

MINISTRY OF EDUCATION

**NATIONAL CENTRE FOR
EDUCATIONAL RESOURCE
DEVELOPMENT**

**NATIONAL SCHEME
FOR
SECONDARY SCHOOLS**



GEOGRAPHY

GRADE 11



ACKNOWLEDGEMENTS

The Ministry of Education wishes to acknowledge the work done by the following persons who were involved in the production of the **Grade 11 Geography National Scheme**.

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NATIONAL SCHEME FOR SECONDARY SCHOOLS

Curriculum Area: Geography

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					WEEK 1
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>SECTION III - HUMAN SYSTEMS</p> <p>Economic Activities in the Caribbean</p> <p>i. Types of economic activities in the Caribbean</p> <p>ii. Location of economic activities in the Caribbean</p> <p>iii. Characteristics of economic</p>	<p>Students will:</p> <p>i. differentiate between renewable and non-renewable resources and cite examples of each category;</p> <p>ii. locate areas within Caribbean countries where natural resources are found in commercial quantity;</p> <p>iii. name the types of economic activities in the Caribbean;</p>	<p>a. Renewable and non-renewable resources</p> <p>Some natural resources are renewable, which means they can replenish themselves over time, e.g., fish stocks.</p> <p>Some natural resources are non-renewable and cannot easily replenish, e.g., crude oil, natural gas, and bauxite.</p> <p>b. Location of natural resources within Caribbean countries</p> <p>i. Forests</p> <p>ii. Fish</p> <p>iii. Limestone</p> <p>iv. Bauxite</p>	<p>Differentiating between renewable and non-renewable resources.</p> <p>Group examples of natural resources under specific headings.</p> <p>Collecting maps of Caribbean countries showing the location of natural resources in commercial quantities.</p> <p>Drawing and labelling sketch map to show the location of the various</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 138-157.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography,</p>	<p>Use the 3-2-1 exit ticket strategy for students to respond to the topic 'Economic activities in the Caribbean'.</p>

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<p>activities in the Caribbean</p> <p>iv. Importance of economic activities to the Caribbean</p>	<p>iv. distinguish among the types of economic activities;</p> <p>v. name and locate examples of the types of economic activities on a map of the Caribbean;</p> <p>vi. describe the characteristics of primary, secondary, and tertiary economic activities in the Caribbean;</p> <p>vii. discuss the relative importance of primary, secondary, and tertiary economic activities in the Caribbean</p>	<p>v. Petroleum</p> <p>vi. Natural gas</p> <p>vii. Gold</p> <p>c.Types of economic activities</p> <p>i. Primary activity</p> <p>ii. Secondary activity</p> <p>iii. Tertiary activity</p> <p>iv. Quaternary activity</p> <p>d. Importance of economic activity in the Caribbean</p> <p>i. Aid in economic development</p> <p>ii. Increase in exports</p> <p>iii. Create employment</p> <p>iv. Generate some form of income</p>	<p>economic activities in the Caribbean.</p> <p>Distinguishing among the various economic activities and citing examples of each type of economic activity.</p> <p>Placing students in groups to create a PowerPoint presentation/flip chart on the characteristics and importance of economic activities in the Caribbean.</p>	<p>5th Edition, Oxford University Press, 2016. pp. 234 -249</p>	
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		<p>v. Create competition and thus better products on the market</p> <p>vi. Increase in overall living standards</p> <p><i>Refer to the appendix for additional content.</i></p>			
SBA Guidelines	<p>Presentation of Data, Analysis, and Discussion of Findings.</p> <p>Use primary data collected to construct at least 3 different and appropriate illustrations e.g., tables, graphs, labelled photographs, and dot maps. Illustrations and their analysis must be integrated into the discussion.</p> <p>Analysis and discussion must be very well-organized, coherent, points well-developed, well-sequenced, and supported by comprehensive data.</p>				

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					WEEK 2
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>The Forestry Industry in Guyana</p> <p>i. Factors influencing the location of the forestry industry in Guyana</p> <p><i>Note: Students can study either Forestry or Fishing</i></p>	<p>Students will:</p> <p>i. draw a sketch map of Guyana and insert the location where commercial logging occurs;</p> <p>ii. discuss the factors influencing the location of the forestry industry in Guyana.</p>	<p>Factors influencing the location of forestry in Guyana</p> <p>i. Raw Materials</p> <p>ii. Energy</p> <p>iii. Transport</p> <p>iv. Markets</p> <p>v. Labour</p> <p>vi. Capital</p> <p>vii. Role of Government</p>	<p>Drawing a map of Guyana and inserting the following:</p> <p>a. areas of commercial forest.</p> <p>b. names of the places where logging occurs.</p> <p>c. 5 elements of a map.</p> <p>Researching the factors influencing the location of the forestry industry in Guyana. Creating a PowerPoint presentation of the findings.</p> <p>Partner and use the ask-and-answer graphic organizer to compose and answer</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 138-157.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 240-241.</p>	<p>Create a newspaper article to capture the main ideas of this topic.</p> <p>Create a scrapbook on the Forestry industry in Guyana.</p>

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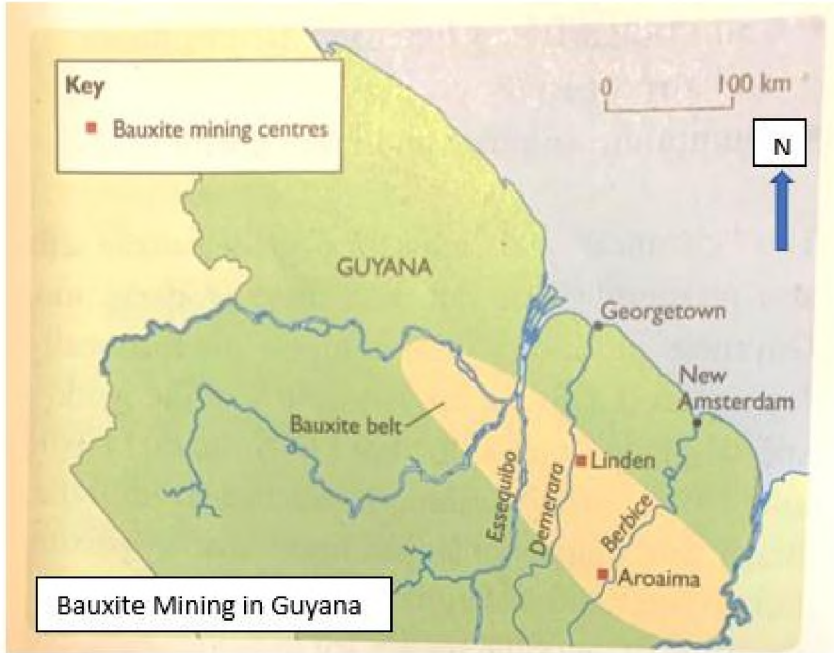
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		 <p>Source: The Caribbean Environment for CSEC Geography</p> <p><i>Refer to the appendix for additional content.</i></p>	<p>questions on the forestry industry in Guyana.</p>		
<p>SBA Guidelines</p>	<p>Presentation of Data, Analysis, and Discussion of Findings.</p> <p>Use primary data collected to construct at least 3 different and appropriate illustrations e.g., tables, graphs, labelled photographs and dot maps. Illustrations and their analysis must be integrated into the discussion.</p> <p>Analysis and discussion must be very well-organized coherent, points well-developed, well-sequenced, and supported by comprehensive data.</p>				

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					WEEK 3
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>The Bauxite Industry in Guyana</p> <p>i. Factors influencing the location of the bauxite industry in Guyana</p> <p><i>Note: Students can study either oil and natural gas or bauxite.</i></p>	<p>Students will:</p> <p>i. draw a sketch map of Guyana and insert the location of bauxite deposits and mining areas;</p> <p>ii. discuss the factors influencing the location of the bauxite</p>	<p>a. The Bauxite industry in Guyana</p> <div style="text-align: center;">  <p style="text-align: center;">Bauxite Mining in Guyana</p> </div> <p>Source: The Caribbean Environment for CSEC Geography</p> <p>b. Factors influencing the location of the bauxite industry in Guyana</p> <p>i. Raw Materials</p>	<p>Drawing a sketch map of Guyana and inserting the location of bauxite deposits and mining areas.</p> <p>Visiting a bauxite mining location to conduct an interview/interactive session with the workers. Seek information from the relevant department for video clips and other relevant information on bauxite mining.</p> <p>Group presentation of the factors influencing the location of the bauxite industry in Guyana.</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 138-157.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th</p>	<p>Compile a folder on bauxite mining in Guyana.</p>

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	industry in Guyana.	ii. Energy iii. Transport to the Factory iv. Products v. Markets vi. Role of Government Refer to the appendix for additional content.		Edition, Oxford University Press, 2016. pp. 242-245.	
SBA Guidelines	<p>Presentation of Data, Analysis, and Discussion of Findings.</p> <p>Use primary data collected to construct at least 3 different and appropriate illustrations e.g., tables, graphs, labelled photographs, and dot maps. Illustrations and their analysis must be integrated into the discussion.</p> <p>Analysis and discussion must be very well organized coherent, points well-developed, well-sequenced, and supported by comprehensive data.</p>				

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					WEEK 4
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Food Processing within CARICOM and Singapore.</p> <p>i. Factors influencing the location of the food processing industry within CARICOM and Singapore</p>	<p>Students will:</p> <p>i. explain the factors influencing the development and growth of food processing within CARICOM and Singapore;</p> <p>ii. locate areas of food processing within CARICOM and Singapore;</p> <p>iii. outline the benefits associated with the</p>	<p>a. Factors that influence the location of food processing</p> <p>i. Raw materials</p> <p>ii. Energy</p> <p>iii. Transport</p> <p>iv. Markets</p> <p>v. Labour</p> <p>vi. Capital</p> <p>vii. Role of Government</p>	<p>Drawing a map of the Caribbean and inserting the type of Food Processing Industry within the CARICOM territory</p> <p>Drawing the map of Singapore and inserting areas where food processing is done.</p> <p>Stating examples of the food processing industry of CARICOM and Singapore.</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom:</p> <p>Nelson Thorne, 2012. pp. 138-157.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th</p>	<p>Review newspaper articles or any relevant information on food processing within CARICOM and Singapore and make oral presentations to the class.</p>

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<p>ii. Benefits and problems associated with selected industries in the Caribbean and Singapore</p> <p>iii. Solutions to problems associated with the selected in the Caribbean and Singapore</p>	<p>selected industries in the Caribbean;</p> <p>iv. discuss the problems associated with the selected industries in the Caribbean;</p> <p>v. suggest solutions to problems faced by the selected industries in the Caribbean.</p>	<p>Food processing industries in St. Vincent</p>  <p>Source: The Caribbean Environment for CSEC Geography</p> <p>b. Benefits including</p> <ol style="list-style-type: none"> i. Employment ii. Revenue iii. Improved standard of living iv. Economic development 	<p>Group discussions of the factors influencing the development and growth of the food processing industry.</p> <p>Analyzing case studies of food processing within CARICOM and Singapore.</p> <p>Round table discussion on the benefits and problems associated with the selected industries in the Caribbean.</p>	<p>Edition, Oxford University Press, 2016. pp. 276 - 285.</p>	
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		<p>c. Problems, for example</p> <ul style="list-style-type: none"> i. Declining sources of raw material ii. High exploration costs iii. Competition iv. Pollution v. Accessibility vi. Transportation vii. Sustainability <p>d. Solutions to problems faced by the selected industries in the Caribbean, such as</p> <ul style="list-style-type: none"> i. Exploration of new sources of raw materials ii. Alternative sources of raw materials iii. Diversification 	<p>Panel discussion on solutions to problems faced by the selected industries in the Caribbean.</p>	
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					WEEK 5
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Tourism in the Caribbean</p> <p>i. Factors influencing the development and growth of the tourism industry in the Caribbean</p>	<p>Students will:</p> <p>i. explain the factors influencing the development and growth of the tourism industry in the Caribbean;</p> <p>ii. outline the benefits of tourism to the Caribbean;</p> <p>iii. discuss the problems associated with tourism in the Caribbean.</p>	<p>a. Origin of tourists</p> <p>Most tourists originate from the U.S.A., Canada and Europe</p> <p>b. Why do tourists visit the Caribbean?</p> <p>i. Geographical location</p> <p>ii. Natural features</p> <p>iii. Culture</p> <p>iv. Social and economic stability</p> <p>c. Benefits of tourism to the Caribbean</p> <p>Economic benefits</p> <p>i. Employment</p> <p>ii. Foreign exchange</p> <p>iii. Infrastructure</p> <p>iv. Government revenue</p>	<p>Defining terms associated with tourism: tourism, tourist, the host country.</p> <p>Applying the Think-Pair - Share technique to list the tourist markets and the tourist destinations in the Caribbean.</p> <p>Create a PowerPoint presentation/slide share/flip chart on the factors influencing the development and growth of the tourism industry in the Caribbean.</p>	<p>Ross, S et al.</p> <p>Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 138-157.</p> <p>Wilson, M.</p> <p>The Caribbean Environment for CSEC Geography, 5th Edition, Oxford</p>	<p>Cite main tourist destinations and give reasons for the development of the tourism industry.</p>

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		<p>Social benefits</p> <ul style="list-style-type: none"> i. Cultural exchange ii. Community identity <p>d. Problems associated with tourism in the Caribbean</p> <ul style="list-style-type: none"> i. Destruction of habitats ii. Pollution iii. Increase in the price of land iv. Neglect of other industries v. Loss of beach access <p><i>Refer to the appendix for additional content.</i></p>	<p>Make a poster that depicts the benefits of the tourism industry in the Caribbean.</p> <p>Researching and assessing the problems associated with tourism on the environment.</p> <p>Round table discussions of the findings.</p>	<p>University Press, 2016. pp. 266 - 275.</p>	
<p>SBA Guidelines</p>	<p>Presentation of Data, Analysis, and Discussion of Findings.</p> <p>Use primary data collected to construct at least 3 different and appropriate illustrations e.g., tables, graphs, labelled photographs, and dot maps. Illustrations and their analysis must be integrated into the discussion.</p> <p>Analysis and discussion must be very well-organized, coherent, points well-developed, well-sequenced, and supported by comprehensive data.</p>				

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					WEEK 6
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Agriculture in the Caribbean</p> <p>i. Areas in Caribbean countries where agriculture is done</p> <p>ii. Factors influencing the development of agriculture in the Caribbean</p>	<p>Students will:</p> <p>i. locate areas in the Caribbean where commercial farming (both large and small scale) and subsistence farming are undertaken;</p> <p>ii. explain the factors influencing the development of agriculture in the Caribbean;</p> <p>iii. compare the characteristics of large-scale and small-scale commercial</p>	<p>a. Places in the Caribbean where commercial farming (large-scale and small-scale) is important</p> <p>Guyana: sugar cane, rice, coconuts Jamaica: sugar cane, coffee, bananas Grenada: bananas, spices Dominica: bananas</p> <p>b. Factors influencing the development of agriculture in the Caribbean</p> <p>Historical Physical Human and economic factors</p> <p><i>Refer to the appendix for additional content.</i></p>	<p>Drawing sketch maps of Caribbean territories to show commercial and subsistence farming areas.</p> <p>Identifying farming areas of countries within the Caribbean.</p> <p>Using the compare graphic organizer, describe the characteristics of large-scale and small-scale commercial farming in a named Caribbean country</p> <p>Organizing a field trip to a farm in Black Bush Polar, Berbice Guyana. Write an</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom: Nelson Thorne, 2012. pp. 160-174.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 250-263.</p>	<p>Construct a model depicting the features of a large-scale farm in Guyana's coastland.</p>

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iii.	Characteristics of large-scale and small-scale commercial farming in a named Caribbean country	farming in a named Caribbean country.		account of the farm under the following: (Factors influencing its development - historical, physical, human, and economic)		
SBA Guidelines		<p>Presentation of Data, Analysis, and Discussion of Findings.</p> <p>Use primary data collected to construct at least 3 different and appropriate illustrations e.g., tables, graphs, labelled photographs, and dot maps. Illustrations and their analysis must be integrated into the discussion.</p> <p>Analysis and discussion must be very well-organized, coherent, points well-developed, well-sequenced, and supported by comprehensive data.</p>				

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					WEEK 7
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Sugar Cultivation in Guyana and Brazil</p> <p>i. Characteristics of sugar cane farming</p> <p>ii. Changes in commercial farming</p>	<p>Students will:</p> <p>i. compare the characteristics of sugar cane farming in Guyana with sugar cane farming in Brazil;</p> <p>ii. compare how changes in commercial farming in the Caribbean and Brazil impact their economic development;</p> <p>iii. discuss the impact</p>	<p>a. Characteristics of sugar cane farming</p> <p>i. Acreage</p> <p>ii. Farming practices</p> <p>iii. Labour</p> <p>iv. Technology (for example, the use of materials, tools, techniques sources of power to improve productivity</p> <p>v. Markets.</p> <p>b. Changes in commercial farming in the Caribbean impact their economic development.</p> <p>i. Government policies</p> <p>ii. Biofuel</p> <p>iii. Value-added products</p> <p>iv. Technology</p>	<p>Viewing videos of sugar cane farming in Guyana and Brazil.</p> <p>Using the compare and contrast chart graphic organizer to describe the similarities and differences associated with sugar farming in the two countries - Guyana and Brazil.</p> <p>Drawing sketch maps of Guyana and Brazil and inserting specified areas where sugar cane cultivation is done.</p> <p>Using the compare and contrast chart graphic organizer,</p>	<p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom: Nelson Thorne, 2012. pp. 160-174.</p> <p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 250-263.</p>	<p>Create short videos/ documentaries on how agricultural practices in the Caribbean have changed in the last 20 years.</p>

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	<p>of agricultural development in the Caribbean.</p>	<ul style="list-style-type: none"> v. Shade houses vi. New markets <p>c. Impact of agricultural development in the Caribbean</p> <ul style="list-style-type: none"> i. Cost and availability of traditional products ii. Income iii. Government revenue iv. Job opportunities v. Diversification <p><i>Refer to the appendix for additional content</i></p>	<p>identifying changes in commercial farming.</p> <p>Discussing how these changes impact economic development in the Caribbean.</p> <p>Analyzing an article on how changes in agriculture impacted economic development.</p> <p>Reading case studies on the impacts.</p>		
<p>SBA Guideline</p>	<p>Conclusion:</p> <p>Write a conclusion for the report.</p> <p>It must relate to the study's aim and provide a succinct summary consistent with the data obtained.</p> <p>Compose a conclusion to include:</p> <ol style="list-style-type: none"> 1. Paragraph 1- Summary of the Aim/s (Statement/s or question/s) 2. Paragraph 2- Summary of the Methodology. 3. Paragraph 3- Summary of Findings 				

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					WEEK 8
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Environmental Degradation</p> <p>Agriculture</p> <p>Quarrying</p> <p>Tourism</p>	<p>Students will:</p> <p>i. define the term environmental degradation;</p> <p>ii. explain how economic activities (agriculture, quarrying, tourism) contribute to environmental degradation in the Caribbean.</p>	<p>Environment degradation is the process whereby the environment becomes destroyed or compromised as a result of the misuse of natural resources.</p> <p>a. Environmental degradation in agriculture</p> <p>i. Deforestation</p> <p>ii. Soil erosion</p> <p>iii. Soil exhaustion</p> <p>iv. Flooding</p> <p>v. Pollution</p> <p>b. Quarrying, mining secondary industries:</p> <p>i. Deforestation</p> <p>ii. Pollution</p> <p>iii. Land degradation</p>	<p>Viewing, analyzing, and discussing videos on environmental degradation within the Caribbean.</p> <p>Analyzing case studies based on flooding.</p> <p>Field trip – visit a local area where economic activity is carried out and investigate the effects of this activity on the natural environment.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 288-291</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 174-176</p> <p>Video: https://www.youtube.com/watch?v=0jO7RCbS0gg&t=438s</p>	<p>Research:</p> <p>An investigation of the causes and consequences of soil erosion/ deforestation on the natural environment.</p> <p>This research can be presented in one of the following ways:</p> <ul style="list-style-type: none"> - Video - PowerPoint presentation - Written report

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		<p>d. Tourism:</p> <ul style="list-style-type: none"> i. Coral reef destruction ii. Pollution iii. Mangrove destruction 			
<p>SBA Guideline</p>	<p>Conclusion: Write a conclusion for the report. It must relate to the study's aim and provide a succinct summary consistent with the data obtained. Composing conclusion to include:</p> <ol style="list-style-type: none"> 1. Paragraph 1- Summary of the Aim/s (Statement/s or question/s) 2. Paragraph 2- Summary of the Methodology. 3. Paragraph 3- Summary of Findings 				

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					WEEK 9
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Environmental Degradation cont'd</p> <p>In</p> <p>i. Measures to ensure the sustainable management of resources in the Caribbean</p>	<p>Students will:</p> <p>i. define the concept of ‘sustainable management of resources;’</p> <p>ii. discuss measures to ensure the sustainable management of resources in the Caribbean.</p>	<p>'Sustainable management of resources is the practice of managing resources in an environmentally-friendly manner that will benefit current and future generations.'</p> <p>a. Measures to ensure the sustainable management of resources:</p> <p>i. Education</p> <p>ii. Organic farming</p> <p>iii. Forest and soil conservation</p> <p>iv. Fisheries management</p> <p>v. Improved mining and manufacturing techniques for ecotourism</p>	<p>Defining the term sustainable management of resources.</p> <p>Identifying measures that are implemented to manage resources sustainably.</p> <p>Using the Think-Pair-Share technique, students discuss measures to ensure the sustainable management of resources.</p> <p>In pairs, students research and review policies used in Caribbean countries for sustainable management of resources.</p> <p>Present the findings for the whole class discussion.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 288 - 291</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 178-179</p> <p>Video https://www.youtube.com/watch?v=0jO7RCbS0gg&t=438s</p>	<p>Create posters to depict ways in which environmental degradation can be mitigated.</p> <p>Compose a jingle/poem on sustainable management of resources.</p>

SBA Guideline	<p>Conclusion:</p> <p>Write a conclusion for the report.</p> <p>It must relate to the aim of the study and provide a succinct summary consistent with the data obtained.</p> <p>Composing conclusion to include:</p> <ol style="list-style-type: none">1. Paragraph 1- Summary of the Aim/s (Statement/s or question/s)2. Paragraph 2- Summary of the Methodology.3. Paragraph 3- Summary of Findings
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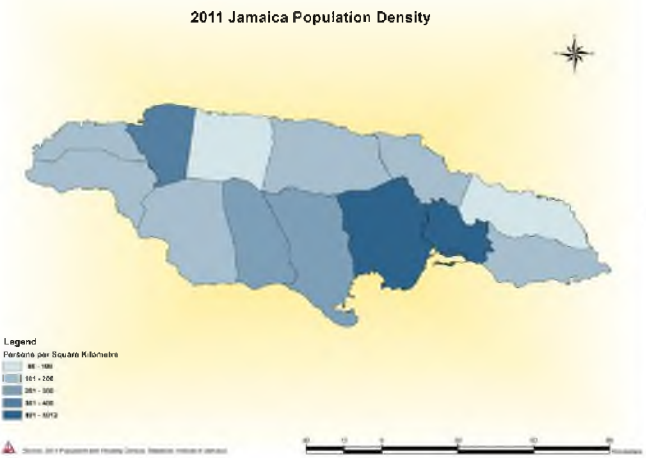
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					WEEK 10
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Population</p> <p>i. Factors that influence population distribution</p>	<p>Students will:</p> <p>i. differentiate between population distribution and density;</p> <p>ii. interpret maps and diagrams of population distribution and density;</p> <p>iii. discuss the factors that influence population distribution.</p>	<p>a. Population distribution and density</p> <p>b. Population distribution describes how individuals are spread in a specific area (e.g. sparsely).</p> <p>c. Population density is defined as the number of people per unit of land area.</p> <p>d. Representation of population data Choropleth and Dot Maps are used to represent population data.</p> <p>Choropleth Map: Distribution of Jamaica's Population</p>	<p>Differentiating between population distribution and density.</p> <p>Outlining ways in which population data can be presented.</p> <p>Interpreting maps showing population data.</p> <p>Illustrating the population distribution of Guyana on a choropleth map.</p> <p>In small groups, students compile a list of factors</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 190-192</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp.78-79</p> <p>London, N. and Wraith, M. Principles of Geography for CXC. Longman Group, UK. pp. 231-235</p> <p>Waugh, D. Geography:</p>	<p>Use appropriate maps (choropleth, dot map) to show the Caribbean population distribution and density.</p> <p>Use the 3-2-1 technique to evaluate the lesson on population.</p>

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		 <p style="text-align: center;">2011 Jamaica Population Density</p> <p>Legend Populatie per Square Kilometre</p> <ul style="list-style-type: none"> 00 - 100 101 - 200 201 - 300 301 - 400 401 - 500 	<p>that influence population distribution. Group discussion on the factors.</p> <p>Drawing sketch maps to show the distribution of population within Caribbean countries.</p>	<p>An Integrated Approach, Nelson Thornes, 2009. pp. 344-347</p> <p>https://www.youtube.com/watch?v=jN4rNqiQms&t=151s</p> <p>https://www.youtube.com/watch?v=fLlbRdX2nJs https://geoforex.com/population/</p>	
		<p>e. Factors that influence population distribution:</p> <ul style="list-style-type: none"> i. Historical ii. Cultural iii. Physical iv. Socio-economic factors <p><i>Refer to the appendix for additional content.</i></p>			
SBA Guideline	<p>Introduction Gives a clear overview with justification and narrows the research to the area of study. (No more than 2 paragraphs)</p>				

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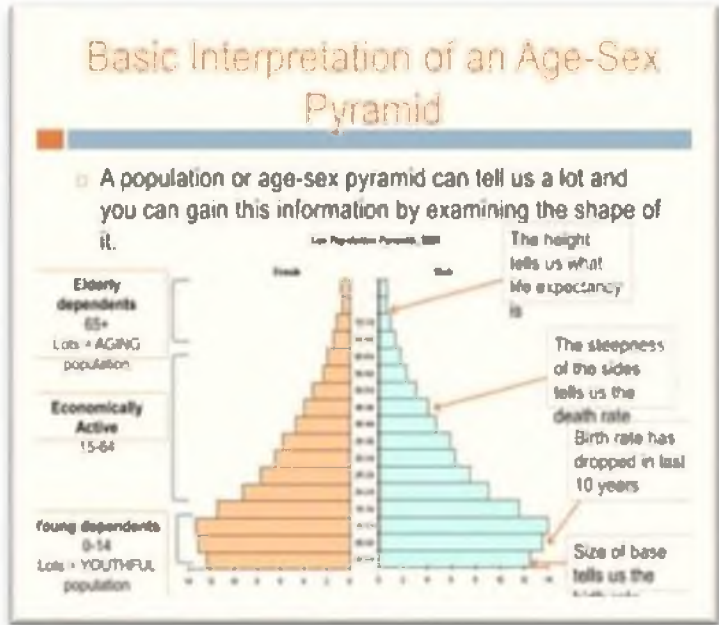
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					WEEK 11
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Population Structure</p> <p>i. Factors that influence birth rates and death rates</p> <p>ii. Demographic Transition Model</p> <p>iii. Purpose of Population Pyramid</p> <p>iv. Factors affecting the growth of population in the Caribbean</p>	<p>Students will:</p> <p>i. describe the factors that influence birth rates and death rates;</p> <p>ii. discuss the stages and the implications of the Demographic Transition Model (DTM);</p> <p>iii. explain the purpose of</p>	<p>a. Factors affecting birth and death rate</p> <p>Birth rate</p> <p>i. Level of Education</p> <p>ii. Tradition and religion</p> <p>iii. Access to contraceptives</p> <p>Death rate</p> <p>i. Quality of diet</p> <p>ii. War</p> <p>iii. Vaccination</p>	<p>Describing the factors that influence birth rates and death rates.</p> <p>Interpreting the Demographic Transition Model</p> <p>Identifying and discussing the stages and the implications of the DTM.</p> <p>Giving reasons for the trend of birth and death rate at the stage of the DTM.</p> <p>In small groups, students discuss the purpose of population pyramids.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp.198-205</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 84-91</p> <p>London, N and Wraith, M. Principles of Geography for CXC. Longman Group, UK.</p>	<p>Comparative Study Compare the growth of the population in the Caribbean with either India, China or Nigeria.</p> <p>This research can be presented in one of three ways:</p> <ul style="list-style-type: none"> - Video - PowerPoint presentation - Written report

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<p>with either India, China or Nigeria</p>	<p>population pyramids;</p> <p>iv. draw population pyramids for Guyana and either India, China, or Nigeria</p>	<p>b. Population Pyramids</p> <div style="text-align: center;">  <p style="text-align: center;">Basic Interpretation of an Age-Sex Pyramid</p> <p style="text-align: center;">A population or age-sex pyramid can tell us a lot and you can gain this information by examining the shape of it.</p> <p style="text-align: center;">The height tells us what life expectancy is.</p> <p style="text-align: center;">The steepness of the sides tells us the death rate. Birth rate has dropped in last 10 years.</p> <p style="text-align: center;">Size of base tells us the...</p> </div> <p>Source: www.slideshare.net</p>	<p>Interpreting population pyramid.</p> <p>Draw the population pyramids of Guyana and either India, China or Nigeria.</p> <p>Conducting mini census and presenting data collected on appropriate graphs, charts, etc.</p> <p>Using compare graphic organizer, pairs of students compare the factors affecting the growth of the population in the Caribbean with either India, China or Nigeria.</p>	<p>pp. 236-239, 241</p> <p>Waugh, D. Geography: An Integrated Approach, Nelson Thornes, 2009. p. 353</p> <p>Video: - https://www.youtube.com/watch https://geographyfieldwork.com/DemographicTransition.htm</p>
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	<p>v. compare the factors affecting the growth of population in the Caribbean with either India, China, or Nigeria.</p>				
SBA Guideline	<p>Introduction Gives a clear overview with justification and narrows the research to the area of study. (No more than 2 paragraphs)</p>				

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					WEEK 12
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Population Movements</p> <p>i. Types of migration</p> <p>ii. Origin and destination of migrants</p> <p>iii. Reasons for in-migration and out-migration</p>	<p>Students will:</p> <p>i. define terms associated with migration;</p> <p>ii. Outline the types of migration;</p> <p>iii. Identify countries from which migrants originate and their destination countries;</p> <p>iv. describe the reasons for in-migration and out-migration.</p>	<p>a. Terms related to migration.</p> <p>i. Migration</p> <p>ii. Immigration</p> <p>iii. Emigration</p> <p>b. Types of Migration</p> <p>i. in-migration</p> <p>ii. out-migration</p> <p>c. Origin of migrants and their main destinations</p> <p>Origin: Caribbean</p> <p>Destination: USA, UK, Canada</p> <p>d. Reasons for in-migration and out-migration</p> <p>i. Push and pull factors:</p>	<p>Defining terms associated with migration.</p> <p>Describing the types of migration.</p> <p>Describing the origin and destination of migrants.</p> <p>Locating destinations of migrants on the world map.</p> <p>Identifying and discussing push and pull factors of migration.</p> <p>Examining case studies of migration in the Caribbean.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 222-223</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom: Nelson Thorne, 2012. p. 100</p>	<p>Role-play scenarios of in-migration and out-migration.</p>

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		<ul style="list-style-type: none"> ii. Social iii. Economic iv. Political 		<p>London, N. and Wraith, M. Principles of Geography for CXC. Longman Group, UK. p. 242</p> <p><u>CSEC Geography:</u> <u>International Migration in the Caribbean - YouTube</u></p>	
SBA Guideline	<p>Introduction Gives a clear overview with justification and narrows the research to the area of study. (No more than 2 paragraphs)</p>				

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					WEEK 13
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Population Movements cont'd</p> <p>i. Consequences of in-migration and out-migration</p> <p>ii. Ways of controlling in- and out-migration</p>	<p>Students will:</p> <p>i. discuss the consequences of in-migration and out-migration in the Caribbean;</p> <p>ii. suggest ways of controlling out-migration.</p>	<p>a. Consequences of in-migration and out-migration.</p> <p>i. Economic impacts</p> <p>ii. Social impacts</p> <p>b. Ways of controlling out-migration</p> <p>i. Decentralization of services</p> <p>ii. Increase in economic activities</p>	<p>Viewing and analyzing videos on the consequences of in-migration and out-migration in the Caribbean.</p> <p>Analyzing case studies on ways of controlling migration in the Caribbean and presenting findings using PowerPoint presentation</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 224-229</p> <p>Ross, S et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. p. 101</p> <p>London, N and Wraith, M. Principles of Geography for CXC. Longman Group, UK. pp. 242-246</p>	<p>Debate on the moot “The Government of Guyana should Substantially Increase Its Restrictions on Immigration to - Guyana”</p>

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				<p>Waugh, D. Geography: An Integrated Approach, Nelson Thornes, 2009. pp. 361-371</p> <p>Video: https://www.youtube.com/watch?v=xmyw8uPExA0&t=252s</p>	
SBA Guideline	Bibliography Must be arranged in alphabetical order by author's surname with title, publisher, place, and date for relevant and up-to-date materials used, e.g., books.				

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					WEEK 14
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Urbanization</p> <p>i. Causes of Urbanization, urban growth and urban sprawl</p> <p>ii. Benefits of Urbanization</p>	<p>Students will:</p> <p>i. define urbanization, urban growth and urban sprawl;</p> <p>ii. explain the causes of population growth in capital cities and other urban areas;</p> <p>iii. discuss the benefits of urbanization.</p>	<p>a. Definition of terms</p> <p>i. Urbanization: The process in which the population shifts from rural areas to urban ones and the corresponding decrease in population in rural areas.</p> <p>ii. Urban growth: An increase in the rate or proportion of a population residing in urban areas in comparison to rural areas.</p> <p>iii. Urban sprawl: The spread of urban development and population outward from the urban centre to low-density/peripheral areas outside the city, i.e. the expansion of the geographic limit of the city.</p>	<p>Defining urbanization.</p> <p>Distinguishing between urban growth and urban sprawl.</p> <p>Viewing and analyzing video of the causes and benefits of urbanization.</p> <p>Peer presentation on given causes of population growth in capital cities and other urban areas in the Caribbean.</p> <p>Debate on the discussion on the benefits of urbanization.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 206-207</p> <p>Ross, S. et al. Geography for CSEC, Caribbean Examinations Council Study Guide, United Kingdom, Nelson Thorne, 2012. pp. 92-97</p> <p>London, N. and Wraith, M. Principles of Geography for CXC.</p>	<p>Create a newspaper headline that may have been written for urbanization in a named Caribbean country. Capture the main idea of the topic/lesson</p>

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		<p>b. Causes of Urbanization in the Caribbean</p> <ul style="list-style-type: none"> i. Natural increase ii. Migration (internal, regional, and international) <p>c. Benefits of urbanization</p> <ul style="list-style-type: none"> i. Labour supply ii. Economic growth iii. Agglomeration economies iv. Better opportunities and health, education, etc. facilities. 		<p>Longman Group, UK. p. 247</p> <p>Video: https://www.youtube.com/watch?v=Z9dJ5geOksE&t=1349s</p>	
<p>SBA Guideline</p>	<p>Bibliography Must be arranged in alphabetical order by author's surname with title, publisher, place, and date for relevant and up-to-date materials used, e.g., books.</p>				

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					WEEK 15
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Urbanization cont'd</p> <p>i. Problems of urbanization</p> <p>ii. Attempts to control urbanization</p>	<p>Students will:</p> <p>i. identify and discuss the problems of urbanization;</p> <p>ii. discuss attempts to control urbanization.</p>	<p>Problems of urbanization</p> <p>i. Crime</p> <p>ii. Overcrowding</p> <p>iii. Housing</p> <p>iv. Environmental</p> <p>v. Slum and informal settlement development</p> <p>Attempts to control urbanization</p> <p>i. Zoning</p> <p>ii. Decentralization of services</p> <p>iii. Development of housing schemes</p> <p>iv. Upgrade of rural area.</p> <p>v. Diversification of agriculture</p>	<p>Viewing and analyzing video on Urbanization in the Caribbean.</p> <p>Round table discussion on the effectiveness of the attempts to control urbanization.</p> <p>Analyse case studies of urbanization in urban areas in the Caribbean.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 206-218</p> <p>London, N. and Wraith, M. Principles of Geography for CXC. Longman Group, UK. pp. 252-256</p> <p>https://www.youtube.com/watch?v=Z9dJ5geOksE</p>	<p>Idea Spinner</p> <p>The teacher creates a spinner marked into 4 quadrants and labelled “Predict, Explain, Summarize, Evaluate.” After new material is presented, the teacher spins the spinner and asks students to answer a question based on the location of the spinner e.g., if the spinner lands in the “Summarize” quadrant, the teacher might say, “List the key concepts just presented.”</p>
SBA Guideline	<p>Table of Contents Must be accurately presented in the Field Study Report and properly presented with correct page numbers</p>				

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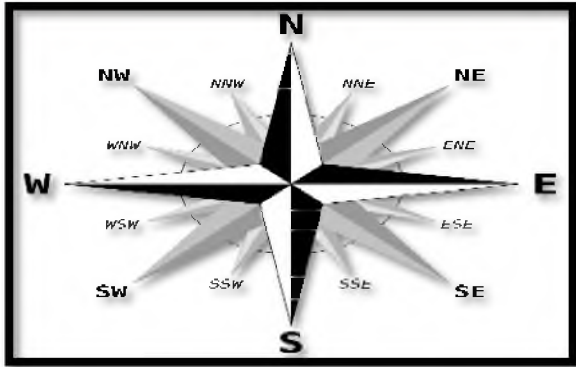
					WEEK 16
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>SECTION 1 – PRACTICAL SKILLS AND FIELD STUDY</p> <p>Map Reading</p> <p>i. Elements of maps</p> <p>ii. Conventional Signs</p> <p>iii. Grid References</p>	<p>Students will:</p> <p>i. list essential elements of maps;</p> <p>ii. read and interpret conventional (map) symbols;</p> <p>iii. locate places, using four-figure and six-figure grid references.</p>	<p>a. Essential elements of maps</p> <p>i. Title</p> <p>ii. Scale</p> <p>iii. Legend/Key</p> <p>iv. North Point/Arrow</p> <p>v. Border</p> <p>b. Conventional (map) symbols</p> <p>Objects on a map are represented using a variety of symbols</p> <p>c. Grid Reference</p> <p>i. Four-figure grid references</p> <p>ii. Six-figure grid references</p> <p><i>Refer to the appendix for additional content.</i></p>	<p>Using the Think–Pair–Share strategy, observe maps in an atlas and identify essential elements of maps, the placement of labels, and the use of colours.</p> <p>In small groups, students observe extracts from topographic maps of Caribbean territories, identify and read conventional symbols, and interpret what the symbols represent on the ground.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 308 - 310</p> <p>Video- Grid Reference - Caribbean CSEC Geography (weebly.com)</p>	<p>Complete the given mapwork exercises.</p> <p>Listen to clues describing features on an imaginary island, and create the conventional symbols to represent the features.</p> <p>Create a chart with conventional signs found - in your community/region.</p>

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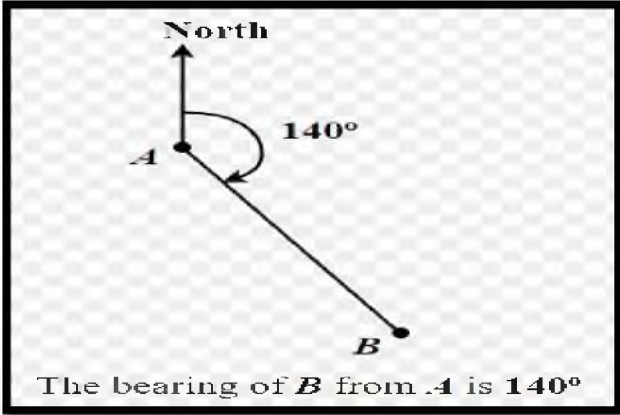
			<p>Viewing videos and creating the conventional symbol for the features seen.</p> <p>Viewing videos of the grid references. Design an interactive notebook on how to locate places, using four and six-figure grid references.</p>		
SBA Guideline	<p>Table of Contents Must be accurately presented in the Field Study Report and properly presented with correct page numbers.</p>				

					WEEK 17
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Map Reading</p> <p>i. Compass Direction and Bearings</p>	<p>Students will:</p> <p>i. state the direction of one place in relation to another using the 16 points of the compass;</p> <p>ii. measure the grid bearing of one place concerning another.</p>	<p>a. Compass Direction</p>  <p>Source: https://study.com</p> <p>b. Giving Directions</p> <p>When giving directions it is important to figure out the starting point and the end point.</p> <p>Suggested question: What is the direction of Point B from Point A?</p> <p>Suggested statement: Give the direction of Point A from Point B. (In this case, your starting point is B and your end point is A)</p> <p>Note: The word “from” lets you know where to start.</p>	<p>Playing navigation game.</p> <p>Viewing video on the compass rose directions and then make a model of a compass rose.</p> <p>Giving direction and measuring the bearing of one place in relation to another using topographical maps.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. p. 322</p> <p>Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. pp. 2-4</p> <p>Video – Compass direction https://www.youtube.com/watch?v=RhHCNVLeZis</p>	<p>Give the relative location of given places using Google Earth and or topographical maps.</p>

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		<p>c. Bearing</p> <div style="border: 2px solid black; padding: 10px; text-align: center;">  <p>The bearing of <i>B</i> from <i>A</i> is 140°</p> </div> <p>Source: https://www.princeton.edu</p> <p>Grid bearings are measured clockwise from Grid North (indicated by the direction of the Easting lines.)</p> <p><i>Refer to the appendix for additional content.</i></p>		<p>Video - Compass Bearing https://www.youtube.com/watch?v=SrGF4XnWZkg</p>
SBA Guideline	<p>Communication of Information: scrutinize the completed SBA report to ensure that there is extensive use of appropriate geographical terms and no grammatical errors or flaws.</p>			

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					WEEK 18
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Map Reading</p> <p>i. Scales and Distances</p>	<p>Students will:</p> <p>i. define the term scale;</p> <p>ii. name and describe the types of scales;</p> <p>iii. interpret scales on maps;</p> <p>iv. use the scale on maps to measure straight and curved distances.</p>	<p>a. Map scale refers to the relationship (or ratio) between the distance on a map and the corresponding distance on the ground.</p> <p>b. Types of scales</p> <p>i. Ratio</p> <p>ii. Statement</p> <p>iii. Linear</p> <p>c. Using the Linear Scale to measure curved distances on a map</p> <p><i>Refer to the appendix for additional content</i></p>	<p>Share with a partner, the concept of scale, and types of scales, and point out the types of scales on maps.</p> <p>Using the scale to measure straight and curved distances on topographical maps.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. pp. 312- 313</p> <p>Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. pp. 5-7</p> <p>Video: https://www.youtube.com/watch?v=EYDfkSOg5h8</p>	<p>Complete map work exercises based on topics done.</p>
SBA Guideline	Communication of Information: scrutinize the completed SBA report to ensure that there is extensive use of appropriate geographical terms and no grammatical errors or flaws.				

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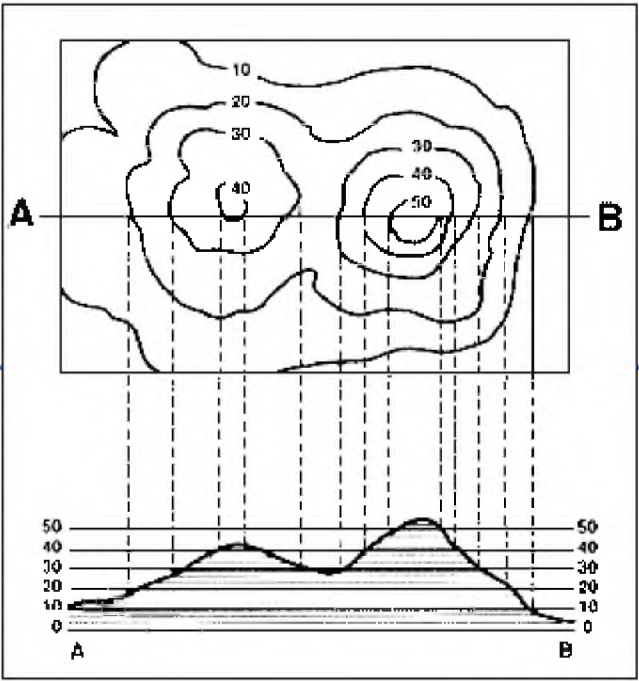
					WEEK 19
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Map Reading</p> <p>i. Reducing and enlarging sections of a map</p>	<p>Students will</p> <p>i. copy, reduce, and enlarge a section of a map.</p>	<p>a. Copying a section of a map</p> <p>b. Reducing a section of a map</p> <p>c. Enlarging a section of a map</p> <p><i>Refer to the appendix for additional content.</i></p>	<p>Viewing videos on how to copy, enlarge and reduce maps. In pairs, explain to each other the steps to be followed when copying, reducing, and enlarging a section of a map.</p> <p>Copying, reducing and enlarging a section of a topographic map.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. p. 323</p> <p>Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. p.44</p> <p><u>Reducing or Enlarging a Map - Geo for CXC</u></p> <p><u>How to enlarge a map</u>  - YouTube</p>	<p>Compile a portfolio of enlarged and reduced maps of Caribbean countries. The portfolio must include maps of:</p> <ul style="list-style-type: none"> - Greater Antilles - Lesser Antilles: - Windward - Leeward Islands - Mainland territories

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WEEK 20

TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Map Reading</p> <p>i. Cross Sections and Sketch Sections</p>	<p>Students will:</p> <p>i. draw and interpret cross-sections and sketch sections.</p>	<p>a. Definition of cross-section</p> <p>A cross-section provides a side view or profile of a landscape.</p> <p>b. How to draw a cross-section:</p> <div style="text-align: center;">  </div> <p>Source: https://serc.carleton.edu/ <i>Refer to the appendix for additional content</i></p>	<p>Working in pairs, students determine the vertical interval.</p> <p>Using appropriate vertical scales to draw the cross-section.</p> <p>Drawing and interpreting cross-sections and sketch sections.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. p. 318</p> <p>Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. pp. 9-12</p> <p>Videos: https://sncyear8geography.weebly.com/geoskillsdrawing-cross-sections.html https://www.youtube.com/watch?v=QQVL0a5Frcg</p>	<p>Draw the cross-section for a given landform then build a model of it.</p>

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WEEK 21

TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
Map Reading i. The Gradient of Slope	Students will: i. define the term slope; ii. list the types of slopes; iii. differentiate among the types of slopes; iv. calculate gradients of slopes using ratios and percentages.	<p>a. A slope is the angle, fall, rise, steepness, gradient, or inclination of the land surface (elevation change).</p> <p>b. Types of slopes:</p> <ul style="list-style-type: none"> i. Steep – convex and concave ii. Moderate iii. Gentle <p>c. Gradient The gradient is a measure of how steep or gentle is a slope.</p> <p>The gradient is calculated using this formula: $\text{GRADIENT} = \frac{\text{Difference in Altitude OR Rise}}{\text{Distance Apart Run}}$ </p> <p>Points to note:</p>	<p>Writing the formula for calculating gradient.</p> <p>Identifying the types of slopes on topographical maps and differentiating among each.</p> <p>Calculating gradients on topographical maps</p> <p>Explaining the results of the calculations.</p> <p>Compiling a glossary of the types of slopes</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. p. 319</p> <p>Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. p. 16</p>	Calculate the gradient for identified slopes along the Soesdyke Highway.

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		<ol style="list-style-type: none">1. The numerator and the denominator must be expressed in the same units;2. The numerator is always reduced to 1;3. To express average gradients, the nearest whole number is an acceptable approximation;4. 4. Accurate use of the linear scale is advised;5. The scale for meters (1:50,000), or feet (1:25,000) is chosen, depending on the unit of height used on the map.			
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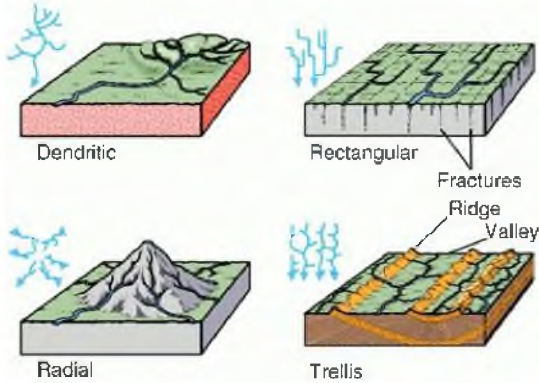
					WEEK 22
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
Map Reading i. Landscapes - Relief	Students will: i. describe landscapes using relief. ii. draw diagrams to illustrate geographical features.	a. Relief – the distribution, height, and size of landforms. b. Geographical Features: i. Spurs ii. Valleys iii. Plains iv. Depressions v. Ridges vi. Plateaux vii. Escarpments viii. Cliffs	Viewing and analyzing videos on landscapes. Using the Think-Pair-Share strategy, to identify highland landforms on topographical maps. Describing the features identified. Matching contour patterns with landforms. In small groups, students describe the landscape using relief features. Describing features drawn.	Wilson, M. The Caribbean Environment for CSEC Geography, 5 th Edition, Oxford University Press, 2016. pp. 314-317 Videos: https://www.youtube.com/watch?v=dc8ci_6l71w https://youtu.be/q2lJZV1yC6o	Compose a short video/pictorial journal showing different types of highland landforms. Compile a glossary of relief landforms.

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WEEK 23

TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
<p>Map Reading</p> <p>i. Landscapes: description of drainage patterns</p>	<p>Students will</p> <p>i. describe landscapes using drainage patterns</p>	<p>a. Drainage Patterns</p> <p>i. Dendritic</p> <p>ii. Trellis</p> <p>iii. Radial</p> <div style="text-align: center;">  <p style="display: none;">The image contains four 3D block diagrams of drainage patterns. 1. Dendritic: shows a main channel with smaller tributaries joining at various angles. 2. Rectangular: shows a grid-like network of channels. 3. Radial: shows channels flowing outwards from a central point, like a mountain peak. 4. Trellis: shows a network of channels following a regular grid, with labels for 'Fractures', 'Ridge', and 'Valley'.</p> </div> <p>Source: www.geologyin.com</p> <p>Drainage – drainage patterns, density, the direction of flow, the quality of the drainage, shape and size of the channel</p>	<p>Viewing and analyzing videos on drainage patterns.</p> <p>Using Think-Pair-Share, to identify drainage patterns on topographical maps.</p> <p>Describing the drainage pattern identified:</p> <p>Shape and size of channels</p> <p>Quality of drainage.</p> <p>Describing the direction of flow of the drainage system identified.</p>	<p>Wilson, M. The Caribbean Environment for CSEC Geography, 5th Edition, Oxford University Press, 2016. p.329</p> <p>Video: https://www.youtube.com/watch?v=VmjEsUVPfMw https://geoforcxc.com/map-skills/</p>	<p>Make models of drainage patterns.</p> <p>Oral presentations of models to class.</p>

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					WEEK 24
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
Map Reading i. Types of land use	Students will: i. identify types of land use; ii. describe each type of land use.	Types of land use i. Vegetation ii. Agriculture iii. Industry iv. Transport networks v. Settlement form and distribution <i>Refer to the appendix for additional content.</i>	Using the Think-Pair-Share technique to identify land use patterns on maps, using the legend/key. Examining each type of land use. Field trip in the community to take pictures of how the land is utilized.	Wilson, M. The Caribbean Environment for CSEC Geography, 5 th Edition, Oxford University Press, 2016. pp. 314-317	Sketch the map of your community showing areas of the different types of land use. Write a report on the land use.

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					WEEK 25
TOPIC/ SUB-TOPIC	GENERAL OBJECTIVE(IES)	CONTENT	ACTIVITY	RESOURCE	EVALUATION N STRATEGY
<p>Map Reading</p> <p>i. Landscape inter-relationship and patterns:</p> <p>-Vegetation</p> <p>-Agriculture</p>	<p>Students will:</p> <p>i. describe the influence of relief on: drainage, vegetation and agriculture;</p> <p>ii. describe the influence of drainage on vegetation and agriculture</p>	<p>a. Relief: The term relief refers to the variations in elevation and slope of an area of the earth’s surface.</p> <p>Terms such as flat, gently sloping, and mountainous are used to describe relief of the land or area.</p> <p>b. Drainage: This describes the flow of water off the land through defined channels.</p> <p><i>Refer to the appendix for additional content.</i></p>	<p>Examining the distribution of the types of land use: vegetation and agriculture (presence and absence)</p> <p>Relating the relationship between relief and vegetation.</p> <p>Describing the relationship between drainage and vegetation.</p> <p>Describing the relationship between relief and agriculture.</p> <p>Describing the relationship between drainage and agriculture.</p>	<p>London, N. and Wraith, M. Principles of Geography for CXC. Longman Group, UK. pp. 250-252</p> <p>Waugh, D. Geography: An Integrated Approach, Nelson Thornes, 2009. pp. 389-394</p> <p>Videos: https://www.youtube.com/watch?v=Z1BQl7vMo_Q https://geoforcxc.com/map-skills/</p>	<p>Complete practical exercises.</p> <p>Quick notes</p> <p>Write short notes on the topics.</p>

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					WEEK 26
TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
Map Reading Landscape interrelationship and pattern: -Transport Network -Industry	Students will: i. describe the relationship between industry and - Relief - Drainage	<p>a. Forms of communication that may be represented on a map include:</p> <p>b. Relationship between each type of land use and</p> <p>i. Relief ii. Drainage</p> <p><i>Refer to the appendix for additional content.</i></p>	Identifying land use patterns on maps, using the legend/key. Assessing the distribution of the types of land use: industry and transport network (where has, and where doesn't have) Examining the relationship between the relief and industry. Describing the relationship between drainage and industry. Describing the relationship between the relief and transport network - Describing the relationship between drainage and transport network	Wilson, M. The Caribbean Environment for CSEC Geography, 5 th Edition, Oxford University Press, 2016. pp. 314-317 London, N. and Wraith, M. Principles of Geography for CXC. Longman Group, UK. pp. 250-252 Waugh, D. Geography: An Integrated Approach, Nelson Thornes, 2009. pp. 389-394	Evaluate lessons using A-B-C Summaries.

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					WEEK 27
TOPIC	GENERAL OBJECTIVE	CONTENT	ACTIVITY	RESOURCE	EVALUATION STRATEGY
Map Reading Landscape interrelationships and settlement patterns - Settlement form - Settlement distribution	Students will: i. name the types of settlement ii. identify the various settlement patterns iii. describe the relationship between settlement and relief drainage	a. Population centres developed or organized for long-term community in a specific area. Within settlements, some land may be used for b. Types of settlement i. Rural Settlements ii. Urban Settlements c. Settlement Patterns Nucleated settlements Dispersed settlements Isolated Settlements Linear settlements a. Relationship between settlement and drainage b. Relationship between settlement and relief <i>Refer to the appendix for additional content.</i>	Naming the types of settlements. Identifying settlement patterns on maps. Describing the distribution of settlements (presence and absence). Describing the relationship between relief and settlement pattern. Outlining the relationship between drainage and settlement pattern	Wilson, M. The Caribbean Environment for CSEC Geography, 5 th Edition, Oxford University Press, 2016. p. 337 Macpherson, J. Map Reading for the Caribbean New Edition, Longman Group Limited. pp. 32-36 CSEC (CXC) Geography Map Reading Crash Course: Communication Networks & Relief - YouTube https://geoforcxc.com/map-skills/	Construct a model to show how relief and drainage influence settlement patterns. The model must consist of the following: - Area of varying relief - Settlement patterns that correspond with different relief - Rivers and poorly drained areas and the settlement found in such areas.

APPENDICES

Additional Content	
<p>Week 1 - Economic activities in the Caribbean</p>	<p>The term “economic activity” refers to any activity which produces a good or service. People earn a living by engaging in various economic activities. Although people engage in several types of economic activities around the world, these activities can be classified under four major types of industries:</p> <p>Primary Industry: These are industries that take natural resources from the earth. Because of this, they are also called extractive industries. Some natural resources are <i>renewable</i>, which means they can replenish themselves over some time e.g., fish stocks. Some natural resources are <i>non-renewable</i> and cannot easily be replenished e.g., crude oil, natural gas, and bauxite.</p> <p>Secondary Industry: These industries produce processed goods. Many take raw materials from primary industries and make them into products for sale. Examples of secondary industries include clothing manufacture and food processing. Secondary industries are also called manufacturing industries</p> <p>Tertiary Industry: These are industries that provide a service. They include the fire service, healthcare, financial services, and tourism.</p> <p>Quaternary Industry: This type of industry focuses on activities related to information technology, research, and development, etc.</p> <p><u>Importance of Economic Sectors in the Caribbean</u></p> <ol style="list-style-type: none"> 1. The services sector plays an integral role in economic development. Health and education services play an important part in affecting the quality of life and skills of the labour force. Telecommunication services are essential to all businesses. Financial and transportation services play an important role in supporting the traditional manufacturing and agricultural sectors. 2. Trading in services offers significant opportunities both in terms of increased exports and imports, aimed together at enhancing competitiveness, stimulating economic development, and ultimately, improving welfare and reducing poverty. 3. Employment is created across all sectors. All economic activities will generate some form of income in the form of wages, salary, royalty, profit, etc.

<p>Week 2 – The forestry industry in Guyana</p>	<p>Forestry in Guyana</p> <p>Since 2011, the forestry sector has accounted for less than 3% of GDP. However, forestry is an important sector in Guyana as it employs many people, especially in the interior. Also, timber is an important export. The forestry sector accounts for only a small percentage of the GDP in Guyana.</p> <p>Raw Materials:</p> <p>About 85% of Guyana’s land area is covered by forests. Guyana’s forests are rich in biodiversity and contain over a thousand different species of tree. Some of these trees, such as greenheart, wamara, purpleheart, and mora, are harvested commercially. Timber is harvested using well-planned reduced-impact Logging Practices: Trees are carefully selected before cutting and only a small percentage of trees is harvested from any particular area to conserve the forest. Trees are cut down in a manner that causes minimal damage to nearby trees.</p> <p>Energy:</p> <p>Machines for felling the trees and the transport of logs to Georgetown overland and along waterways use fossil fuels.</p> <p>Transport:</p> <p>After trees are cut down, they are dragged to roads and loaded onto trucks for transport. Some of these roads were built by logging companies. There are several different modes of transporting timber and timber products to the main port of export in Georgetown. The two main modes are waterways and roads. However, the underdevelopment of the road infrastructure in rural areas has caused timber exporters to rely on less expensive modes of transport including water transport.</p> <p>Market:</p> <p>Much of Guyana’s timber is exported to places such as China, the UK, the USA, and other Caribbean countries. Georgetown is the main export port. Timber exports from Guyana were valued at US\$26.5 million in 2021.</p> <p>Labour:</p> <p>Jobs are provided mainly for rural Guyanese and Amerindian communities.</p>
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Capital:

Loggers can access loans from the Institute for Private Enterprise Development (IPED) and commercial banks at low-interest rates.

Role of Government:

Logging operations in Guyana are highly regulated. The vast majority of Guyana's forests are classified as state forests and are administered and managed by the Guyana Forestry Commission (GFC), a government agency. Before timber is harvested, a concession must be obtained from the GFC.

A concession outlines the area where timber is to be harvested over a specified period.

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<p>Week 3 - The bauxite industry in Guyana</p>	<p>Bauxite Industry in Guyana</p> <p>Raw Materials: Guyana’s most important mineral resources are the extensive bauxite deposits between the Demerara and Berbice Rivers. Currently, the Bauxite Company of Guyana (BCGI) and Bosai Bauxite Company are the two bauxite companies in the industry today.</p> <p>Energy: The power generation plant, machinery, and equipment are powered by fossil fuels kept in a fuel storage area.</p> <p>Mining: Bauxite is generally extracted by open-cast mining.</p> <ul style="list-style-type: none">- Before mining can commence the land needs to be cleared of vegetation by bulldozers- The layer under the topsoil is known as the “overburden which comprises mainly sand, sandy clay, and clay. CAT shovels, eighteen cubic meters hydraulic front, and CAT 992C loaders strip the overburden to expose the bauxite ore.- The bauxite layer beneath the overburden is broken up using methods such as blasting, drilling, and ripping with very large bulldozers. Hydraulic backhoes then load the bauxite ore onto Caterpillar 85-ton haul trucks to be transported to the stockpile. <p>Transport to the Factory: At the stockpile, the ore is loaded onto trucks, railroad cars, or conveyors and transported to crushing and washing plants at Linden.</p> <p>Products: The Bauxite Factory produces alumina (aluminium oxide), which is used to create aluminium metal. Bauxite is also used to manufacture other industrial products, such as abrasives, cement, and chemicals.</p> <p>Markets: Refractory “A” Grade Super Calcined Bauxite (RASC), Screened Chemical Grade Bauxite (SCGB), Cement Grade Bauxite (CGB), Abrasive Grade Bauxite (AGB), and Bauxite Dust are exported to the USA, UK, Australia, Canada, Germany and other countries in Europe.</p> <p>Role of Government: This includes:</p> <ul style="list-style-type: none">• Encouraging foreign direct investment and ownership of existing mines• Encourage value-added production.• Address the environmental and natural hazard threats posed by previous and ongoing bauxite mining.
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| | <ul style="list-style-type: none">• Ensure that existing mines remain open in the face of challenges such as market volatility, internal labour disputes, and, more recently, aggressive US international trade policy.• Minimize or avoid the social and economic fallout caused by any closure or contraction of bauxite operations in Linden, Kwakwani and elsewhere. |
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**Week 4 –
Food processing
within CARICOM
and Singapore**

Food processing in CARICOM

Examples of food processing include making juices and jams from raw fruit, making flour from wheat, making sugar from sugarcane, and smoking fish or meat to preserve it.

Importance: Food processing is an important economic activity in many CARICOM member states.

1. It employs many people.
2. It helps these countries reduce the number of food products that they import.
3. It provides a market for many local products from the agricultural and fishing industries.

Raw Materials: Many food processing operations are located in or near areas where the food is produced. For instance, sugar factories are often located near sugarcane fields. This is because agricultural products are often bulkier and more perishable than finished products.

In many cases, raw materials are imported to be processed. In these cases, the food processing operations are often located near ports. This makes it convenient to receive imported raw materials and export the finished products. Examples include flour mills in St. Vincent, Trinidad, Jamaica, and Barbados. These mills import wheat from outside the region and process it into flour for the local and regional markets.

Pine Hill Dairy – A Food Processing Company: Barbados Dairy Industries, which trades as Pine Hill Dairy was registered as a Limited Liability Company in 1964.

- Pine Hill Dairy is located in Bridgetown, a few kilometres from the port.
- It produces products such as whole milk, low-fat milk, skimmed milk, evaporated milk, and condensed milk. It also produces flavoured milk products such as chocolate milk, vanilla milk, cookies and cream milk, and fruit juices such as orange, Bajan cherry, passion fruit, apple, and fruit punch.
- Some of its raw materials are local. For instance, some of the milk it uses is supplied by local dairy farmers. However, it has to import most of the raw materials for its operations.
- Pine Hill Dairy Products are not only sold in Barbados. Its main markets are other Caribbean countries such as Guyana, Trinidad, St. Lucia, and Antigua.

The company also exports products to the USA and Canada.

	<p>Challenges: Some food processing operations are affected by:</p> <ul style="list-style-type: none"> - Variations in the availability of raw materials. For instance, some fruits are seasonal. - Extreme weather events such as hurricanes may damage or destroy local crops. This often results in the need to import raw materials to sustain production. - Having few employees as their operations are small Therefore their output is limited. <p>Being unable to experience the benefits of large-scale production.</p> <p>Food Processing in Singapore</p> <p>Singapore is in Southeast Asia, just south of the Malay Peninsula. It has one of the largest and busiest ports in Southeast Asia.</p> <ol style="list-style-type: none"> 1. There are approximately 1,000 food manufacturers in Singapore. Many of them are in industrial estates that are scattered all over the country. 2. Food processing establishments include bakeries, confectionery manufacturers, beverage manufacturers, meat and fish processing facilities, noodle and pasta manufacturers, and surimi-based product factories. 3. The food processing industry in Singapore employs over 48,000 people and creates annual revenue of over 3 billion US dollars. However, wages are relatively low compared to other manufacturing industries in Singapore. 4. The Singapore Food Agency regulates all food processing and storage facilities in the country. 5. Most of the raw materials used in the food processing industry are imported in a raw or semi-processed state. 6. Though some companies are quite large, most food processing operations in Singapore are small to medium-sized enterprises and employ only a few people. 7. Some food processing companies in Singapore include: <p>Liang Yi Food Industries PTE Ltd specializes in making vegetarian food products such as vegetarian dumplings and various meat alternatives. The company distributes products locally and to overseas markets.</p> <p>Chop Hup Chong Food Industries PTE Ltd. produces meat products such as barbeque meat products and meat floss products.</p> <p>CKT Foods PTE Ltd. produces a variety of seasonings and condiments. Its products include soy sauce, sweet sauce, vinegar, and sweet flour sauce.</p>
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Trends in the Singapore Food Processing Industry

Singapore’s Food Manufacturing Industry Transformation Map seeks to help businesses innovate to meet changes in consumer tastes and upgrade to take advantage of improvements in technology including the following:

1. The Food Innovation Resource Centre helps food companies develop new products and processes.
2. The Singapore Food Manufacturers Association conducts product development workshops.
3. Singapore seeks to upgrade the workforce by providing opportunities for education and training in fields such as food science, quality assurance, and operating new systems
4. The Automation Support Package helps food manufacturing companies incorporate automation and robotics solutions into their operations.
5. The online shop, Tasty Singapore, was launched on China’s top e-commerce platforms. It lists over 130 of Singapore’s food products offered by over 25 companies.
6. Many consumers are becoming more conscious of nutrition and environmental issues. There is a shift towards the production of healthier and environmentally friendly food products in Singapore. Companies are creating healthier products, using biodegradable packaging, and sourcing raw materials more ethically.

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<p>Week – 5 Tourism in the Caribbean</p>	<p>Tourism is the commercial organization and operation of vacations and visits to places of interest. The World Tourism Organisation defines tourists as “people travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes”.</p> <p><u>Tourism in the Caribbean</u></p> <ul style="list-style-type: none">- Most of these tourists come from the U.S.A., Canada, and Europe, our main markets.- Tourists come to the Caribbean islands mainly via aircraft and stay mainly at hotels or guest houses.- Cruise passengers remain aboard cruise ships and disembark at the various ports on the islands mainly to go sightseeing and shopping. Cruise passengers are less valuable in a sense to the various Caribbean territories as they do not spend money on accommodation in the islands they visit. <p><u>Why do tourists visit the Caribbean?</u></p> <p><i>Geographical location:</i></p> <ul style="list-style-type: none">- The Caribbean region is located in the tropics, near enough to the equator to experience high temperatures year-round. Many tourists come to the region from temperate regions to escape the cold during the northern hemisphere winter.- The Caribbean region is closer to North America and Europe than most other tropical locations. This makes the region the easiest choice for many when planning a tropical vacation. <p><i>Natural features:</i></p> <p>The Caribbean is blessed with many beautiful natural features which attract visitors. Many territories have beautiful beaches, clear calm waters, stunning coral reefs lush rainforests, and waterfalls. Some territories have unique features, such as the Pitons in St. Lucia and Harrison’s Cave in Barbados.</p> <p><i>Culture:</i> The Caribbean has a unique and diverse culture. Our speech, food, music, and dance are all uniquely Caribbean. Many visitors come to the region hoping to have this unique Caribbean cultural experience.</p> <p>Social and Economic Stability:</p>
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The Caribbean is a region that has experienced very little social or economic upheaval (such as riots or civil war) in recent decades. Many tourists feel safe travelling to this region because it is quite stable in this regard.

Adequate infrastructure:

Caribbean islands are developed enough to have adequate infrastructure in place. Most territories have international airports which can accommodate large aircraft and seaports which can accommodate large cruise ships. Most territories have well-developed telecommunications services and a reliable supply of electricity and water.

Benefits of Tourism to the Caribbean

Economic Benefits

- **Employment:** Tourism creates employment for many people throughout the Caribbean. Many people are employed at hotels in many different jobs requiring varying levels of qualification and skill. Some jobs require unskilled or semi-skilled labour, such as housekeeping. Others require a high level of skill or qualification. Tourism also creates employment outside of hotels. Tour operators and taxi drivers, for instance, would find it very hard to make a living if there were no tourists.

- **Linkages:** Many individuals and small businesses benefit from tourism by providing goods and services to hotels and tourists. Bars, restaurant owners, craft vendors, and car rental companies all benefit when they are patronized by tourists. Many hotels purchase local produce such as fruits, vegetables, and eggs from local farmers. Hotels also purchase fresh fish and other seafood from local fishermen.

- **Foreign exchange:** Tourism is a major source of foreign exchange for many Caribbean countries. Foreign exchange can be used to purchase goods and services from overseas.

- **Infrastructure:** Tourism helps to pay for facilities that benefit local people such as airports, sports facilities and roads to areas where hotels will be built.

- **Government revenue:** Departure tax and other charges help increase government revenue and help pay for government services.

Social Benefits

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- **Cultural exchange:** Visitors and locals interact with each other and share aspects of their culture. Through this cultural exchange, we get to learn about the cultures of visitors from other countries and they get to learn about ours.
 - **Community identity:** Tourism is a good way of generating a positive community identity and pride. Also, tourism encourages communities to maintain traditions, especially those which can be put on display for tourists.
- Disadvantages of tourism to the Caribbean**
- **Destruction of habitat:** Often coastal forests, mangroves, or wetlands are destroyed to build hotels. This poses a serious threat to the wildlife that depends on these areas for survival.
 - **Tourists may damage the environment they come to enjoy:** Tourists sometimes engage in practices that damage our natural environment. For instance, they may break off bits of coral or engage in the practice of walking on the coral reefs.
 - **Pollution:** Irresponsible disposal of solid waste and sewage by cruise ships and hotels pollutes the environment. Cruise ships and hotels often take advantage of the fact that Caribbean islands do not have adequate laws to protect their environment or the means to enforce such laws when they exist.
 - **Increase in the price of land:** The increase in the demand for land to build hotels often causes the price of land, especially near the coast, to increase. This makes it more difficult for locals to buy land.
 - **Neglect of other industries:** Industries such as agriculture and fishing may be neglected if they offer lower earnings than tourism.
 - **Loss of beach access:** Locals may be denied access to certain beaches.

<p>Week 6 - Agriculture in the Caribbean</p>	<p><u>Factors influencing the development of agriculture in the Caribbean</u></p> <p>Agriculture refers to the growing of crops and rearing of animals. Throughout much of the Caribbean’s history, agriculture has been an important economic activity. Agriculture remains important today for many reasons:</p> <ul style="list-style-type: none"> • It provides employment. In many Caribbean countries, agriculture employs about 10 to 25 per cent of the working population. • Many Caribbean countries import more agricultural products than they export. Producing food locally reduces the need to import food from other countries. • It provides fresh food. • It provides raw materials for many manufacturing industries such as food processing. • Many of the region’s major exports are agricultural products. Various Caribbean countries export crops like bananas, cocoa and rice to other countries within or outside of the Caribbean. <p><u>Places in the Caribbean where commercial farming (large-scale and small-scale) is important.</u></p> <p>Guyana: sugar cane, rice, coconuts Jamaica: sugar cane and coffee, bananas Grenada: bananas, spices Dominica: bananas</p>
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A Comparison of Farming in Jamaica

	Commercial arable	Small-scale farming
Location	Kew Park Farm, about 10 km south of Montpelier	Farms close to Windsor in Cockpit Country
Farm size	385 hectares (ha)	Small, mostly less than 1 ha. Land is very fragmented. Farmers often have to cycle between plots of land.
Labour	40 full-time workers and up to 100 part-timers during coffee harvesting. Some live on site, others travel from nearby villages. Wages are low.	Family labour only. Most farmers are older (60 per cent over 50).
Crops/livestock	Mostly commercial beef cattle ranching (700 animals). Also 16 ha coffee, 2 ha citrus fruit, 2 ha lychees, over 2,500 pigs and 2,000 free-range chickens.	Some sugar cane is produced as a cash crop, otherwise a variety of arable food crops (e.g. yams, maize, sweet potatoes and cabbage), tree crops (breadfruit, avocado and coconuts) and livestock (goats and cattle) are produced.
Markets	All produce is sold. Coffee is partly processed on site then sent to Kingston to be graded, roasted and packed. Fruit and eggs are sold locally. Pigs are sold to local processor, Grace Food Processors.	Sugar cane is processed at the Long Pond factory. Excess food is sold at local markets.

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Sugar cultivation in Guyana and Brazil	Guyana	Brazil
	<p><i>Acreage</i> Sugar is grown on 470 square kilometres of land, with plantations exceeding 100 hectares. Some sugarcane is also grown by independent farmers. It is grown mainly along Guyana's Low Coastal Plain.</p> <p><i>Farming Practices</i></p> <ul style="list-style-type: none"> - Before sugarcane is planted, the fields may be flooded for months. This kills weeds and also deposits minerals and nutrients in the soil. It also helps to control pests. This lessens the need for weedicides, pesticides, and fertilizers. Parasites such as the Amazon fly are used to control pests. - The planting of sugarcane is usually done by hand. Cane is usually planted in beds to aid drainage and this makes the use of machinery difficult. In some cases, the soil is too soft for heavy machinery to operate. Heavy machinery is used in only a few places. - Many canals cross the sugarcane fields. Almost one-eighth of the area of the average sugarcane field is taken up by canals. This elaborate system of canals is used for irrigation. These canals are also used for transporting the canes to the factories. Sugarcane is transported in small flat-bottomed boats (known as punts) from the fields to the factories. <p>Sugarcane is usually harvested manually. After the cane is harvested, the roots are sometimes left in the ground to produce new plants. This is known as ratooning. This is done up to four times. Then the fields are ploughed and replanted.</p>	<p>Approximately 10 million hectares of land are used for sugarcane cultivation in Brazil.</p> <ul style="list-style-type: none"> -About 90% of the sugarcane crop is grown in the southcentral region, in states such as Sao Paulo, Goias, and Minas Gerais. -A significant percentage of sugarcane is also grown in the northeast, in states such as Pernambuco and Paraiba. <p>Sugarcane is grown on flat land and heavy machinery is used in sugar cultivation, especially in the state of Sao Paulo. Machines are used to prepare the land for planting. In some areas, planting is done by machine.</p>

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		<p><i>Labour</i> Most of Guyana’s population lives on the narrow coastal plain, providing the sugar estates with an adequate supply of unskilled as well as skilled labour. Much of the work involved in sugarcane cultivation is done by hand. This includes planting and harvesting. Therefore, sugarcane cultivation in Guyana can be described as labour-intensive.</p>	<p>In 2015, the sugarcane industry employed over a million people. Workers in the cane fields earn low wages. By 2020, the number of workers had dropped to 712,000. Sugarcane growers are encouraged to use machinery to harvest as this does not require the burning of the fields. Today, about 99% of sugarcane in the south-central region is harvested by machine. Many farm workers have been retrained to operate farm machinery. This allows them to earn much higher wages than they did previously as farm workers.</p>	
		<p><i>Technology</i> There are high inputs of capital, machinery, technology, fertilizers, weedicides, and pesticides. Chemical fertilizers are used to replenish depleted nutrients, but in large quantities can still damage the soil.</p>	<p><u>Mechanization:</u> There has been an increase in the use of machinery for harvesting. In some places, sugarcane was harvested by hand and fields were burnt before harvesting. This would burn away the sugarcane leaves and make it easier for workers to cut the sugarcane. However, the Brazilian government wants to put an end to the practice of burning the fields because of its negative impact on the environment and health</p> <p><u>Ethanol Production</u> About half the sugarcane grown in Brazil is used to produce sugar. The other half is used to produce ethanol, a biofuel that can be used in motor vehicles. The government of Brazil began to encourage and support the production of ethanol because of the high price of oil in the 1970s. It provided subsidies, loans to ethanol distillers, and tax breaks for the purchase of ethanol-fuelled vehicles. It also required gas stations to provide ethanol and vehicles to use it. In 1977,</p>	

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	<p><i>Markets</i> Most of the sugar produced in Guyana is exported to the European Union. Some are exported to the United States. Some are sold to other CARICOM member states including Suriname, Dominica, Antigua, St. Lucia, Grenada, and Jamaica. These markets pay more than the world price, allowing the sugar industry to remain profitable. After supplying these markets, any remaining sugar is sold on the world market</p>	<p>vehicles were required to use at least 4.5% ethanol in their tanks. As of 2018, they are required to use at least 27.5%. Today, Brazil is the second largest producer of ethanol in the world.</p> <p>Unlike gasoline, ethanol is a renewable fuel. Also, the use of ethanol in vehicles reduces greenhouse gas emissions. The vast majority of vehicles in Brazil are flex-fuel vehicles that are capable of running on a mixture of gasoline and ethanol or pure ethanol.</p> <p><u>Other Technology</u></p> <p>Technological progress is enabled by new varieties, fertilizers, chemicals, mechanization, and different cropping practices.</p> <p>Plant biologists are developing a biotech sugarcane crop with built-in resistance to the sugarcane borer so the crop is protected throughout the whole season.</p> <p>Brazil is the largest exporter of raw sugar in the world. The main destinations are China, Algeria, Nigeria, Bangladesh, Saudi Arabia, Iran, Nigeria, and Canada.</p>
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Changes in commercial farming in the Caribbean impact their economic development.

Government policies:

- Increased mechanization is replacing manual labour.
- A decline in the contribution of Agriculture to GDP owing to the expansion of the service sector, particularly retailing, and tourism.
- There has been clearance of land for agriculture in Cuba, Dominica, and Haiti, whereas there has been a significant decline in Grenada, St. Kitts and Nevis, and Puerto Rico because of the development of Tourism and the growth of the built-up area.
- Encouragement of women to receive training in agricultural projects.
- Developing new markets for existing agricultural products e.g., using sugar cane as a source of fuel.
- Introducing new crops on sugar plantations.

Biofuel: These are increasing demands globally as a means to reduce the demand for fossil fuels. This will encourage sugar cane production in the Caribbean and Brazil. Brazil’s economy now relies heavily on sugar-based biofuels for its energy needs. The Caribbean can benefit from a similar venture.

Value-added products: Governments continue to support small-scale food production at the cottage industry level as this will support local farmers and both local and tourist markets can be served.

Technology: Technological progress has been made in the development of new varieties of seed, fertilizers, chemicals, mechanization, and different cropping practices aimed at cost-effectively improving yields.

Shade Houses: Flat and gently sloping land for agriculture is limited in the Caribbean so people are forced to use steeper slopes. This limits the use of machinery. Shade houses can be used as they are relatively easy to construct, protecting plants from the direct heat from the sun and reducing water consumption yet increasing production and income.

New markets: Changes in European Union (EU) policies have limited the potential of the Caribbean exporting to Europe. Caribbean producers need to search for new markets within the region and in North America. This will reduce transportation costs and demand for products will increase due to the large market.

Impact of Agricultural Development in the Caribbean

Cost and availability of traditional products: Every household should have adequate food of adequate nutritional value available. This can happen by ensuring:

- growth in output and productivity, to meet the growing demands of the local market;
- sustainability, to maintain adequate levels of production in the future;
- stability, to reduce the adverse effects of shortages or high costs of certain imported food items.

Income: Farmers need to be assured of a steady income from their produce. Their products can quickly saturate small markets and receive low prices because of the market gluts and there is also competition from cheaper imports. To maximize sustainability and increase their income, farmers must diversify their markets by supplying a range of goods. Governments must ensure that farming remains a viable occupation that is competitive with other occupations. This can only be achieved by regulating the price of produce and minimizing the competition with foreign alternatives.

Government revenue: This can increase if there is less dependence on a limited range of exports. Goods exported must be carefully chosen specially to cater to niche markets. A diversified agricultural sector will lead to better utilization of a country's resources.

Job opportunities: The growth of agriculture into agro-businesses will create linkages (such as packaging, preserving, and processing), ancillary services, and facilities. The new infrastructure will be brought into being. Jobs in transportation and distribution, the sale and maintenance of equipment, and the sale of tools will increase. This is bound to lead to the growth and modernization of the rural economy and a bigger demand for labour of all levels and skills - both on-farm and off-farm.

Diversification: Diversification of agricultural exports can improve by:

- Inter-planting of crops with different growing periods.
- Bringing into the production of land which previously remained uncultivated because of unsuitability for the production of traditional crops - due to soil type, rainfall, the incidence of pests and diseases, and/or topography.
- Increasing productivity in the traditional crops will facilitate the reduction of the amount of land under traditional crops.

- The introduction of crops more suitable for marginal lands can be implemented. For example, tree crops can be grown on steep slopes would result in an increase in agricultural output production and also reduce soil erosion problems.

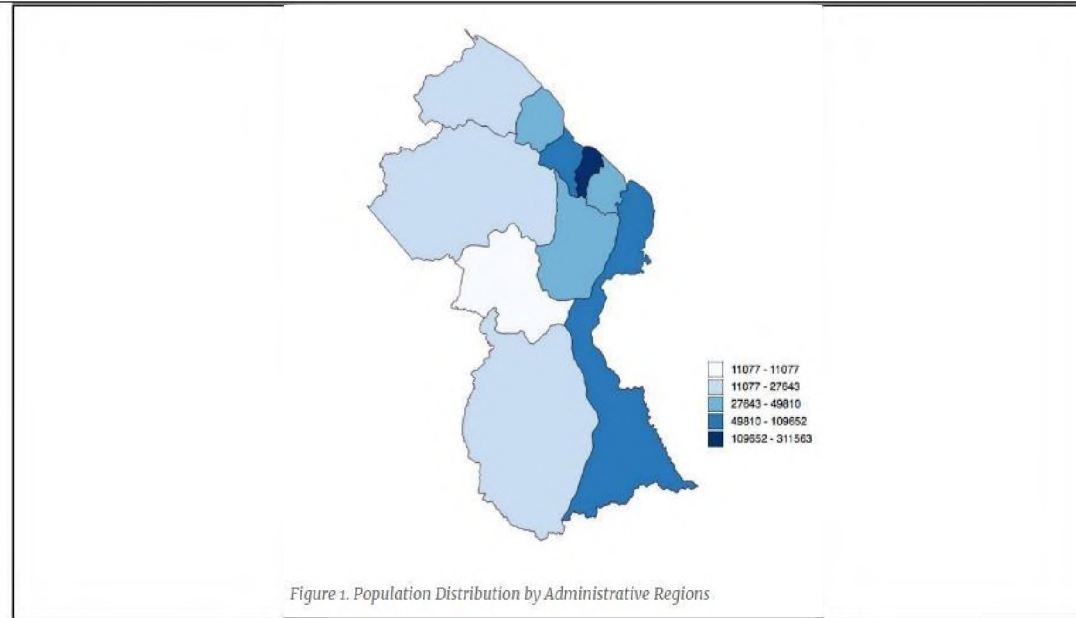
Population distribution and density

Population density is defined as the number of people per km², the relationship between people and the space they occupy, whereas **population distribution** describes the location of individuals in an area.

Choropleth Maps

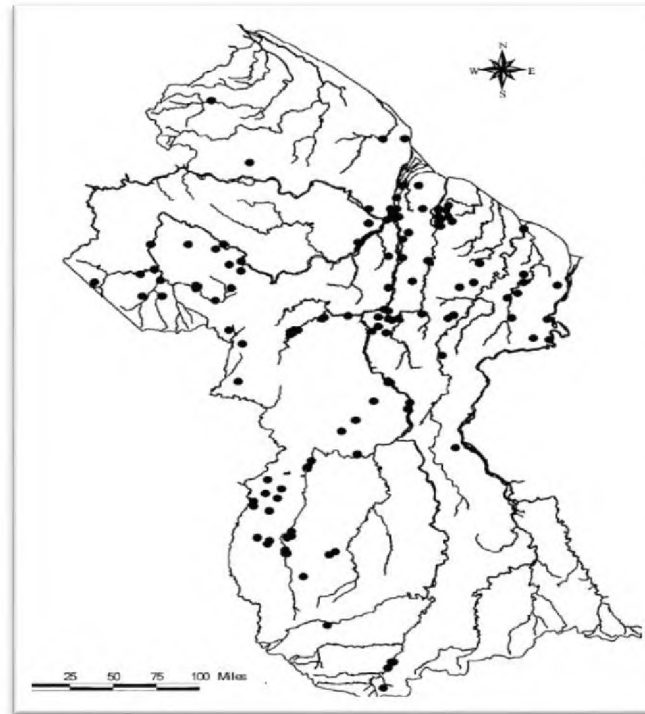
A choropleth map can be used to represent population data. A choropleth map uses colours or shading to represent population data. Choropleth maps are divided into administrative units; such as districts or parishes. The population density for each administrative unit is calculated. Then each administrative unit is coloured or shaded according to its population density. Choropleth maps are useful for showing differences in the population densities of different administrative units. However, they do not show the variations in population density that exist within these administrative units.

Choropleth Map: Distribution of Guyana’s Population



Dot Maps: A dot map gives a good idea of how the population is distributed in an area. Dot maps are also easy to read.

Dot maps can also be used to represent population. On a dot map, each dot represents the number of people who live in an area. There are more dots in densely populated areas and fewer dots are placed according to population density.



Dot Map: Distribution of Guyana's Population

Factors Influencing Population Distribution:

- Historical: Most Caribbean capital cities were established on sites that were suitable for trade with sailing ships during the colonial period. These cities have attracted a high population in the past and have remained densely populated.
- Cultural: Cultural preferences may vary: Amerindians in Guyana and Suriname continue to live in small, isolated villages, while people who live in cities live in densely packed apartments.
- Physical: e.g., mountainous areas and swamps usually have low population densities.
- Socio-economic factors: e.g., prosperous areas with many jobs attract migrants and often have high population densities.

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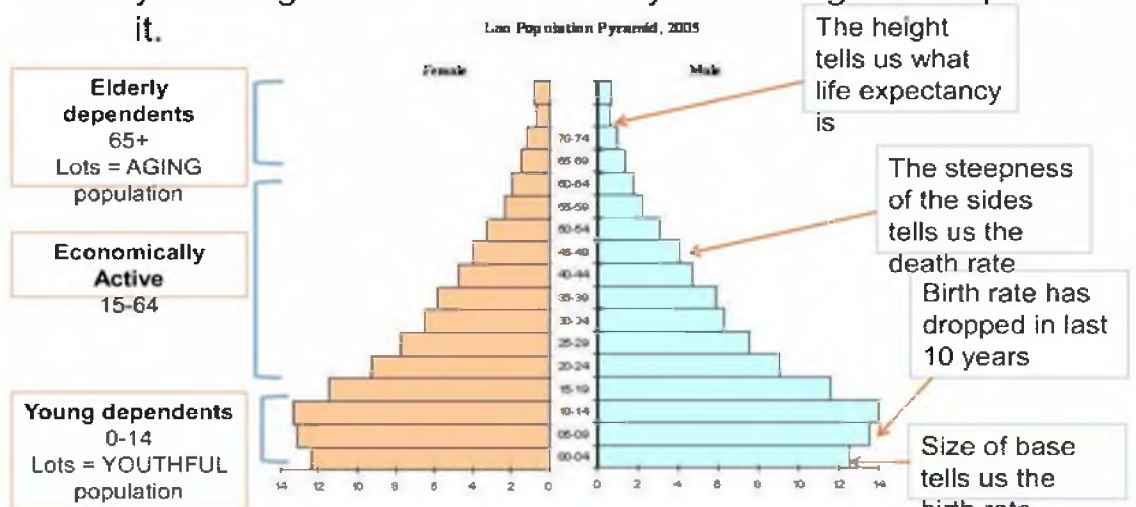
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Week 11 – Population structure	Factors influencing population growth in the Caribbean and Nigeria	
	Caribbean	Nigeria
	<p>Birth Rates The birth rate is approximately 26 births per 1000 people. This has decreased for the same reasons which impacted fertility rates.</p>	<p>Birth rates are higher than in the Caribbean at approximately 36 births per 1000 people,</p>
	<p>Death Rate Death rates have remained roughly stable despite improvements in medical care due to the increasing proportion of elderly people in the Caribbean.</p>	<p>Almost half of the population of Nigeria is aged under 15. Only 3% are aged over 65. The infant mortality rate has been reduced with improved health care for mothers and their babies, but it is still much higher than in the Caribbean.</p>
	<p>Natural Increase The natural increase was 1.8% annually for the region. Nearly half of the regional population was under 15 or over 65 years old. Birth rates are high due to improvements in healthcare have led to significant reductions in infant mortality rates throughout the region.</p>	<p>The population is increasing by more than 2.7% every year. There are an additional 4.8 million people to feed and house.</p>
	<p>Migration There is a significant flow of emigrants from the region. Many people choose to migrate to countries such as the USA, Canada, and the UK. The flow of immigrants into the region is significantly smaller. The Caribbean can be described as a region of net emigration.</p>	<p>Many Nigerians migrate to Europe and North America, and few come to the Caribbean. People from less prosperous neighbouring countries migrate to Nigeria. The number of migrants remains low when compared to the total population. The net outward migration rate of 4 per 1000 people is low.</p>

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	<p>Fertility Rates Generally, fertility rates have dropped significantly in the region. Various forms of contraceptives are easily available. Also, a greater proportion of women have entered the workforce and more women are pursuing higher education. Thus, many women are choosing to have children later in life and also have fewer children.</p>	<p>The fertility rate is higher than in the Caribbean.</p>
	<p>Life Expectancy Improvements in healthcare have caused life expectancy throughout the region to increase. However, the increase in life expectancy has been relatively slow compared to many other parts of the world.</p>	<p>Life expectancy has improved but it remains lower than in the Caribbean</p>
	<h2 style="color: #C85130;">Basic Interpretation of an Age-Sex Pyramid</h2> <p>□ A population or age-sex pyramid can tell us a lot and you can gain this information by examining the shape of it.</p>  <p>Elderly dependents 65+ Lots = AGING population</p> <p>Economically Active 15-64</p> <p>Young dependents 0-14 Lots = YOUTHFUL population</p> <p>The height tells us what life expectancy is</p> <p>The steepness of the sides tells us the death rate</p> <p>Birth rate has dropped in last 10 years</p> <p>Size of base tells us the birth rate</p>	<p>Source: www.slideshare.net/mrbgeography/interpreting-population-pyramids</p>

<p>Week 16 - Map Reading Conventional signs Grid references</p>	<p>Conventional (map) symbols: Objects on a map are represented using a variety of symbols. There are point symbols that represent such things as buildings and trig stations. Line symbols are used to represent things like roads, railways, and rivers. Area symbols are used to represent such things as vegetation, cultivation, and the sea. The meaning of these symbols is contained in the legend/key.</p> <p>Four and six-figure grid references</p> <p>Grid references are useful for helping a map user to find specific locations. On many maps, one can see several vertical and horizontal lines. These lines crisscross each other to form a neat pattern of squares known as a grid.</p> <p>The vertical lines, which run from north to south are known as eastings. The horizontal lines, which run from east to west are known as northings. It is important to note that the easting must always be stated first, followed by the northing. Simply put, the vertical line comes before the horizontal line, like when you write a capital “L”.</p>
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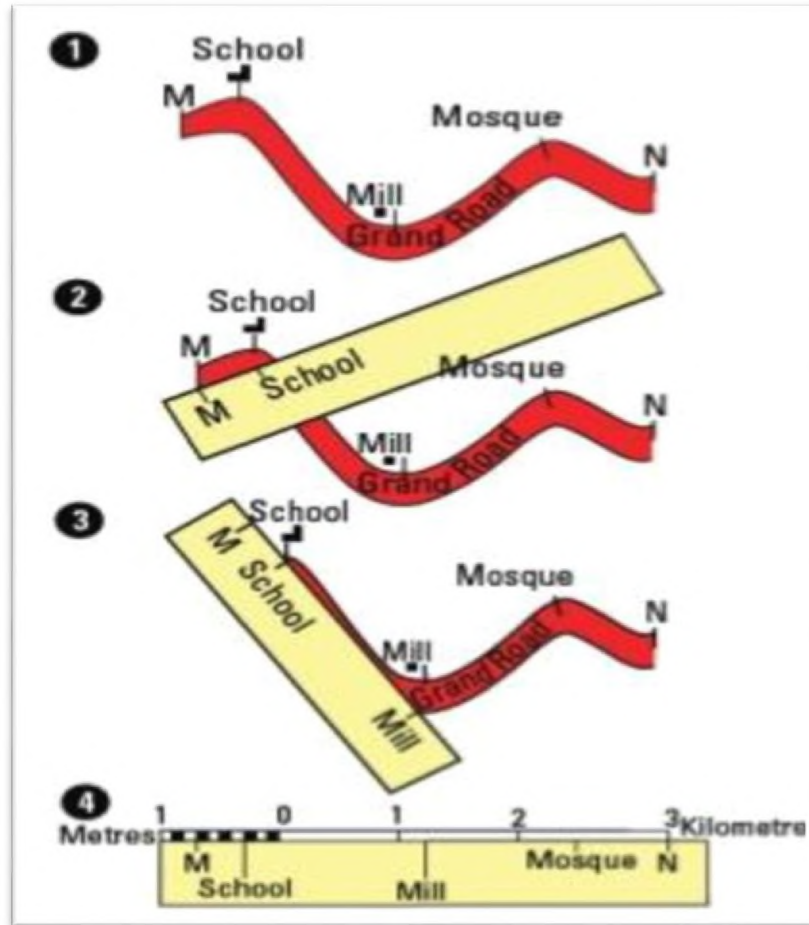
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Week 18 – Scales and directions	<p>Map scale refers to the relationship (or ratio) between the distance on a map and the corresponding distance on the ground. For example, on a 1:100000 scale map, 1cm on the map equals 100,000 cm or 1km on the ground.</p> <p>Types of Scales</p> <p>Ratio: e.g., 1:25 000 or 1:50 000. This means that one unit of length on the map represents 50,000 such units on the ground. Thus, 1cm represents 50 000cm.</p> <p>Statement: These are used to back up the scales expressed as Ratios. For example,</p> <ul style="list-style-type: none">- On 1:50 000 maps, the statement reads, “2cm to 1km”- On 1:25 000 maps, the statement reads, “4cm to 1km” <p>Note: 100 000cm = 1km</p> <p>Linear: This is a line marked in units that this length represents on the ground. Linear scales enable measurements to be taken in Km, yards, or miles. Note that in each case only the divisions to the left of zero are sub-divided.</p>
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Using the Linear Scale to Measure Curved Distances on a Map



Source: www. Google.com

<p>Week 19 – Reducing and enlarging sections of a map</p>	<p>Reducing a map or section of a map</p> <p>The process of reducing the size of a map or a section of a map is the same as the process of enlarging it except for one thing. If you are going to reduce the size of a map, you are going to need to draw a grid which is smaller than the grid on the original map.</p> <p>Enlarging a map:</p> <p>Step 1: Draw a grid over the map or the section of the map you want to enlarge. The map you are dealing with may already have a grid. The eastings and northings on a map form a grid.</p> <p>Step 2: Draw a larger grid on a piece of paper. The exact size of this larger grid depends on how much larger you want to draw your map. If you make your grid squares twice as long and twice as wide as the grid squares on the original map, then your enlarged drawing will be twice as long and twice as wide as the original map. Include the numbers of the eastings and northings if they are present on your map.</p> <p>Step 3: Carefully draw the features that you need onto your grid. Make sure your features are in the correct grid squares. Ensure that each feature is placed in the correct position within the grid square. These features may include the coastline, contour lines, roads, rivers, areas of cultivation, particular buildings, and so on.</p> <p>Step 4: Include a north arrow and a key. Only include relevant symbols in your key. For instance, if you are not required to draw contour lines on your map, there is no need to include a symbol for contour lines in your key.</p>
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<p>Week 20 – Cross-section</p>	<p>Definition of cross-section</p> <p>"A cross-section provides a side view, or profile, of a landscape.</p> <p>How to draw a cross-section:</p> <ol style="list-style-type: none"> 1. Locate two points on a map between which the cross-section is to be made. Label these points A and B 2. Place a straight edge of paper from point A to point B and join the dots. Also, you need to mark points A and B on your piece of paper. 3. On your paper, mark the position where your paper crosses each contour line. Write the value of each contour line on your piece of paper 4. On graph paper, draw the horizontal and vertical axes from your cross-section. The length of the horizontal axis should be as wide as the distance between points A and B. Your vertical axis need to use a scale that will not exaggerate the height of the cross-section. 5. Place your piece of paper along the horizontal axis. Plot (dot) the contour points and heights as if you were drawing a line graph. 6. Join the dots with a single smooth, curved line. 7. Label any features intersected by your cross-section (i.e., river, major roads, etc.) 8. Finish off your cross-section by: <ul style="list-style-type: none"> • Shading in the area below the line • Labelling the scale on the horizontal and vertical axes. Give your cross-section a title.
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<p>Week 24 – Types of land use</p>	<p>Types of land use</p> <ol style="list-style-type: none">i. Vegetation: There may be natural vegetation in the area you are analyzing. There may be areas with scrub, woodland, forest, mangrove, or some other form of natural vegetation. Your key will be very useful in helping you describe the natural vegetation of an area. Each type of natural vegetation has a distinct symbol in your key.ii. Agriculture: There may be areas where people grow crops. This can range from small-scale mixed or scattered cultivation to large-scale commercial agriculture. The key will be very useful in helping you to describe the types of cultivation in an area. Some crops such as sugarcane or rice may be represented by distinct symbols as well.iii. Industry: The key helps in the identification of mining activity, especially quarries. Map evidence which may suggest the presence of secondary industrial activity will include: Large buildings in groups; Factories in rural areas; Place names such as “Factory”; Gas and oil tanks Oil refineryiv. Transport networks: In its broadest sense, communication refers to how people or things are taken from one place to another. Forms of communication which may be represented on a map include:<ol style="list-style-type: none">v. Roads e.g., major roads, minor roads, footpaths, and tracks. There are also railroads.vi. Airports and seaports: These also facilitate the movement of people and things from one place to another. <p>Settlement: The presence of buildings indicates that the area is used for human settlement. Within settlements, some land may be used for commercial activity or to provide services such as education and healthcare.</p>
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<p>Week 25 – Landscape and interrelationship and pattern</p>	<p><u>The influence of relief on the following:</u></p> <p>Relief: The term relief refers to the variations in elevation and slope of an area of the earth’s surface. When we say that an area is flat, gently sloping, or mountainous, we are speaking about the relief of the area. Relief is a major influence in many aspects of our lives including the climate and where we choose to live.</p> <p>a) Drainage: Relief affects the way water flows. On steep slopes water flows quickly, cutting downwards and creating steep-sided V-shaped valleys. In areas with a gentle slope, rivers flow slowly and meanders are common. There is more lateral erosion and valleys are wider. In areas that are flat or nearly flat, there may be swampy or marshy areas where water collects. b) Vegetation and cultivation</p> <p>Very steep slopes are difficult to settle or cultivate. Therefore, natural vegetation is usually allowed to thrive on these slopes. Sometimes there are areas of small-scale cultivation on steep slopes.</p> <p>Often, in gently sloping or flat areas, the natural vegetation has been cleared away so the land can be used for other purposes. There may be some large-scale commercial agriculture in these areas. c) Settlement</p> <p>It is easier to build in flat or gently sloping areas. Major settlements such as towns and cities are usually located in these areas. These settlements are major residential and commercial areas. Also, hospitals, schools, churches, and recreational facilities (among other things) are often located in these settlements. Steep slopes are often sparsely populated or even uninhabited. d) Communication</p>
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Major roads are usually built in flat or gently sloping areas where possible. It is more difficult to build roads on steep or rugged terrain. When roads are built on steep slopes, they tend to zigzag their way up the slope with many sharp bends. On steep slopes, you may find smaller minor roads. In some rugged or mountainous regions, you may find areas with footpaths or tracks but no roads. **e) Land Use**

Generally, it is more difficult to build on steep slopes. Natural vegetation and wildlife are often able to thrive in these areas. These areas are often uninhabited or sparsely populated and there may be some small-scale agriculture.

In flat or gently sloping areas, the natural vegetation has often been cleared away so the land can be used for other purposes. Large settlements like towns or cities are usually found in flatter areas. Large-scale commercial agriculture, such as growing sugarcane, often takes place in flat or gently sloping areas. Recreational or sporting facilities, such as football or cricket stadiums, are often built on land which is flat or almost flat.

The influence of drainage on the following:

Drainage: This describes the flow of water off the land through defined channels.

Settlement

Large settlements are often located near rivers. Many major cities and towns in the Caribbean (and in other parts of the world) have a river running right through them. Water from these rivers is often used to supply these settlements with water. Also, sometimes you may see **linear** settlements along the banks of rivers.

Poorly drained areas such as swamps or marshes are often uninhabited or very sparsely populated. Areas with no rivers (very dry areas) are often sparsely populated as well. **Vegetation and Cultivation**

Plants that inhabit waterlogged areas need to have special adaptations to survive. Therefore, areas that are poorly drained usually have distinct types of vegetation. For instance, poorly drained low-lying coastal areas may be covered in mangrove forests. These plants are adapted to survive in areas with brackish water.

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	<p>In very dry areas distinct types of vegetation such as scrub may be found. This type of vegetation is dominated by small bushes and short trees. These plants are adapted to survive in drier conditions.</p> <p>Cultivation occurs on well-drained land. There are usually many rivers near areas of cultivation to provide drainage and water for irrigation.</p> <p>Communication</p> <p>When building roads and railways, waterlogged areas such as swamps and marshes are usually avoided. If there are swampy areas on your map you may notice that no roads or railways are running through them.</p>
<p>Week 26 – Landscape and interrelationship and pattern cont'd</p>	<p>Communication refers to how people or things are taken from one place to another.</p> <p>Forms of communication which may be represented on a map include roads, railways, airports, and seaports.</p> <p>Relationship between each type of land use and</p> <ul style="list-style-type: none">a. Reliefb. Drainage <p>Communication and relief- Major roads are usually built on flat or gently sloping areas where possible. It is more difficult to build roads on steep or rugged terrain. When roads are built on steep slopes, they tend to zigzag their way up the slope with many sharp bends. On steep slopes, you may find smaller minor roads. In some rugged or mountainous regions, you may find areas with footpaths or tracks but no roads. Look for these patterns when analyzing your map.</p> <p>Communication and drainage-when building roads and railways, waterlogged areas such as swamps and marshes are usually avoided. If there are swampy areas on your map you may notice that no roads or railways are running through them.</p>

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<p>Week 27 – Landscape and interrelationship and pattern cont'd</p>	<p>Settlement: The presence of buildings indicates that the area is used for human settlement. Within settlements, some land may be used for commercial activity or to provide services such as education and healthcare.</p> <p>Types of settlement</p> <p>Clusters of buildings are known as nucleated settlements. Settlements, where buildings are widely spaced, are known as dispersed settlements. Some settlements consist of buildings that are strung out in a line along a road, river, or some other feature. These are known as linear settlements.</p> <p>Relationship between settlement and drainage</p> <p>Large settlements are often located near rivers. Water from these rivers is often used to supply these settlements with water. Also, sometimes linear settlements are located along the banks of rivers. Poorly drained areas such as swamps or marshes are often uninhabited or very sparsely populated. Areas with no rivers (very dry areas) are often sparsely populated as well.</p> <p>Relationship between settlement and relief</p> <p>It is easier to build in flat or gently sloping areas. Major settlements such as towns and cities are usually located in these areas. These settlements are major residential and commercial areas. Also, hospitals, schools, churches, and recreational facilities (among other things) are often located in these settlements. Steep slopes are often sparsely populated or even uninhabited</p>
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