

Leaving Certificate

Geography

Maps and Aerial Photographs

Please see *Teachers' Notes* for explanations, additional activities, and tips and suggestions.

Levels	Students' English-language skills should be developed to Level B1 during funded Language Support. Mainstream subject learning will require the development of skills at Level B2 if students are to cope with public examinations.	
Language focus	Key vocabulary, word identification, sentence structure, extracting information from text, writing text, grammar.	
Learning focus	Using Geography textbooks and accessing curriculum content and learning activities.	
Acknowledgement	The <i>English Language Support Programme</i> gratefully acknowledges the permission of Gill and Macmillan to reproduce excerpts from <i>Dynamic Human Geography</i> by Patrick O'Dwyer, Barry Brunt and Charles Hayes.	
Contents of this Unit	Keywords Vocabulary file Activating students' knowledge Focus on vocabulary Focus on grammar (<i>adverbs, prepositions</i>) Focus on reading Answer Key	Page 3 4,5 6 7,8 9,10 11,12 13,14,15

Using this unit

Language support and mainstream subject class

The sections **Activating students' knowledge**, **Focus on vocabulary**, and **Focus on grammar** have been designed, in particular, for Language Support classes.

Focus on reading and **Focus on writing** are suitable for use in either Language Support or subject classes.

Answer Key

Answers are provided at the end of the unit for all activities except those based on free writing.

Textbooks

This unit focuses on the sections *Maps and Aerial Photographs* of the Leaving Certificate Geography curriculum. Students will need to use their textbooks if they are to gain the most benefit from the activities.

Learning Record

The Learning Record is intended to help students monitor their progress. This can be downloaded or printed from the website in the section *Advising Students and Record of Learning for the Leaving Certificate*. A copy of the Learning Record should be distributed to each student for each Unit studied.

Students should:

1. Write the subject and topic on the record.
2. Tick off/date the different statements as they complete activities.
3. Keep the record in their files along with the work produced for this unit.
4. Use this material to support mainstream subject learning.

Symbols

Symbols are used throughout the unit to encourage students to develop their own learning and support materials.



prompts students to file the sheet when they have completed the activity. This is used for activities which can be used as a reference in the future e.g. for subject classroom, revision, homework etc.



prompts students to add vocabulary, definitions, or examples of vocabulary in use to their own personal glossary for the topic. A personal glossary makes study and revision more efficient.

Keywords

Nouns

activities
aerial photographs
area
arrows
background
bottom
box/boxes
bridge
buildings
camera
characteristics
coastline
compass
contour
co-ordinates
curved line
direction
distance
dwelling
earth
east
eastings
edge
features
figure
foreground
grid
height
information
kilometres
linear scale
location
map
measurement
metres
middle
number
north
northings
ordnance survey
outskirts
page
paper
photo/photograph

proportion
reference
region
roads
route
scale
scale map
sections
slope
south
spot
squares
starting point
station
sub-zones
surface
top
town
town centres
types
use
west

Verbs

to appear
to consist of
to cover
to create
to curve
to divide
to draw
to find
to identify
to locate
to mark
to measure
to number
to orientate
to plot
to point
to represent
to surround
to survey
to trace

Adjectives

aerial
close
corresponding
curved
detached
east
front
geographical
global
high
horizontal
important
interesting
international
linear
most
national
neighbouring
north
natural
numbered
oblique
rear
scaled
south
suburban
urban
vertical
west
whole

Adverbs

directly
east
gradually
north
south
west

Other

across
along
bottom to top
left to right

NAME: _____ **DATE:** _____
Leaving Certificate GEOGRAPHY: Maps and aerial photographs

Vocabulary file for the topics
Maps and Aerial Photographs

Word	Meaning	Page(s) in my textbook	Note
national grid			
grid reference			
sub-zone			
cross-section			
sketch map			
landforms			
vertical photographs			
oblique photographs			
to orientate			
distance			



NAME: _____ **DATE:** _____
Leaving Certificate GEOGRAPHY: Maps and aerial photographs

Word	Meaning	Page(s) in my textbook	Note
geographic information system (GIS)			
scale			
small-scale			
large-scale			
'as the crow flies'			
concave (slopes)			
convex (slopes)			
stepped (slopes)			
even (slopes)			
gradient			



Introduction

Activating students' existing knowledge

Use a spidergram to activate students' ideas and knowledge on the key points in this chapter. See **Teachers' Notes** for suggestions.

Possible key terms for the spidergram:

What information can we get from maps?

What do aerial photographs show us?

- Invite students to provide key words in their own languages.
- Encourage dictionary use.
- Encourage students to organise their vocabulary into relevant categories (e.g. meaning, nouns, keywords, verbs etc.).



Students should record vocabulary and terms from the spidergram in their personal dictionaries.

Level: B1
 Individual / pair

Focus on vocabulary

1. Missing words

The following sentences are taken from your textbooks. The key terms are missing. First, check that you understand the meanings of the key words in the box below, then read the sentences and fill in the gaps.

- a) The _____ divides the whole country into twenty-five boxes.
- b) We use _____ to find a place on a map.
- c) _____ maps show a large area with very little detail.
- d) _____ maps show a small area with a lot of detail.
- e) A _____ photograph is taken by pointing the camera directly on the area being photographed.
- f) In an _____ photograph the camera is pointed at an angle to the area being photographed.
- g) Features in the _____ of an oblique photograph appear large.
- h) You can draw a _____ by using a map or photograph.

grid references	foreground	oblique	large-scale	national grid
	sketch map	vertical	small-scale	

2. Matching

Match each term in Column A with a definition in Column B. Draw a line between them. Look at your text book if you need help.

Column A	Column B
scale	something with parts of different sizes or shapes
'as the crow flies'	the point towards which someone or something is facing
irregular shapes	putting a picture, diagram, grid etc. on top of something else so that what is in the lower position can still be seen
direction	the relationship between a distance on a map and the measurement on the ground
superimposing	a distance that is measured in a straight line between two points or places





3. Opposites

Complete the grid by writing the opposites of the adjectives in Column 1. Use your keyword list, dictionary or textbook for help if necessary.

Column 1	Opposite
large-scale	
upland	
concave	
high	
curved	

4. Identifying vocabulary

Circle the words or terms for information or features that you could find on a **map**.
 The other terms in this box are all related to different topics in Geography.
 Look through your textbook if you are not sure.

a street pattern	a cloudy sky	an earthquake
a camera	a housing estate	roads
a river	a church	pollution
a motorway	traffic	a mountain
		a historic site
		waves
		the coastline
		people

What does the word **pattern** mean in the context of maps?

5. Vocabulary in use Write a **question** using each of the following words/phrases. Check your text book or dictionary if you need help.

scale _____

background _____

features _____

direction _____

urban _____

Level: B1
Individual / pair

Focus on grammar

6. Adverbs

adverb = a word which describes or gives more information about a verb, adjective, adverb or phrase

For example, an adverb describes how something is done: He walks **quickly**.

The following adverbs appear in this unit in your textbooks.

directly	east
gradually	north
	south
	west

East, north, south and west are not always adverbs they can be nouns.

For example: **The north** is opposite to **the south**. (noun)

But, if we use north, south, east and west to give more information about looking/moving in those directions, then they are adverbs.

For example: He was driving **north** for 2 hours. (adverb)

Put these adverbs into sentences which are relevant to the topic of *Maps and Aerial Photographs*.

directly

1. _____

gradually

2. _____

east

3. _____

north

4. _____

south

5. _____

west

6. _____



7. Prepositions

preposition = a word which is used before a noun, a noun phrase or a pronoun.

Prepositions give us information about position (or place), time, and travel and movement.

When we are giving instructions for reading maps or photographs, or describing what we see on a map or photograph, prepositions are essential. They tell us where one thing is located in relation to another and where we may find a particular feature.

For example: How many grids are there **up** the side of the mapped area?

Complete these instructions/questions with the correct prepositions from the box below.

1. How many grid squares are there _____ the base of the area?
2. What feature can you identify immediately _____ the grid reference?
3. Draw a cross-section _____ landform A _____ landform B.
4. What is the distance _____ the letter G and the power station?
5. What is the scale _____ this aerial photograph?
6. Draw a line _____ the centre of the photograph.

above	from ... to	on	between	through	across
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Level: B1 / B2
 Individual / pair

Focus on reading

8. Read the text and indicate with a tick (✓) whether the statements below are True or False.

Geographic Information Systems (GIS)

A geographic information system (GIS) is a system for creating, storing, analysing and managing spatial data. In the strictest sense, it is a computer system capable of integrating, storing, editing, analysing, sharing and displaying geographically referenced information. In a more general sense, GIS is a tool that allows users to create interactive queries (user-created searches), analyse the spatial information and edit data.

GIS technology can be used for scientific investigations, resource management, asset management as well as assessing environmental impact, making maps and planning roads or towns.

GIS technology can be used for many purposes. For example, GIS might allow emergency planners to calculate emergency response times in the event of a natural disaster, or a GIS might be used to find wetlands that need protection from pollution.

GIS is used in digital mapping of various kinds. Digital maps can hold lots of information about a particular region.

	True	False
A GIS is a computer system.		
GIS can be used to search for information.		
GIS is only used for making maps.		
GIS can help in making plans of all types.		
Digital maps can only hold a limited amount of information.		



9. Reading for specific information

Read the following extract from your textbook. Don't read slowly though every word and sentence.

Read the questions first

Read the text in order to find the answers.

Underline the key sentences when you have found the answers.

Tip: It's a good idea to time yourself so that you learn how to find important information quickly.

Questions:

1. What method is used to add information to a digital map?
2. Is it possible to view one type of information only?
3. What is the advantage of looking at a number of related layers?
4. Is it possible to use GIS information for making predictions?
5. What has caused the growth in this system of information?
6. Give an example of how GIS can help in making decisions?

Superimposing information in digital maps

Superimposing lots of information in a digital map means that there can be a greater understanding of a region. The information allows you to view maps in different layers. Each layer holds information about a particular topic such as rainfall, groundwater, housing, streets and drainage systems. Topics such as these, which are all related, allow us to get a three-dimensional understanding of pollution control, surface run-off and likely flooding points. It is possible to adjust the information and view projected outcomes. So we can see, for example, what the results of an increase in rainfall will be.

GIS has been increasingly used by commercial bodies in recent years. This demand has funded the rapid growth of this new system of information. New urban developments, such as urban renewal projects, may use GIS to fully understand the factors involved in the building of large multi-storey structures that may house different commercial uses within a central business district in a major city.

Answer Key

Focus on vocabulary

1. Missing words

- a) The **national grid** divides the whole country into twenty-five boxes.
- b) We use **grid references** to find a place on a map.
- c) **Small-scale** maps show a large area with very little detail.
- d) **Large-scale** maps show a small area with a lot of detail.
- e) A **vertical** photograph is taken by pointing the camera directly on the area being photographed.
- f) In an **oblique** photograph the camera is pointed at an angle to the area being photographed.
- g) Features in the **foreground** of an oblique photograph appear large.
- h) You can draw a **sketch map** by using a map or photograph.

2. Matching

Column A	Column B
scale	the relationship between a distance on a map and the measurement on the ground
'as the crow flies'	a distance that is measured in a straight line between two points or places
irregular shapes	something with parts of different sizes or shapes
direction	the point towards which someone or something is facing
superimposing	putting a picture, diagram, grid etc. on top of something else so that what is in the lower position can still be seen

3. Opposites

Column 1	Opposite
large-scale	small-scale
upland	lowland
concave	convex
high	low
curved	straight

4. Identifying vocabulary

a street pattern	a cloudy sky	an earthquake
a camera	a housing estate	roads
a river	a church	pollution
a motorway	traffic	a mountain
		a historic site
		waves
		the coastline
		people

pattern = the arrangement of features on a map (for example the arrangement of streets in a town)

5. Vocabulary in use

Sample answers:

- scale* What is the scale of the map?
background What can you see in the background of the photograph?
features Can you see any historic features on the map?
direction What direction can you travel on that road?
urban Is there any evidence of urban development on the map?

Focus on grammar

6. Adverbs

Sample answers:

- For aerial photography, point the camera directly to get a vertical photograph.
- The landform rises gradually from the coast.
- The river flows east.
- The camera was pointing north for this picture.
- You must draw a cross-section from the grid reference looking south.
- The coastal contour lies west of the grid line.

7. Prepositions

- How many grid squares are there **across** the base of the area?
- What feature can you identify immediately **above** the grid reference?
- Draw a cross-section **from** landform A **to** landform B.
- What is the distance **between** the letter G and the power station?
- What is the scale **on** this aerial photograph?
- Draw a line **through** the centre of the photograph.

Focus on reading

8. Geographic Information Systems (GIS)

	True	False
A GIS is a computer system.	✓	
GIS can be used to search for information.	✓	
GIS is only used for making maps.		✓
GIS can help in making plans of all types.	✓	
Digital maps can only hold a limited amount of information.		✓

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Superimposing information in digital maps

¹**Superimposing lots of information** in a digital map means that there can be a greater understanding of a region. The information allows you to ²**view maps in different layers**. Each layer holds information about a particular topic such as rainfall, groundwater, housing, streets and drainage systems. Topics such as these, which are all related, ³**allow us to get a three-dimensional understanding** of pollution control, surface run-off and likely flooding points. It is possible to adjust the

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