



AN ROINN OIDEACHAIS  
AGUS EOLAÍOCHTA

# GEOGRAPHY

**Leaving Certificate**

Ordinary Level and Higher Level

# GUIDELINES FOR TEACHERS

## THESE GUIDELINES

### EXPLORING THE SYLLABUS

*core, elective and optional units*

### THE GEOGRAPHICAL INVESTIGATION

*stages of the investigation*

*examples of topics*

*guidance on completing reports*

### TEACHING THE SYLLABUS

*differentiation*

*selecting settings*

*sample two-year plans*

### ASSESSMENT

*criteria for geographical investigation*

*structure of examination papers*

### RESOURCES

*lesson plans*

*exemplar materials*

### PLUS

*helpful hints,  
real samples,  
lots, lots more...*



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National Council for Curriculum and Assessment  
An Chomhairle Náisiúnta Curraíaim agus Measúnachta

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# *I*ntroduction to the draft guidelines



# INTRODUCTION

These Teacher Guidelines accompany the revised geography syllabus. They are intended to provide an overview of each of the units of the revised syllabus, guidance on the depth of treatment required, and examples of teaching methodologies that can be employed.

The former Leaving Certificate geography syllabus had been in place for well over twenty years. In the intervening period there have been many social and political changes at national and international level, and advances in technology have enhanced the quality of geographical investigation and interpretation. In preparing the revised syllabus, the course committee has been mindful of the needs of young people growing up in a changing society.

## CHANGES IN EMPHASIS IN THE REVISED SYLLABUS

The revised syllabus

- defines the extent and content of each syllabus unit
- provides for a core, elective, and option structure at Higher level and a core and elective structure at Ordinary level
- provides a geographical skills focus within all syllabus units and within the core Geographical Skills and Investigation unit
- ensures that all students will now complete a compulsory core Geographical Investigation which will be submitted for assessment as part of the examination
- provides clear differentiation between Higher and Ordinary levels
- ensures that students, at both levels, will study the basic geographical concepts within the core of the syllabus and have the opportunity to increasingly specialise within the elective and optional units
- ensures clear continuity from Junior Certificate geography
- provides a range of suggested settings for the topics for study with the opportunity to use both local and current issues as they arise in the future.

The Guidelines are divided into five sections.

**Section 1 – Exploring the Syllabus:** expands on the Syllabus document and provides a detailed description of the core, elective and optional units. The Geographical Investigation is given extended treatment in this section with detailed instructions and advice on the conduct of each stage of the investigation.

**Section 2 – Assessment:** describes the modes of assessment including the proposed structure of the examination paper. A sample log sheet and reporting booklet is also provided.

**Section 3 – Teaching the Syllabus:** introduces a 'teaching for understanding' pedagogical approach to the syllabus. The section also provides sample two-year plans for delivering the course over the two years of senior cycle.

**Section 4 – Sample Lesson Plans:** provides a number of lesson plans based on different units of the syllabus. Supporting resources are also included.

**Section 5 – Resources:** includes a list of useful equipment for geographical fieldwork, and a catalogue of resource packs, videos, books, journals, and web-based sources of information.

## APPROACHES TO TEACHING

These *draft* guidelines offer clear direction for teachers in choosing appropriate methodologies. The underlying concepts for the teaching of the material in this syllabus are the integration of active learning methods and the development of a range of geographical skills.

It is recognised that many teachers teach classes containing both Higher and Ordinary level students. Careful planning is required to ensure that all students are kept engaged in their learning, especially when the focus of teaching is on the Higher level material in the Optional Units. Active Learning methodologies that support individual and group learning are strongly recommended.

The guidelines at all times emphasise that the learning, use, and application of geographical skills are central to a student's experience of Leaving Certificate geography. The development of geographical skills should permeate teaching and learning across all aspects of the syllabus, as appropriate.

### DIFFERENTIATION

As indicated in the syllabus document, the syllabus is designed to be taught at both Ordinary and Higher levels. The levels are differentiated through the **learning outcomes** that are set down in the introduction to each unit in the syllabus document. There are common learning outcomes for the two levels with additional learning outcomes for Higher level students.

Higher level students will be expected to show greater understanding of concepts and a greater proficiency in skills. Some material has been designated for Higher level students only, who must study **one** of four optional units.

### TIMETABLING

The syllabus is designed for 180 hours of class contact time (the equivalent of 270 class periods of 40 minutes duration or five class periods per week). The guidelines recommend a specific number of class periods to be set aside for each unit of the syllabus. This specification is intended only to indicate the approximate amount of time needed. Teachers are encouraged to exercise discretion when allocating time periods to the various elements of the syllabus.

These guidelines do not attempt to cover all the issues that teachers will need to consider when planning for the introduction of the revised geography syllabus. However, by developing the content, by presenting appropriate methodologies, by providing sample lessons, and by pointing the way to useful resources, they should greatly assist the introduction of the revised syllabus and help to improve the quality of teaching and learning in Geography in our schools.

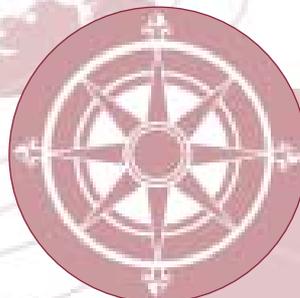
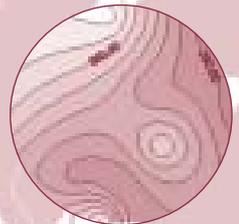


# Section one

## exploring the syllabus



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# 1. EXPLORING THE SYLLABUS

## SYLLABUS STRUCTURE

The revised Leaving Certificate geography syllabus has a core, elective, and option structure.

### SYLLABUS STRUCTURE

#### THREE CORE UNITS

<b>UNIT 1</b>	<b>PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT</b>
<b>UNIT 2</b>	<b>REGIONAL GEOGRAPHY</b>
<b>UNIT 3</b>	<b>GEOGRAPHICAL INVESTIGATION AND SKILLS</b>

#### TWO ELECTIVE UNITS

SELECT ONE

<b>ELECTIVE UNIT 4</b>	<b>PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES</b>
	<b>or</b>
<b>ELECTIVE UNIT 5</b>	<b>PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT</b>

#### FOUR OPTIONAL UNITS

(Higher level students only)

SELECT ONE

<b>OPTIONAL UNIT 6</b>	<b>GLOBAL INTERDEPENDENCE</b>
	<b>or</b>
<b>OPTIONAL UNIT 7</b>	<b>GEOECOLOGY</b>
	<b>or</b>
<b>OPTIONAL UNIT 8</b>	<b>CULTURE AND IDENTITY</b>
	<b>or</b>
<b>OPTIONAL UNIT 9</b>	<b>THE ATMOSPHERE-OCEAN ENVIRONMENT</b>

# CORE UNIT 1

## PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

Core Unit 1 aims to provide a useful tool by which students and teachers can understand and interpret the physical landscape. Traditionally, teachers focused mainly on the development of landforms, with less attention given to the physical processes at work at scales ranging from global to local. The current syllabus adopts an integrated approach that embraces new developments in the earth sciences. The approach is firmly grounded in plate tectonics that now informs all aspects of physical geography.

The unit is structured around seven statements in a logical sequence. This approach provides a thinking tool for the interpretation of the physical landscape at a range of scales or levels rather than focussing on content and the acquisition of fact.

The unit also places a significant emphasis on human interaction with the physical processes at work in the environment. Human interaction with the rock cycle and the impact of human activity on surface processes are also given considerable attention.

Statement Number	Statement	Class Periods: 40 minute duration.
1.1	<b>The Tectonic Cycle:</b> The mobility of the earth's crust produces endogenic forces, which give rise to geological structures within it. Crustal structures are created, modified and destroyed as part of the tectonic cycle.	<b>10 Class Periods (HL and OL)</b>
1.2	<b>The Rock Cycle:</b> Rocks are continually formed, modified, destroyed and reconstructed as part of the rock cycle. They are formed and modified by endogenic forces; they are destroyed by exogenic forces of erosion on exposure to weather and climate; they are reconstituted by the deposition of sediments.	<b>10 Class Periods (HL and OL)</b>
1.3	<b>Landform Development (i):</b> The development of landforms is influenced by geological structures which have resulted from the operation of the tectonic cycle.	<b>8 Class Periods (HL and OL)</b>
1.4	<b>Landform Development (ii):</b> The development of landforms is influenced by rock characteristics which have resulted from the operation of the rock cycle.	<b>8 Class Periods (HL and OL)</b>
1.5	<b>Landform Development (iii):</b> The development of landforms is influenced by surface (exogenic) processes which may vary (both spatially and temporally) in their intensity and frequency of operation.	<b>20 Class Periods (HL and OL)</b>
1.6	<b>Landform Development (iv):</b> All landforms represent a balance between endogenic and exogenic forces; this balance changes through time.	<b>6 Class Periods (HL and OL)</b>
1.7	<b>Human Interaction:</b> Human activities can impact on the operation of surface processes.	<b>5 Class Periods (HL and OL)</b>
		<b>Total Class Periods 67 (HL and OL)</b>

**Statement 1.1** introduces the tectonic cycle which explains how large scale global structures like the plates of the earth's crust are created, changed, and destroyed, and is the key to our understanding of rock formation and change over time and space. Students will examine the internal structure of the earth, the plate tectonics model, and processes at work at plate boundaries. As with all areas of the syllabus, there are suggested national and international settings. The teacher and student are free to use these settings or to apply the syllabus statements to any other appropriate settings.

**Statement 1.2** introduces the rock cycle which deals with the way rocks are continually being created, changed, destroyed, and reconstituted by a variety of processes. These processes are an interaction between the internal forces (endogenic) of plate tectonics and the external forces (exogenic) of erosion and weathering. The resulting sediments from these processes are then reconstituted to form new rocks. Students are also asked to focus on human interaction with the rock cycle. They are given the choice of studying one of four areas of interaction with the rock cycle: mining, extraction of building materials, oil and gas exploration, or geothermal energy production.

**Statement 1.3** examines landforms influenced by the operation of the tectonic cycle. Students will study volcanic activity, sedimentary processes and the impact of folding, faulting and doming.

**Statement 1.4** deals with landforms influenced by the rock cycle. Students will study landforms associated with particular rock types and examine the impact of different rock types on the physical landscape.

**Statement 1.5** examines the development of landforms based on surface processes. Students are expected to study all the listed processes, that is, have a general understanding of the processes, be familiar with the terminology and be able to recognise the resultant landforms in diagrams, maps and photographs. In addition, students are required to make a detailed examination of one of the processes. Mass movement processes, fluvial processes, coastal processes and glacial processes are listed for study.

**Statement 1.6** deals with the balance between internal and external forces in relation to landform development. This

section shows how landforms result from a combination of crustal uplift and denudation by surface processes over both time and space.

**Statement 1.7** examines how human activities can influence the surface processes already studied. Students can select a study of the influence of human activities on either mass movement processes, river processes or coastal processes.

The approach to patterns and processes in the physical environment represents a change from existing practice with its almost exclusive focus on landform development. This unit places landform development firmly within the twin building blocks of the rock and tectonic cycles. While the unit is mainly concerned with the study of landform development, the emphasis is placed on processes rather than on the description of end product landscape features. This new approach will lead the student to a deeper understanding of geomorphology.

## LEARNING OUTCOMES

The syllabus outlines detailed learning outcomes for both Ordinary and Higher level students studying this unit.

Ordinary level students, having completed their study of the unit should have

- a basic knowledge of the theory of plate tectonics
- an understanding of the process of rock formation, weathering and erosion
- an understanding of the processes of landform development
- an understanding of how human activities can affect these processes.

Higher-level students, having completed their study of the unit, should be able to

- understand in detail the theory of plate tectonics
- illustrate how crustal structures are created, modified, and destroyed by the tectonic cycle
- explain the continual process of rock formation, change, and destruction

- show how landforms develop from the balance between endogenic (internal) forces and exogenic (external) forces
- assess the impact of human activity on the physical processes at work on the landscape.

### GEOGRAPHICAL SKILLS

The teaching of skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 of the syllabus.

The skills of

- map interpretation
- figure interpretation
- photograph analysis
- statistical analysis
- figure drawing
- information technology

should be used and applied to the study of Core Unit 1 as appropriate.

### TEACHING TIME

This core unit represents 25% of teaching time and should be taught in 45 hours or in approximately 67 class periods of 40 minutes duration at both Higher and Ordinary levels.

# CORE UNIT 2

## REGIONAL GEOGRAPHY

**R**egional geography provides students with the opportunity to relate the patterns and processes of both the physical and human environments to particular regions. The student can see the actual expression of the patterns studied in an actual place. This will allow the student to understand the complex interrelationships that exist between physical, human, economic, and cultural environments across a variety of regions.

The approach of this unit to the study of regions is a development of existing practice. The unit examines regions at a range of scales rather than being based on the study of a list of countries. Having studied the concept of a region, students and their teachers will study five regions. Students will choose two contrasting Irish regions for study. This will be followed by a study of two contrasting European regions. These regions must be chosen from either Scandinavia, Western/Central Europe including the United Kingdom or the Mediterranean. Students must then study one continental or sub-continental region of their own choice. Students will also examine the complexity of regions.

The unit is structured under three headings:

- **The Concept of a Region**
- **The Dynamics of Regions**
- **The Complexity of Regions (i) and the Complexity of Regions (ii).**

Statement Number	Statement	Class Periods: 40 minute duration for Higher and Ordinary Levels.
<b>2.1 The Concept of a Region</b>	A region is an area of the earth's surface, which can be identified by selected criteria operating at a variety of scales. Single and multiple indices may be used to study these regions.	<b>10 Class periods (HL)</b> <b>10 Class Periods (OL)</b>
<b>2.2 The Dynamics of Regions</b>	The study of regions shows how economic, human, and physical processes interact in a particular area.	
<b>Irish Regions</b>	Study two contrasting Irish regions.	<b>10 Class Periods (HL)</b> <b>15 Class Periods (OL)</b>
<b>European Regions</b>	Two contrasting European Regions. One region from Scandinavia and/or one from Western/Central Europe including the United Kingdom or the Mediterranean	<b>16 Class Periods (HL)</b> <b>20 Class Periods (OL)</b>
<b>Continental or Sub Continental Regions</b>	One continental or sub continental region	<b>10 Class Periods (HL)</b> <b>12 Class Periods (OL)</b>
<b>2.3 The Complexity of Regions (i)</b>	The study of regions illustrates the geographical complexity of the interaction between economic, cultural and physical processes.	<b>4 Class Periods (HL)</b> <b>5 Class Periods (OL)</b>
<b>2.4 The complexity of Regions (ii)</b>	The boundaries and extent of regions may change over time.	<b>4 Class Periods (HL)</b> <b>5 Class Periods (OL)</b>
		<b>Total 54 Class Periods (Higher Level)</b> <b>Total 67 Class Periods (Ordinary Level)</b>

**Statement 2.1** introduces the concept of a region. The emphasis here is to illustrate that regions exist in relation to a range of scales and indices. Students will be introduced to physical, administrative, cultural, socio-economic, and nodal regions.

**Statement 2.2** deals with the study of the five chosen regions. Students will study the physical, economic and human processes in each. The emphasis here is on regions rather than on the national boundaries of countries. These regions can cross national boundaries, for example in the study of the Basque country or Lapland. Students must choose two regions within Ireland, two European regions and one continental or sub-continental region. The focus of study will be on the physical, economic and human processes at work in each region. Students should gain an understanding of the character of the region and be able to identify the key characteristics which distinguish it from other regions.

**Statement 2.3** draws students' attention to the complexity of regions. It focuses on the sometimes difficult interactions between political boundaries and cultural or economic activities. It also focuses on the European Union as a region and examines the issues relating to political union and sovereignty.

**Statement 2.4** examines the extent of change within regions and their identifying characteristics. It focuses on changes in city regions and in language and cultural regions.

#### REGIONAL GEOGRAPHY AND SETTINGS WITHIN THE SYLLABUS

Regional geography plays a pivotal role within the syllabus structure. As a Core Unit all students will study it. Teachers are expected to use the regions they choose to study as the setting, where appropriate, for other units of study, whether core, elective or option. In this way, regional geography will help to integrate all the syllabus units. It will also shorten the teaching time required, as the regions become the appropriate national and international settings for the other chosen units of study. The benefits of linking can be maximised with a careful choice of Irish regions. For example, the student and teacher may choose the South and East region of Ireland as one, and the Borders, Midland and West as another for study. The most effective way of approaching the unit is to select the most significant topics from Core Unit 1 and the chosen elective,

and study them in relation to these two regions. Within Core Unit 1 the Wicklow Mountains, could be used in relation to statements 1.2 and 1.3 and 1.4. Similarly the surface processes for study in statement 1.5 can be applied to both regions.

Similar detailed and more obvious links can be made with the statements and settings in Elective 4 or 5. These topics for study can be applied, where appropriate, to the particular regions chosen in either Ireland or Europe.

At higher level it should also be possible to apply the chosen Optional Unit of study to these regions. While all four optional units have a strong regional expression, particular continental regions could be selected with the study of either Optional Unit 6,7 or 8 in mind. This approach is best illustrated in the sample Two Year Plans contained in Section 3 of the guidelines.

In summary, the careful and considered choice of regions for study in Core Unit 2 can be used to facilitate a more focused and integrated approach to the other units of the syllabus.

#### LEARNING OUTCOMES

The syllabus outlines detailed learning outcomes for both Ordinary and Higher level students studying this unit.

##### Ordinary level

Ordinary level students, having completed their study of the unit, should be able to

- understand the idea of a region as identified by selected criteria
- show how physical, economic and human processes interact within regions in Ireland, Europe and in one continental/sub continental region
- understand the potential for change in the extent and boundaries of regions
- use the skills listed below, where appropriate, in the study of regions.

##### Higher level

Higher level students, having completed their study of the unit, should be able to

- explain the concept of a region as identified by selected criteria

- understand the interaction of physical, economic and human processes in Irish and European regions and in one continental/sub continental region
- assess the complexity of this interaction and the potential for change in the boundaries and extent of regions
- use the skills listed above, where possible, to interpret how economic, human and physical processes interact in a regional setting.

### GEOGRAPHICAL SKILLS

The teaching of skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 of the syllabus. The skills of

- map interpretation
- figure interpretation
- statistical analysis
- figure drawing
- information technology

should be used and applied to the study of Core Unit 2 as appropriate.

### TEACHING TIME

At Higher level this core unit represents 20% of teaching time and should be taught in 36 hours or in approximately 54 class periods of 40 minutes duration. At Ordinary level the unit represents 25% of teaching time and should be taught in 45 hours or in approximately 67 class periods of 40 minutes duration.

# CORE UNIT 3

## GEOGRAPHICAL SKILLS AND INVESTIGATION UNIT

The student's proficiency in the application and use of geographical skills will be examined in the context of the terminal written examination and the Geographical Investigation. The core geographical skills are listed in Core Unit 3.

For all students, the teaching of these geographical skills should be integrated into the teaching of the core, elective and optional units where appropriate. The core geographical skills will also be used and applied in the preparation of the Geographical Investigation. It is within this structure that students will be expected to demonstrate their proficiency in the widest range of skills appropriate to their chosen investigation. This proficiency should be clearly illustrated across stages 2, 3, and 4 of the investigation process. The learning of, use and application of geographical skills is central to a student's experience of Leaving Certificate Geography.

### MAP AND AERIAL PHOTOGRAPH INTERPRETATION

Map and aerial photograph interpretation are key geographical skills and can be used and applied to wide range of the syllabus content. While the 1:50,000 Ordnance Survey map will continue to be used, students will be expected to use maps of different scales as appropriate. All students should be able to use and apply the spatial concepts of the following:

- co-ordinate systems (latitude and longitude)
- grid references
- scale, distance and direction
- altitude and slope
- sketch maps
- symbol recognition
- cross-sections
- pattern recognition
- statistical mapping
- absolute and relative location using maps and aerial photographs.

### SATELLITE IMAGERY

The use and application of satellite imagery is an addition to the geographical skills required by the syllabus. Satellite images can be used to interpret a variety of patterns and processes including weather forecasting, land use, and urban sprawl. Students should be able to use satellite imagery in the examination of large areas of the physical and cultural landscape. Students are expected to relate and use satellite imagery in the study of the content of the core and elective units.

### FIGURE INTERPRETATION

Students should be able to understand, analyse, and evaluate information in the form of figures, graphs, and tables. This information in figure form can be applied in all areas of the syllabus, and is useful in the presentation of results in the Geographical Investigation.

### CENSUS OF POPULATION DATA

The interpretation of census material is another valuable geographical skill. Students should examine recent census returns for Ireland and be able to use a range of census information to study the demographic structure of a population. Students should examine published census information and understand population trends in their local area. Census materials and population statistics can be used and applied as primary or secondary sources within the Geographical Investigation.

### WEATHER MAPS AND WEATHER DATA

On completion of the unit, all students should have a basic ability to read and interpret a simple weather map. This is a basic skill for life. Students should be familiar with daily weather maps, with information shown and symbols used. Students should be able to understand media weather reports and to interpret synoptic weather maps.

### TEXTUAL SOURCES

Secondary sources of information should form a significant portion of the material gathered within the Geographical Investigation. Students should understand, and where possible, use a range of textual and secondary sources of information particularly in relation to their geographical investigation. These textual sources could include books, reports, directories, research documents, maps, including historical maps, and a range of electronic sources. Students should be familiar with how to use and acknowledge these sources.

## FOR HIGHER LEVEL ONLY

**Geographical information systems (GIS)**

GIS, as a specialised investigative tool, can be used to combine data sources in the study of particular areas or geographical problems. To use GIS effectively, a large range of computer hardware and software is required. In the future, schools may be in the position to use GIS to explore and solve issues that may arise from the syllabus units or from within the Geographical Investigation. Students should be aware of the use of GIS in the study of one of the following:

- the use of aerial photographs, population census material and maps in the study of urban sprawl
- the use of satellite images and statistical information in the study of changing agricultural land-use
- the use of aerial photographs, maps and statistical information in the study of forestry development
- the use of maps, aerial photographs and the record of monuments and places in the study of the destruction of archaeological sites.

## LEARNING OUTCOMES

The syllabus outlines detailed learning outcomes for both Ordinary and Higher level students studying this unit.

**Outcomes: Ordinary Level**

On completion of this Core Unit, students should be able to

- understand and use all the skills listed
- work through the distinct stages of a geographical investigation
- use statistical analysis and information technology in the interpretation of basic results and conclusions
- apply some or all of the geographical skills listed to complete a geographical investigation
- experience, where possible, working conditions similar to those likely to be encountered in employment.

**Outcomes: Higher Level**

On completion of this core unit students should be able to

- understand, use, and apply the skills listed to complete a geographical investigation
- work through the distinct stages of a geographical investigation
- use statistical analysis and information technology in the interpretation and analysis of results and conclusions
- analyse and evaluate their work and make comparisons with other studies
- experience, where possible, working conditions similar to those likely to be encountered in employment.

## TEACHING TIME

At Higher level students should complete their learning and practice of the listed geographical skills and complete their geographical investigation in 54 class periods or 20% of the time allocated to Geography. Ordinary level students are allocated 67 class periods or 25% of the time allocated to Geography.

## THE GEOGRAPHICAL INVESTIGATION

### INTRODUCTION

The Geographical Investigation is the key area of study in Core Unit 3 and is compulsory for all students. Conducting investigations and other fieldwork activities is central to the experience of all geography students. The Geographical Investigation provides the opportunity for students to apply the appropriate geographical skills that are central to all areas of the syllabus. It also encourages active citizenship and informed participation in the community.

### ANNUAL LIST OF INVESTIGATION TOPICS

The topics for the Geographical Investigation will be selected from a list of topics sent to the school by the State Examinations Commission in the first year of the Leaving Certificate cycle. This will allow some research and preparation time before beginning the investigation. The research and gathering can begin once the list has been issued, but it is expected that the main work of the investigation will take place in the first term of Leaving Certificate Year 2. This list will be broad enough to allow all schools and students have a choice of topics to investigate. It will also allow students to focus on a particular issue or aspect of the topic chosen. This list will be changed on an annual basis within the broad content areas of the syllabus. A sample list of investigation topics is presented below:

#### Sample list of Geographical Investigations

1. Changing demographic patterns in the local area.
2. Physical processes in a river, coastal, glacial or karst environment.
3. Changing settlement patterns in the local environment.
4. Traffic management.
5. A study of a local environmental issue.
6. Economic activities in the local environment.

### THE USE OF PRIMARY AND SECONDARY SOURCES

Students will be required to use both primary and secondary sources in the investigation process. Primary sources should make up 60% of the information gathered while secondary sources should provide the remaining 40% of the gathered information.

Such sources should be researched and examined in advance to ensure their suitability to both the topic and the requirements of the investigation process.

### THE STAGES OF THE INVESTIGATION

The Geographical Investigation will have five distinct stages.

1. At **stage one** of the process the students will be expected to select a topic from the list of investigations issued by the State Examinations Commission. They should then focus on a particular aspect, problem, or issue within the topic appropriate to their own school or local environment or to their own area of interest. Students should formulate a hypothesis or a set of clear and achievable aims and objectives. They should begin to formulate the types of information required to achieve the aims or test the hypothesis.
2. **Stage two** of the process is the planning stage. Students will now select their methods of gathering the information required. They must consider the ratio of primary sources of information to secondary sources. At this stage, questionnaires and work sheets will be designed. Secondary sources of information can be identified and located. The study area or location(s) for the collection of data can be identified and checked as to their suitability.
3. **Stage three** involves the gathering of the information. At this stage the actual gathering will take place. This may involve the use of measuring instruments and the careful recording of the results. It will involve the completion of observation worksheets, questionnaires, surveys and interviews. It will also include the gathering of relevant information from a range of secondary sources.

4. **Stage four** of the investigation process involves the preparation of the information and results for inclusion in the reporting booklet which will be provided by the State Examinations Commission. The booklet will be divided into sections which will allow the student to report on each stage of the process. The booklet (see example on page 41) has space provided for each aspect of the investigation. Students will write their report into the appropriate spaces. The booklet can be completed by hand or by using an appropriate IT method. However, **the booklet must be submitted in hard copy for assessment purposes**. A confined space is also provided for the illustration of results. These can be drawn by hand or be reproduced electronically. There will be no additional mark allocation for reports that are word processed. Students should take care to select illustrations that are appropriate to the particular element of the investigation being reported.

5. **Stage five** of the investigation process involves drawing valid conclusions and evaluating the process. Higher level students are expected to show evidence of a detailed analysis of patterns in the results. They should show a level of processing and give evidence that they have tested the results against existing theory or patterns from other studies. They will then draw conclusions that are relevant to the study aims or hypothesis. They should then be in a position to assess the validity of the investigation process and suggest improvements.

Ordinary level students will be required to outline the main patterns in the results and engage in a limited analysis. However they will not be required to engage in detailed analysis and processing of results. There should be an attempt to compare the results to other studies.

In the case of both Higher and Ordinary level students the investigation should have clear conclusions that directly relate to the aims or hypothesis. This stage should also contain an evaluation of the completed investigation process.

## GUIDELINES FOR COMPLETING THE REPORT ON THE GEOGRAPHICAL INVESTIGATION

### Stage 1: introduction

Students should have a clear and focussed title supported by clear and valid aims. Alternatively, students can present the investigation in the form of a hypothesis to be tested. Clear objectives should be outlined and a clear insight shown into the types of information which the aims or hypothesis will require in order to complete the investigation. At Higher level, students will be expected to fully develop each of the sub headings, including detailed objectives and a full discussion on the types of information required. Ordinary level students will be required to provide short but clear aims with a general discussion of the overall objectives and the types of information required.

### Stage 2: planning

Students will be expected to discuss the planning process in preparation for the actual collecting of the information required. Students should describe the issues involved in the preparation of gathering sheets, questionnaires, or surveys. There must also be a clear distinction made between the use of primary and secondary sources. Students should outline how they will access the secondary sources required.

Higher-level students will be required to give a full and detailed outline of the selection of gathering methods and the design of any information sheets or questionnaires. Ordinary level students will be required to address all the sub headings describing their choice of gathering methods and information sheets or questionnaires.

### Stage 3: collection of data

This is a key area of the investigation process. Students will be expected to give details on the methods used in the gathering and collection of information. The use of questionnaires and surveys must be outlined. Students must also discuss their use of secondary sources as well as any problems or issues encountered in the whole gathering process.

Higher level students will be expected to give a detailed account of their gathering activities with a full discussion on the actual activities in the gathering of the primary and

secondary information. This should be an in-depth discussion and should match both the introduction and planning stages. Ordinary level students will also be expected to describe all aspects of the gathering process. These activities must match with the activities described in stage one and two. There should be a general discussion of the activities and the problems encountered, but there also should be evidence shown of the cohesion and unity of the investigation in relation to the introduction and planning stages.

#### Stage 4: preparation of the report

At Ordinary level this will involve the organisation of data to establish clear results. These results should then be clearly and appropriately illustrated. ICT applications should be used as appropriate. Higher-level students will be required to give a detailed presentation of results in a number of graphic forms. ICT applications should be used as appropriate. Stage 4 should clearly maintain the cohesive structure of the investigation as laid out in the syllabus.

#### Stage 5: conclusions and evaluation

Higher-level students will be required to show a clear, detailed and in-depth analysis and interpretation of the results of their investigation. From this discussion, a set of detailed conclusions should be drawn which would have a direct relationship with the aims or hypothesis as set out in stage 1 of the process. There should be a detailed discussion of these conclusions in relation to established theory or to existing research. From this discussion, students should be able to make a detailed assessment of the validity of their investigation and suggest some well argued changes or improvements.

At Ordinary level, students should show a general interpretation and analysis of the results of the investigation. They should draw clear conclusions or evaluate their hypothesis. They should make a general comparison between these conclusions and established theory and existing research. The Ordinary level student should make an overall assessment of the validity of the investigation and suggest some basic changes or improvements.

## EXPLORATION OF THE SAMPLE LIST OF INVESTIGATION TOPICS

### 1. CHANGING DEMOGRAPHIC PATTERNS IN THE LOCAL AREA

An investigation based on this topic would explore the pattern of population change overtime in a particular study area. It would examine overall growth or decline over time and also the pattern in age and gender structures. A single study area would be chosen or a comparative study between two contrasting localities could be completed. Different parishes, housing estates, suburbs or villages could be chosen. The patterns found could be related to socio-economic changes, infrastructural developments or issues which are particular to the study area. Projections for the future development of the area could emerge from the investigation.

#### Methods

**Primary sources:** This investigation would be based on a survey of the residents of the study area. The survey could cover all residents or be based on a sample of the population based on the register of electors. The student would prepare a structured questionnaire asking questions relating to the individual and other residents of the household. Details of age, gender, marital status, number of children and occupation should be included. A separate study of the different land uses in the study area could also be completed. These would include residential, open space, commercial, and industrial land-uses. These patterns of land-use may give an insight into the demographic patterns which will emerge from the survey of residents.

**Secondary sources:** The study of past census returns for the study area will give an insight into the changing patterns in the population over time. A detailed examination of the small area statistics for the study area will act as a measure and point of analysis for the sample survey. The early editions of the ordnance survey maps will also serve to show changes in the study area through time.

A combination of both these primary and secondary sources will allow the student to make projections for the future demographic structure and development of the study area.

## 2. PHYSICAL PROCESSES IN A RIVER, COASTAL AREA, GLACIAL OR KARST REGION

This investigation would examine one of the physical environments listed. Students could examine the physical processes at work in a river catchment, a coastal zone of erosion or deposition, an upland or lowland glacial environment, or in a karst region. The study could examine the range of physical processes interacting in the chosen environment. It would examine how the processes of landform development have been affected through change over time. This could be balanced with a focus on the impact of human interaction on the physical environment both in the past and present.

### Methods

**Primary sources:** Observation, measuring and recording on site would be the main primary sources of information. Students could observe, measure and record the processes at work or find evidence pointing to these processes. Sketches, photographs and work sheets could be used to record these processes. Similar methods could be used to examine and measure the level of human interaction and impact. Local residents, landowners and commercial interests could be interviewed as appropriate.

**Secondary sources:** Maps of different scales would be the key secondary source for this investigation. A comparison of maps from different periods would show development and change through time. Documentary sources and texts could be utilised. Information on agricultural practices and tourism activities could be accessed through the use of official agencies, directories and the Internet.

## 3. CHANGING SETTLEMENT PATTERNS IN THE LOCAL ENVIRONMENT

This investigation could focus on urban, rural or historic settlement patterns. It could be based on a study area within a rural or urban environment or on the urban rural fringe. The study could focus on changing land use and employment patterns. It could examine planning and land zoning proposals. It could also assess the impact of developments on the local environment, infrastructure and community.

### Methods

**Primary sources:** Surveys, observation, and recording in the field are the key primary source for this investigation.

Students could engage in street surveys of land use or building condition. They could examine employment levels within a particular area or classify the range of employment opportunities. Students could also measure traffic or pedestrian flows within the study area. These methods would provide detailed information to help investigate changing settlement patterns in the study area.

**Secondary sources:** The analysis of development plans and planning proposals would be an important secondary source for this investigation topic. Local directories, both historical and present day, will also give an insight into changing land use, services and settlement patterns. Interviews with local historians and access to local historical sources and maps would also provide valuable information.

## 4. TRAFFIC MANAGEMENT

This investigation could examine local or regional traffic patterns and policy. The students could focus on measuring traffic flows using traffic counts. They could also include a study of journey to work patterns and local attitudes to traffic. The investigation could also incorporate an assessment of the impact of traffic policy on future development in the study area. Students could also focus on alternatives to the current traffic pattern and policy and develop an action plan for proposed changes.

### Methods

**Primary sources:** A traffic flow survey is the main primary source for this investigation. This survey could be carried out on a number of key streets or intersections in the study area. The survey could look at the vehicle numbers, speed, direction and the number of occupants. Students could measure flows at different times of the day and at different days of the week. These patterns could then be mapped. The investigation could also be supported by a survey of the attitudes and transport practices of local residents.

**Secondary sources:** The main secondary source for this investigation would be the local authority transportation studies. The local authority development plan may also contain important information on transport policy. Students can also develop new transport strategies using maps of the local area. The results of the traffic survey may also be compared to national figures on traffic flow and vehicle use.

## 5. CONFLICT IN RELATION TO THE USE OF THE LOCAL ENVIRONMENT

This investigation should arise from an issue in the local area. Issues relating to planning, the environment or any type of economic development could be investigated. Local developments in waste management, industrial location, urban development, tourism or a range of environmental issues could be considered as topics for investigation. This investigation could be undertaken as an action research project. The main focus of the study would be an investigation of the issues involved in the proposed development, an assessment of local feelings and attitudes and the preparation of an action plan.

### Methods

**Primary sources:** A primary survey, observation and measurement are the key primary sources for the investigation. The nature of these will be dependent on the nature of the issue and the resulting conflict. Students could attempt a simple base line or environmental impact study of the study area. A study of the awareness and attitudes of local residents would also be an important primary source. Students could also interview local officials on the decision making process involved.

**Secondary sources:** Planning proposals, development plans or strategy documents will be the main secondary sources of information. Documents such as the local authority development or strategic plans can be analysed. A local action plan can be devised based on these. The Environmental Protection Agency (EPA) and textual sources may also provide valuable secondary source material.

## 6. ECONOMIC ACTIVITIES IN THE LOCAL AREA

This investigation can examine any aspect of the economic geography of the local area. The student could carry out an economic profile of the area looking at the range and type of economic activities in the chosen study area. The student could then investigate the employment pool required by the existing economic activities. It could look at the source of these employees and assess future trends.

An investigation could also focus on one particular enterprise or a group of enterprises. Students could examine one multi-national enterprise in the locality focusing on its processes, markets, source areas for raw

materials and its employment profile. Students could investigate a range of issues including the levels of grant aid and the environmental impact of the plant. Similarly students could investigate a number of enterprises within a business park or industrial estate.

### Methods

**Primary sources:** Surveys, questionnaires, and interviews would be the key primary source of information in relation to this investigation. Students should visit the enterprise and complete their structured questionnaires. Students should interview a range of employees from different levels within the organisation. Local residents could also be questioned in relation to the environmental impact. Students could also interview representatives of local enterprise boards or the IDA.

**Secondary sources:** Development plans or industrial development policy documents are the main secondary sources for the investigation. Students could also examine planning applications and environmental impact assessments. Students could also use maps of differing scales to examine locational patterns, infrastructure and land use.

# ELECTIVE UNIT 4

## PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES

This unit examines patterns in economic development at a national and international scale and focuses on the growth of a single interdependent global economy. Students will take a broad and critical view of economic growth and development with particular emphasis on the rapidly changing nature of international trade. The unit is structured under four sub-headings:

- **Economic Development**
- **The Global Economy**
- **Ireland and the European Union**
- **Environmental Impact.**

Within this structure, students will experience a very dynamic and forward-looking approach to economic development. The approach examines an analysis of patterns in economic growth across the globe and then focuses on evolution of a global economy. It firmly places Ireland and the European Union (EU) within this global framework. It also examines the levels of environmental impact of economic activities at both a national and global level.

Statement Number	Statement	Class Periods: 40 minute duration for Higher and Ordinary Levels.
<b>Economic Development</b>		
4.1	Economic activities are unevenly distributed over the earth.	<b>5 periods</b>
4.2	Levels of economic development show major spatial variations and can change over time.	<b>11 periods</b>
<b>The Global Economy</b>		
4.3	A single interdependent global economy has emerged with different areas having different roles.	<b>20 periods</b>
<b>Ireland and the European union</b>		
4.4	Ireland, as a member of the EU is part of a major trading bloc within the global economy.	<b>11 periods</b>
<b>Environmental Impact</b>		
4.5	Economic activities have an environmental impact.	<b>20 periods</b>
		<b>Total 67 class periods.</b>

## ECONOMIC DEVELOPMENT

Economic Development includes two statements and a number of areas of content.

**Statement 4.1** introduces the uneven distribution of economic activities across the earth. It requires students to examine and assess the usefulness of both gross national product and the human development index as measures of economic development.

**Statement 4.2** examines the variations in the levels of economic development over time and space. To do this students are asked to examine two case studies. Students should examine one developed economy with reference to the dominance of the service sector and footloose industries. This can be contrasted with a case study of a developing economy. Students are asked to focus on the impact of colonialism and attempts to adjust to global economic patterns. Students are also reminded of the global issues, including a justice perspective that may apply within this contrast.

## THE GLOBAL ECONOMY

**Statement 4.3** introduces the development of a single interdependent global economy. Students are asked to use a case study of one Irish based multinational company (MNC) as a basis for their study of the topic. Students are asked to look at the sourcing of raw materials, the location of basic processing and the location of markets. From this they will then see how a global framework of world trade has developed. They should then progress to examine the spatial impact of these patterns. This would include the spread of basic processing units, the development of core and peripheral regions and regions excluded from manufacturing activities.

Students will then focus again on the role of the MNC, looking at patterns in the mobility of modern economic activities, corporate strategies, product lifecycles, and developments in teleservices and e-commerce. These are viewed through the lens of their impact on the spatial distribution of economic activities and development.

## IRELAND AND THE EUROPEAN UNION

**Statement 4.4** introduces the position of Ireland as an EU member within the global economy. Students will examine Ireland's trade patterns within the EU and also external EU trade. The statement also focuses on the impact of the EU

on Irish trade including the examination of the common agricultural policy, common fisheries policy, regional development funding and social funding.

## ENVIRONMENTAL IMPACT

**Statement 4.5** introduces the environmental impact of economic activities. Students are asked to focus on a range of environmental issues, including the use of resources, the impact of fossil fuel burning and pollution at a local and global scale. The issues of sustainable economic development and the potential for conflict between economic and environmental interests are also addressed.

## LEARNING OUTCOMES

The syllabus outlines detailed learning outcomes for both Ordinary and Higher level students studying this unit.

**Ordinary level** students, having completed their study of the unit, should be able to

- describe the uneven patterns in levels of economic development
- trace the process of change in economic development
- understand the development of a single interdependent global economy
- examine Ireland's role as a member of the EU within the global economy
- examine the environmental impact of economic activities
- use the skills listed below, where appropriate, to assist in the examination of patterns in economic development and the growth of a single interdependent economy.

**Higher level** students, having completed their study of the unit should be able to

- explain the uneven patterns in the distribution of economic activities and levels of economic development
- understand the complexity of the process of change in levels of economic development
- understand issues arising from and impact of the development of a single interdependent global economy
- assess Ireland's role as a member of the EU within the global economy

- assess the environmental impact of economic activities
- use the skills listed below, where appropriate, to assist in the examination of patterns in economic development and the growth of a single interdependent economy.

### GEOGRAPHICAL SKILLS

The teaching of skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 of the syllabus and the appropriate skills should be applied to the teaching of this unit. The skills of

- map interpretation
- figure interpretation
- statistical analysis
- photograph analysis
- figure drawing
- information technology applications

should be used and applied to the study of Elective Unit 4 as appropriate.

### TEACHING TIME

This elective unit represents 25% of teaching time and should be taught in forty-five hours or in approximately 67 class periods of 40 minutes duration.

# ELECTIVE UNIT 5

## PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

This unit examines population and settlement patterns over time and space. The unit focuses on patterns in the distribution, density growth patterns, and structure of populations in both national and international settings. It also links the level of human development with the nature of population characteristics. The unit examines patterns of human migration and their impact on both donor and receiver regions. The unit also gives a comprehensive analysis of settlement patterns in both national and international settings. This analysis includes historic, rural, and urban settlement patterns. There is also a particular focus on the modern city with an examination of land use, land values and expansion. The unit also examines a range of problems associated with the urban environment.

The unit is structured under two sub-headings:

- **The Dynamics of Population**
- **The Dynamics of Settlement.**

The dynamics of population and the dynamics of settlement both contain three statements and content areas as below.

Statement Number	Statement	Class Periods: 40 minute duration for Higher and Ordinary Levels.
<b>The Dynamics of Population</b>	<b>5.1</b> Population characteristics change over time and space.	<b>11 periods</b>
	<b>5.2</b> Population characteristics have an impact on levels of human development.	<b>11 periods</b>
	<b>5.3</b> Population movements have an impact on the donor and receiver regions.	<b>8 periods</b>
<b>The Dynamics of Settlement</b>	<b>5.4</b> Settlements can be identified in relation to site, situation, and function.	<b>12 periods</b>
	<b>5.5</b> Urban settlements display an ever-changing land-use pattern and pose planning problems.	<b>10 periods</b>
	<b>5.6</b> Problems can develop from the growth of urban centres.	<b>15 periods</b>
		<b>Total. 67 class periods</b>

**Statement 5.1** examines the patterns and changes in population characteristics over time and space. Students will examine the distribution, density, growth, and structure of populations using Irish and European examples. Students will examine census materials for different areas over a variety of time periods.

**Statement 5.2** focuses on the impact of population characteristics on human development. The emphasis is on the causes and effects of overpopulation. Students will focus on the impacts of resource development, society and culture, income levels and technology on population patterns.

**Statement 5.3** explores the nature of migration patterns. Students will focus on changing migration patterns in Ireland and Irish and EU migration policy. Students will examine the ethnic, racial and religious issues associated with migration. The contrasting impacts of rural/ urban migration in developing and developed regions is also a topic for study.

The dynamics of settlement also contains three statements.

**Statement 5.4** explores the nature and location of settlement over time and space. Students will examine pre-historic and historic settlement with an emphasis on the development of Irish towns. Rural settlement patterns and the growth of ribbon development are also addressed. These patterns are then framed within the important issue of planning strategies in rural areas. The students will also examine the hierarchy, functions, and services provided by urban centres and how these can change over time.

**Statement 5.5** focuses the student on urban centres with reference to land use patterns and planning strategies. Students will examine changing land-use zones in the modern city. The statement also examines land values and the social stratification of cities. Students will also address the expansion of cities and their influence on the rural landscape.

**Statement 5.6** encourages students to examine the problems posed by the growth of urban centres. The issues of traffic management, urban decay and urban sprawl are addressed, as are heritage issues and environmental quality. The statement looks to strategies to solve these problems. It also contrasts these problems with cities of the developing world and looks to issues relating to cities of the future.

## LEARNING OUTCOMES

The syllabus outlines detailed learning outcomes for both Ordinary and Higher level students studying this unit.

**Ordinary level** students, having completed their study of the unit, should be able to

- understand how population characteristics change over time and space and impact on human development
- describe the impact of population movements
- examine rural and urban settlement patterns
- identify problems associated with the growth of urban centres
- use the skills listed below, where appropriate, to examine the dynamic nature of population and the pattern and distribution of settlement.

**Higher-level** students, having completed their study of the unit, should be able to

- understand in detail how population characteristics change over time and space and impact on human development
- assess and evaluate the varying impact of population movements
- examine rural and urban settlement patterns
- identify and analyse the differing scale of problems associated with the growth of urban centres
- use the skills listed below, where appropriate, to examine the dynamic nature of population and the pattern and distribution of settlement.

## GEOGRAPHICAL SKILLS

The teaching of skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 of the syllabus and the appropriate skills should be applied to the teaching of this unit. The skills of

- map interpretation
- figure interpretation
- statistical analysis

- photograph analysis
- figure drawing
- information technology applications

should be used and applied to the study of Elective Unit 5 as appropriate.

#### TEACHING TIME

This elective unit represents 25% of teaching time and should be taught in forty-five hours or in approximately 67 class periods of forty minutes duration.

# OPTIONAL UNITS

Optional Units are studied by Higher level students only

## OPTIONAL UNIT 6

### GLOBAL INTERDEPENDENCE

This optional unit challenges the student to re-examine traditional views of development and development studies such as the first world-third world perspective. The unit links closely with Elective Unit 4 in its focus on the role of multinational companies (MNCs) within the global economy. It examines the consequences of global trade for those regions excluded from world manufacturing activities and those supplying raw materials. The unit examines the economic and social impacts of the global economy on developing regions.

The unit also examines the validity of current strategies in dealing with the problems of underdevelopment including the aid debate and the role of Non-Governmental Organisations (NGOs). It takes sustainable development as a model for future human and economic development. Having completed the study of this unit, students should have a clear view of both traditional views of development and the real impact of global interdependence

Statement Number	Statement	Class Periods: 40 minute duration.
6.1	Views of development and underdevelopment are subject to change.	<b>3 periods</b>
6.2	We live in an interdependent global economy. Actions or decisions taken in one area have an impact on other areas.	<b>8 periods</b>
6.3	Empowering people is a way of linking economic growth with human development.	<b>8 periods</b>
6.4	Sustainable development as a model for future human and economic development.	<b>8 periods.</b>
		<b>Total 27 class periods</b>

This optional unit is structured around four statements:

**Statement 6.1** asks students to take a critical look at traditional views of development. It focuses the student on determinist and modernisation views of development. These focus critically on the view that 'poor countries' are striving to achieve the levels of development of the 'rich world'. It challenges the images and language of traditional approaches to development studies. It particularly focuses on the terms 'First' and 'Third World' and the implications of this approach.

**Statement 6.2** follows directly by placing these inequalities within the global interdependent economy. It examines the role of MNCs and their impact in relation to the producer and consumer regions in which they operate. This statement explores the environmental impact of these patterns focusing on global warming, deforestation and desertification. It also examines the human impacts with reference to refugees, migration, and human rights.

**Statement 6.3** looks to future solutions to global inequalities. It sees empowerment as a way of linking economic growth and human development. Students will focus on the impact of the various forms of development aid and the role of NGOs. It examines land ownership, decision-making, exploitation, and gender roles.

**Statement 6.4** takes sustainable development as the key to the future. It looks at the sustainable use of resources, the ideal of fair trade, justice, and self-reliance.

### LEARNING OUTCOMES

Higher level students, on completing their study of this unit, should be able to evaluate the different views of development and underdevelopment, looking at both past practices and forward to a more informed viewpoint.

Students should be able to show a detailed understanding of the interdependent nature of the global economy with particular reference to a multinational company as a case study. This case study can be used to assess the impact of globalisation on the producer and consumer regions. Students should be able to assess the environmental, political, and social impacts of these economic patterns and strategies for change, including those with a human development focus. Students should be able to evaluate the concept of sustainable development as a focus for human and economic development.

### GEOGRAPHICAL SKILLS

Teaching of geographical skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 of the syllabus and the appropriate skills should be applied to the teaching of this unit. The skills of

- map interpretation
- figure interpretation
- photographic analysis
- statistical analysis
- information technology applications

should be used and applied to the study of Optional Unit 6 as appropriate.

### TEACHING TIME

The unit is for higher-level students only and should be taught in 27 class periods of 40 minutes duration.

## OPTIONAL UNIT 7

# GEOECOLOGY

This optional unit examines the relationship between soils, climate and the resulting biomes which develop from these interrelationships. The unit also focuses on how humans have changed existing biomes. This unit links closely with Core Unit 1, **Patterns and Processes in the Physical Environment**. It will allow the student get a specific insight into the relationship between soil formation and the physical processes at work in the environment. It further examines the pattern in world climates and looks at the way plants and animals adapt to the specific climate and soils. Students are given the opportunity to study one major biome to illustrate these interrelationships. Students will also follow a theme developed in Core Unit 1, which will allow them to examine how humans have interacted with these physical processes.

Statement Number	Statement	Class Periods: 40 minute duration.
7.1	Soils develop from weathering of rocks in situ and from re-deposited weathered material.	<b>6 periods</b>
7.2	Soil characteristics are affected by their immediate environment and by a combination of processes operating in that environment, including human interference.	<b>8 periods</b>
7.3	The pattern of world climates has given rise to distinctive biomes. These biomes are world regions characterised by groups of plants and animals adapted to specific conditions of climate, soils and biotic interrelationships.	<b>6 periods</b>
7.4	Biomes have been altered by human activities.	<b>7 periods</b>
		<b>Total 27 class periods</b>

The unit is structured around four statements.

**Statement 7.1** focuses on the development of soils. The student will examine the general composition of soil types and their various characteristics.

**Statement 7.2** examines how soil characteristics are affected by their immediate environment and a combination of processes including human activities. Students will compare processes at work on one Irish soil type and one type from a global setting.

**Statement 7.3** introduces the student to the concept of world biomes. A biome is a large-scale region identified by the interaction of plants, animals, soils and climates. Students must identify one biome for study. This will involve a detailed study of these characteristics and should correspond to the continental or sub continental region used in Core Unit 3 – Regional Geography.

**Statement 7.4** links human activities to the characteristics of biomes. Students are asked to examine early settlement and forest clearance as evidence of man's early interference with biomes. More recent activities such as the felling of the tropical rainforest, intensive agricultural practices, and industrial development are also topics for study.

### LEARNING OUTCOMES

Higher level students, on completing their study of this unit, should be able to explain, understand and illustrate the development of soils, both their composition and characteristics. Students should then be able to develop an understanding of the combination of processes affecting the development of soils. Students will understand the relationship between soils and climates which results in the development of biomes where plants and animals have adapted to specific environmental conditions. Students will develop this understanding through the study of one specific global biome. They should then be able to assess the impact of human activities on biomes.

### GEOGRAPHICAL SKILLS

The teaching of geographical skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 and the appropriate skills should be applied to the teaching of this unit. The skills of

- map interpretation
- figure interpretation
- photographic analysis
- statistical analysis
- information technology applications

should be used and applied to the study of Optional Unit 7 as appropriate.

### TEACHING TIME

The unit is for higher-level students only and should be taught in 27 class periods of 40 minutes duration.

## OPTIONAL UNIT 8

# CULTURE AND IDENTITY

This optional unit introduces the higher-level student to the complex relationship between culture, nationality and identity. Students will examine the classifications of population by physical and cultural factors.

Students will also examine the concept of nationality and its relationship to the physical, political and cultural landscape. Students will then consider the concept of identity as a combination of the factors of nationality, race, religion and language.

Statement Number	Statement	Class Periods: 40 minute duration.
8.1	Populations can be examined according to physical and cultural indicators. Culture and identity are tied to ideas of ethnicity, which can include language, religion and nationality.	<b>10 Class Periods</b>
8.2	Nationality and the nation state are political entities placed on the physical and cultural landscape.	<b>10 Class Periods</b>
8.3	Identity as a concept entails a variety of cultural factors including nationality, language, race and religion.	<b>7 Class Periods</b>
		<b>Total 27 Class Periods.</b>

The unit is structured around three statements.

**Statement 8.1** examines the classification of population using physical and cultural indicators. Students will explore the genetic and cultural differences and territorial identity that constitutes race. This will then be extended to focus on issues relating to race including multi-racial societies, racial mixing, racial conflict and the impact of colonialism. The statement then focuses on the cultural indicators used in the classification of population. Students will examine language groups, European and minority languages. Religion is then examined as a cultural indicator. Students will study the distribution of world religions, church state relationships and religious conflict. The statement also examines everyday expressions of popular culture.

**Statement 8.2** changes the emphasis to one of nationality. It examines the development of nation states as political entities placed on the physical and cultural landscape. Students will examine the relationship between physical and political boundaries. They will examine the relationship between cultural groups and nation states. Students will trace cultural groups without nationality and examples of conflicts between political structures and cultural groups. The partition of the island of Ireland and Northern Ireland can be used as settings for these topics of study.

**Statement 8.3** introduces the concept of identity. The statement illustrates how a variety of cultural indicators, including nationality, combine to form a sense of identity. To understand these interrelationships students will study one European region. This case study will include the study of the development of the political boundaries over time, ethnicity, race, religion, popular culture and the role of migration. This study of a region should help draw together the strands of identity already examines in the other topics for study. This regional case study can be linked to the chosen European regions in Core Unit 2.

## LEARNING OUTCOMES

On completing this unit students should be able to recognise and understand the physical and cultural indicators of population. Students should be able combine these physical and cultural traits of population into an understanding of ethnicity.

Student should then be able to relate the idea of nationality to the physical and cultural landscape. Students should then be able to combine the culture attributes towards an understanding of identity.

## GEOGRAPHICAL SKILLS

The teaching of geographical skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 and the appropriate skills should be applied to the teaching of this unit. The following skills:

- map interpretation
- figure interpretation
- photographic analysis
- statistical analysis
- information technology applications

should be used and applied to the study of Optional Unit 8 as appropriate.

## TEACHING TIME

The unit is for higher-level students only and should be taught in 27 class periods of 40 minutes duration.

## OPTIONAL UNIT 9

# THE ATMOSPHERE – OCEAN ENVIRONMENT

This optional unit focuses on the relationship between the oceans and the atmosphere and examines how this relationship can influence global climatic patterns. The unit will examine the basic climatic elements of pressure, temperature, humidity and wind patterns. The student will examine the uneven distribution of solar energy and then focus on exchanges between the ocean and the atmosphere resulting in different weather and climatic regions. This is further extended to look at the effect of the circulation patterns in the ocean and atmosphere on weather and climate patterns.

These relationships are then drawn together to focus the student on the global climatic regions. The impact of climate on economic activities introduces the interaction of human activities with climatic characteristics.

Statement Number	Statement	Class Periods: 40 minute duration.
9.1	The atmosphere gases and ocean waters are linked systems with physical and chemical characteristics, which can be observed, recorded and analysed.	<b>4 periods</b>
9.2	Solar energy is distributed unevenly over the surface of the earth and is both transformed and redistributed through circulation patterns in the atmosphere and oceans.	<b>2 periods</b>
9.3	Exchanges of water between oceans and atmosphere vary greatly over the surface of the earth and give rise to distinctive weather and climate regimes.	<b>6 periods</b>
9.4	Circulation in both the atmosphere and the ocean affects weather and climate patterns on a variety of scales.	<b>6 periods</b>
9.5	The surface of the earth can be divided into distinctive climatic environments. The characteristics of climate can change over time and space.	<b>6 Periods</b>
9.6	Climate characteristics have an influence on economic development.	<b>3 periods</b>
		<b>Total 27 Periods</b>

The unit is structured around six statements.

**Statement 9.1** examines the fundamental make up of the atmosphere- ocean system looking at the composition of the atmosphere and the measurable phenomena of pressure, temperature, humidity and wind.

**Statement 9.2** looks at the uneven distribution of solar energy on the ocean and atmosphere and the resulting circulation of ocean currents and wind patterns.

**Statement 9.3** looks at how distinctive weather and climate patterns develop from the exchange of water between the ocean and the atmosphere. Students will examine the hydrological cycle, humidity, evaporation, condensation, and cloud and precipitation patterns.

**Statement 9.4** focuses on the impact of wind on climate patterns at different scales. Students will examine the global circulation patterns and the forces controlling these patterns. The statement examines the characteristics of depressions and anticyclones on a global scale. The students will also focus on localised patterns including land and sea breezes, mountain and valley winds, and the distribution of thunderstorms.

**Statement 9.5** draws all the global patterns already studied together to the identification of distinctive climatic environments. Students will be required to make a detailed study of one global climate and also be aware that these change over time due to the processes of climate change.

**Statement 9.6** examines human interaction with these climatic regions. It focuses on how climate influences economic activities. Students will look at the influence of rainfall patterns on agriculture and domestic water. They will focus on drought and desertification and the influence of climate on tourism.

### GEOGRAPHICAL SKILLS

The teaching of geographical skills is to be integrated into all areas of the syllabus where appropriate. These geographical skills are outlined in Core Unit 3 and the appropriate skills should be applied to the teaching of this unit. The skills of

- map interpretation
- figure interpretation
- photographic analysis
- statistical analysis
- analysis of readings from weather instruments
- information technology applications

should be used and applied to the study of Optional Unit 9 as appropriate.

### LEARNING OUTCOMES

On completing this optional unit the student should be able to observe and be aware of the measurement of the characteristics of the ocean atmosphere system including pressure, temperature, wind and humidity. Students should be able to show an understanding of the uneven distribution of solar energy and how this energy is transformed and redistributed through the circulation of the ocean and air.

Students should be able to illustrate how variations in the exchange of water between the oceans and the atmosphere can result in particular climate and weather patterns.

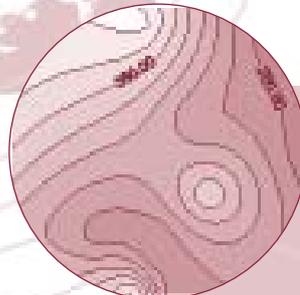
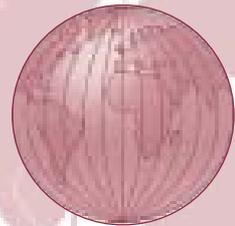
Students should be able to trace the circulation pattern of the oceans and the atmosphere and assess their impact on weather and climate. Students should be able to identify the distinctive global climatic environments and present a detailed study on one. Students should finally be able to assess the influence of climatic characteristics on economic development.

### TEACHING TIME

The unit is for higher-level students only and should be taught in 27 class periods of 40 minutes duration.



# Section two assessment



## 2. ASSESSMENT

### THE EXAMINATION PAPER

There will be a separate examination papers of two and a half hours duration for Higher level and for Ordinary level students. The examination paper will have an assessment weighting of 80%. It will consist of questions requiring short answers and multi-part questions requiring more detailed answers. Longer essay-style discursive answers will be required only in the assessment of the optional units. All questions will contain stimulus material and a geographical skills element, where appropriate.

The structure of the examination papers for Higher level and Ordinary level are shown on the following pages.

### THE REPORT ON THE GEOGRAPHICAL INVESTIGATION

The report on the Geographical Investigation will have an assessment weighting of 20%. It will be assessed outside of the examination paper.

### STRUCTURE OF EXAMINATION PAPER

#### Leaving Certificate Geography Higher Level

Core Section 1	Examination weighting within the examination paper	Marks allocation	Examination time
12 short answer questions ( <i>complete 10</i> ) on Core Unit 1, 2 and 3.	20%	80 marks (10x8)	30 minutes
3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Core Unit 1 and skills.	20%	80 marks	30 minutes
3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Core Unit 2 and skills.	20%	80 marks	30 minutes
<b>Electives</b> 3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Elective 4 or 5 and skills. ( <i>Students answer on one elective only.</i> )	20%	80 marks	30 minutes
<b>Optional units</b> 3 essay type questions on each optional unit. ( <i>Students will answer one question on one chosen optional unit</i> )	20%	80 marks	30 minutes
<b>Total</b>	<b>100%</b>	<b>400 marks</b>	<b>150 minutes (2.5 hours)</b>

**Investigation Report: 100 marks**

**Total 500 Marks**

## STRUCTURE OF EXAMINATION PAPER

## Leaving Certificate Geography Ordinary Level

Core Section 1	Examination weighting within the examination paper	Marks allocation	Examination time
12 short answer questions ( <i>complete 10</i> ) on Core Unit 1, 2 and 3.	25%	100 marks (10x10)	30 minutes
3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Core Unit 1 and skills.	25%	100 marks	40 minutes
3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Core Unit 2 and skills.	25%	100 marks	40 minutes
<b>Electives</b>			
3 questions ( <i>complete one</i> ) combining short answer and multipart questions on Elective 4 or 5 and skills. ( <i>Students answer on one elective only.</i> )	25%	100 marks	40 minutes
<b>Total</b>	<b>100%</b>	<b>400 marks</b>	<b>150 minutes (2.5 hours)</b>

**Investigation Report: 100 marks****Total 500 Marks**ASSESSMENT OF THE REPORT ON THE  
GEOGRAPHICAL INVESTIGATION

The assessment of the report on the Geographical Investigation will be separate from the written terminal examination. Students will be required to follow the five stages of the investigation as set out in Figure 1 overleaf. Each stage has an assessment weighting and a range of outlined activities and marks will be allocated accordingly. The Geographical Investigation has an allocation of 100 marks at both Higher and Ordinary level.

**The reporting booklet**

A standardised reporting booklet for individual candidates will be issued by the State Examinations Commission.

Students will report on each stage of the investigation in the relevant section of the booklet. The booklets will be completed in class time or outside of school time by individual students. The booklet will also facilitate the

inclusion of graphical materials relating to the investigation. The completed booklets will be sent to the State Examinations Commission for assessment. Each candidate will also be required to maintain a log sheet during the investigation, recording completion of the various stages.

**Log sheet**

As the students progress through their investigation they will be required to complete a log sheet as set out on page 39. This sheet is designed to trace progress through the investigation and to ensure that each stage is completed. This sheet is also designed to focus the investigation process on each stage as outlined in the syllabus. The completed log sheet should form part of the reporting booklet.

## CERTIFICATE EXAMINATION

## Authentication

The State Examinations Commission requires that all practical/project work submitted for assessment as a component of the Leaving Certificate examination is formally authenticated by candidates and their schools. Appropriate documentation for this will be issued by the Commission.

While it is accepted that candidates may work in groups on one investigation topic, each candidate will be required to submit for assessment an individual report. Group reports will not be acceptable.

Figure 1. Assessment of the Geographical Investigation

Stage	Activities	Proposed assessment weighting	
		HL	OL
Introduction:			
Posing the problems and devising a strategy	<ul style="list-style-type: none"> <li>the selection of a topic for investigation</li> <li>a clear statement of hypothesis or aim</li> <li>an outline of the objectives</li> <li>identification of the types of information required</li> </ul>	5%	5%
Planning:			
Preparation of the work to be carried out	<ul style="list-style-type: none"> <li>the selection of methods for the collection and gathering of information</li> <li>the design of a questionnaire or recording sheets</li> <li>decisions on locations for the investigation</li> </ul>	5%	5%
Collection of data	<ul style="list-style-type: none"> <li>the use of instruments to make measurements</li> <li>records of observations made in the field</li> <li>the use of questionnaires and surveys, as appropriate</li> <li>the use of a variety of secondary sources, e.g. documentary sources</li> <li>a discussion of the problems encountered</li> </ul>	30%	30%
Preparation of the report	<ul style="list-style-type: none"> <li>the organisation of data</li> <li>the use of illustrations, graphs, maps and tables</li> <li>the use of ICT, where appropriate, to prepare and present results and conclusions</li> </ul>	30%	30%
Conclusion and evaluation	<ul style="list-style-type: none"> <li>analysis and interpretation of results</li> <li>the drawing of valid conclusions</li> <li>the comparison of findings with established theory</li> <li>the evaluation of hypotheses</li> <li>the examination of the validity of the investigation and suggestions for improvements</li> </ul>	30%	30%

**THE GEOGRAPHICAL INVESTIGATION:  
SAMPLE LOG SHEET AND REPORTING BOOKLET**

The log sheet and reporting booklet have been developed to provide support for the student throughout the course of the investigation. It provides a structure to guide the student through the framing of the investigation, the planning, collecting of data, and the reporting stages. It provides a checklist for all the required components of the investigation.

While the completion of the log sheet is an essential part of the investigation, it will not be assessed and no marks are assigned for its completion.

**Log sheet to accompany Report on the Geographical Investigation: page 1**

Stage	Activity	Sources of information	Individual or group work.	Exact location.	Date, signature of student.
1. Posing the problem or issue and devising a strategy.					
2. Planning: Preparations for the work to be carried out.					
3. Collection of data.					
4. Compiling the report.					

This sheet is to be completed to provide information on the progress and completion of the Geographical Investigation. Marks will not be awarded for this: it is there to guide the student through the process. Please complete the back of the sheet also. The sheet must be submitted with the final report.

## Log sheet: page 2

Title / Topic Chosen	
Outline your main aims or give details of the hypothesis you are testing.	
Describe the main methods used to gather your information.	
What were your most important findings?	
Comment on the experience of completing the Geographical Investigation.	

**SAMPLE REPORTING BOOKLET FOR GEOGRAPHICAL INVESTIGATION**

## Report on the Geographical Investigation

Candidates must complete each section of the report booklet. Space has been provided for illustrations. The report must be completed within the space provided. No extra pages should be added.

Examination Number

Title of the Geographical Investigation:

N.B. For the purpose of providing a sample layout, each heading is presented on one page. The number of pages for each section and the overall length of the booklet will be decided by the State Examinations Commission. A sample booklet will be sent to all schools in due course.

1. Investigation Topic

(5 marks: Higher and Ordinary level)

Aims or hypothesis.

Any background geographical information.



## 2. Planning stage (5 marks: Higher and Ordinary level)

This section should include details on

- how you selected your methods of gathering
- details of the recording methods to be used.

3. Describe how you gathered your information (30 marks: Higher and Ordinary level)

In your description include details of the following

- a brief description of the main gathering methods used
- instruments used to make measurements
- recording of information in the field
- use of surveys, questionnaires and sample populations, as appropriate
- use of secondary sources
- a discussion of the problems encountered.

#### 4. Results, Conclusion and Evaluation (30 marks: Higher and Ordinary level)

In this section include the following:

- how you analysed your information to get your results
- details of your main results
- your main conclusion(s)
- how your findings compare with established theory
- the evaluation of your hypothesis
- an assessment of the validity of the investigation and suggested improvements.

## 5. Presentation (30 marks: Higher and Ordinary level)

This section should include

- how you organised the gathered information
- your choice of presentation methods—graphs, maps, tables etc.  
Space is allocated for the illustration of your results using these methods
- describe how you used ICT to process and present your results (if appropriate).

## ASSESSMENT FOR LEARNING

Traditionally assessment was seen as separate to learning, often taking place externally at the completion of the learning process, with the aim of grading and ranking students according to criteria determined by the state or by the teacher with no input from the student. This can be described as assessment of learning. Grades and marks are important, and are fed by demands from outside the classroom, but often they do not serve students' learning needs. In assessment for learning, assessment is ongoing, forms an integral part of the learning process, reinforces learning and is a collaborative process involving the student and teacher.

Assessment for learning is built around a number of key principles. First the learning intention must be shared with the students. This could be the achievement of a task or demonstration of a skill. Next the students need clear criteria as to what constitutes success. The outcomes of the syllabus are based on criterion referencing—'on completion of this unit the student should be able to ...'. It is important that this information is shared with students at the beginning of the teaching unit.

Feedback, whether given through written comments on assignments and tests or informally as part of classroom teaching can be a major factor in improving learning and raising attainment. Feedback can be described as the information given by the teacher to the student to point the student towards the learning goals. Knowing that one is on the right track can be an incentive to progress and improvement. On the other hand, receiving a disappointing mark or grade without knowing why leads to frustration. Indeed, a constructive comment can support learning far more than marks or grades which are often used to compare student performance and construct achievement 'league tables'. Assessment has a major influence on the motivation and self-esteem of students, both of which are crucial influences on learning.

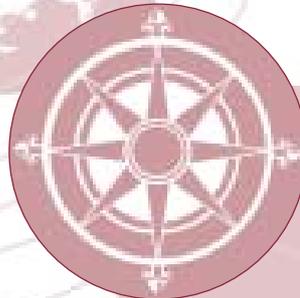
Assessment for learning is at its most effective when the students themselves are involved in the assessment. Once clear criteria are given and understood, and initial feedback is given showing the improvements needed, students should be encouraged to assess their own work, with the teacher confirming or amending the result. Self-assessment and peer-review can be effective instruments for learning.

Assessment can be a powerful student motivator. It should be built into the planning of every lesson or course unit and not left as an afterthought at the end. It should inform and direct what is to be taught and the way it is taught. Assessment for learning is clearly built into the sample lesson plans in Section 4 of the guidelines



# Section three

## teaching the syllabus



### 3. TEACHING THE SYLLABUS

#### COLLABORATIVE PLANNING

The introduction of a revised syllabus affords geography teachers the opportunity for reflection on the nature of the subject and how it is taught. This syllabus contains new areas of coursework not previously covered, and this in itself will make demands. One aim of these guidelines is to encourage teachers to be creative in their approach to the syllabus and explore optional units which they have not previously taught.

Teaching the syllabus will require appropriate methodologies which will support the aims of the syllabus. Some of these methodologies are introduced here in the guidelines. Web-based support, containing lesson plans and other resources will also be available.

This syllabus is being introduced at a time when schools are engaging in School Development Planning. Staffs are working together to critically examine and bring improvement to whole areas of school life, including the quality of teaching and learning. The revised syllabus facilitates best practice in this area.

Planning is central to the delivery of the syllabus. Successful implementation will require detailed planning in designing teaching units which can exploit the local environment as a setting for teaching the key statements of the syllabus. The planning of such units and the preparation of stimulus materials, worksheets and assessment tools can best be undertaken in collaboration with subject colleagues who share that environment. Local groupings of teachers can also work together to pool resources.

#### AN ENTRY POINT

Many teachers like to take a linear approach to the syllabus, i.e. to begin teaching Unit 1 and continue through to the optional unit. The structure of most textbooks supports this approach. However it is worth considering an alternative approach which is based on settings which draw together the strands of the syllabus. Core units, the elective and the optional unit need not be taught as stand alone units. Linkages exist throughout the syllabus and should be exploited. The skilful exploitation of linkages can shorten the syllabus considerably.

Skills should be integrated into teaching all units of the syllabus. One possible entry point to the syllabus would be to focus initially on developing skills in mapwork,

photographic interpretation and figure interpretation in aspects of physical and human geography in Core Unit 1 and the chosen elective.

By the end of the first year of the course, students should have mastered the skills which will be required in undertaking the Geographical Investigation.

The sample two-year plans in Section 4 of these guidelines show how this approach might be developed throughout Leaving Certificate Geography.

#### SELECTION OF TEXTBOOKS

The guidelines are intended to emphasise key aspects and approaches to ensure that the teaching of the course is syllabus driven rather than textbook driven. The syllabus is the key document and teachers must familiarise themselves with its requirements. Teachers are given considerable autonomy in choosing electives, optional units and settings.

Care should be taken in choosing textbooks to ensure that teacher autonomy is supported. The syllabus is what has to be taught, the textbook is a resource. Textbooks should be rich in resource materials which are utilised as stimuli for learning and discussion.

The level of language used in relation to the ability of the class and the avoidance of stereotyping are other issues to be borne in mind.

#### SELECTING AN ELECTIVE

The choice of elective has to be decided at an early stage, as it may inform the choice of textbook. It may be a difficult choice as both electives are highly worthy in themselves and relevant to the modern world.

The choice of elective has implications for the choice of optional unit for Higher level students. There are linkages and overlap between Elective Unit 4: Patterns and Processes in Economic Activities and Optional Unit 6: Global Interdependence and likewise between Elective Unit 5: Patterns and Processes in the Human Environment and Optional Unit 8: Culture and Identity.

## SELECTING AN OPTIONAL UNIT

Optional Units 6-9 are for students taking Higher level only. Ordinary level students are not required to study Optional units, nor will any of the syllabus content of the Optional unit be examined at Leaving Certificate Ordinary level.

There are four Optional units in the syllabus. Optional Unit 7: Geocology and Optional Unit 9: The Atmosphere – Ocean Environment are drawn from Physical Geography and complement Core Unit 1: Patterns and Processes in the Physical Environment.

Optional Unit 6: Global Interdependence likewise complements Elective Unit 4: Patterns and Processes in Economic Activities. There is overlapping content between the units. Similarly Optional Unit 8: Culture and Identity complements Elective Unit 5: Patterns and Processes in the Human Environment.

As with core and electives, optional units are intended to be taught in regional settings. The requirements of the optional unit should be understood and borne in mind when choosing regional settings in Core Unit 3. By linking with other units in the same settings much teaching time can be saved.

The syllabus states that the optional unit will be assessed through a longer, more discursive essay type answer.

## SELECTING SETTINGS

In teaching Core Unit 1 and Elective Unit 4 or 5 (and Optional Unit 6, 7, 8 or 9 for Higher level only) the key statements in each unit are exemplified through the use of local, national and international settings. In Core Unit 2, students are asked to focus on the study of five regions:

- Two contrasting regions in Ireland.
- Two contrasting European regions
- One continental or sub-continental region outside Europe.

It is strongly recommended that the chosen regions in Core Unit 2 serve as settings where indicated for the other units. Care should be taken that the chosen settings should afford the widest range of opportunities and examples for the key statements of that unit. For example, if Brazil were chosen as a sub-continental region, then it could also serve as the setting for the operations of a multinational company

(Elective Unit 4.3), environmental impact of rain forest destruction (Elective Unit 4.5); or population changes (Elective Unit 5.1 and 5.2), rural-urban migration (Elective Unit 5.3), growth of urban centres (Elective Unit 5.6).

In the optional units the same setting could be used to illustrate rain forest destruction and the plight of indigenous peoples (Optional Unit 6), the Rainforest Biome (Optional Unit 7), the influence of colonialism and migration (Optional Unit 8) and the equatorial climate (Optional Unit 9).

The advantages of using such an approach are:

- saves time by reducing the number of settings to be studied
- intensifies knowledge of the chosen regional setting
- draws a unifying thread through the syllabus.

## ATTITUDES AND VALUES

The syllabus states that students should be encouraged to develop positive attitudes towards themselves, others and their environment. Among the attitudes specified are appreciation of social, cultural and environmental diversity and awareness of all types of stereotyping and prejudice.

Some teaching units in the syllabus allow for controversial issues to be examined. Such issues may include:

Exploitation of natural resources	Core Unit 1.2, Optional Unit 6.2 and Optional Unit 7.1
Environmental pollution	Core Unit 4.5
Views of development	Optional Unit 6
Exploitation of developing countries	Elective Unit 4.2
Migration	Elective Unit 5.3 and Optional Unit 6.2
Gender roles	Optional Unit 6
Race, language and religion	Optional Unit 8.1
Partition of Ireland	Optional Unit 8.3

Teaching controversial issues can present challenges to teachers. One approach is to provide detailed and accurate information which challenges stereotypes and

misconceptions. Working through these facts and figures will help students form new conclusions. Another approach is to present issues from different cultural perspectives, e.g. through the experiences of students from different cultural backgrounds, through invited guest speakers or through websites of different groupings and organisations. What we teach and how we teach it must be informed from a human rights and justice perspective.

Irish population make-up has changed dramatically in the twenty-first century. The world has come to Ireland, including the developing world. It is increasingly common to find the multicultural nature of Irish society reflected in the classroom. Care and sensitivity is needed lest negative perceptions are created of their country of origin.

### INTEGRATING SKILLS

The core geographical skills are listed in Core Unit 3 of the syllabus. These listed skills should be integrated into the teaching of all the syllabus units as appropriate. Students are required to be able to extract data from primary source material such as maps, photographs, tables and graphs, to be able to perform calculations using the data and to draw conclusions from the data. They should also be able to extract information from printed sources.

The study of geography is suited to developing students' social and personal skills through working in groups, verbal reporting, debates and role play. Activities can be based on resource materials either in textbooks or selected and provided by the teacher. Well planned worksheets can provide a basis for classwork or homework.

### ACTIVE LEARNING

Active learning methodologies provide a platform through which skills are developed and learning is supported. Active learning ensures that students are engaged physically, cognitively and emotionally. It places students at the centre of the learning process through ensuring that the content is relevant to their own lives and is engaging for them. It promotes responsibility, confidence and self-esteem. It acknowledges that students learn from each other and teachers learn from students, as well as vice versa. It builds skills of problem-solving, critical thinking and co-operation.

Active learning requires an atmosphere of trust and support in order to ensure that students do engage and feel secure in

expressing their own views or in trying out new skills. It promotes action, as students learn to recognise their own capacity and self-efficacy. It accommodates different learning styles, ensuring that students of different levels of ability can be taught together.

Much attention has been devoted in recent years to the research carried out by Howard Gardner and colleagues into multiple intelligence. It is widely accepted today that children learn in different ways and learning activities need to be based around a range of intelligences. Employing a variety of activities ensures that the differing abilities of all students are taken into account. The eight recognised intelligences are listed along with activities appropriate to geography:

<i>Linguistic:</i>	Didactic instruction, debating, brainstorming.
<i>Logical-mathematical:</i>	Problem solving dilemmas, calculations, pattern recognition.
<i>Visual-spatial:</i>	Mapwork, photographs, diagrams.
<i>Musical:</i>	Music as an expression of culture.
<i>Bodily-kinaesthetic:</i>	Role-play, hands-on thinking/learning.
<i>Interpersonal:</i>	Co-operative group-work, paired learning.
<i>Intrapersonal:</i>	Personal reflection, individual research.
<i>Naturalistic:</i>	Project work and fieldwork based on the natural environment.

### THE GEOGRAPHICAL INVESTIGATION

#### Timing

The Geographical Investigation has to be completed and submitted on a date specified by the State Examinations Commission. The list of topics will be sent to the school early in the first year. It is envisaged that in most cases the investigation will be undertaken during the first term of the second year. At this stage students will have matured in confidence and will have acquired the necessary skills throughout the first year of the course for undertaking the

investigation. An early date for completion avoids placing undue pressure on students who may have other practical components and oral examinations to complete during the second and third terms of the final year.

Adequate time needs to be given to preparation for the investigation, analysis of data and presentation of the completed report. In most cases the collecting of the data will be undertaken in the course of a one day field trip outside of the school. This should be arranged in consultation with teaching colleagues and school management.

Not all the listed topics require investigation in the field. For studies of population change utilising census data, the research can be undertaken in the classroom.

#### ADVANCE PREPARATION

The Geographical Investigation provides an opportunity to practise and evaluate many of the skills prescribed in Core Unit 3 of the syllabus. These skills will be assessed through the investigation as well as through the terminal examination.

These skills will be best developed when practised throughout the course and therefore every opportunity should be exploited for teaching and developing the skills related to fieldwork. These will include analysis of maps and aerial photographs, drawing of sketch maps, graphs and diagrams, manipulating figures, constructing tables and report writing. Different examples of combining skills with content will be illustrated throughout the sample lesson plans in Section 4 of these guidelines.

#### DEVELOPING OPPORTUNITIES FOR FIELDWORK

The investigation will be less daunting for students when the investigative process is built into their class teaching, where fieldwork has been a normal part of coursework in junior cycle and where considerable autonomy is given to them in the learning process.

It would be advisable that a short exercise in fieldwork be undertaken during the first year of the Leaving Certificate course to familiarise students with field methodology, to get them used to working independently and in groups, to practise the writing of reports and to emphasise the importance of meeting deadlines. Examples of short fieldwork exercises include

- investigation of soil profiles
- weather measurement
- land use study
- traffic count
- population survey.

A simple field exercise of single or double class period duration in the school grounds or in the vicinity of the school would be a worthwhile exercise.

#### PLANNING FIELDWORK

Students are required to be actively involved in the planning process for fieldwork. This includes choosing the location for field investigations. However the responsibility for the safety of the class rests with the teacher. Considerable planning by the teacher and by the students is required for fieldwork to be a worthwhile and safe learning experience.

The following checklist should be read in conjunction with Section 2.3 of the guidelines – The Geographical Investigation.

1. At the earliest opportunity, inform the principal about the date, time and location of the intended field activity. Decide, in consultation with the Principal, how many teachers are required for supervision. It is not advisable for one teacher to undertake supervision of other than a very small number of students.
2. Out-of-school activities require the consent of the Board of Management in order to be covered by insurance or the state indemnity. In many schools a list of activities approved by the board is drawn up at the beginning of each year.
3. If a bus is required, book well in advance. Make sure the destination, date, time of departure and arrival back, are clearly understood. Confirm the bus a few days in advance.
4. Some students may not be able to afford the costs involved and this may require a subsidy. Be aware of school policy in this regard.
5. It is important that the teacher has first hand knowledge of the location of the investigation so that all risks can be fully assessed.

6. Ensure that clear instructions are given at all times.
7. If there is an element of risk, then ensure that one of the supervising teachers has expertise in that area. For example, if the fieldwork involves an investigation of river or marine processes, ensure that a teacher with lifesaving skills is included. If the fieldwork involves hillwalking, likewise mountaineering skills.
8. If safety equipment or clothing is required, e.g. on a factory visit, ensure that this is explained and that equipment is worn.
9. If fieldwork involves entry onto private property, e.g. on a farm or a shopping centre, ensure the owner's consent is obtained. Be prepared to explain the purpose of the fieldwork. Proof of insurance cover may be required. Consider whether a follow-up letter of thanks, including some of the findings would be appropriate. You might want to come again.
10. Draw up a code of conduct for the investigation. If fieldwork requires interviews, normal rules of courtesy should be emphasised.
11. Ensure appropriate First Aid is available.
12. Ensure that at least one of the leaders has a mobile phone in case of emergency.
13. Written parental consent is required where students are under 18. When notifying parents ensure the following information is given:
  - date, time of departure and estimated time of arrival back in the school
  - cost
  - recommended clothing and footwear
  - lunch arrangements
  - if there is an element of risk involved make sure this is explained to parents.Seek information on whether any student has medical conditions which might require special arrangements.

## SAMPLE-TWO YEAR PLANS

Two plans are provided below, both based on 5 class periods a week of 40 minutes duration over two years.

### SAMPLE PLAN 1

This plan is for a class group comprising both Higher and Ordinary level students. Elective Unit 4 (Patterns and Processes in Economic Activities) and Optional Unit 6 (Global Interdependence) have been selected for study.

This plan has been developed in an effort to demonstrate how links between the units can be developed through the careful selection of regional settings in Core Unit 3: Regional Geography.

In this case the settings chosen are:

Ireland:	South and East Region  Border Midland and West Region
Europe:	Paris Basin  Mezzogiorno
Continental or Subcontinental Region:	Brazil

The teaching topics are planned with the geographical investigation very much in mind. Over the first year equal time is given to Core Unit 1 and the elective, utilising the regional settings and introducing regional geography where appropriate. Emphasis is given to the integration of skills development. A short fieldwork exercise is undertaken in the final term of Year 1 in preparation for the investigation at the beginning of Year 2. More emphasis is given to regional geography and the Optional Unit in Year 2.

The order of the syllabus is not followed, although most physical geography is covered in Year 1 and the first topics to be taught are the tectonic cycle and the rock cycle.

## YEAR 1

Weeks	Content	Units Covered	Integration of Skills	No. of Classes
1-2		CU3	Map reading exercises Photograph interpretation	10
3-5	Introducing plate tectonics Irish structural regions Irish landscape features Volcanic activity in the past Fold mountains Munster ridge and valley	CU1.2 CU1.4	Drawing diagrams World map locations Newspaper articles Satellite photographs Video	12
6-8	The rock cycle Irish landscape	CU1.1 CU2.1	Geological map Ordnance Survey map Aerial photographs Drawing diagrams	11
9-12	Introducing Ireland Structural foundations Development of Irish agriculture Importance of CAP An economic divide – BMW and South and East	CU1.1 CU1.2 CU2.1 CU2.2 EU4.1/EU4.4	Map of Ireland Geological map Aerial photographs Statistics Graphs	18
13-15	The South and East region Ireland's economic core Service industries Contribution of multinational companies The growth and expansion of Dublin	CU2.3 CU2.4 EU4.3	Map of Ireland Aerial photographs Statistics Graphs Newspaper articles	14

## CHRISTMAS HOLIDAYS

16-19	The development of the landscape Weathering Karst processes Mass movement Rivers Human interventions Adjustment to base levels	CU1.5 CU1.6	Ordnance Survey map Aerial photographs Drawing diagrams	20
20-22	Global inequalities Measuring development Introducing Brazil The land – physical geography Colonisation Population and migration Commodity dependency – coffee A study of a MNC – Nescafe Unfair trade	CU2.2 EU4.1 EU4.2 EU4.3 OU6.1 OU6.2	Atlas maps Satellite photographs Statistical tables Graphs Newspaper articles	14
23-25	An environmental price for Economic development Renewable/non renewable Fossil fuels/renewable energy Oil/gas exploration Acid rain Sustainable development Local issues – dumping waste Conflict	EU4.3 CU1.2	Maps Graphs Newspaper articles videos	13
26	A short fieldwork assignment			5

## EASTER HOLIDAYS

27-30	The development of landscape Glaciers Marine processes Changing sea levels Human interaction	CU1.5 CU1.6 CU1.7	Ordnance Survey map Aerial photographs Drawing diagrams Newspaper articles	18
31-34	Revision and term exams			
	<b>Total no. of classes</b>			<b>135</b>

## YEAR 2

Weeks	Content	Units Covered	Integration of Skills	No. of Classes
1-2	Introducing the Geographical Investigation Choosing from the list of topics. Revision of relevant classwork Brushing up on skills Preparation The collection of data from primary sources – field investigation	CU3	Decision-making Group work Handling equipment	10
3-5	Analysis of data Identification of secondary sources Conclusions Writing up and presentation of report.	CU3	Analysis Report writing Sketch maps Tables Graphs	15
6-11	What is a region? Regions within Europe Paris Basin Mezzogiorno – impact of plate tectonics Geography of volcanoes and earthquakes in Italy Core and periphery	CU2.1 CU2.2 CU1.1 EU4.2	Atlas maps Statistics Satellite photographs Diagrams Graphs	30
12-15	The European Union Its economic origins Development of trade Policies including environment Changing boundaries Challenges – the future	EU4.4 EU4.5	Maps Newspaper articles Statistics	20

## CHRISTMAS HOLIDAYS

16-19	Economic development in Ireland The Celtic tiger Environmental problems arising from economic development Social problems arising from economic development Planning for future growth A divided island	CU2.1 CU2.2 CU2.3 CU2.4 EU4.2 EU4.4 EU4.5	Statistics Graphs Newspaper articles	20
20-24	The global economy The north/south divide Three key global economic areas Fair trade? Bridging the gap	EU4.3 OU6.2 OU6.3	Statistical maps Tables Cartoons	25
25-27	One world Environmental issues including deforestation Social issues including migration Debt Aid Sustainable development	OU6.2 OU6.4 OU6.3 OU6.4	Statistical maps Tables Cartoons	15

## EASTER HOLIDAYS

28-33	Revision Examination question practice			
<b>Total no. of classes</b>				<b>135</b>

## LEAVING CERTIFICATE EXAMINATION

**SAMPLE PLAN 2**

The second example is based on the selection of Elective Unit 5 – **Patterns and Processes in the Human Environment** from the Electives and Optional Unit 7 – Geocology. The settings in Regional Geography are:

Ireland	South and East Border Midland and West
Europe	Scandinavia The Mediterranean
World	Sub-Saharan Africa.

Again, every opportunity is taken to link key statements in the elective and optional unit to the selected settings for regional geography. Advantage is taken of overlapping content to shorten the length of the syllabus and avoid leaving the entire study of the optional unit until the very end of the course.

## YEAR 1

Weeks	Content	Units Covered	Integration of Skills	No. of Classes
1-2	Geographical skills	CU3	Map interpretation Aerial photographs	8
3-5	Population dynamics – birth, death and fertility rates, infant mortality, life expectancy Contrasts between developing and developed economies. Changes in Irish vital statistics The greying of Europe Case studies: Sweden and Uganda	EU5.1 CU2.2	Statistics Diagrams Map interpretation Text	12
6-7	Population density Case study – Ireland Case study – Scandinavia Case Study – Sub-Saharan Africa	EU5.1 CU2.2	Map interpretation Satellite photographs Statistics	10
8-10	Population increase and pressure on resources in Sub-Saharan Africa Causes of famine	EU5.2 CU2.2	Map interpretation Satellite photographs Climate graphs, statistics Newspaper and textual sources	13
11-12	Migration – push and pull factors Ireland – changes in migration patterns post 1950; issues arising; migration policy EU policy on migration – open borders; expansion Rural urban migration – impact on source and destination; Government planning	EU5.3 CU2.3 CU2.4	Statistics Graphs Newspaper and textual sources	13
13-15	Sub-Saharan Africa Population movements Colonisation Impact of the slave trade Post independence repatriation Apartheid Impact of war, famine and natural disasters Rural-urban migration Pressure on cities – case study: Nairobi	EU5.3 EU5.6 CU2.2	Map interpretation Statistics Newspaper and textual sources	13
<b>C H R I S T M A S H O L I D A Y S</b>				
16-18	Earth's internal structure Plate tectonics Volcanoes and earthquakes	CU1.1	Atlas maps Satellite photos Aerial photographs, diagrams Newspaper and textual sources	13
19-22	The rock cycle Weathering and erosion Human interaction with rock cycle – mining in Ireland North Sea oil and gas Irish landforms resulting from - the operation of the tectonic cycle - the operation of the rock cycle	CU1.2 CU1.3 CU1.4 CU2.2	Map interpretation Aerial photographs Satellite photographs Diagrams	18
23-26	Processes of mass movement River processes Glacial processes Coastal processes Adjustment to base levels Human activities impacting on river processes	CU1.5 CU1.6	Map interpretation Aerial photographs Satellite photographs Satellite photographs	18
27-28	A simple fieldwork exercise			8
<b>E A S T E R H O L I D A Y S</b>				
29-30	Regional Geography of Sub-Saharan Africa The land – plate tectonics; rifting; volcanoes Climate and vegetation – rainforest; savanna; deserts and temperate regions Soils Environmental degradation – case study: the Sahel	CU2.2 OU7.1 OU7.2	Atlas maps Satellite photographs Diagrams Statistics Graphs Newspaper and textual sources	10
31-33	Primary activities – agriculture, subsistence and plantation Mining in South Africa Secondary activities – reasons for underdevelopment Tertiary activities – case study: tourism in Kenya	CU2.2 CU2.3	Atlas maps Satellite photographs Diagrams, statistics, graphs Newspaper and textual sources	12
<b>Total no. of classes</b>				<b>135</b>

## YEAR 2

Weeks	Content	Units Covered	Integration of Skills	No. of Classes
1-3	Dynamics of settlement Historic settlement Rural settlement Urban settlements	EU5.4	Map interpretation Aerial photographs Newspaper and textual sources, including county development plans	13
4-6	Changes within urban areas Problems Planning decisions	EU5.5 EU5.6	Map interpretation Aerial photographs Newspaper and textual sources, including county and city development plans	12
6-7	Introducing the Geographical Investigation Choosing from the list of topics. Revision of relevant classwork Brushing up on skills Preparation The collection of data from primary sources – field investigation	CU3	Decision-making Group work Handling equipment	8
8-10	Analysis of data Identification of secondary sources Conclusions Writing up and presentation of report.		Analysis Report writing Sketch maps Tables, graphs	13
11-15	Defining regions - the case of Ireland Ireland's physical landscape Climate Soils Border Midland and West Primary activities Secondary activities Tertiary activities	CU2.1 CU2.2 CU2.3 CU1.1 CU1.4	Atlas maps Satellite photographs Statistics Diagrams Graphs	19

## CHRISTMAS HOLIDAYS

16-18	South and East Primary activities Secondary activities Tertiary activities East-West divide Regions change over time – Dublin and the Gaeltacht	CU2.1 CU2.2 CU2.3 CU2.4	Atlas maps Satellite photographs Statistics Diagrams Graphs	13
19-21	The European Union Its Economic Origins Development of Trade Policies including agricultural, fisheries and environment Changing boundaries Challenges – the future	CU2.3 CU2.4	Map interpretation Statistics Newspaper and textual sources	12
22-25	Regional Geography of Scandinavia The land Climate and vegetation Soils – forest podzols Primary activities Fishing Forestry Mining North Sea oil and gas Tertiary activities	CU2.1 CU2.2 CU2.3 CU2.4 CU1.2	Atlas maps Satellite photographs, statistics Graphs Newspaper and textual sources	16

## EASTER HOLIDAYS

26-30	Geoecology Soils – processes of formation Brown soils Podzols – link with Scandinavia Tropical red soils – link with Africa Human interference with soil characteristics – Sahel The coniferous forest biome How biome has been altered by human activities – farming and commercial forestry in Sweden.	OU7.1 OU7.2 OU7.3 OU7.4	Statistical maps Tables Cartoons	19
31-33	Revision Examination question practice			10
	<b>Total no. of classes</b>			<b>135</b>

## LEAVING CERTIFICATE EXAMINATION

## TEACHING FOR UNDERSTANDING - AN APPROACH TO TEACHING AND LEARNING

Over the past three decades the focus of educational research has shifted from the teacher teaching to the student learning. Learning in the Irish context has traditionally emphasised knowledge, hence the purpose of teaching was often believed to be the imparting of knowledge and the role of assessment was to measure the amount of knowledge the student had absorbed.

However, recent research shows that knowledge does not always imply understanding. In particular, knowledge acquired for the short term goal of performing well in examinations does not transfer to life situations. Teaching for understanding puts the emphasis firmly on understanding. It emphasises ‘understanding performances’ – activities or performances through which the student will demonstrate his/her understanding of the topic for study.

Effective, long-term learning takes place when the student understands the purpose of the lesson or learning unit, is fully engaged and plays an active role in the process of learning, receives constant feedback in the process and can apply that understanding in a number of ways, e.g. through explaining in his or her own words, explaining both sides of an argument, applying principles learnt to problem solving.

What is routine good practise to many teachers is now underpinned by educational research, most notably by psychologists like Howard Gardner who developed Multiple Intelligence Theory. Teaching for understanding is an application of multiple intelligence theory; it provides a supporting framework for a variety of differing methodologies and modes of assessment. It is often viewed as a lens that focuses the multiple intelligence approach on a teaching process.

Gardner identified eight intelligences by which students approach learning (see page 52). Students do not learn the same way and teaching strategies and methodologies must be designed which will allow students engage with the learning through different senses and activities. Above all, the learning must be worthwhile. A generative topic must be worth teaching, should connect to the student’s life and experiences, must allow for a variety of resources to be utilised, and should allow for the learning acquired to be expressed in a variety of ways.

## TEACHING FOR UNDERSTANDING HAS FIVE MAIN ASPECTS OF TEACHING TO ENHANCE UNDERSTANDING:

- 1 **Understanding goals:** are the two or three main goals of the unit. They are what you want students to understand at the end of the lesson or series of lessons. These goals must be shared with and understood by the students. The Geography syllabus clearly states the learning outcomes at the beginning of each unit. These outcomes equate with understanding goals.
- 2 **Images and examples:** These are the images, examples, case studies, illustrations or stimulus materials which teachers use to help their students understanding of particular topics. These will eventually support their ‘understanding performances’.
- 3 **Prior experience:** are the past experiences of the students which can be used to help their understanding. The teacher tries to find examples from the students’ experiences to help illustrate the topic, perhaps through referring back to the Junior Certificate syllabus, or a contemporary event highlighted in the media. These experiences may also help support the ‘understanding performances’.
- 4 **New information:** is the new information provided by the teacher or researched by the student. This is obviously central to the students’ understanding of the topic. The type and presentation of this information will demand originality and imagination on behalf of the teacher.
- 5 **Understanding performances:** are the expression of the understanding of the topic as illustrated by the student. These performances will also help reinforce the learning and understanding. Typical understanding performances would include the ability to
  - explain in one’s own words
  - analyse the controlling factors
  - debate or argue from different points of view
  - identify the key issues
  - use skills to deal with different forms of spatial information
  - apply the topic or issue to another setting
  - solve problems.

### Methodologies which can be used in the application of teaching for understanding

- Teacher-led discussions, brainstorming, questioning. The feedback should be recorded and developed.
- Response to stimulus materials; maps, aerial photographs, photographs, diagrams or statistics.
- Worksheets focusing students on individual research tasks.
- Production of newsletters, brochures.
- Role play.
- Group work and reporting.
- Performing and applying geographical skills.
- Individual project work and investigations.
- Group fieldwork. Planning, work in the field and follow up work.

### Theory into practice

#### Medium term planning

What follows is an application of the teaching for understanding approach to planning the teaching of individual units of the syllabus. A statement is taken from each of the syllabus units and this statement forms the basis for a number of teaching lessons. The units are stand-alone; no attempt has been made to integrate them with other units. However, they are linked to regional geography through the selected settings.

**CORE UNIT 1:****PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT**

**Statement 1.5:** Landform development (iii).

**Topic for study:** Fluvial processes, patterns and associated landforms.

**Understanding goals**

Student will be able to

- identify the main processes of erosion and deposition at work in a river basin
- identify and understand the development and evolution of the resulting landforms
- explain how these processes can vary due to slope, rock type and climate.

**Images and examples**

- Teachers should use OS maps to identify the drainage basin and the catchment area of a river.
- Teachers will help students to identify the main landforms and profile of the river using map skills.
- Teachers will use any available audiovisual material to help illustrate the topic.
- Teachers will focus students on their local river and a major world river.
- Teachers will use illustrations or simple experiments to illustrate the main processes of hydraulic action, abrasion, solution and attrition.
- Teachers will help students to use diagrams to show how landforms change over time.

**Prior experience**

Teachers should

- re-examine the work done in Junior Certificate geography
- organise group-based discussions on media covered events, such as local or international flooding events

- focus on discussions and questions on the destructive power of rivers and steps taken to avoid flooding and control river action
- use anything that the school or local environment can provide to highlight the topic for the student including any fieldwork experiences.

**New information**

Teachers should facilitate students in finding:

- references to text or resource materials relating to processes and landform development
- facts on flow and discharge rates
- studies on particular rivers.

**Understanding performances**

Students should be able to

- draw diagrams to illustrate the main landforms associated with different stages of a river
- identify these landforms on the OS map using grid references
- draw a long profile of the river
- discuss and differentiate between the different processes at work
- link the topic to 1.2 (The Rock Cycle) to identify and discuss the processes of weathering at work in different stages of the river basin.

## CORE UNIT 2: REGIONAL GEOGRAPHY

**Statement:** The concept of a region.

**Topic for study:** Socio-economic regions.

### Understanding goals

Students will be able to

- identify a peripheral region in Ireland and Europe
- discuss the reasons for peripherality
- identify a core region in Ireland and Europe
- discuss the main reasons for the development of these core economic regions
- identify a region of industrial decline within Europe
- discuss the reasons for this economic decline.

### Images and examples

Teachers should use

- maps to locate the chosen regions
- typical economic characteristics to identify the different economic regions
- web information to identify lifestyles in the particular regions
- tourist information relating to the regions
- the students' own impressions and insights into life in these regions.

### Prior experience

Teachers should refer to

- Junior Certificate settings within Ireland and Europe referring to inequality
- media reports relating to difficulties in peripheral or core regions
- historical references relating to the regions suggesting advantage or disadvantage

- any musical, artistic or cultural material which highlights the economic situation of the regions.

### New information

Teachers should facilitate students in finding

- economic facts relating to economic activities
- statistical information relating actual economic growth or decline
- information relating to infrastructure and services
- facts relating to regional development planning in peripheral regions and regions of industrial decline
- information relating to strategic plans for core economic growth regions.

### Understanding performances

Students should be able to

- locate each of the regions and draw simple sketch maps showing the key features
- describe the social and economic characteristics of each region
- isolate and outline the main reasons for these economic characteristics
- assess the effectiveness of regional development strategies
- compare the development issues of one region with another.

**CORE UNIT 3:**

## GEOGRAPHICAL SKILLS AND INVESTIGATION

**Statement:** Students should study recent census returns for Ireland.

**Topic for study:** Published census information and population trends in the local area.

**Understanding goals**

Students will be able to

- use a range of census information in the study of a population
- construct and analyse contrasting age and gender structures for the population
- trace changes in the population over time
- identify regions of high and low population density.

**Images and examples**

Teachers should

- arrange students in groups to examine different census data
- use graphs and statistics to show clear patterns in the census materials used
- conduct an age and gender survey of the local community
- link to the topics for study in Core Unit 2 (human processes in the selected regions) and Elective Unit 5 (Dynamics of Population 5.1)

**Prior experience**

Teachers should

- refer to past census gathering in Ireland
- use the Central Statistics website, [www.cso.ie](http://www.cso.ie) to provide up to date examples
- refer to materials covered in Junior Certificate geography

- Use map work to identify areas of high and low population density.

**New information**

Teachers should

- facilitate students through group work and individual work, to identify the recent population trends in the regions for study from Core Unit 2
- isolate the key factors which cause populations to change
- provide factual information relating to patterns in migration and link to 5.3. (The impact of migration on donor and receiver countries).

**Understanding performances**

Students should be able to

- outline the major changes in population in both the Irish, European, and global region studied in Core Unit 2
- use map work skills to show the spatial expression of these trends in Ireland.
- analyse the reasons for the different trends
- carry out simple investigation exercises to study local population patterns
- debate the key arguments in relation to modern migration patterns in Europe and outline the key economic, social and cultural issues.

**ELECTIVE UNIT 4:****PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES**

**Statement 4.5:** Economic activities have an environmental impact.

**Topic for Study:** The impact of burning fossil fuels and the use of alternative energy sources.

- refer to Junior Certificate materials relating to oil, peat and acid rain
- get students to consider the use of any alternative energy sources within their experiences.

**Understanding goals**

Students will be able to

- identify the main fossil fuels used in the Irish economy
- identify the main sources of these fuels and trends in their usage
- assess the differing environmental impacts of each fuel at a local and global scale
- look to possible alternative energy sources
- consider the concept of the sustainability of current patterns in energy use.

**New information**

Teachers should

- provide facts on patterns of consumption of oil, gas, coal, peat and wood within the Irish economy
- illustrate economic growth figures and output growth in energy sources
- direct students to find up to date figures on air quality and the resource limits in Ireland
- provide sources on viable alternative energy sources including HEP wind and solar energy.

**Images and examples**

Teachers should

- use the EPA Millennium report to identify the current patterns
- carry out an environmental audit of the energy use in the home and school
- use materials from environmental agencies to highlight possible and viable alternatives
- use videos, texts or internet sources to encourage research into the issues.

**Understanding performances**

Students should

- debate the sustainability of current energy usage trends in the Irish economy.
- outline the facts in relation to the global and local environmental impacts of these trends
- suggest the most viable and sustainable policy towards developing alternative sources.

**Prior experience**

Teachers should

- elicit students' experiences, attitudes and awareness of the role of fossil energy in their lives
- calculate the number of journeys taken by students in the past week and examine the range of fuels used

**ELECTIVE UNIT 5:**

## PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

**Statement 5.6:** Problems can develop from the growth of urban centres.

**Topic for study:** Urban problems of traffic movement and congestion.

**Understanding goals**

Students will be able to

- isolate the main problems associated with traffic in their own community and in an Irish city
- trace the development of these problems since 1960
- analyse current traffic management strategies
- develop their own strategies to solve traffic movement and congestion problems.

**Images and examples**

Teachers should

- look at everyday experience of commuters in their own community
- conduct an individual investigation into the journey to school and work patterns of their neighbours
- look at the EPA video “The State We’re In” on traffic
- conduct a simple traffic flow survey in the community recording vehicle types, number of occupants and direction of travel.

**Prior experience**

Students should

- record individual travel times between different points on their personal journeys at different times of the day
- refer to Junior Certificate material on traffic flow and direction
- scan media reports for any references to traffic strategies
- use the internet to look at the situation in European cities.

**New information**

Teachers should

- provide facts on the most widely used public transport initiatives including QBCs, light rail and metro
- provide a detailed analysis of the Dublin Transport Initiative and a contrasting strategy for another world city
- provide sources of information on the growth of car ownership in Ireland and the passenger numbers on public transport.

**Understanding performances**

Students should be able to

- debate the effectiveness and adequacy of current traffic management plans in Irish cities
- use local area maps to illustrate the problem areas for traffic and isolate the main reasons
- devise an alternative strategy for the local area
- analyse the effectiveness and limitations of public transport in dealing with traffic problems.

## OPTIONAL UNIT 6: GLOBAL INTERDEPENDENCE

**Statement 6.2:** We live in an interdependent global economy. Actions or decisions taken in one area have an impact on other regions.

**Topic for study:** A case study of a specific multinational company with reference to the impact of global trading patterns in relation to both producer and consumer regions.

### Understanding goals

Students will be able to

- trace the structure of one MNC across its global trading network identifying producer and consumer regions
- identify clear economic and social impacts on the producer and consumer regions.

### Images and examples

Teachers should use

- an example of an Irish company operating mainly within Ireland to trace the trading network and the sources of raw materials and product markets
- use maps to trace the global linkage within trading patterns of one commodity, e.g. oil or coffee.

### Prior experience

Teachers should

- re-examine Junior Certificate topics relating to unfair trade
- get students to examine the place of production of some everyday consumer items like food, clothing and electrical goods. These points of production should be mapped
- make clear links with the chosen global region from Core Unit 2 and the MNC case study in Elective Unit 4 (4.3) if appropriate.

### New information

Teachers should facilitate the provision of

- details relating to a case study on one particular MNC
- factual up to date information on the regional impact of the activities of the MNC
- any statistical information relating to the economic and social development of the regions. The use of IT sources should be encouraged.

### Understanding performances

Students should be able to

- identify, map, and describe the trading activities of a selected MNC
- select and classify the key social and economic impacts of the activities of the MNC in relation to producer and consumer regions
- make value judgements in relation to the justice and fairness of the situation if appropriate.

## OPTIONAL UNIT 7:

### GEOECOLOGY

**Statement 7.3:** The pattern of world climates has given rise to distinctive biomes. These biomes are world regions characterised by groups of plants and animals adapted to specific conditions of climate, soils and biotic inter-relationships.

**Topic for study:** Students should study one major biome/s in detail by examining climatic and soil characteristics and related patterns of animal and vegetation distribution.

#### Understanding goals

Students will be able to

- identify one major biome
- describe the climate and soil conditions of the biome
- relate the animal and vegetation distribution to these patterns of soil and climate.

#### Images and examples

Teachers should use

- world maps to identify the region/biome
- focus on the Irish climate and soil characteristics and relate these to the vegetation and animal distribution
- contrast this situation with general images from the chosen major biome
- use images, pictures, video or IT sources to build up a visual experience of life in the chosen region.

#### Prior experience

Teachers should

- re-examine the climatic regions studied at Junior Certificate
- make clear linkages with the continental or sub-continental region selected in the study of Core Unit 2
- look to simple experiences of the student in the garden, greenhouse or public park – reinforcing the relationship between climate, soils, plants and animals.

#### New information

Teachers should facilitate the provision of

- a detailed case study of a particular biome
- statistical and graphic information relating to the key topics of climate, soils, flora and fauna
- electronic sources of information relating to key issues for the students to explore.

#### Understanding performances

Students should be able to

- locate the biome and draw a simple sketch map of the region
- identify and discuss the key relationships between the soils, climate, vegetation and animal life as applied to the chosen biome
- make simple contrasts between these relationships and patterns and the major biome in which Ireland is situated.

## OPTIONAL UNIT 8: CULTURE AND IDENTITY

**Statement 8.2:** Nationality and the nation state are political entities placed on the physical and cultural landscape.

### Topic for study:

- Physical and political boundaries.
- Examples of cultural groups within nation states.

### Understanding goals

Students will be able to

- identify particular nation states which have been placed on the physical landscape
- discuss the complexity of placing a political boundary across a physical and cultural landscape
- outline particular examples of cultural groups identifiable within nation states.

### Images and examples

Teachers should

- use maps of Europe and Ireland to illustrate changes in political boundaries in the pre war/post war era
- use a number of global examples e.g. the division of Africa by colonial powers and the division of the western states of the USA.
- get students to draw simple sketches of the geographical spread of cultural groups, e.g. the Kurds, Sami (Lapps), to show their distribution relative to physical and political boundaries.

### Prior experience

- Link back to cultural regions in Core Unit 2 with examples from Belgium and Scandinavia.
- Use a case study of conflict between cultural groups in nation states as a result of political boundaries e.g. Tutsi and Hutus in Rwanda, Greeks and Turks in Cyprus or the Basques in Spain.

- Use the historic development of Northern Ireland from 1900 to 2000 to trace the changes and complexity of drawing political boundaries and the position of cultural groups within these boundaries.

### New information

Teachers should use two case studies:

- the establishment, composition and destruction of former Yugoslavia
- the unity and cultural complexity of Spain.

### Understanding performances

Students should be able to

- describe, using two examples, situations where political national boundaries are discordant with the physical landscape
- describe, using two examples, situations where cultural groups were placed within political national boundaries
- discuss the different points of view, attitudes, and reactions of people within this situation.

## OPTIONAL UNIT 9:

### THE ATMOSPHERE-OCEAN ENVIRONMENT

**Statement 9.5:** The surface of the earth can be divided into distinctive climatic environments. The characteristics of climate can change over time and space.

#### Topic for study:

- One distinctive global climate.
- Examples of climate change.

#### Understanding goals

Students should be able to

- identify one distinctive global climate area
- identify the main climatic forces which are responsible for the existence of the global climate area
- briefly outline examples of climate change both past and present.

#### Images and examples

Teachers should

- use a range of visual material to describe and visualise the climatic region
- use internet weather reports to get detailed metrological information
- use maps and weather maps to illustrate the physical and metrological characteristics of the region
- review the study of glacial processes in Core Unit 1 as an example of climate change.

#### Prior experience

Teachers should

- revisit Junior Certificate material relating to climatic regions
- link with the chosen European and continental regions from Core Unit 2
- get students to draw on and describe their travel experiences to focus on different climates

#### New information

Teachers should

- provide students with sources of detailed factual information on the regions chosen
- encourage the use of internet searches for visual and textual information
- show the students the EPA video 'The State We're in' – A Climate of Change
- provide simple information about 'El Nino'.

#### Understanding performances

Students should be able to

- outline the distinctive climatic characteristics of their selected region
- identify and isolate the major climatic processes responsible for these characteristics
- discuss and differentiate between natural and man-made processes of climate change
- discuss generally the possible impacts of climate change on the their selected region of study.

## USING INFORMATION AND COMMUNICATIONS TECHNOLOGY IN DELIVERING THE SYLLABUS

**G**eography is a subject highly compatible with the new technology. The internet gives access to up to date information, happenings and statistics for a rapidly changing world. Word processors, databases and spreadsheets speed up and make more presentable many mundane tasks of calculations, report writing and the drawing of maps and graphs. Desktop publishing and presentation software harnesses the power of multimedia in producing well designed reports and projects. Below are some of the applications which can be utilised in geography teaching.

- **Word processing and desktop publishing**

A word processing package is used to format text. It is useful for notes, handouts, examinations, homework and essays. Desktop publishing allows all types of graphical material to be laid out and displayed. This allows posters, newsletters, brochures and booklets to be produced.

- **Presentations**

Presentation software allows for text, pictures, graphics, sound and video to be combined in presenting a topic through a series of slides. They can be shown in sequence with animation and transition effects. Useful for teachers to introduce a topic. Students can use this as an alternative to text for displaying projects.

- **Spreadsheets**

Used for data processing, modelling. Most applications support the drawing of graphs in many forms.

- **Databases**

Stores information which can be instantly assessed, queried, refined. Material can be verbal, numeric or graphical; e.g. maps. Encyclopaedias and atlases are examples of databases.

- **Graphics**

Various applications which can produce high quality graphics, diagrams and posters.

- **Digital photography and digital video**

These can be used for recording information in the field. Images taken can be manipulated and used in conjunction with all the applications above.

- **Mapping**

Displays maps on a variety of scales from global down to detailed O.S. street maps.

- **Models, games and simulations**

Allows students to interact in dealing with real issues, e.g. managing a rain forest, cleaning up pollution, etc.

- **E-mail and video-conferencing**

Allows students to share classes and work with students in other schools in Ireland and in other countries.

- **The Internet**

Can be used to interrogate the practically infinite amount of knowledge from all over the world. However the quality of sites varies enormously. Guidance should be given to students as to which sites are worthwhile. It is important that the content of sites be analysed and incorporated into the student's assignments through critical selection and summary rather than by simply copying blocks of information.

Information sourced from the internet and used in the Geographical Investigation must be properly cited and acknowledged.

- **GIS**

Geographic information systems allow for all types of data to be digitally plotted on a base map of varying scales from global to local, and then interrogated to show spatial correlations between the data. It is becoming widely used in government, local authorities and businesses.

Because of its complexity and high cost its uses are limited in the classroom to date, but this is likely to change in the future. It will be increasingly used to display fieldwork findings and to spatially analyse census data.

### ICT IN THE CLASSROOM

Given the number of applications which are relevant, Geography is in a unique situation to exploit the potential of ICT. It can best do this where the hardware is readily to hand, in the classroom. Schools in the future will have computers in every classroom. A number of terminals for student use and a teacher unit linked to a digital projector would be desirable.

### ICT AND THE GEOGRAPHICAL INVESTIGATION

ICT will be increasingly incorporated into the geographical investigation. Data collected in the field can be entered in a database and processed. Tables can be constructed via a spreadsheet and quickly converted into graphics. Digital cameras can be used to capture landscape features which can be made into annotated sketches in the classroom. The internet can be used for secondary research. The report on the geographical investigation can be completed using a word processor. Maps and graphs can be digitally produced and pasted into the reporting booklet.

However the use of ICT will not confer any advantage to students in the assessment of the investigation. It should be viewed as a useful processing tool if the resources are available to the student, at school or at home.

### ICT AND ASSESSMENT

Software is available to allow tests to be constructed, which students can take onscreen and which can be instantly marked and scored.



# Section four

## sample lesson plans



## 5. SAMPLE LESSON PLANS

### INTRODUCTION

What follows is a series of lesson plans based on statements from different units of the syllabus, accompanied by teaching resources on which the learning activities are based. These activities are suggested rather than prescribed; in many cases they can be viewed as a menu of options from which the teacher can choose according to the level taught or the ability of the class. The statements and syllabus units selected tend to emphasise what is new in the syllabus.

Each lesson plan is set out in a template which brings together the main strands of teaching for understanding and assessment for learning. The aim is to provide a framework in which teachers are encouraged to plan the delivery of each lesson in accordance with sound theory and best practice. A blank template is available for photocopying and use by the teacher.

The resources on which the lessons are based include O.S. maps, aerial and satellite photographs, graphs, tables and textual sources extracted from newspapers or magazines. They are either reproduced or web addresses provided from whence they can be downloaded. The student's learning is guided through the completion of the suggested activities, having received clear direction from the teacher. The student's learning is assessed through performing the tasks suggested, having been given criteria by which to judge success. Feedback should be given at the conclusion of the assessment through written or verbal comment, showing what is required for improvement.

**The recommended time for each lesson is a single class period, unless follow-on activities are indicated; however it can be extended over two or more class periods if needed.**

## LESSON TEMPLATE PLAN

## TITLE OF LESSON:

## The learning intention:

What the lesson is intended to achieve – this can be based on the outcomes listed at the beginning of each syllabus unit.

## Contained in syllabus statements:

This ensures that each lesson is firmly rooted in syllabus statements.

The statements can be taken from more than one syllabus unit.

## Previous learning topics/prior experiences:

Introduces continuity into planning. Builds on Junior Certificate course.

Reference can be made to current events, news stories, students' interests e.g. nationality of soccer players etc.

## Stages of the lesson and methods to be used:

Detailed break down of activities.

Build in use of resource materials.

Possible format:

- introduction – what the lesson aims to achieve
- recap on previous learning
- introduction of new content
- setting assignments to reinforce learning/reveal understanding - classwork and homework
- recap of what has been covered in lesson.

## Students will have developed their skills in:

Where possible, skills should be integrated into lesson.

## They will have been introduced to new content:

By isolating the new content the learning task can be made more manageable to the student.

## They will use these resources:

The maps, photographs, statistics, graphs and diagrams through which understanding will be developed.

## Students will be asked to display their understanding through:

Devising meaningful activities which will allow students to show their understanding. This should involve a number of activities which would allow multiple intelligences to be employed. The activities can be undertaken as classwork or homework. Past examination questions can be utilised if appropriate.

**SAMPLE LESSON PLAN 1: LEINSTER GRANITE****The learning intention:**

Students will understand that

- the landscape familiar to many students is the result of processes involving the interaction of the tectonic cycle, rock cycle and surface processes
- the present location of fold mountains results from the historic movements of plates
- these past tectonic events contributed to the recycling and modification of rock which is evidenced by the present day distribution of rock types

**Previous learning topics/prior experiences:**

Plate tectonics

The rock cycle

Weathering and erosion (Junior Certificate)

**Students will have developed their skills in:**

Interpreting maps and diagrams.

O.S. map interpretation.

**They will have been introduced to new content:**

Ireland's position relative to plate movements in the past.

The Leinster chain as a result of plate movements.

The recycling of rocks as part of the tectonic process.

**Contained in syllabus statements:**

Ireland's position relating to plate boundaries in the past (Core Unit 1.1)

Irish rock types (Core Unit 1.2)

Landforms are influenced by geological structures which have resulted from the operation of the tectonic cycle (Core Unit 1.3)

Landforms are influenced by operation of rock cycle (Core Unit 1.4)

**Stages of the lesson and methods to be used:**

Students will be asked to study Fig. 1 - a geological map of the Leinster Chain and identify the axis of folding.

They will be asked to study Fig. 2 – a diagram of a section across the Leinster Chain. Arrows are used to indicate some of the processes which have contributed to the present landscape formation. These are:

A: folding due to plate movement,

B: igneous intrusion,

C: contact metamorphism and

D: sub-aerial denudation.

Students can be asked to describe in detail these processes and their causes, and how they have contributed to the present landscape.

**They will use these resources:**

Information sheets 1 and 2.

O.S. map extract of Co. Wicklow e.g. Glendalough or Avoca.

**Students will be asked to display their understanding through:**

Describing the rocks from which the Leinster Chain is formed and relating this to the rock cycle.

Describing the earth movements responsible for the formation of the Leinster chain and relating them to plate tectonic theory.

Drawing diagrams to illustrate these processes.

Recognising structure and processes on O.S. maps.

## INFORMATION SHEET 1

### CALEDONIAN IRELAND

**Key terms:** plate tectonics; plate convergence and collision; oceanic plate subduction; volcanic arc development; orogenesis.

In ancient geological times, extending through the Pre-Cambrian, Cambrian, Ordovician and into the Silurian periods, an oceanic area existed in the southern hemisphere, sandwiched between three continental plates, referred to as Laurentia, Baltica and the micro-continent of Avalonia. This ocean, called Iapetus, was at its maximum width in late Cambrian times but it proceeded to close up as the continental plates converged. This convergence involved the subduction of the oceanic plate materials beneath the continents, causing volcanic island arc development through the re-melting of ocean floor rocks. Sediments that had been deposited on the floor of Iapetus were scraped up and accreted onto the continental plate margins. Eventually, the final collision of the continental plates resulted in a major event of mountain building or orogenesis referred to as the Caledonian orogeny. This involved considerable deformation (folding and faulting) and thickening of the crust and also the emplacement of deep-seated magma chambers in the form of plutons or even larger batholiths.

The suture which joined the colliding continents runs diagonally across Ireland in a line roughly from Limerick to Louth. Thus, southeastern Ireland and northwestern Ireland originated on entirely separate plates. The clear evidence of the Caledonian orogeny can be seen throughout Ireland with its predominantly northeast to southwest trending structural grain as it can in much of northern Great Britain, especially Scotland (hence the

name 'Caledonian'), western Scandinavia and eastern Greenland and also in the eastern United States in the Appalachian area. Since this episode the entire continental unit has drifted northwards into the northern hemisphere and experienced major modifications through geological time - most notably, the opening up of the Atlantic in Mesozoic time which separated the Caledonian areas of Europe and North America on different plates.

With regard to Irish geology, the volcanic rocks in southeastern Ireland (south Wicklow, Wexford and Waterford and also in parts of the north and west) represent the product of volcanic island arc activity associated with the subduction of and closure of Iapetus. The Leinster batholith and other plutonic emplacements of the north and west owe their existence to the orogenic episode also. The Ordovician and Silurian sandstones and shales of the Longford-Down axis area represent the scrapings of ocean floor sediments accreted against the northern continental margin in faulted structures. Much of the northeast-southwest structural grain in Irish geology has since been masked by later deposition, especially in the south and midlands (Devonian and Carboniferous sediments). Later deformation (mainly affecting the south) due to the Armorican orogeny, which involved different episodes of plate convergence, produced a different structural orientation in the south. Much later igneous activity in Tertiary times (probably associated with the opening of the north Atlantic) produced the volcanic outpourings of the Antrim basalts and the emplacement of the plutons of the Mourne and Carlingford mountains.

INFORMATION SHEET 2

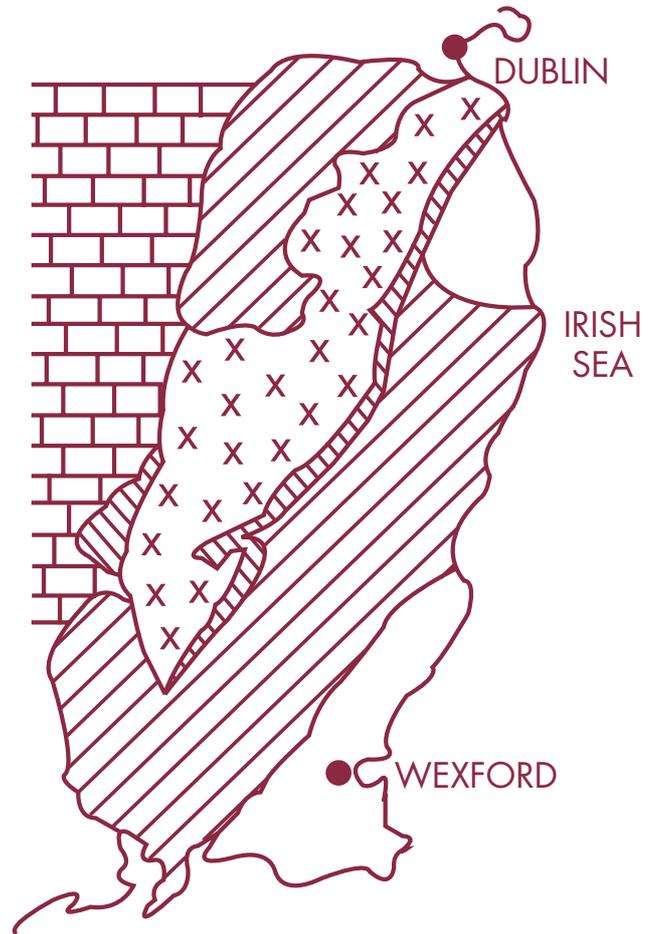
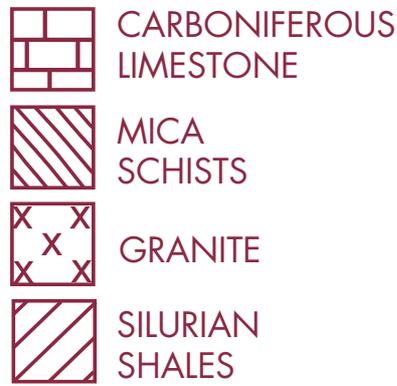


FIGURE 1. GEOLOGY OF S.E. LEINSTER

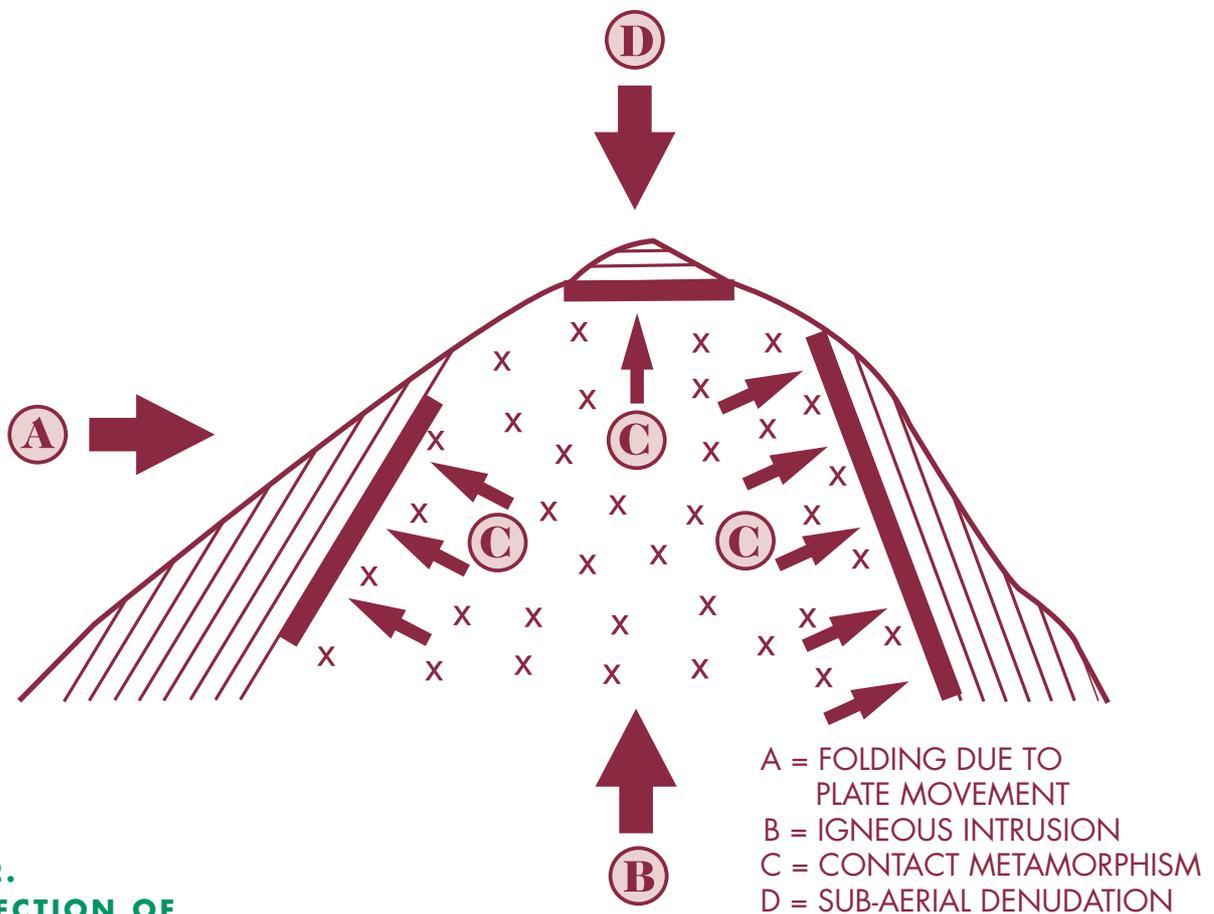


FIGURE 2. CROSS SECTION OF LEINSTER CHAIN

## SAMPLE LESSON PLAN 2: PATTERNS IN INTERNATIONAL TRADE

### The learning intention:

Students will understand

- why nations trade with each other
- the emergence of trading blocks
- the need for trade agreements
- how some countries are excluded
- Ireland's trading partners.

### Previous learning topics/prior experiences:

Developed and developing economies.

### Students will have developed their skills in:

Statistical analysis.

Location of countries.

### They will have been introduced to new content:

Factors governing World Trade.

Trading agreements.

Trading blocks.

Does trade favour the developed countries and exploit the developing world?

### Contained in syllabus statements:

Economies are linked within a global framework (Elective Unit 4.3).

A distinctive trading pattern has emerged between Europe, USA and Pacific Rim (Elective Unit 4.3).

International division of labour (Elective Unit 4.3).

Some regions are excluded (Elective Unit 4.3).

### Stages of the lesson and methods to be used:

Brainstorming session – why do countries trade with each other?

Suggested headings – climate constraints on food production, fuel and raw materials, specialisations, job creation, cost considerations.

The students are given Ireland's trading statistics and asked to describe and explain patterns. One way would be to locate named countries on a blank map of the world.

They could be asked to identify our most important trading partner and explain why. Would the same reasons apply to our second most important partner in trade? Our third and fourth?

Working through the list, what regional patterns emerge?

If the countries are shaded onto the world map, what regions are excluded? Why?

Students could be asked to link specific imports with the countries of origin. Is there a pattern of high value imports from developed countries and low value imports from less developed countries? They should try to explain this.

### They will use these resources:

Ireland's trade figures.

Outline world map. (This can be downloaded from <http://www.eduplace.com/ss/maps/world.html>)

Wall map or atlas.

### Students will be asked to display their understanding through:

Using the trade figures, show how Ireland is part of the global economy.

Analysing the factors which govern world trading patterns and particularly Ireland's foreign trade. Why and how do countries try to regulate trade?

## IRELAND'S MAIN PARTNERS IN TRADE 2002

Exports			Imports		
Country of Destination	Value €M	% of total value	Country of Origin	Value €M	% of total value
Great Britain	20,734.4	22.1	Great Britain	18,824.2	34.0
U.S.A.	16,385.0	17.5	U.S.A.	8,503.8	15.4
Germany	6,743.9	7.2	Germany	3,533.1	6.4
France	4,667.6	5.0	France	2,252.4	4.1
Italy	3,593.1	3.8	Japan	2,012.2	3.6
Belgium	3,519.3	3.8	Netherlands	1,821.8	3.3
Netherlands	3,410.4	3.6	China	1,492.7	2.7
Switzerland	3,121.4	3.3	Italy	1,091.6	2.0
Japan	2,642.4	2.8	Northern Ireland	1,035.7	1.9
Northern Ireland	1,696.7	1.8	Singapore	1,024.7	1.9
Sweden	1,184.5	1.3	Taiwan	998.1	1.8
Malaysia	766.5	0.8	South Korea	902.2	1.6
Singapore	741.7	0.8	Belgium	790.0	1.4
Australia	674.9	0.7	Finland	737.0	1.3
South Korea	643.2	0.7	Denmark	689.1	1.2
Hong Kong	551.5	0.6	Spain	676.0	1.2
China	547.0	0.6	Malaysia	638.0	1.2
Denmark	531.0	0.6	Norway	628.4	1.1
Norway	515.5	0.6	Switzerland	557.0	1.0

### SAMPLE LESSON PLAN 3: CHANGING MIGRATION PATTERNS IN IRELAND

#### The learning intention:

Students will understand that:

- Ireland has changed from having a migration deficit from emigration to having a surplus from immigration in recent years
- this has partly come about because of strong economic growth creating gaps in the labour market which must be filled by immigration
- some of those returning are Irish who emigrated in earlier years
- many Irish still emigrate for different reasons
- there has been a sharp rise in immigrants seeking asylum
- the government (and EU) are examining migration policy to control and regulate these flows.

#### Previous learning topics/prior experiences:

Migration – Junior Certificate.

Media reports.

#### Students will have developed their skills in:

Statistical analysis.

Interpreting graphs.

#### They will have been introduced to new content:

How and why Ireland's experience of migration has changed.

Where our immigrants come from.

Irish migration policy.

EU migration policy.

#### Contained in syllabus statements:

Population movements have an impact on the donor and receiver countries. (Elective Unit 5.3).

#### Stages of the lesson and methods to be used:

Brainstorming the class for their perception of migration issues. This could involve questioning

- their own family experience of emigration
- their perception of immigrants in the workforce; i.e. in hotels, hospitals, multinational corporations locally
- their perception of immigrants in school and in the community
- their perception of asylum seekers

Briefly revise push and pull factors.

The class will examine the census tables, graphs and reports of migration from the Central Statistics Office.

What would explain the trends shown in these tables?

Arising from their study of those figures, do we need to control the flow of migrants? What policies might we adopt?

#### They will use these resources:

Population statistics.

Graphs.

Reports.

#### Students will be asked to display their understanding through:

A written report describing and explaining the balance between emigration and immigration over the past twenty years.

Comparing/contrasting their family or community's experience of emigration with the experiences of the new immigrants.

Describing the impact on and the contribution made to the local community by immigrants.

Describing how future events might influence migration patterns – changes to the economy, EU enlargement, foreign wars and famine – and how Ireland's present migration policy might meet these challenges.

**LESSON PLAN TEMPLATE**

The learning intention:

Contained in syllabus statements:

Stages of the lesson and methods to be used:

Previous learning topics/prior experiences:

Students will have developed their skills in:

They will have been introduced to new content:

They will use these resources:

Students will be asked to display their understanding through:

## CHANGING MIGRATION PATTERNS IN IRELAND

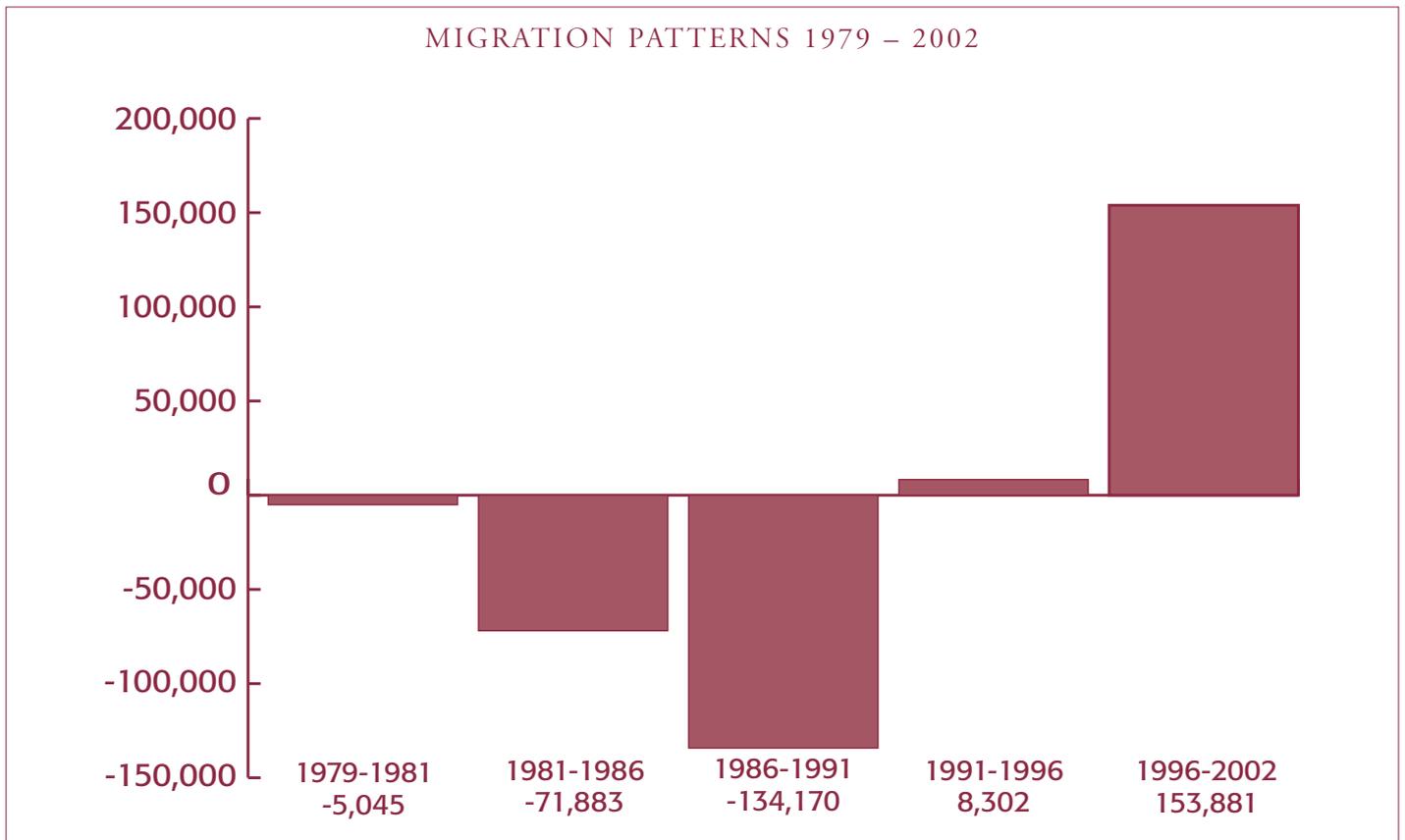


Figure 1

Source – Department of Justice and Law Reform

## TOTAL WORK PERMITS ISSUED 1999-2002

Year	New Permits	Renewals Permits	Group	Total
1999	4,328	1,653	269	6,250
2000	15,434	2,271	301	18,006
2001	29,594	6,485	357	36,436
2002	23,326	16,562	433	40,321

Figure 2

Source – Department of Justice and Law Reform

**ANALYSIS OF WORK PERMITS BY SECTOR:  
1999-2002**

Sector	1999	2000	2001	2002
Service	3,010	6,538	14,018	15,068
Catering	694	3,907	9,129	10,306
Agriculture/Fisheries	449	2,963	5,714	6248
Industry	414	1,744	3,119	3094
Medical and Nursing	721	1,353	2,252	2883
Entertainment	452	650	1,021	874
Domestic	80	195	521	788
Education	304	364	480	610
Sport	60	118	121	153
Exchange agreements	60	72	61	297

Figure 3 Source – Department of Justice and Law Reform

**PERMITS BY NATIONALITY 2002 –  
TOP 13 COUNTRIES**

Lithuania	3816
Latvia	3958
Philippines	3255
Poland	3142
Romania	2459
South Africa	2273
Ukraine	2092
Australia	1116
Brazil	1327
China	1236
Czech Republic	1138
Malaysia	1086
Russia	1238

Figure 4 Source – Department of Justice and Law Reform

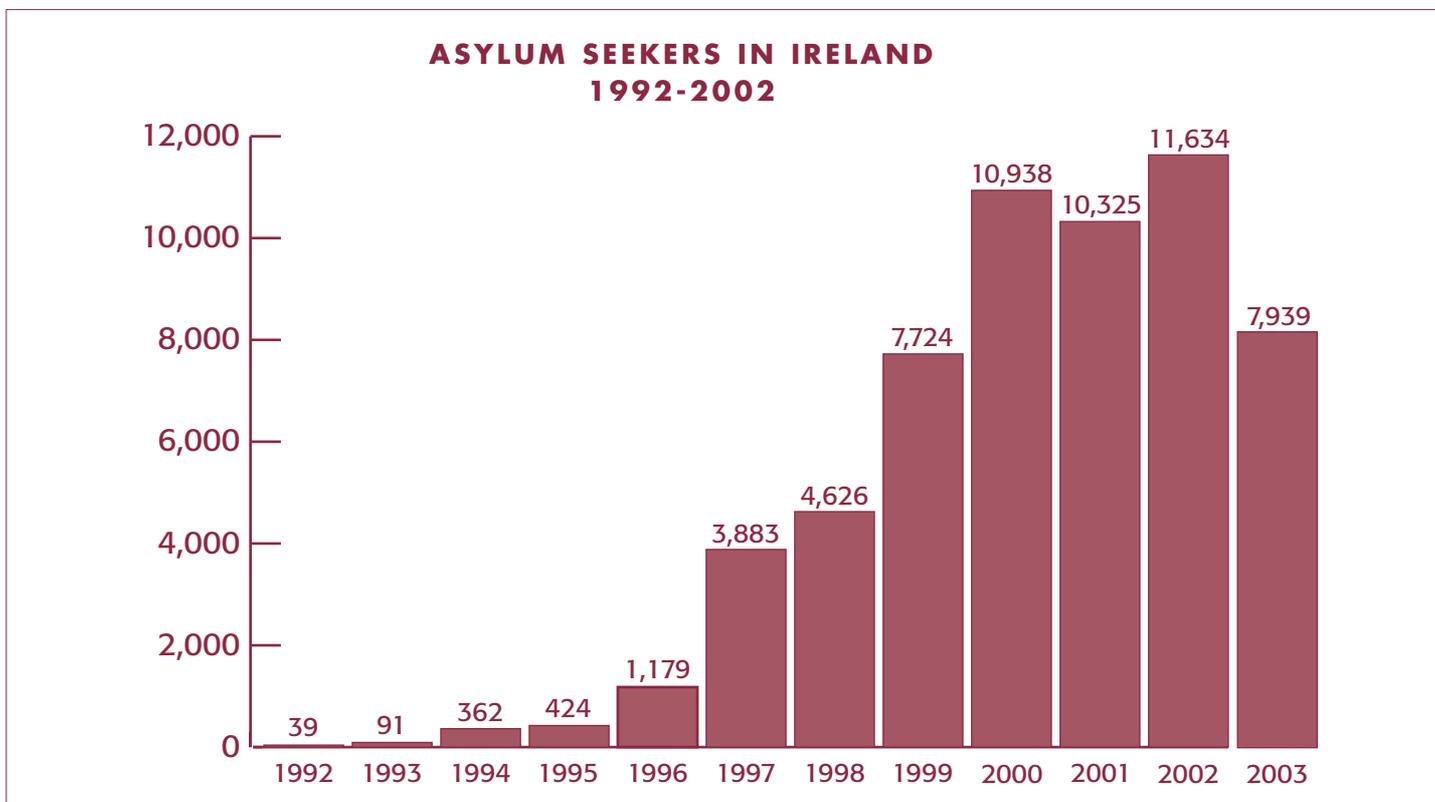


Figure 5. The high level of asylum applications is primarily the result of applications from nationals of Nigeria and Romania (49.2% in 2002). The highest source countries for 2002 were Nigeria (4,050 or 34.8% of the total number of applications for 2002) and Romania (1,677 or 14.4% of the total number of applications for 2002).

Dept of Justice and Law Reform

## SAMPLE LESSON PLAN 4: LOCATION OF SHOPPING CENTRES

### The learning intention:

Students will understand:

- the factors which influence the location of major retail parks
- the effect these developments have on the immediate locality and city centre retailing
- planning for sustainable progress.

### Contained in syllabus statements:

Changes in landuse and planning issues (Elective Unit 5.5).

Expansion of cities (Elective Unit 5.5).

Urban problems of traffic movement and congestion (Elective Unit 5.6).

Environment quality (Elective Unit 5.6).

### Previous learning topics/prior experiences:

Layout of towns and cities.

Changing land values.

Traffic congestion (all from Junior Certificate).

### Stages of the lesson and methods to be used:

Students will be given an O.S. extract and an aerial photograph of Liffey Valley Retail Park. They will be asked to locate the centre on the O.S. map at Grid Reference O 073 347.

They will be asked to describe the layout of the centre. They will be asked to analyse the factors which led to the development of the shopping centre. Sketch maps will be required for both these tasks.

They will be asked why these centres have proved so attractive to shoppers and speculate on the size of the catchment area. They will then be asked to describe the positive and negative impact on the local area.

They will be asked to read a newspaper report and analyse the reasons why a number of proposals for similar developments have been rejected by planning authorities.

### Students will have developed their skills in:

Photograph interpretation.

Map interpretation.

Text comprehension.

### They will have been introduced to new content:

Principles behind planning decisions.

### They will use these resources:

O.S. map (Figure 1).

Aerial photograph (Figure 2).

Newspaper article (Figure 3).

### Students will be asked to display their understanding through:

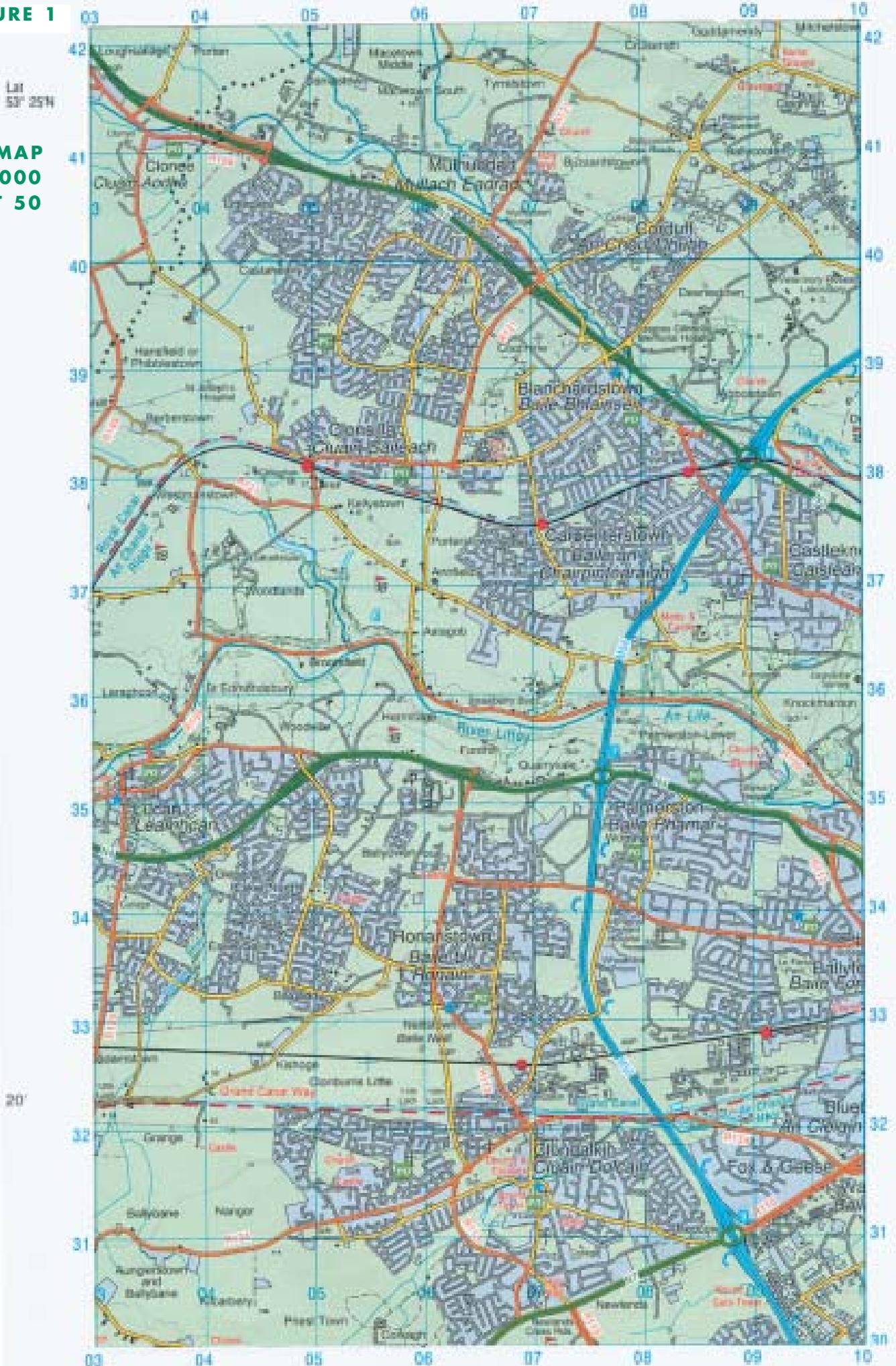
Preparing an advertisement to highlight the attractions of the shopping centre for national newspapers.

Developing a set of guidelines which planning officials could give to developers.

Using another map of a large town or city to locate a site suitable for a similar development.

FIGURE 1

O.S. MAP  
1:50,000  
SHEET 50



Ordnance Survey Ireland. Permit No. 7828

© Ordnance Survey Ireland and Government of Ireland

Co. DUBLIN  
Co. Bhaile Átha Cliath

FIGURE 2

## AERIAL PHOTOGRAPH, LIFFEY VALLEY RETAIL PARK



Ordnance Survey Ireland. Permit No. 7861  
© Ordnance Survey Ireland and Government of Ireland

FIGURE 3

### PLANNERS SAY NO TO RETAIL PARKS DESPITE BOOM

The spread of Retail Parks has received a check from Bórd Pleanála, despite their popularity with the public. Recent proposals to develop a new centre at Swords and extend existing centres at Blanchardstown and Liffey Valley have been refused planning permission because they cause traffic congestion and pose a threat to local traders.

These centres are a relatively recent development in Ireland. Centres like Liffey Valley Retail Park in West Dublin have proved enormously popular. Huge stores have attracted firms like PC World, Currys, Atlantic Homecare, B&Q, as well as outlets for tiles and carpets. The management cites the good road infrastructure as being well able to accommodate future developments.

However An Bórd Pleanála took a different view in March 2000 when it refused permission to double the size of Liffey Valley. The extension was to have included a massive Tesco supermarket. The grounds for refusal stated that the development would lead to massive traffic congestion due to its nature and scale.

This decision should go down well with the Irish Hardware & Building Materials Association and RGDATA, representing grocery shops, which both campaign against the large scale concentration of superstores because of the threat they pose to local traders.

New Retail Planning Guidelines state “large scale retail warehouse units in excess of 6,000 sq m are unlikely to be acceptable due to their effect on surrounding road networks and their potential for creating local monopolies which would inhibit competition with the local catchment areas”.

Daily News  
November 2001

## SAMPLE LESSON PLAN 5: COFFEE – FAIR TRADE?

### The learning intention:

Students will understand

- the interdependent nature of the global economy
- the impact of global economic policies on developing economies and regions.

### Contained in syllabus statements:

Impact of multinational company with reference to global trading patterns (Optional Unit 6.2).

Human Rights issues (Optional Unit 6.2).

Fair Trade (Optional Unit 6.3).

### Previous learning topics/prior experiences:

Commodity production and dependency from Junior Cert.

Fair Trade from Junior Certificate.

Multinational Corporations (Elective Unit 4.2).

### Stages of the lesson and methods to be used:

Reading the newspaper article – ‘Coffee – a burning issue’.

On an outline world map identify and locate the world’s chief coffee producers as named in the article.

Identifying global patterns of coffee production and consumption.

Identifying the major multinational companies dominating coffee trading.

Using the diagram show who benefits from the price of a jar of coffee to discuss the fairness of trade in coffee.

Discussing factors responsible for the fall in coffee prices.

Identifying the consequences for the producing countries.

Explaining fair trade, the concept of fair trade towns.

Identifying actions which we as consumers can take.

### Students will have developed their skills in:

Maps (world scale).

Diagrams.

Comprehension.

### They will use these resources:

Coffee - a burning issue (Figure 1).

The price of a jar of coffee (Figure 2)

Outline world map. (This can be downloaded from <http://www.eduplace.com/ss/maps/world.html>)

Wallmap or atlas.

### They will have been introduced to new content:

Dominance of multinational corporations.

### Students will be asked to display their understanding through:

Designing a Fair Trade poster.

Organising a school awareness campaign.

FIGURE 1

## COFFEE – A BURNING ISSUE

Torching nearly a million tonnes of surplus coffee beans is a radical way of solving the crisis in the world's coffee markets. But with prices at 30-year lows and farmers already burning their crop for fuel because it is uneconomic to sell it, the world's coffee producers may have to start thinking the unthinkable.

This week in the plush surroundings of the Hilton - where a cup of coffee costs £3.50 - producers and consumer countries will be discussing the crash in prices which has halved the incomes of the 10m farmers dependent on the crop.

Tomorrow Oxfam will suggest a mass destruction programme of excess coffee beans funded by a windfall tax on the big coffee grinding companies, Nestlé, Kraft and Sara Lee. They estimate 15m bags of low grade coffee would need to be burnt to get the market back into balance and push prices above \$1 a lb. The cost of the programme and compensation for the farmers would be \$250m - which would be paid by the coffee roasting companies.

Wholesale prices have collapsed over the last three years from nearly \$2.40 per lb to just under 50 cents, the lowest levels in thirty years. Allowing for the effects of inflation, coffee has never been so cheap.

Not that the consumer would have guessed. In the supermarket, a 100g jar of Nescafé Gold Blend has risen in price from £1.56 to £2.14 since 1994. Even at the best of times, coffee farmers receive a fraction of the price western consumers pay. Three years ago, when coffee prices were twice present levels, farmers received 14% of the retail price of a jar of instant. Today that figure is 7%.

Somebody is making money from coffee, and it is not the farmers.

Developing countries captured less than a third of the \$43bn generated globally by coffee in 1997. The lion's share is captured by the big coffee processing groups such as Philip Morris and Nestlé. For the producing countries, the situation is getting desperate. Coffee growing isn't economic at these prices.

"The crisis in coffee markets is producing record profits for some and mass poverty for others," says Celine Charveriat, policy adviser at Oxfam, the international development charity.

In Tanzania, farmers can no longer afford school fees; in Chiapas state, south Mexico, seasonal labourers already on the poverty line have had their wages dramatically cut. Many have migrated to cities rather than starve in the countryside.

For Uganda, which depends on coffee for more than half its export earnings, the price slump has cost it \$190m - the equivalent of half the amount of debt relief it has received from the West. Aginaldo Jose de Lima, president of the association of coffee producers of Patrocinio, in the Brazilian state Minas Gerais, says the price is less than the cost of production.

"In my area you are seeing harvests abandoned. There is no point cultivating on weaker parts of land. You cannot recoup your investment. The farmer gets into a vicious circle. He cannot afford any fertilizer so the size of his crop falls, which means that he has even less money to invest."

Last May, the Association of Coffee Producing Countries (ACPC) hammered out an agreement to withhold up to 20% of its production from export to lift prices. This is the third such attempt to control the coffee market, but like the previous two it has been a dismal failure.

The problem is that the planned cuts are dwarfed by the size of the stockpiles built up by previous years of oversupply. The global coffee mountain stands at 56m bags - 3.12m tonnes of surplus beans.

Coffee consumption has remained relatively static for 20 years as production has exploded. The world grinds its way steadily through 103m bags of coffee a year on average, and unless coffee drinking takes off in a big way in populous countries like India and China, that looks unlikely to change. The International Coffee Organisation estimates production for 2000-1 will be 113m bags. Coffee exports have increased by 15% since 1990 because of new plantings by established producers and

the arrival of newcomers to the market. Desperate for dollars to pay off western loans, developing countries have seized on coffee as an ideal cash crop.

Ten years ago, Vietnam was an insignificant producer of coffee. Today its industry, founded with World Bank loans, is the second largest after Brazil. In Colombia and Brazil, farmers were encouraged to switch from growing coca - the raw ingredient for cocaine - to coffee.

Unless coffee producers drastically change their policies, Oxfam says they are heading for a collective disaster. Rivalries between producing nations are hampering their attempts to tackle the crisis. Many of the Asian countries have raised production as prices have fallen to try to increase their revenues, but instead have contributed to the oversupply.

The Latin American countries back a renewed effort to make the export retention plan stick. The retention plan demands tough actions since coffee cannot be kept forever, and farmers are reluctant to see their harvest rot. Most of the producing countries lack anywhere to store the surplus. The ACPC's poorer African members have very little choice but to sell all their crop because they

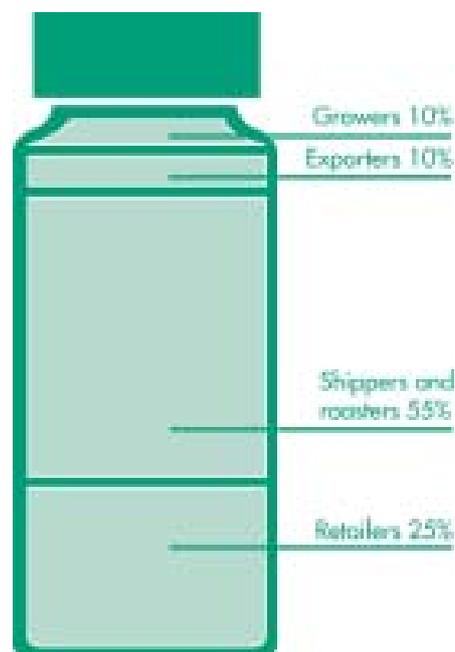
need the money. "What none of them wants to bite the bullet on is the fact that a huge amount of coffee needs to be destroyed," says Oxfam policy adviser Kevin Watkins. "The coffee mountain has to go, just moving it isn't the solution."

Oxfam says the big players have failed to pass on falling prices to consumers. "Indeed these trends have strengthened their market power along the supply chain, as they can pick and choose suppliers in Asia, Africa and Latin America, taking full advantage of lower prices and exercising their market power against vulnerable suppliers," says Ms Charveriat. David Nahum, secretary general of the Brazilian Coffee Industry Association, agrees that there is a crisis, but says the solution is to increase consumption, not destroy coffee. "Other producer countries should take Brazil's example. Ten years ago we consumed 6.8m bags. Now we consume 13.4m a year. The consumption in places like Indonesia and Central America is still very low." The radical solution may become more appealing to western governments when they consider the alternatives. Faced with falling prices, farmers in Latin America may decide that it makes sense to go back to growing drugs.

Copyright: The Guardian

**FIGURE 2**

**THE PRICE OF A JAR OF COFFEE**



## SAMPLE LESSON PLAN 6: RAINFOREST BIOME

### The learning intention:

Students will understand:

- the meaning of a biome
- the rainforest has evolved as an adaptation to climate and soils
- a complex interrelationship exists between climate, soil, vegetation and animal life
- this interrelationship is disturbed through human interference – rainforest destruction.

### Previous learning topics/prior experiences:

Equatorial regions.  
Tropical red soils.

### Students will have developed their skills in:

Using atlas maps, photographs and diagrams.  
Climate tables and graphs.

### They will have been introduced to new content:

Definition of a biome.  
The interdependence between climate soil, vegetation, and wildlife.  
The effects of rainforest destruction on the biome.

### Contained in syllabus statements:

The pattern of world climates has given rise to distinctive biomes (Optional Unit 7.3).  
Biomes have been altered by human activities (Optional Unit 7.4).

### Stages of the lesson and methods to be used:

Students will be given climate tables and graphs for an equatorial region. They will be asked to describe the pattern of temperature and rainfall. They will then be asked how the climate will affect the process of soil formation and development of vegetation cover.

They will be shown photographs and diagrams of typical rainforest vegetation and be asked to describe the different layers.

They will be given an account of the wildlife and they will describe how it is adapted to this environment.

They will be asked to discuss the effects of recent developments which have resulted in the destruction of the rainforest. These will include soil erosion and impoverishment, elimination of species, increase in CO<sub>2</sub> emissions.

### They will use these resources:

Climate graph.  
Textbooks, encyclopaedia articles e.g. Encarta, websites.

### Students will be asked to display their understanding through:

Drawing an annotated diagram showing and explaining the structure of the rainforest.  
Preparing a summary of why the rainforest should be saved.  
Debating whether the economies of developing countries be developed without destroying the environment.

## SAMPLE LESSON PLAN 7: WHAT BELFAST CAN TELL US ABOUT URBAN SEGREGATION

### The learning intention:

Students will understand:

- issues associated with urban segregation.

### Previous learning topics/prior experiences:

Plantation of Ulster (Junior Cert).

Media reports.

### Students will have developed their skills in:

Map interpretation.

Photo interpretation.

Text comprehension.

### They will have been introduced to new content:

Segregation of population in Belfast and why it came about.

Religious conflict.

### Contained in syllabus statements:

Culture and identity are tied to ideas of ethnicity, which include race, language, religion and nationality. (Optional Unit 8.1).

The impact of colonialism and migration on racial patterns (Optional Unit 8.1).

The distribution of major religions (Optional Unit 8.1).

Religious conflict (Optional Unit 8.1).

Everyday expressions of culture and identity (Optional Unit 8.1).

### Stages of the lesson and methods to be used:

Brainstorming the class to examine their perceptions of Belfast.

Briefly explaining some factors which have influenced the polarisation of Belfast along religious lines; i.e. plantation, industrialisation, partition.

Examining the map of Belfast and identifying the location of almost exclusively Protestant and Catholic areas.

Explaining the correlation between patterns of segregation and income distribution.

Examining the imagery of these locations, e.g. flying of flags, gable decorations, festivals and processions.

Explaining why this pattern developed.

Reading the article on religious segregation. Examining the consequences of this division and its impact on the lives of people e.g. employment patterns in shipyards, denominational schools, journeys to work and school, 'peace lines'.

### They will use these resources:

Religious map of Belfast (Figure 1)

Newspaper article (Figure 2)

Photographs of conflict, parades, gable murals. These are available on the CAIN website  
<http://cain.ulst.ac.uk/index.html>

### Students will be asked to display their understanding through:

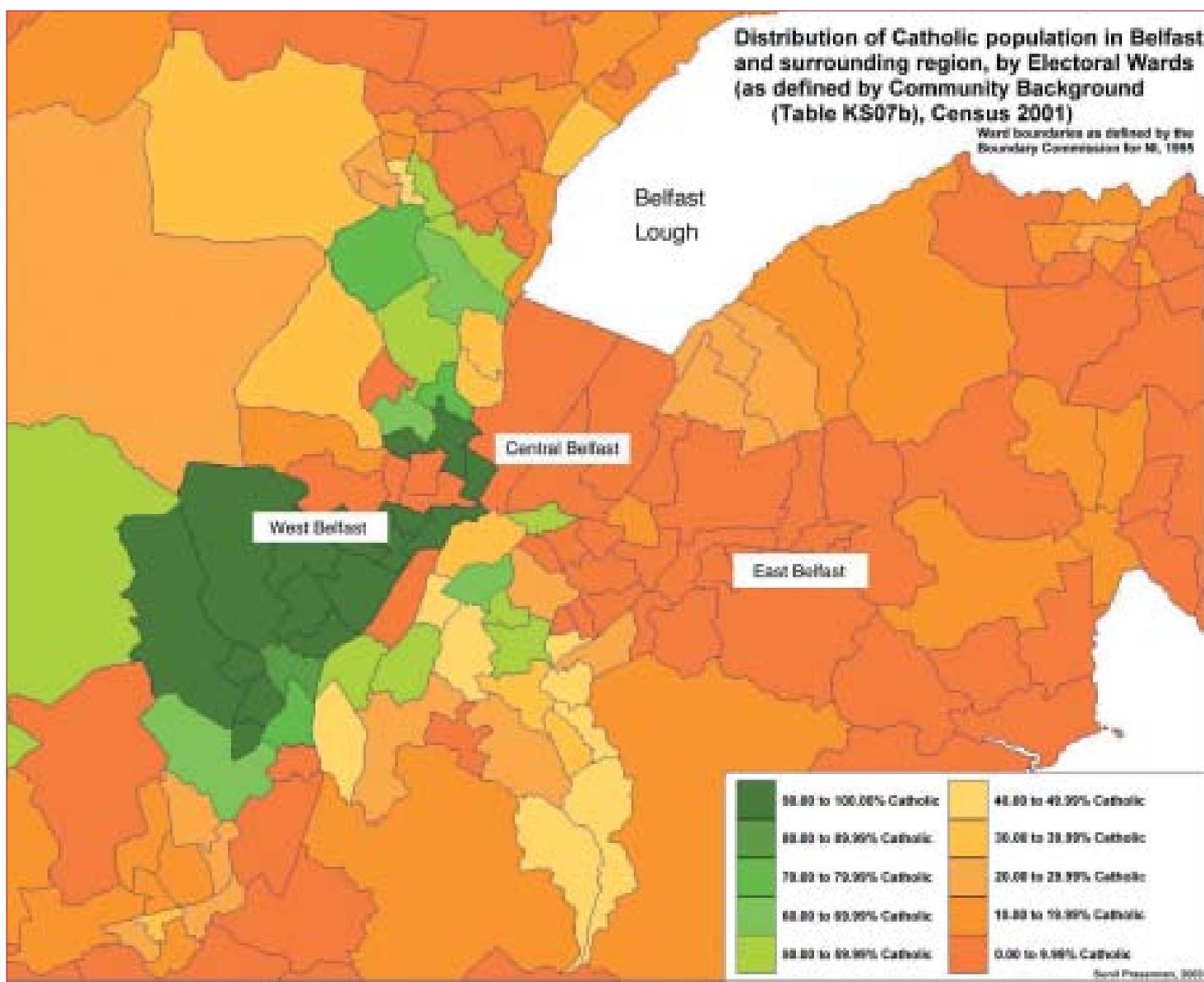
Examining the imagery of political and religious affiliation – the red hand of Ulster, gable wall decorations, flags, Orange banners.

Comparing Belfast to Jerusalem.

Suggesting measures which the Northern Ireland Office could take to break down the barriers of hatred and mistrust.

FIGURE 1

## RELIGIOUS MAP OF BELFAST



Source: Dr Sunil Prassanan,  
Imperial College, London

FIGURE 2

## PEACE BUT NO LOVE AS NORTHERN IRELAND DIVIDE GROWS EVER WIDER

Protestants and Catholics report more violence and less integration

Paul Brown in Belfast  
Friday January 4, 2002  
The Guardian

Segregation in Belfast has got worse since the Northern Ireland peace process began, with Protestant and Catholic enclaves more entrenched and violence on the increase, according to new research.

Surveys carried out among 4,800 households in 12 neighbouring estates separated by so-called peace lines - usually brick walls or metal barriers - show there is less integration than 10 years ago, particularly among younger people.

Prejudice on both sides was so marked among the 18- to 25-year-olds that 68% had never had a meaningful conversation with anyone from the other community. In all age groups six out of 10 said they had been victims of verbal or physical abuse since the first ceasefire of 1994, and the same number believed that community relations had worsened during the same period.

Dr Peter Shirlow, who is presenting his findings to the Royal Geographical Society and Institute of British Geographers conference in Belfast tomorrow, said the findings contradicted what politicians involved in the peace process hoped and believed was happening.

"Everyone sees themselves as a victim in Northern Ireland," he said. "There is a complete denial of the other side's victimhood; people cannot see themselves as perpetrators of violence and intimidation, only as victims of the opposite camps."

Dr Shirlow, who is a senior lecturer in geography at the University of Ulster in Coleraine, used specially trained members of both communities in the estates to conduct the research.

A further survey of 40,000 jobs in Belfast showed that workforces were also segregated. A mere 5% of the workforce in companies located in areas dominated by the Protestant community are Catholics, and 8% of Protestants had jobs in Catholic areas.

Dr Shirlow's research has been backed up by as yet unpublished analysis of the 2001 census. This showed that in Belfast in 1991 63% of the population lived in areas that were either more than 90% Protestant or 90% Catholic. By 2001 this had risen to 66%, showing that segregation was rising.

Figures from the Northern Ireland housing executive reinforce this view. After the 1994 ceasefire there was an upsurge of hope. Three thousand people moved into areas dominated by the other religion in the belief a new era was beginning. By 1996 the trend had reversed and since then 6,000 families have moved back into areas dominated by their own religion.

Dr Shirlow said the most significant single factor in these changes was the 1996 battle over Drumcree church where the loyalist community had been prevented from marching through an increasingly republican area. It had polarised opinion and fear in both communities throughout the province.

This kind of division had manifested itself again in the Catholic Ardoyne and Protestant Upper Ardoyne areas this autumn in the dispute over the Holy Cross primary school, when Protestants hurled a pipebomb at Catholic children walking to school.

According to the survey, older people were more likely to cross sectarian lines to shop, and to attend health centres and other facilities.

They were less likely to see themselves as potential victims of violence and more inclined to see good in people on the other side. This was mainly because they had memories and contacts in the other communities from before the Troubles erupted in 1968.

Young people were least likely to cross the peace lines. The number of acts of violence was increasing. Although the number of murders had reduced, the number of fist fights and other acts of intimidation or physical attack was rising.

For example, Dr Shirlow said, there had been two knee-

cappings on Wednesday night. In both cases the ambulance was called before the attack had taken place. When the sirens were heard, the victim was shot. The idea was to punish, not to kill, Dr Shirlow said.

The only ray of hope was in the suburban and country areas. Here the mixing of communities was greater than before 1994, mainly because Catholics with better opportunities and jobs were moving to more affluent areas. Dr Shirlow said the only way to break down this division in Belfast was to get the issue into the political arena.

What was needed was some kind of "experience commission" where people with similar experience from both communities could share their knowledge.

"Currently Catholics see themselves as victims of loyalists and the British state, loyalists see themselves as victims of republicans and now the British state. We have to show that they are both victims and perpetrators."

### Lines of dispute

- 68% of 18- to 25-year-olds living in Belfast have never had a meaningful conversation with anyone from the other community, according to the research
- 72% of all age groups refuse to use health centres located in communities dominated by the other religion
- Only 22% will shop in areas dominated by the other religion
- 58% travel twice as far as they have to locate what they consider safe facilities to shop, or go to a leisure or health centre
- 62% of unemployed people refuse to sign on in their local social security office because it is in an area dominated by the other religion
- 62% have been the victims of physical or verbal abuse since 1994
- 62% believe community relations have worsened since 1994

Copyright: The Guardian

## SAMPLE LESSON PLAN 8: TODAY'S WEATHER

### The learning intention:

Students will understand that:

The weather we experience is determined by systems which extend over huge areas of the North Atlantic and the European continent.

These systems can be recognised on maps and satellite photographs.

These maps are based on reports from weather stations on the ground and at sea. Satellite photographs help in locating and tracking these systems.

These systems behave in predictable patterns and that it is possible to make reliable forecasts.

### Contained in syllabus statements:

Weather maps and weather data (Core Unit 3).

Circulation in both the atmosphere and the oceans affect weather and climate patterns on a variety of scales (Optional Unit 9.4).

Mid latitude depressions and anticyclones (Optional Unit 9.4).

### Stages of the lesson and methods to be used:

Downloading the weather reports from Irish weather stations from <http://www.met.ie/>

Downloading latest weather map and satellite photograph from <http://www.met.ie/> or <http://www.met-office.gov.uk/>

Locating the nearest weather station on weather map and satellite photo.

Relating the elements of the weather to the wider picture shown on the map and photograph. This can be guided by questions such as 'why is the wind blowing in this direction?' , or 'why is it raining?'

Since these systems generally develop in a predictable way, how might the present weather develop?

Check students' forecast against official forecast.

### Previous learning topics/prior experiences:

Weather and Climate in Junior Certificate.

The Global exchange of heat.

Air masses.

Fronts

### Students will have developed their skills in:

Interpreting weather reports.

Interpreting weather maps.

Interpreting satellite photographs.

### They will have been introduced to new content:

The main weather systems which influence Irish weather.

### They will use these resources:

Weather reports.

Weather maps.

Weather satellite photographs.

### Students will be asked to display their understanding through:

Preparing a forecast for the next twenty-four hours.

Describing how Ireland's location influences the pattern of our weather.

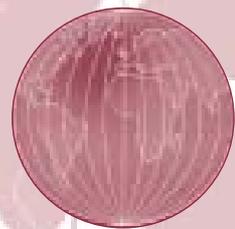
Discussing whether Irish weather is more or less predictable than other regions they have studied and why.

Whether global warming is affecting our weather.



# Section five

## resources



## 6. RESOURCES

### USEFUL EQUIPMENT

The following equipment may prove useful for investigations in the field.

#### Data logger

a sensing device which automatically transmits data to be recorded on a computer. Different sensors measure a range of qualities, e.g. temperature, pressure, wind speed, water flow, pH in rivers. It may be shared with the school science department.

#### Ranging rods

useful for measuring depth of streams, can be used with string and builder's spirit level for taking levels.

#### Tape measure

preferably plastic coated, otherwise may stretch when wet.

#### Compass

for surveying.

#### Clinometer

for measuring slopes.

#### Water testing kit

testing water quality.

#### Soil testing kit

measuring pH in soils.

#### Geological hammer

collecting rock samples.

#### Plastic bags

for collecting samples. Self-sealing bags are the best.

#### Sample bottles

for taking samples of water for testing back in school.

#### Clipboards

essential for notetaking.

### SUPPORT PACKS AND VIDEOS

Some of these resource packs and videos were commissioned especially for Irish schools. They should be in schools already.

#### The State We're In

EPA resource pack for TY has many useful applications for LC particularly in its investigation methodology.

#### Essential Stone

CRH Video and resource pack with applications for LC Physical Geography and Human Interaction with the Physical Environment.

#### Exploring our World

A Development Education resource pack for Junior Cycle with applications and resources which are equally applicable to Leaving Certificate geography.

#### Written In Stone

A video available from the Geological Society of Ireland. Shows how Ireland's landscape has evolved.

### CD-ROMS

#### Encarta

Available on Cd-rom and DVD. This encyclopaedia from Microsoft has excellent articles on geographical topics lavishly enhanced with photographs, animations and video. The atlas is superb; anywhere in the world can be immediately located in the greatest detail. Highly recommended for project work.

#### Britannica

Same as above, more restrained in its presentation, but possibly even more detailed in content.

### BOOKS

#### Ireland's Environment – A Millennium Report

Environmental Protection Agency 2000

#### The Making of Ireland – Landscapes in Geology

Williams and Harper IMMEL 1999

#### Written in Stone

Kennan Geological Survey Ireland 1995

#### A Story through Time

McKeever GSI/Geological Survey of Northern Ireland 1999

#### 80:20 – Development in an Unequal World

Colm Regan TIDE 2002

#### The Karst of Ireland – Limestone Landscapes, Caves and Groundwater Drainage Systems

Karst Working Group 2000 Geological Survey of Ireland

#### Reading the Irish Landscape

Frank Mitchell and Michael Ryan Town House 1997

#### Atlas of the Irish Rural Landscape

Aalen, Whelan and Stout Cork University Press 1997

#### Places and Regions in Global Context: Human Geography

Paul L. Knox and Sallie A. Marston Prentice Hall 2001

#### Population, Resources and Development

Chrispin, Jegede Collins Educational 2000

#### Geography: An Integrated Approach

David Waugh Nelson Thornes 2000

#### The Dictionary of Physical Geography

Goudie, Thomas (editors) Blackwell Publishers 2000

#### The Dictionary of Human Geography

Ron J. Johnston Blackwell Publishers 2000

**A Dictionary of Geography**

Susan Mayhew  
Oxford Paperbacks 1997

**JOURNALS****Geography Viewpoint**

Journal of the Irish Geography  
Teachers Association.

**Irish Geography**

The journal of the Geographical  
Society of Ireland.  
Available on the web at  
<http://www.ucd.ie/gsi/journal.html>

**Geography**

The journal of the Geographical  
Society.

**Teaching Geography**

The journal of the Geographical  
Association. Visit their website at  
<http://www.geography.org.uk/index.asp>

**National Geographic**

Excellent for maps and photographs.  
Website at  
[www.nationalgeographic.com](http://www.nationalgeographic.com)

**MAPS****Ordnance Survey Ireland**

A full list of all available maps can be  
seen at [www.osi.ie](http://www.osi.ie)

**Geological Survey of Ireland**

A series of Geological maps of scale  
1:100,000 cover the country. These are  
published with an accompanying  
guide.

**USEFUL ADDRESSES****Environmental Protection Agency**

Johnstown Castle  
Co. Wexford

**ENFO**

17 St. Andrew St.  
Dublin 2  
<http://www.enfo.ie/>

**Office of the European Commission**

Dawson St.  
Dublin 2

**Trocaire**

Maynooth  
Co. Kildare  
<http://www.trocaire.org/>

**Concern**

52-55 Lr. Camden St.  
Dublin 2

**WEBSITES**

The following websites are  
recommended as being of high quality  
and appropriate to the syllabus.  
Although they are presented here as  
being linked to one section of the  
syllabus, many are relevant to other  
areas.

The Geography Support Service will  
develop a subject website and this will  
provide links to all the web addresses  
given here. It will be kept updated and  
extended as other sites are  
recommended or developed.

**GENERAL GEOGRAPHY  
PORTALS**

Portals provide links to multiple sites,  
usually providing a commentary and  
indicating the quality of each site.

**Scoilnet**

[www.scoilnet.ie](http://www.scoilnet.ie)  
This website has been created by the  
NCTE as the reference point for Irish  
educational matters.

**BBC Webguide**

[www.bbc.co.uk/webguide](http://www.bbc.co.uk/webguide)  
A comprehensive entry to selected  
sites, not all relevant to the Leaving  
Cert, but all of very high quality.  
Divided into course related sections –  
key stage 3&4 and A Level are the  
relevant ones.

**About**

[www.geography.about.com](http://www.geography.about.com)  
An excellent introduction to world  
geography broken into categories.  
Main emphasis on American case  
studies.

**Internet Geography**

<http://www.geography.learnontheinternet.co.uk>  
Excellent site with British bias –  
includes teacher lesson plans.

**The Internet Geographer**

[www.internetgeographer.com](http://www.internetgeographer.com)  
Hundreds of links to other sites – but a  
heavy emphasis on U.K. sites.

**NEWSPAPERS**

Newspapers provide articles of local,  
national and international issues and  
events. They provide extensive  
archives and can be quickly and easily  
searched by date or keyword.

**Irish Times**

[www.Ireland.com](http://www.Ireland.com)  
Currently requires a subscription.  
Archives back to 1998 are easily  
searched by excellent search engine.

**Irish Independent**

[www.unison.com](http://www.unison.com)  
Requires registration. Archives are  
searchable by date.

**Examiner**

[www.examiner.ie](http://www.examiner.ie)  
Requires registration. Archives can be  
searched from front page.

**The Guardian**

[www.guardian.co.uk](http://www.guardian.co.uk)  
Offers special reports on topics such  
as famine, population, climate change.  
Suggests linked articles and offers  
links to suggested relevant sites.

## WEB RESOURCES TO SUPPORT UNITS OF STUDY:

### Patterns and Processes in the Physical Environment

#### Geological Survey of Ireland

[www.gsi.ie](http://www.gsi.ie)

Provides local geological maps.

Provides detailed walking and driving geological guides. Has information on 2003 Mayo Bogslide.

#### Rivers

[http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/fluvial\\_systems/title\\_page.html](http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/fluvial_systems/title_page.html)

An online textbook on fluvial systems.

#### Glacial Systems

[http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/glacial\\_systems/title\\_page.html](http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/glacial_systems/title_page.html)

An online textbook on glacial processes.

#### The Essential Guide to Rocks

<http://www.bbc.co.uk/education/rocks/index.shtml>

Try out Britain's Rocky Past – an interactive guide to the Geological Time Scale – too bad it doesn't include Ireland.

The Rock Primer describes how rocks are categorised.

#### Geography in Action

<http://www.geographyinaction.co.uk>

A site covering aspects of Northern Ireland and border counties.

Has an excellent interactive geology map, extensive photograph collection and useful data on human geography, particularly the city of Belfast.

#### Geomorphology from Space

[http://daac.gsfc.nasa.gov/DAAC\\_DOC\\_S/geomorphology/GEO\\_HOME\\_PAGE.html](http://daac.gsfc.nasa.gov/DAAC_DOC_S/geomorphology/GEO_HOME_PAGE.html)

A NASA site containing hundreds of satellite photographs illustrating different geomorphological processes.

#### Visible Earth

<http://visibleearth.nasa.gov/>

Another NASA site which allows for searches by country, region or topic.

#### Volcano World

<http://volcano.und.nodak.edu/vw.html>

A comprehensive site covering all the world's active volcanoes.

#### United States Geological Survey

<http://www.usgs.gov>

A comprehensive site covering many topics. Excellent source for factsheets, illustrations, satellite photographs, etc.

#### Classification of Rocks

<http://www.zephyrus.demon.co.uk/virtualschool/lessons/Lesson008.htm>

A brief look at how rocks are classified. Text with some illustrations.

#### Exploring the Environment

<http://www.cotf.edu/ete/main.html>

A NASA sponsored site offering many projects and activities.

### Regional Geography

#### IDA

[www.idaireland.com](http://www.idaireland.com)

The Industrial Development authority is the agency with responsibility for attracting foreign investment in industry and services into Ireland.

#### Duchas

[www.duchas.ie](http://www.duchas.ie)

The agency responsible for preserving our natural and built heritage.

#### Teagasc

<http://www.teagasc.ie/agrifood/index.htm>

Facts and figures on Irish agriculture.

#### Bord Iascaigh Mhara

[www.bim.ie](http://www.bim.ie)

Information on Ireland's fishing industry.

#### European Union

[www.europa.eu.int](http://www.europa.eu.int)

The official EU website. Good on the history of European integration, institutions and policies. Is linked to Eurostat.

#### Italy

<http://www.channel4.com/learning/microsites/I/italia/>

Developed in conjunction with a programme series Italia on Channel 4. Contains factsheets, games and quizzes.

#### National Atlas of Sweden

[http://www.sna.se/e\\_index.html](http://www.sna.se/e_index.html)

Thematic maps of Sweden.

#### Look at Norway

<http://www.lookatnorway.org.uk/>

An educational site on Norway offering handouts and photographs for downloading.

#### Brazil

<http://darkwing.uoregon.edu/~sergiok/boaviagem.html>

Good site for information and photographs of Brazilian regions and cities.

#### Brazil

<http://www.sln.org.uk/geography/brazil/Contents.html>

More photographs of Brazil.

**Virtual Zambia**

<http://www.bized.ac.uk/virtual/dc/>  
A tour of the Geography of Zambia focusing on development issues. Contains student worksheets and resource material.

**Kenya Web**

<http://www.kenyaweb.com/>  
A comprehensive site filled with information on this African country.

**Geographical Skills****Ordnance Survey**

<http://www.osi.ie/>  
Mainly a commercial site geared to selling maps, but it has a section on the history of the Ordnance Survey in Ireland.

**Ordnance Survey Great Britain**

<http://www.ordsvy.gov.uk/home/index/.html>  
More wide ranging than the Irish site. Has a section on map reading, also GIS. Local area maps can be downloaded free.

**Aerial photographs of Dalkey and Sandycove, Dublin**

<http://www.dalkeyhomepage.ie/aerial.html>

**Aerial photographs of Fethard, Co. Tipperary**

<http://www.fethard.com/mainpages/aerial.html>

**Earthshots**

<http://edcwww.cr.usgs.gov/earthshots/slow/tableofcontents>  
A United States Geological Survey Site. Uses a variety of satellite images over years to show environmental change. Contains exercises and solutions.

**Visible Earth**

<http://visibleearth.nasa.gov>  
A Nasa website offering thousands of satellite photographs searchable by theme or by country. Five star!

**Patterns and Processes in Economic Activities****Enfo**

[www.enfo.ie](http://www.enfo.ie)  
A fine Irish source for downloading leaflets on the environment.

**World Bank Development Data**

<http://www.worldbank.org/html/schools/>  
Comprehensive information on population and social conditions for world regions.

**New International**

[www.newint.org](http://www.newint.org)  
A journal giving alternative views on development issues. Excellent information source for developing countries and the issues affecting them.

**Globalisation**

<http://www.globalization101.org/issue/>  
Deals with issues arising from globalisation.

**Young People's Trust for the Environment**

[http://www.yptenc.org.uk/docs/environmental\\_facts.html](http://www.yptenc.org.uk/docs/environmental_facts.html)  
Information leaflets on many environmental issues aimed at students.

**Exploring the Environment**

<http://www.cotf.edu/ete/main.html>  
A NASA site on environmental issues such as global warming.

**Patterns and Processes in the Human Environment****Central Statistics Office**

[www.cso.ie](http://www.cso.ie)  
Has a section for students which provides basic statistics on a range of themes.

**Irish Refugee Council**

[www.irishrefugeecouncil.ie](http://www.irishrefugeecouncil.ie)  
Up to the minute news on refugee movements into Ireland.

**World Bank**

[www.worldbank.org](http://www.worldbank.org)  
While the World Bank is often maligned for its policies which sometimes seem to impoverish further the developing countries it is supposed to help, its website is an exemplar of well presented information.

**Unicef**

[www.unicef.org/-----sowc98](http://www.unicef.org/-----sowc98)  
United Nations International Children's Emergency Fund. Good on statistics, maps, reports, and the Universal Declaration of Children's Rights.

**United Nations Population**

<http://www.un.org/popin/>  
Population information from the United Nations.

**Population Reference Bureau**

<http://www.prb.org/>  
Everything you wanted to know about population.

**United Nations Website**

<http://www.un.org/english/>  
The official website with links to all its affiliates, such as UNESCO, World Health Organisation, etc.

### Developing World Urban Case Study – Rio De Janeiro

<http://www.macalester.edu/courses/geog61/chad/titlepag.htm>

Social contrasts in Brazil's second city.

### Mexico City

<http://www.macalester.edu/courses/geog61/jpalmer/bannerCOLS.html>

Describing one of the world's major conurbations.

### Irish Overseas Aid

[www.irlgov.ie/iveagh/foreignaffairs/irishaid](http://www.irlgov.ie/iveagh/foreignaffairs/irishaid)

Details of Ireland's aid programme.

### Dynamic Population Pyramids

[http://www.magnet.at/heilig/dto\\_new/ani\\_1.html](http://www.magnet.at/heilig/dto_new/ani_1.html)

Shows graphically how selected countries' population profile changes over time.

## Global interdependence

### Development Cooperation Ireland

<http://www.dci.gov.ie>

This is the site of Ireland's official government aid agency. Contains details of Ireland's Bilateral Aid programme along with a list of aid topics. Lots of photographs also.

### CAFOD

<http://www.cafod.org.uk/schools/>

Cafod is the U.K. Catholic relief agency. Again this site contains lots of resources.

### World Vision

[www.worldvision.com.au](http://www.worldvision.com.au)

World vision is an international aid organisation. This Australian site has many resources for downloading, including excellent handouts on hunger, debt and trade.

### One World

<http://www.oneworld.net/article/frontpage/>

A comprehensive resource with a magazine-like approach, concentrating on issues and regions.

## Geoecology

### Global Soils

[http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/soil\\_systems/title\\_page.html](http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/soil_systems/title_page.html)

An online textbook on soil formation.

### The World's biomes

<http://www.ucmp.berkeley.edu/glossary/gloss5/biome/>

Introducing five of the world's major biomes.

### Biomes

<http://www.radford.edu/~swoodwar/CASSES/GEOG235/biomes/main.html>

An even more comprehensive site from Radford college.

### A sustainable environment

<http://www.eco-portal.com/>

This is a portal which links to sustainable development sites.

### Tropical rainforests

<http://ran.org>

Emphasis on action to prevent destruction of rainforests.

### Rainforest

[www.rainforestweb.org](http://www.rainforestweb.org)

World rainforest information portal.

### Journey into Amazonia

<http://www.pbs.org/journeyintoamazonia/>

A quality site with an interactive game and lots of information about the Amazonian rainforest.

### The virtual rainforest

<http://www.msu.edu/~urquhar5/tour/>

A large picture of the rainforest appears on screen, then as the mouse is moved across the picture, different plants and creatures are highlighted. Informative and very well presented.

### Disappearing forests

<http://www.unep-wcmc.org/forest/original.htm>

The original forest cover of the globe before man began to destroy it c. 8,000 years ago.

## Culture and identity

### World cultural profiles

<http://www.settlement.org/cp/english/index.html>

This site set up by the Canadian government profiles the cultures of over 60 countries (including Ireland) from which Canada receives immigrants.

### Ethnic geography of Belfast

[http://www.geographyinaction.co.uk/Ethnic%20Diversity/Ethnic\\_intro.html](http://www.geographyinaction.co.uk/Ethnic%20Diversity/Ethnic_intro.html)

Information and commentary on a divided city.

### CAIN

<http://cain.ulst.ac.uk/ni/index.html>

Conflict archive on the internet. Lots of background information and statistics on Northern Ireland.

### Flashpoints

[http://www.flashpoints.info/FlashPoints\\_home.html](http://www.flashpoints.info/FlashPoints_home.html)

A website devoted to conflict, both international and internal. Catalogued by country and topics.

## The Atmosphere-Ocean Environment

### **Online weather**

<http://www.onlineweather.com>

Gives regional weather forecasts for Ireland and Britain. Provides climate data for local areas.

### **Met Eireann**

<http://www.met.ie/>

Gives recent reports from Irish weather stations.

### **Met Office (U.K)**

<http://www.met-office.gov.uk/>

Comprehensive information on all aspects of weather as well as up to the minute weather reports, maps and satellite photographs.

### **Encyclopaedia of the atmospheric environment**

<http://www.doc.mmu.ac.uk/aric/eae/Weather/weather.html>

An A-Z guide to weather terminology. For simplified explanations, click on the Bart Simpson icon.



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