mitigation and adaptation strategies?	Which strategies are best?	<p>Starter: recap meaning of mitigation and adaptation.</p> <p>Students give mini-presentations on the different strategies. Students make brief summery notes on A3 template.</p> <p>Plenary: debate whether mitigation or adaptation is best. Can we really reverse global warming? Discuss Greta Thunberg and Extinction Rebellion – can these individuals/ organisations help us solve the ‘climate crisis’?</p>
END OF UNIT TEST: WEATHER HAZARDS AND CLIMATE CHANGE			
<b>Urban issues and challenges</b>			
1. Urbanisation (2 lessons)	to understand what urbanisation is and how it varies around the world.	What could be the future predictions of megacities (Africa?)	<p>STARTER...urban 5 W's! From teachit website</p> <ul style="list-style-type: none"> <li>• What is urbanisation</li> <li>• How does urbanisation vary around the world?</li> <li>• The distribution of the worlds urban population.</li> <li>• Natural increase (use data on different places to explore questions</li> </ul>

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			<ul style="list-style-type: none"> <li>• Megacities / push and pull factors and future distribution</li> </ul>
2. Emergence of Megacities	To explore the factors leading to the growth of cities	Which factors contribute more to the growth of cities push or pull?	<p>STARTER...Kahoot quiz</p> <ul style="list-style-type: none"> <li>• Megacities recap</li> <li>• Sheet on megacities and push / pull factors (Pearl River, China).</li> <li>• Calculate the rate of natural increase for the three countries</li> </ul> <p>– Use pages 150-151 to complete the questions / tasks.</p>
3. The growth of Rio / Land use and Challenges (2 lessons)	to examine Rio de Janeiro's growth, land use and social challenges	Suggest how being a global city will change Rio into the future	<p>STARTER... What do you already know about this place? What is it like?</p> <ol style="list-style-type: none"> <li>1. Getting to know Rio....</li> <li>2. How has Rio grown? Map tour of Rio</li> </ol> <ol style="list-style-type: none"> <li>1. <a href="https://www.google.com/maps/place/Rio+de+Janeiro,+State+of+Rio+de+Janeiro,+Brazil/@-21.8829194,-81.2870545,4z/data=!4m5!3m4!1s0x9bde559108a05b:0x50dc426c672fd24e!8m2!3d-22.9068467!4d-43.1728965">https://www.google.com/maps/place/Rio+de+Janeiro,+State+of+Rio+de+Janeiro,+Brazil/@-21.8829194,-81.2870545,4z/data=!4m5!3m4!1s0x9bde559108a05b:0x50dc426c672fd24e!8m2!3d-22.9068467!4d-43.1728965</a></li> <li>2. What factors have contributed to the growth?</li> <li>3. Land use in Rio summary and questions. Using photo A and the text, describe Rio's natural surroundings and why it has become a 'global city'.</li> </ol>
4. The growth of Rio / Land use and Challenges	to examine Rio de Janeiro's growth, land use and social challenges	Explain why the authorities in Rio have to cope with such a	<p>STARTER...make the links</p> <ol style="list-style-type: none"> <li>1. Land use in Rio summary - Suggest why many historic buildings are found in the Centro zone (figure C). How does the South Zone show Rio's inequalities of wealth?</li> </ol>

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		range of social challenges (4 marks)	<p>Suggest why the West Zone was chosen as the site for the 2016 Olympic Park.</p> <ol style="list-style-type: none"> <li>2. Factors affecting Rio's growth</li> <li>3. Population growth and change. Social challenges and solutions.</li> </ol> <ol style="list-style-type: none"> <li>1. A) Name two differences between the housing areas of Rio shown in Photo A. B) Suggest problems with providing services to the favela in Photo A.</li> <li>2. Read the newspaper headlines in C. Why were 2014 and 2015 difficult years for Rio? Suggest reasons for the situation referred to in the newspapers headlines in figure C.</li> <li>3. Why do you think the authorities were keen to improve the water supply to the West zone.</li> </ol>
4. The challenges in Rio	to examine Rio's social and economic challenges and possible solutions	Evaluate which social challenge is the greatest	<p>STARTER...which one is the greatest social challenge from last lesson and why?</p> <ol style="list-style-type: none"> <li>1. Social challenges and solutions questions / feedback.</li> <li>2. Justify which of the social challenges are the greatest now and into the future.</li> <li>3. What does this type of employment in Rio tell us about Rio and its economy?</li> <li>4. Economic opportunities.</li> <li>5. Types of employment.</li> </ol> <p>To finish: Kahoot quiz!</p>
5. Rio's Challenges: Employment & Crime (2 lessons)	to examine Rio's issues relating to	Suggest how the authorities in Rio can reduce crime	<p><i>Starter:</i> Unemployment in Rio is high in some areas of Rio what <b>challenges</b> will this bring about?</p> <p>Video overview of Rio</p>

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	crime and unemployment		<ol style="list-style-type: none"> <li>1. What are the advantages and disadvantages of street vendors working in the informal economy?</li> <li>2. What is the vendor selling in Photo D.</li> <li>3. Why are these goods likely to be typical of the types sold by many street vendors.</li> <li>4. Do you think the local government will be successful in their plan to tackle unemployment?</li> <li>5. Imagine you are living in one of Rio's favela's. Make a case for or against the police moving into your favela to deal with the drugs gangs.</li> <li>6. 'A city of great contrasts'. Explain why this fact makes it difficult for Rio to overcome its economic challenges.</li> </ol> <p><a href="https://www.youtube.com/watch?v=c3BRTIHFpBU">https://www.youtube.com/watch?v=c3BRTIHFpBU</a></p> <p><a href="https://www.bbc.co.uk/news/science-environment-18552512">https://www.bbc.co.uk/news/science-environment-18552512</a></p>
5. Rio's Economic and environmental Challenges	to examine Rio de Janeiro's economic and environmental opportunities and challenges	Suggest how the authorities in Rio should address the environmental issues in the city	<p>STARTER...Recap last lesson...unemployment in Rio is high in some areas of Rio what <b>challenges</b> will this bring about?</p> <ol style="list-style-type: none"> <li>1. Economic opportunities.</li> <li>2. Unemployment in Rio and the informal sector</li> <li>3. Human and physical environmental problems.</li> <li>4. Air pollution, traffic congestion, water pollution and waste pollution.</li> <li>5. Squatter settlements in Rio.</li> <li>6. Challenges of squatter settlements.</li> </ol>
6. Rio's environment	To examine Rio de Janeiro's environmental opportunities and challenges	Rio's biggest environment threat comes from the Favelas: Discuss	<p>Students use a sheet on Rio's environment from previous lesson. They should answer these questions</p> <p>Read the sheet and answer these questions in full sentences.</p> <ol style="list-style-type: none"> <li>1. Explain how smog builds up in Rio.</li> </ol>

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			<ol style="list-style-type: none"> <li>2. Describe two challenges and solutions of managing traffic in Rio.</li> <li>3. Suggest why fishing in Guanabara Bay has declined by 90% in the last 20 years.</li> <li>4. Which of the sources of water pollution do you think is the biggest challenge for Rio and why?</li> <li>5. To what extent do you think the solutions to water pollution will be successful?</li> <li>6. Why is waste such a difficult issue to deal with in Rio's favelas and how will the power plant help manage</li> <li>7. Write a speech agreeing or disagreeing with this statement: "Rio's hosting of the Olympic Games I 2016 proved to be beneficial to the city's environment".</li> </ol>
7. Managing Rio's squatter settlements (2 lessons)	To understand how Rio is responding to the challenge of its squatter settlements	Evaluate the positive impacts of squatter settlements	<p>Starter....imagine....</p> <ol style="list-style-type: none"> <li>1. Squatter settlements in Rio - video</li> <li>2. Annotate the distribution of Rio's favela's.</li> <li>3. Describe the pattern of population growth in Rio</li> <li>4. To what extent do you think the improvements in Rocinha will improve peoples quality of life.</li> <li>5. Challenges of squatter settlements.</li> </ol>
8. Improving Rio's squatter settlements	to understand how Rio is attempting to improve Rio's Squatter settlements	Why do people still continue to live in these areas?	<p>Starter.... Squatter settlements in Rio.</p> <ol style="list-style-type: none"> <li>1. Improving favelas <a href="http://www.developingmindsfoundation.org/portfolio/rocinha-favela-2/">http://www.developingmindsfoundation.org/portfolio/rocinha-favela-2/</a></li> <li>2. Pros and Cons</li> <li>3. The Favela Bairro project</li> <li>4. The Olympic legacy.</li> </ol>

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			1.
9. Rio's squatter settlements	to understand how Rio is attempting to improve Rio's Squatter settlements	Evaluate the view that the Olympics was negative for Rio	<p>1. Olympics in Rio                  2. Intro to UK                  3. Map and graph work                  4. Complete activities 2-4</p> <p>Read the section on the Olympics.</p> <p>5. Do you think the Olympics was a positive or negative event for the people of the favelas? Justify your reason  <a href="https://www.theguardian.com/environment/2015/aug/05/olympics-rio-pollution-favelas-brazil">https://www.theguardian.com/environment/2015/aug/05/olympics-rio-pollution-favelas-brazil</a></p> <p><b>Sustainable slums? The promise of Rio's Olympic legacy 5 mins</b></p> <p>Intro HW and support on how to structure a 9 mark qu.                  HW: Choice of 2 9 mark qu's on improving favelas.</p> <p>1. With reference to a named example of a LIC/NEE <b>city</b>, to what extent has urban planning improved the quality of life for the urban poor? (9 marks + SPAG)</p> <p>OR</p> <p>'For those who live in low-income areas of cities such as Rio de Janeiro, life presents far more problems than benefits.' Do you agree with this statement? Justify your decision using figure 1 and your case study of a major city in a LIC/NEE. (9 marks + SPAG)</p>
10. End of unit test			