Working Together
Social Studies for Jamaica Book 2
Teacher’s Guide

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Aims of the Social Studies course
Social Studies is the study of people, their activities, their relationships and their world. It is concerned with how people meet their needs and live responsibly and interdependently together.

Social Studies brings together many different disciplines including history, geography, political science, economics, sociology, the study of humanity and of how social conditions affect human beings.

Social Studies is an important subject because it helps students understand their own human experiences as well as human activity in history. It enables students to make sense of their world and to work for a better, fairer and safer world in the future. Most importantly, Social Studies helps students feel valued and valuable and shows them that they have skills and opinions to offer.

Rather than just teaching a set of facts, Social Studies helps students interpret and understand the world. It also promotes ways of behaving that are positive and constructive. Social Studies teaches communication skills, map and graphic skills, analytical skills, valuing skills and social skills – all vital skills for life.

Social Studies also teaches values such as dignity, honesty, co-operation and discipline which will develop responsible citizens.

The teaching of Social Studies should be interactive – involving students in their own learning as much as possible. As Social Studies is as much about learning behaviours and values as about facts, students should be encouraged to reach their own decisions and form their own opinions as much as possible, through methods such as role-play, discussion and decision-making. Such behaviour will increase independence and confidence in students.

Social Studies can and should form the necessary bridge for pupils between school and living productively in today's society.

Course outline
The Social Studies course for Grade 8 follows the overall theme of Working Together. Within this overarching theme are five topics, each containing their own sub-topics, as follows.

1 Jamaica: Physical Resources
   - Location, size, relief
   - Climate and vegetation
2 Human Resources
   - Population
3 Using Our Resources and Related Environmental Matters
   - Farming
   - Fishing
   - Mining and manufacturing
   - Tourism
4 Moving Goods and People
   - Jamaica’s internal transportation
   - Jamaica’s regional and international links
5 Social Issues
   - Employers and employees: rights and responsibilities

Grade 8 Social Studies is designed to be taught to 12–13 year old students although your Grade 8 year may contain students older than this.

Coverage of the course and evaluation criteria
This Teacher’s Guide has been written to assist teachers in meeting the requirements of the syllabus for Social Studies issued by the Ministry of Education and Culture.
The material covers all the objectives of the syllabus and provides background information and advice to enable you to prepare teaching and learning experiences that provide opportunities for students to gain the knowledge, skills and attitudes required by the syllabus.

This material, together with the associated Student’s Book, will support you in organising your teaching for the year and help you provide lessons that guide and assist students to develop the critical skills for them to become balanced, responsible and helpful members of the community.

This course helps to prepare students for the ROSE exam at the end of Grade 9, and for study at CSEC should they choose to continue with Social Studies.

**Teaching and learning strategies**

Social Studies teaching should be interactive and student-centred, involving students in their own learning as much as possible. This approach allows students to develop independent skills and attitudes while obtaining appropriate knowledge.

Class and small group discussion enables students not only to form their own opinions, but also to develop their communication skills. Role-play enables pupils to identify with the people and issues they are learning about and to understand the decision-making process within a given situation. Visiting people and places about which they are learning, or having a resource person visit the class, will bring the subject to life and help develop students’ enthusiasm.

Through both the Student’s Book and the Teacher’s Guide, students are encouraged to carry out a range of activities including drawing, reading and interpreting maps and graphs, collecting and collating information and materials from a variety of sources, taking part in discussions and presenting information to the class in a variety of ways.

The exercises and activities require students to work in a number of different situations: individually, as part of a pair or small group or as a whole class. Each of these provides opportunities for developing different skills and attitudes. Individual working encourages concentration, perseverance and independence; working in a small group encourages skills of discussion, co-operation and negotiation; while whole class work, especially discussion and presentation, helps to develop confidence.

Even activities such as research projects should be predominantly student-led, although you should be on hand to offer advice and support. It is through embarking on their own projects that students can learn valuable lessons about planning, organisation and time management.

Always give students the opportunity to ask questions. This not only allows you to have an awareness of their level of understanding but also provides for genuine engagement on their part. You do not have to be the source of all knowledge. Be ready to say that you cannot answer a question at a particular time, if that is the case, but will endeavour to help them find the required information. This shows the students that learning is a lifelong process. You could also involve all the students in finding the answer to another student’s question, which would promote their research skills.

Finally, be aware of different ability levels in the class. Try to pair up less able pupils with more able pupils from time to time. Look out for pupils who are struggling and take time to re-explain concepts to them if needed. Equally, be aware of pupils who are finishing tasks early and are not being stimulated enough by the learning activities in class. This book contains some advanced learning activities for these students but be ready to add more of your own.

**Planning: classroom organisation**

It is worth taking time to consider how to make the best use of your classroom in terms of floor and wall space. Think about how walls can be used to display teaching aids and also students’ work. Decide on the best position for the teacher’s desk and the ease with which people can move around the room. You can also consider re-arranging the furniture to allow for different types of working.
Straight rows are useful for whole class teaching if you want all the students to be able to see one position, at the front of the class for example. However, to make interactive group work easier, or if students need to share resources, placing the desks in clusters provides a sound, workable arrangement.

Use the guidance in this book and your own professional judgement to ensure there is a balance of formal, traditional teaching and other approaches as well as a range of individual, group and whole class work.

**Structure of the Teacher’s Guide**
The Teacher’s Guide is divided into two parts. Part 1 gives an introduction to the course. Part 2, Using the Student’s Book, provides a breakdown of objectives, background information, resources required, teaching and learning activities and assessment questions and answers for each unit of the Grade 8 curriculum.

The *Curriculum Guide for Social Studies* provides a scope and sequence for the contents of the Social Studies curriculum. Units of study are allocated termly and contain topics and sub-topics. Expected learning outcomes for each unit are clearly stated.

Although the *Curriculum Guide* provides this basic framework, you will need to spend some time preparing a scheme of work for each term so that you can decide how much time will be allocated to each of the sub-topics to be covered. A scheme of work like this will allow you to keep a record of the topics you have covered.

The *Curriculum Guide* and your own scheme of work will provide a framework for your teaching, but you will need to spend time preparing plans for individual lessons. A sample lesson plan is provided below, but this is only a suggestion and you must decide how to structure your own lessons. This will depend on the levels of ability in your class, as

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**Lesson plan**

**Topic objectives:** to identify examples and functions of agro-industries

**Concepts and skills covered:** discussion, analysis, application of knowledge

**Resources required**
- Social Studies Grade 8 Student’s Book
- Exercise books
- Pen/pencil
- Newspapers and magazines

**Learning activities**
1. Read through introductory material in textbook with students. Reinforce understanding of an ‘agro-industry’ by asking individual students to say how they would explain this term to another person.
2. Read through table of purposes and functions of agro-industries as a class. Students provide further examples of agro-industries verbally or in exercise books.
3. Organise group discussions concerning the case study. Identify focus for the discussions and the need for feedback.
4. Take feedback from groups.

5. Talk in class about traditional products that have decreased in popularity. Ask how agro-industrial processes could be used to extend the sales of these products and what other influences there are on popularity, e.g. food from other cultures.

Students complete industry/product matching exercise.

**Further and advanced learning activities**
Students use available resources to research an agro-industry of their choice.

**Summary**
Summarise the main points of the lesson.

What examples of agro-industries can students identify?
What functions do agro-industries have?

**Evaluation**
Monitor the involvement of pupils in the group discussions and feedback.
Check through the matching exercise as a class.
well as your own personal teaching style and preferences. You know your students best and are best equipped to plan lessons for them. Although teaching and learning activities included in this guide have been designed to be as effective as possible in communicating a topic, you should feel able to adapt any of them to suit your class, and to add your own activities.

Further suggestions as to what you might include on your lesson plans are:

- Aims and objectives of the lesson
- Content (subject matter)
- Resources and teaching aids
- Teaching approach
- Classroom organisation
- Teaching activities
- Learning activities
- Timing for each section
- Support or extension activities
- Evaluation

**Structure of the Student’s Book**

Student’s Books are divided into units, mirroring those in the *Curriculum Guide*. Each unit in the Student’s Book presents the following:

1. Objectives for each unit – these are clearly listed at the start of each unit.

2. Learning exercises, activities and projects – exercises in the Student’s Book are written tasks that students must complete. Activities are practical, often interactive tasks. Finally, project work in the Student’s Books should be completed independently by students. It provides the opportunity for them to practise their research, presentation, evaluation and analytical skills in preparation for the School Based Assessment that forms the coursework of their CSEC qualification.

3. Case studies are included in the Student’s Books to illustrate key areas of learning and to ground them in reality. Each case study contains follow-up questions to encourage students to absorb the information they have read and consolidate key facts and observations.

4. Each unit of the Student’s Book ends with a summary of its key areas of learning, along with a set of assessment questions, most of which are multiple-choice. This will prepare students for this style of questioning, which is used extensively in the ROSE examination.
This part of the book takes you through each unit of the Grade 8 Social Studies course. For each unit it provides:

- objectives
- outlines of concepts and skills covered
- background information to the topic
- lists of resources required for teaching the unit
- exercises and activities
- information on using the activities and exercises in the Student’s Book (where necessary)
- further and advanced learning activities
- responses to case studies included in the Student’s Book
- answers to evaluation questions listed in the Student’s Book.

**Topic 1** Jamaica: Physical Resources

**Unit 1** Location, size, relief

**Objectives**
In this unit students will learn about:

- Jamaica’s position in the Caribbean and in relation to the world
- the relative sizes of Jamaica and other Caribbean countries
- the major rock types found in Jamaica
- the formation and appearance of relief and drainage features in Jamaica
- the relief features associated with different rock types in Jamaica
- the relationship between relief features, settlements and land use.

**Concepts and skills covered**

*Concepts*: location, latitude, longitude, equator, climate zones, tropical zones, scale, relief features, physical features, mountains, hills, valleys, plains, coasts, water bodies, rock types including igneous, metamorphic and sedimentary.

*Skills*: reading and interpreting maps to identify places and features; locating places using latitude and longitude; using scale to calculate distances; calculating land areas; using compass directions; producing and interpreting graphs and charts; identifying features from photographs and diagrams; making connections and giving reasoned explanations.

**Background information**
This unit gives students an understanding of Jamaica’s location in the world and within the Caribbean region. Students also gain an understanding of Jamaica’s size and compare this with some neighbouring countries.

The unit provides basic knowledge and understanding of Jamaica’s geological formation and the creation of some of its natural features such as mountains and valleys. Students consider how relief features affect the size and location of human settlements and particular land uses.

Knowledge will be applied and extended in later units, for example regarding trade and relations with other Caribbean countries. Knowledge of rock types and relief features will be applied to study of the use of natural mineral resources, farming and land use.
The unit develops the links between the physical location and characteristics of Jamaica and the impact of these features on the life of Jamaicans today.

Resources required

Throughout
- Social Studies Grade 9 Student’s Book, pages xx–xx
- Exercise books
- Pen/pencil

Jamaica’s position in the Caribbean and in relation to the world, page xx
- Map of school and surrounding area
- Pins, coloured wool or twine
- A compass
- Paper squares
- Globe
- Atlases
- Blank maps of the Caribbean
- Internet access for research

Relative sizes of Caribbean countries, page xx
- Maps at different scales
- Atlases
- A scale plan of the classroom
- Rules marked in centimetres and millimetres
- Grids of centimetre squares on transparent paper

The geology of Jamaica, page xx
- A spherical fruit with a large ‘stone’
- A boiled egg
- Rock samples – igneous, metamorphic, sedimentary

Jamaica’s physical features, page xx
- Photographs of coastal and inland features from magazines, travel brochures etc.

Jamaica’s position in the Caribbean and in relation to the world page xx

Teaching and learning activities

1. Read through the introductory material and ask students for responses to the question ‘Where are you?’ Ask for responses imagining they were shopping, playing a sport or visiting a friend.

2. Following Activity 1, ask students to explain their understanding of north, south, east and west. Introduce the term ‘compass directions’.

3. List examples of instructions students give one another. Discuss how useful these would be for someone looking for the school from a different starting point.

4. As an addition to Activity 2, students place a pin into a map of the area surrounding the school to locate their home, and mark out their route using coloured wool or twine.

5. Briefly discuss the counties and parishes of Jamaica and why it is useful to divide a country up in this way for administrative and government purposes.

Locating Jamaica in the world page xx

Teaching and learning activities

1. Talk through the material about using a compass and the compass points. Talk about uses of a compass (e.g. when travelling) and compass directions (e.g. to identify the relative locations of places, for example May Pen is east of Portmore).

2. Demonstrate how to make a compass rose by folding a paper square. Fold the square in half to produce a rectangle, then in half again to produce a small square. Fold this diagonally to produce a right-angled triangle. Open this out again to show a diagonal fold down the centre of the square. From the point that is the centre of the original square, fold one edge in to touch the central diagonal fold. Repeat with the opposite edge which will produce
Locating Jamaica in the Caribbean

Teaching and learning activities

1. The map of the Caribbean region has lines of latitude and longitude at 5º intervals. The Student’s Book gives instructions on how to estimate to the closest degree. (For greater accuracy each degree of latitude and longitude is subdivided into 60 ‘minutes’ and each minute into 60 ‘seconds’.)

2. Belize and Guyana are mentioned as mainland Caribbean countries. You can explain that Belize was formerly known as British Honduras and Guyana was formerly known as British Guiana. Both were British colonies and part of what was known as the British West Indies.

Responses to questions in the Student’s Book

Page XX, Exercise

1. a ii 19ºN and 71ºW  
   b iii 23ºN and 82ºW  
   c north west  
   d east  
   e Colombia  
   f west

2. a SSW Cuba  
   b Lesser Antilles

3. a 19ºN and 17ºW  
   b WNW  
   c Mexico and Cuba  
   d i ??  
      ii ??

4. a 40 minutes  
   b 3 hours 20 minutes  
   c 2 hours 40 minutes

5. Student’s research  
6. Student’s own answers

Relative sizes of Caribbean countries

Teaching and learning activities

1. Lead a brief discussion to consider what difference the size of a country can make, exploring the idea that a given
amount of land will only be able to sustain a certain size of population.

2 Establish that it is not simply the size but also the ‘quality’ of the land that matters. Australia, for example, is a vast country but much of it is uninhabitable desert.

3 ‘What size is Jamaica?’ introduces the idea of scale in maps. You will need to give plenty of time to ensure students understand the concept.

4 Make a plan of the class to scale, illustrating clearly how a measurement on the plan represents a real measurement. Use this to talk about the need for different scales if different areas are to be shown. Ask how big a plan of the whole school would be if drawn to the same scale as your class plan.

5 Figures showing scale, which are called representative fractions, can be confusing. This is because the larger the second number, the smaller the scale. So a scale of 1:25,000 is larger than 1:50,000. The first number in the representative fraction is always 1.

6 The exercises on finding straight-line distances can be carried out using atlases, as suggested in the Student’s Book, or the map on page xx of the Student’s Book. Atlas maps with different scales will show how the same distance on the ground can be represented by maps at different scales.

Further and advanced learning activities
Using a scale map of their local area, students work out walking distances between places they might visit regularly. They could answer questions such as:

- How far do you walk to school?
- What is the distance between your house and the nearest shop?

Responses to questions in the Student’s Book

- Page XX, Exercise
  1 Responses will vary.
  2 20 672 km²
  3 21 98 km²
  4 Responses will vary.

Page XX, Activity

1 The measurement for Jamaica should be approximately 12 cm. As each centimetre represents 20 km, the answer is approximately 240 km.

2 Students will have different results. According to Table 1.1, the area of Jamaica is 10 991 km².

3 Approximate straight-line distances from Kingston to:
   - Bridgetown (Barbados) 1917 km
   - Miami (Florida) 930 km
   - Caracas (Venezuela) 1350 km
   - Port-au-Prince (Haiti) 475 km
   - Havana (Cuba) 812 km
   - San Juan (Puerto Rico) 1130 km
   - Georgetown (Grand Cayman) 510 km

4 a Kingston to Ocho Rios 57 km
   b Montego Bay to Black River 50 km
   c Port Antonio to Savanna-la-Mar 180 km

The geology of Jamaica page xx

Teaching and learning activities

1 The students need some knowledge of the Earth’s internal structure if they are to understand plate tectonics. Using a fruit such as a peach provides a good analogy. If you cut the fruit in half, leaving the stone in place, you can show a very thin skin, a bulk of fruit flesh and a hard inner core. These correspond, in turn, to the thin outer crust on the Earth, the mantle which contains the bulk of the Earth’s mass, and the inner core.

2 Alternatively, use a soft boiled egg. The shell is the Earth’s crust, the white the mantle and the yolk the inner core.

3 Having shown the students the egg, roll it to break up the shell. Say that this is similar to the tectonic plates of which the Earth’s crust is made.

4 Gently pushing two pieces of paper together end on end illustrates what sometimes happens at plate boundaries. One plate goes over the top of the other, or they come together and each pushes the other edge upwards.

5 During work on rock types, make the link to different soil types.
Illustrate sedimentation by placing muddy water in a clear container and leaving it undisturbed until the mud particles settle to the bottom and form a layer of sediment.

Pushing the edges of a piece of paper towards the centre usually forces the centre up. Some mountains (fold mountains) are formed in this way when a piece of the Earth’s crust is ‘bent’ through plate movements. Fault mountains, as in Santa Cruz, happen when the crust does not bend but a piece breaks due to fault lines and is forced upwards.

Explain that the original features have changed over time due to weathering. Students could think of statues or stonework that have ‘weathered’. Say that similar forces are at work in nature, eroding the rocks that create the physical features in the landscape.

Responses to questions in the Student’s Book

- Page XX, Activity
  Discuss how best to display the rock samples and what information could be included in the display, for example any relevant human activities that take place in the area where the sample was found.

Jamaica’s physical features

Teaching and learning activities

1. Before starting this section of work, ask students to bring in photographs of coastal features from magazines, travel brochures etc. Students can present and discuss these before using them to make a class display.

2. When students are familiar with the different coastal features they can play games such as ‘20 Questions’ to reinforce their knowledge. Prepare a number of small cards and write a coastal feature on each. A student comes to the front of the class and takes a card from the pile. This is their coastal feature. Other students ask questions to which the student with the card can only reply ‘yes’ or ‘no’. Suitable questions would be ‘Is it used for farming?’ ‘Is it used for fishing?’ ‘Is it made of sand?’ Students have to identify the feature in 20 questions (or less).

Further and advanced learning activities

1. Students make models of a coastal feature, individually or in small groups.

2. Prepare two sets of cards, one of coastal features and another of related words (see box below). Turn up a coastal feature card and display this. Students then take turns to take a card from the second set. They try to make a connection between their card and the coastal feature. See how many of the second set can be used for each feature.

   Coastal feature cards: beach, plain, delta, spit, lagoon, tombolo, cliff, wetland

   Word cards: tourist, fishing, resort, farming, fish, buildings, holiday, alluvium, river, sand, currents, swimming, coastal protection, rock, animal habitat, shellfish, attraction, pollution

Responses to questions in the Student’s Book

- Page XX, Exercise
  1, 2 and 3 Student’s own response.
  4 a. i. A river splits into small streams, all of which deposit material.
     ii. Sand is carried in a current along a coastline. It is deposited in the direction of the current when the coastline moves inward.
  5. Wetlands: provide habitats for many plants and creatures; help keep our coasts stable; are breeding grounds for marine life; are places to harvest shellfish.
Emphasise the importance of protecting our watershed areas.

Students share any experiences they have of other features such as caves, rivers and valleys as they occur in the Student’s Book.

Further and advanced learning activities

1. Students make a class model of a mountain range. They could use different-sized irregular shapes of thick corrugated card for a base, putting the largest one down then others on top, each layer being smaller than the one before. Or you could make a frame from wood and cover this with chicken wire. Cover your cardboard or wire with glue and paper or papier-maché. Once dried, paint it to look like rocks. Add crumpled paper balls or cotton wool and paint these for trees and vegetation. Crumpled paper painted brown can represent rocks. Add streams/rivers and possibly even some terracing.

2. Prepare labels and text which explain the different features. The final model could be part of an open-day display.

Responses to questions in the Student’s Book

Page xx, Activity

1. Help students identify sources of material for their research into caves.

2. Students are asked to draw stalactites or stalagmites they have seen. This may not be possible for all students so they will need to use photographs as reference.

3. Caves are a natural resource because they are popular tourist attractions.

Page XX, Activity

1. Talk through the table and how students can best complete it. The rock type for a given feature will vary and so you can suggest that they try to identify the predominant rock type.

2. NIMOTUNA = mountain
   DHRTWAES = watershed
   TMIASLETGA = stalagmite
ELRIFE = relief
ILKSHENO = sinkhole
ANBIS = basin
LYVELA = valley

Relief features, settlement and land use page xx

Teaching and learning activities
1 Read through the material about the size of settlements with the students.
2 Use the activity at the end of this section to start the students thinking about why settlements are in particular locations, the factors that determine the growth of settlements and the size to which they grow.
3 The material on ‘Location and growth of settlements’ considers why settlements are located in particular places. Talk about the first inhabitants of Jamaica, the Tainos, and how, in choosing locations for settlements, they would have looked for a supply of fresh water and land suitable for cultivation. They also needed a supply of timber for houses and canoes. Remind the students that Jamaica was originally largely covered with forests. This would have been the case until the arrival of European settlers. By the eighteenth century when the plantations were well established, much of the forest cover had been cleared and a number of larger houses and associated settlements begun. The most rapid and dramatic changes have taken place during and since the twentieth century. In this period the economy changed from being almost totally agricultural to one in which mining and manufacturing have grown, along with service and tourist industries.

Location and growth of settlements page xx

Teaching and learning activities
1 Use this material to consolidate and reinforce students’ ideas from their discussions about the settlement in which they live.
2 The material provides very basic points about the suitability of land for different uses. Flat land is easier and therefore cheaper to build on. It is also more suitable for plantation farming and large-scale industries. Broaden the students’ understanding of these issues by discussing what other factors might be important. For example, the higher above sea level, the lower the temperatures, which affects choice of crops.
3 Talk about how settlements develop. In larger, planned towns streets are often laid out in a grid. Settlements can develop into a long, thin line of buildings, sometimes referred to as linear or ribbon developments. These develop when buildings are constructed along a road or a river. Some settlements on the coast are also linear as the buildings follow the coastline.

Responses to questions in the Student’s Book
- Page XX, Activity
1 Students carry out research in groups. Suggest settlements to the different groups as required to ensure a suitable range. Villages, small towns and larger cities should be covered. Students identify different histories and reasons for growth, e.g. a mining town, a tourist resort, a farming area, etc.
2 Students research the development of the school’s location. As suggested, groups research different aspects of the development of the settlement.
   - Why it was founded? Is there a very long history of settlement in the area, even as far back as the Tainos? Was there a particular, more recent reason, such as the discovery of a mineral resource or a tourist attraction?
   - What does the location have to offer in terms of resources? Is the local area good for farming? What crops are grown? Do food supplies come from the local area?
   - What effect has relief had on development? Is the local area in a
hilly region? Does this affect the size of settlement? Is it possible to reach other places easily? Has this meant that people are moving to settle in the area?

- How have the activities of the town changed over time?
- Use material the students prepare as part of a display.

Answers to Unit 1 What have you learnt?

1 the equator
2 a northern
   b the Tropic of Capricorn
   c south
3 Cuba
4 240
5 a ii igneous
   b iii sedimentary
   c ii there is a fault line in the Earth’s crust
   d i delta

6 a The Blue Mountains were formed by volcanic eruptions.
   b The area at the top of Jamaica’s mountains is called the watershed.
   c The Santa Cruz Mountains are fault block mountains.
   d Water in limestone landscapes sometimes falls down sinkholes.
7 c a few small settlements spaced far apart.

8

<table>
<thead>
<tr>
<th>Stage</th>
<th>Type of slope</th>
<th>Main activity</th>
<th>Main features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper course</td>
<td>steep</td>
<td>Downward erosion</td>
<td>V-shaped valley, waterfalls, pools</td>
</tr>
<tr>
<td>Middle course</td>
<td>gentle</td>
<td>Sideways erosion and deposition</td>
<td>Meanders, river cliffs, river beaches</td>
</tr>
<tr>
<td>Lower course</td>
<td>very gentle</td>
<td>Deposition</td>
<td>Flood plain, alluvial plain, delta</td>
</tr>
</tbody>
</table>

9 c on a coastal plain
10 Student’s own answers.
Objectives
In this unit students will learn about:

- the causes and characteristics of Jamaica’s climate
- vegetation types found in Jamaica
- how physical features and climate determine the natural vegetation cover
- how human activity has changed the natural vegetation cover
- changes and disasters brought about through human intervention and through natural causes
- preventative and relief measures and institutions for coping with natural disaster.

Concepts and skills covered
Skills: reading and interpreting maps to identify weather patterns; observing and recording weather features; producing and interpreting graphs and charts of rainfall and climate features; preparing questionnaires; writing explanations of causes and effects of natural disasters; understanding and passing on knowledge of disaster preparedness; discussion, collaborative group work, making connections and giving reasoned explanations.

Background information
This unit explores the features of Jamaica’s tropical marine climate and links to the island’s natural vegetation. Students study weather elements and use simple instruments to make weather records and predictions.

The teaching about natural vegetation aims to help the students appreciate the fragile nature of much of our environment and they are encouraged to see that this needs to be protected and to understand the part they can play in its protection. The unit considers human activities and how these can affect and threaten the natural environment. Throughout this work, try to engage the students with the issues regarding sustainable development.

The unit also considers natural disasters, including hurricanes, floods and droughts. Again students are being encouraged to see how certain human activities can make disaster situations worse. They also find out about being prepared for these natural disasters. Students should learn to take on a responsibility for educating others about detrimental human activities and about disaster preparedness.

Resources required
Throughout
- Social Studies Grade 8 Student’s Book, page xx
- Exercise books
- Pen/pencil

Jamaica’s climate, page xx
- Globe
- Torch/flashlight
- Materials for making various weather instruments, such as plastic bottles, rulers, paper, Styrofoam or plastic cups, card, small cardboard boxes

Jamaica’s vegetation, page xx
- Wall charts of forest areas
- Pictures of native trees and plants

Jamaica’s climate and natural disasters, page xx
- Newspaper articles covering natural disasters
- Meteorological and government records of past disasters

Floods, page xx
- Newspaper articles covering natural disasters
- Government records of past flood disasters
- Newspaper articles covering natural disasters
- Earthquakes, page xx
- Guidance on ‘earthquake resistant’ buildings
- Planning guidelines regarding earthquakes and building locations

Jamaica’s climate page xx

Teaching and learning activities
1 Emphasise the difference between weather and climate, pointing out that climate is about long-term conditions.
2 Demonstrate where the lines and climate zones shown in Fig 2.x of the Student’s Book are on a globe, if you have one.
3 Lead a brief discussion about the Earth in space, establishing that the Earth is tilted on its axis, that it rotates once every 24 hours and that it travels in orbit around the sun.
4 Tell the students about the significance of the tropics. These are the places where the sun is directly overhead at different times of year. The Tropic of Cancer marks the most northerly point at which the sun can appear directly overhead at noon. This happens on the ‘June solstice’ and marks the beginning of summer in the northern hemisphere, which is tilted towards the sun at this time. The Tropic of Capricorn marks the most southerly point at which the sun can appear directly overhead at noon. This happens on the ‘December solstice’ and marks the beginning of summer in the southern hemisphere, which is tilted towards the sun at this time. The tropics are not fixed in exact positions but move within a fairly narrow range over time.
5 The relative positions of the Earth and sun are considered when looking at how latitude affects climate. If you can make your room dark enough, you can use a flashlight to show this effect on the globe. Hold the flashlight so that the beam is directly over the equator. Move the beam away from the equator without moving the base position of the torch. The same width beam covers more of the surface area.
6 When considering the effect of distance from the sea, draw simple diagrams as you read through the material.

Jamaica’s temperatures page xx

Teaching and learning activities
Ask individual students to read the material aloud.

Responses to questions in the Student’s Book
- Page XX, Exercise
  1 Kingston
  2 Kingston: hottest months are June and July, coolest January, February and March
  Cinchona Gardens: hottest months are July, August and September, coolest January and February
  3 There are some differences.
  4 The weather station recording lower temperatures is at a higher altitude.

Clouds

Teaching and learning activities
1 Use the actual weather conditions as a constant reference point.
2 Having established how clouds form, discuss the different types in turn and their significance. The main effects felt by people on the ground are when clouds block the sun, causing a drop in temperature, or bringing some form of precipitation.
3 Students create a wall display of cloud types, using coloured paper or cotton wool.