Planet & People

Leaving Certificate GEOGRAPHY

MENTOR

Sue Honan
Sue Mulholland

Planet & People series:

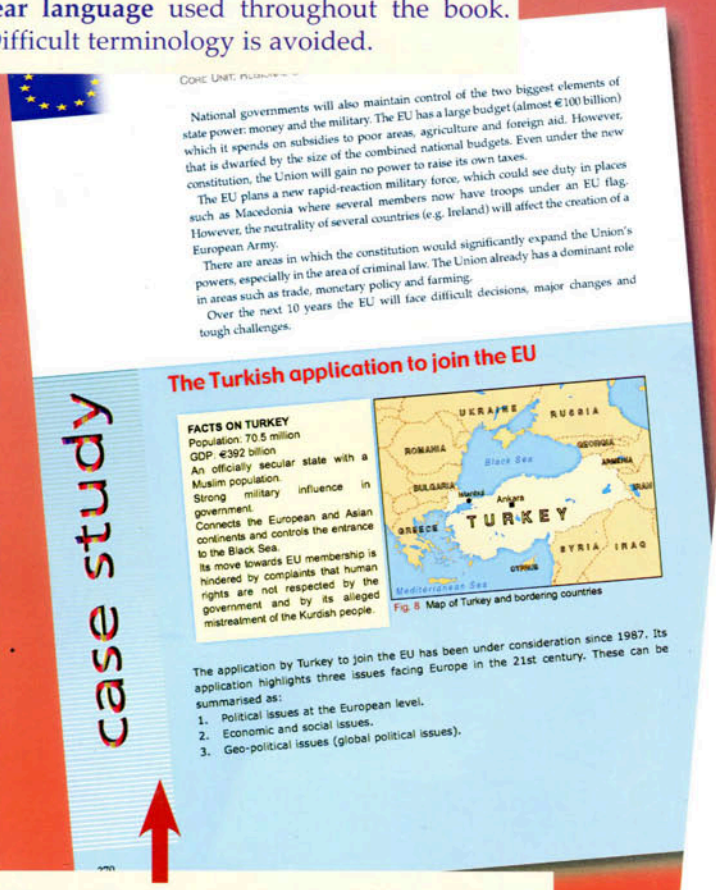
Flexible approach of separate books

- **Core Book**
- **Elective 4:** Economic Activities
- **Elective 5:** The Human Environment
- **Option 6:** Global Interdependence
- **Option 7:** Geoecology
- **Option 8:** Culture and Identity
- **Option 9:** The Atmosphere–Ocean Environment

Free Teacher's CD
with OS maps, diagrams and photos from the book

See back page for details

Clear language used throughout the book. Difficult terminology is avoided.



CORE UNIT: PLANNING

National governments will also maintain control of the two biggest elements of state power: money and the military. The EU has a large budget (almost €100 billion) which it spends on subsidies to poor areas, agriculture and foreign aid. However, that is dwarfed by the size of the combined national budgets. Even under the new constitution, the Union will gain no power to raise its own taxes.

The EU plans a new rapid-reaction military force, which could see duty in places such as Macedonia where several members now have troops under an EU flag. However, the neutrality of several countries (e.g. Ireland) will affect the creation of a European Army.

There are areas in which the constitution would significantly expand the Union's powers, especially in the area of criminal law. The Union already has a dominant role in areas such as trade, monetary policy and farming.

Over the next 10 years the EU will face difficult decisions, major changes and tough challenges.

case study

The Turkish application to join the EU

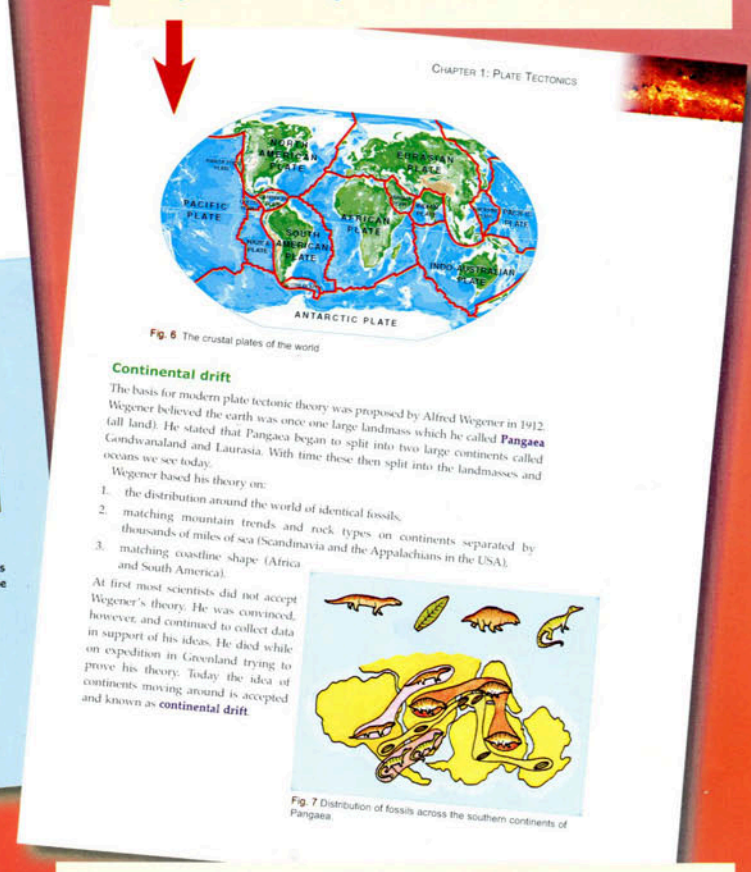
FACTS ON TURKEY
Population: 70.5 million
GDP: €392 billion
An officially secular state with a Muslim population.
Strong military influence in government.
Connects the European and Asian continents and controls the entrance to the Black Sea.
Its move towards EU membership is hindered by complaints that human rights are not respected by the government and by its alleged mistreatment of the Kurdish people.

Fig. 8 Map of Turkey and bordering countries

The application by Turkey to join the EU has been under consideration since 1987. Its application highlights three issues facing Europe in the 21st century. These can be summarised as:

1. Political issues at the European level.
2. Economic and social issues.
3. Geo-political issues (global political issues).

Easy-to-follow layout. Pages are not cluttered by unnecessary detail.



CHAPTER 1: PLATE TECTONICS

Fig. 6 The crustal plates of the world

Continental drift

The basis for modern plate tectonic theory was proposed by Alfred Wegener in 1912. Wegener believed the earth was once one large landmass which he called **Pangaea** (all land). He stated that Pangaea began to split into two large continents called Gondwanaland and Laurasia. With time these then split into the landmasses and oceans we see today.

Wegener based his theory on:

1. the distribution around the world of identical fossils,
2. matching mountain trends and rock types on continents separated by thousands of miles of sea (Scandinavia and the Appalachians in the USA),
3. matching coastline shape (Africa and South America).

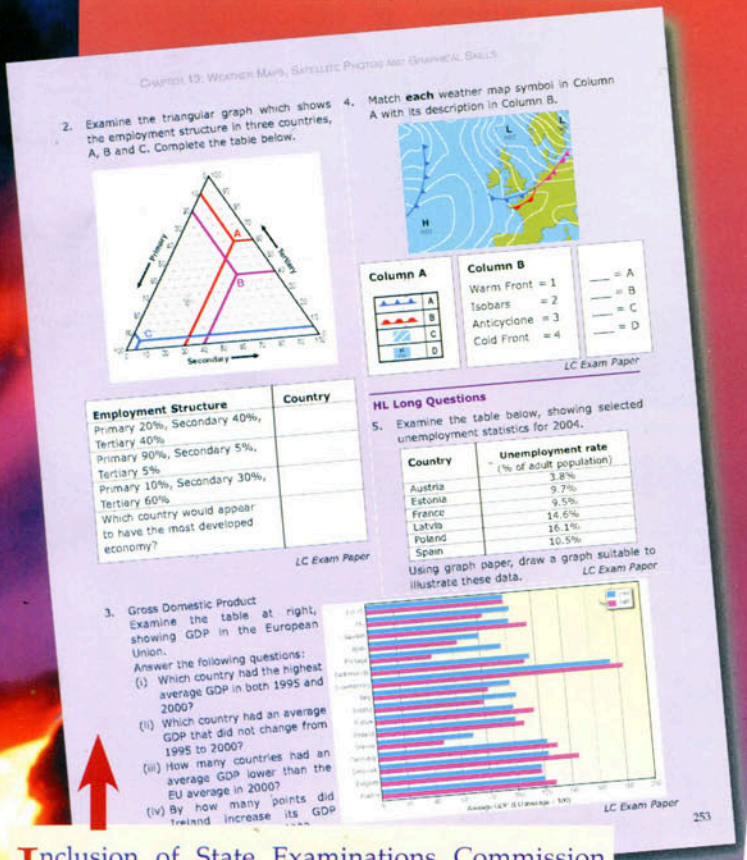
At first most scientists did not accept Wegener's theory. He was convinced, however, and continued to collect data in support of his ideas. He died while on expedition in Greenland trying to prove his theory. Today the idea of continents moving around is accepted and known as **continental drift**.

Fig. 7 Distribution of fossils across the southern continents of Pangaea

Up-to-date material used in examples and case studies.

Case studies are written with exam questions in mind.

Focused use of material. No superfluous text. All maps, photos, diagrams and charts are relevant to and support the text. The inclusion of unnecessary images has been avoided.



CHAPTER 13: WEATHER MAPS, SATELLITE PHOTOS AND GRAPHICAL SKILLS

2. Examine the triangular graph which shows the employment structure in three countries, A, B and C. Complete the table below.

Employment Structure	Country
Primary 20%, Secondary 40%, Tertiary 40%	
Primary 90%, Secondary 5%, Tertiary 5%	
Primary 10%, Secondary 30%, Tertiary 60%	
Which country would appear to have the most developed economy?	

LC Exam Paper

4. Match **each** weather map symbol in Column A with its description in Column B.

Column A	Column B	
A	Warm Front = 1	___ = A
B	Isobars = 2	___ = B
C	Anticyclone = 3	___ = C
D	Cold Front = 4	___ = D

LC Exam Paper

HL Long Questions

5. Examine the table below, showing selected unemployment statistics for 2004.

Country	Unemployment rate (% of adult population)
Austria	3.8%
Estonia	9.7%
France	9.5%
Latvia	14.6%
Poland	16.1%
Spain	10.5%

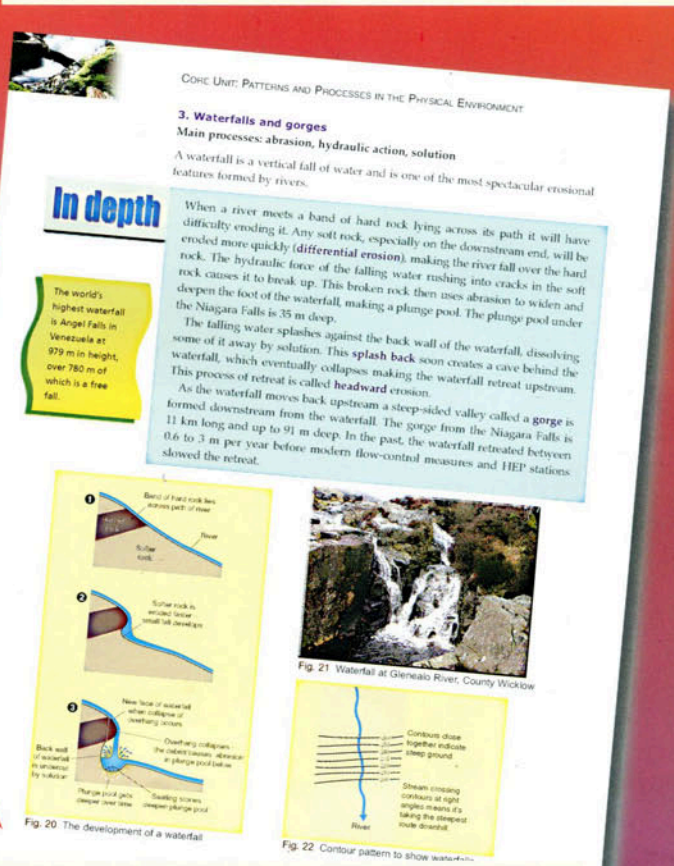
Using graph paper, draw a graph suitable to illustrate these data. LC Exam Paper

3. Gross Domestic Product
Examine the table at right, showing GDP in the European Union.
Answer the following questions:
(i) Which country had the highest average GDP in both 1995 and 2000?
(ii) Which country had an average GDP that did not change from 1995 to 2000?
(iii) How many countries had an average GDP lower than the EU average in 2000?
(iv) By how many points did Ireland increase its GDP

LC Exam Paper

253

Inclusion of State Examinations Commission Leaving Certificate Exam Paper and Sample Paper questions at the end of each chapter.



CORE UNIT: PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

3. Waterfalls and gorges
Main processes: abrasion, hydraulic action, solution

A waterfall is a vertical fall of water and is one of the most spectacular erosional features formed by rivers.

In depth

When a river meets a band of hard rock lying across its path it will have difficulty eroding it. Any soft rock, especially on the downstream end, will be eroded more quickly (**differential erosion**), making the river fall over the hard rock. The hydraulic force of the falling water rushing into cracks in the soft rock causes it to break up. This broken rock then uses abrasion to widen and deepen the foot of the waterfall, making a plunge pool. The plunge pool under the Niagara Falls is 35 m deep.

The falling water splashes against the back wall of the waterfall, dissolving some of it away by solution. This **splash back** soon creates a cave behind the waterfall, which eventually collapses making the waterfall retreat upstream. This process of retreat is called **headward** erosion.

As the waterfall moves back upstream a steep-sided valley called a **gorge** is formed downstream from the waterfall. The gorge from the Niagara Falls is 11 km long and up to 91 m deep. In the past, the waterfall retreated between 0.6 to 3 m per year before modern flow-control measures and HEP stations slowed the retreat.

The world's highest waterfall is Angel Falls in Venezuela at 979 m in height, over 780 m of which is a free fall.

Fig. 20 The development of a waterfall

Fig. 21 Waterfall at Glenealo River, County Wicklow

Fig. 22 Contour pattern to show waterfall

In the core unit: *Patterns & Processes in the Physical Environment*, in depth material is clearly marked, leaving teachers and students in no doubt as to what needs to be studied and what can be left out.

Objectives provided at the beginning of each chapter can be used both as a guideline by the teacher and as a revision feature by students upon completion of the chapter.

CHAPTER 13

Weather Maps, Satellite Images and Graphical Skills

At the end of this chapter you should be able to:

- Identify, explain and interpret symbols on weather maps and charts.
- Read and interpret a variety of charts and tables showing statistical data.
- Draw a variety of graphs to Leaving Certificate Exam standard.
- Use satellite images to examine large areas of the physical and cultural landscape.
- Describe the content required for each part of the Geographical Investigation.

Contents

13.1 Introduction
13.2 Weather maps and charts
13.3 Representing statistical data on graphs and charts
13.4 Drawing graphs for the Leaving Certificate Exam
13.5 Satellite images
13.6 Geographical investigation
Questions

KEY THEME

Map and aerial photograph interpretation are key geographical skills which can be applied to a wide variety of geographical topics.

Full colour diagrams are clearly labelled, making it easier for students to reproduce them in an exam.

How do we know what is inside the earth?

Our knowledge of the interior of the earth is gained in part from the study of earthquake waves. Rock density can affect the speed at which earthquake waves travel. Some rocks allow these waves to pass quickly, for example granite, others such as shale let the waves pass more slowly.

Analysis of travel paths and travel times for earthquake waves enables geologists to develop models of the earth's interior.

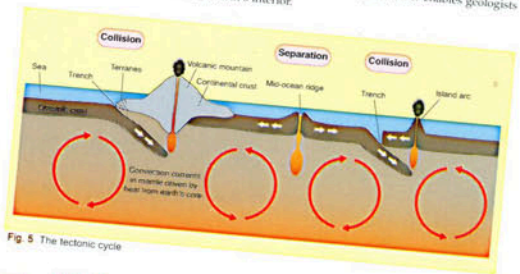


Fig. 5 The tectonic cycle

Lava lamps show the effect of convection currents. Coloured globs of 'lava' rise when heated and sink when cooled.

1.3 The theory of plate tectonics

Plate Tectonics is the study of the processes which cause the movement of the earth's plates and the landforms that result.

The theory of plate tectonics provides us with a model to describe the internal workings of the earth and explains why earthquakes, volcanoes, faults and fold mountains occur in specific places in the world.

According to this theory, the earth's crust is broken into a dozen or more larger and smaller sections of rock called plates which carry the oceans and continents. The plates are in continual slow motion around the globe. The massive convection currents within the asthenosphere drive this motion. They drag the plates along as they circulate.

Interaction between plates occurs at their boundaries. It is along these plate boundaries that many important crustal features are found, e.g. fold mountains, volcanoes and earthquakes. The plates collide, separate and slide past each other, all the while destroying, creating and modifying the crust.

The beginning and end of sections are clearly identified.

Extensive use of OS maps and aerial photos to familiarise students with this type of data.

Fig. 25 Coastal, glacial and fluvial landscapes in County Kerry

OS MAP SKILLS EXERCISE

Draw four sketch maps of the region shown above to illustrate:

1. Relief
2. Drainage
3. Glacial landforms
4. Marine landforms

215

Skills are covered within specific skills chapters. Skills activities are scattered throughout the book, reinforcing to students the variety of data on which statistical mapping can be based.

13.6 Geographical investigation

The geographical investigation is worth 20% of the marks of the Geography Leaving Certificate Exam.

You and your teacher will decide your geographical investigation topic in fifth or sixth year. The topic will be chosen from a list published by the Department of Education.

You will carry out your investigation under the supervision of your teacher and write it in a booklet supplied prior to exam. This will be marked by an external examiner.

The marking scheme, word count and layout are shown below.

IT IS VERY IMPORTANT THAT THE WORK YOU SUBMIT IS YOUR OWN.

CURRENT LAYOUT OF THE GEOGRAPHICAL INVESTIGATION

REPORT STRUCTURE AND ASSESSMENT WEIGHTINGS

Stage	Content	Assessment weighting
1. Introduction	• Aims or hypothesis • Objectives • Maximum of 50 words	**5 marks** 4 SRPs* at 1 mark each Conforming to 50 word limit = 1 mark
2. Planning	• Identifying data required • Selecting methods of gathering • Maximum of 100 words	**5 marks** 4 SRPs at 1 mark each Conforming to 100 word limit = 1 mark
3. Gathering of data	• Recording of data • Methods used • Instruments used • Secondary sources if used • Discussion of gathering • Process – including any issues which arose • Maximum of 450 words	**40 marks** 2 methods at 20 marks each Each method = 9 SRPs at 2 marks each Coherence = 2 marks Conforming to 450 word limit = 2 marks
4. Results, conclusions, evaluation	• Analysing data • Establishing results • Drawing conclusions • Evaluating outcomes in context of aims • Maximum of 400 words	**30 marks** 3 headings at 10 marks each Each heading = 4 SRPs at 2 marks each Coherence = 4 marks Conforming to 400 word limit = 2 marks
Organisation and presentation of data	• Tables clearly laid out and correctly labelled • Appropriate graphs and charts used to present evidence you have gathered • Clearly organised data displayed before Stage 4	**20 marks** 10 SRPs at 2 marks each

*Significant Relevant Points

Guidelines on the marking scheme for the **Geographical Investigation** are included but no direct example is provided to minimise risk of imitation by students.

Planet & People series:

Electives and **Options** link to core book, particularly in terms of case studies and examples.

Covers **all syllabus** requirements.

FREE TEACHER'S CD

Containing diagrams, OS maps and photos from this book. Fully compatible with PowerPoint and interactive whiteboards. Available to teachers choosing the **Planet & People** series.

Flexible approach of separate books

- **Core Book**
- **Elective 4:** Economic Activities
- **Elective 5:** The Human Environment
- **Option 6:** Global Interdependence
- **Option 7:** Geoecology
- **Option 8:** Culture and Identity
- **Option 9:** The Atmosphere–Ocean

Environment

MENTOR BOOKS

Enquiries to:

Mentor Books, 43 Furze Road, Sandyford Industrial Estate, Dublin 18

Tel: 01 2952112 email: admin@mentorbooks.ie

www.mentorbooks.ie