



Syllabus

Cambridge O Level Geography 2217

Use this syllabus for exams in 2023.
Exams are available in the November series.



Version 1

Please check the syllabus page at www.cambridgeinternational.org/2217
to see if this syllabus is available in your administrative zone.

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Important: Changes to this syllabus



For information about changes to this syllabus for 2023, go to page 29.

The latest syllabus is version 1, published September 2020.

Any textbooks endorsed to support the syllabus for examination from 2020 are still suitable for use with this syllabus.

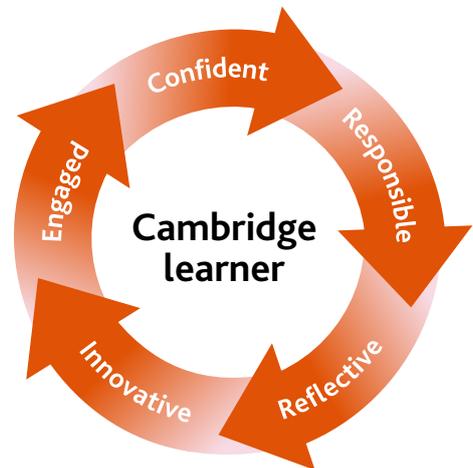
1 Why choose this syllabus?

Key benefits

Cambridge O Level is typically for 14 to 16 year olds and is an internationally recognised qualification. It has been designed especially for an international market and is sensitive to the needs of different countries. Cambridge O Level is designed for learners whose first language may not be English, and this is acknowledged throughout the examination process.

Cambridge O Level Geography develops lifelong skills, including:

- an understanding of the processes which affect physical and human environments
- an understanding of place on a local, regional and global scale
- the ability to use and understand geographical data and information
- an understanding of how communities around the world are affected and constrained by different environments.



Our programmes balance a thorough knowledge and understanding of a subject and help to develop the skills learners need for their next steps in education or employment.

Our approach in Cambridge O Level Geography encourages learners to be:

confident, in using geographical data to interpret the world around them

responsible, and aware of the duty present and future generations have in creating sustainable solutions to global issues

reflective, considering the similarities and differences between different environments, communities and economies

innovative, by encouraging and being open to resourceful, technological solutions to geographical issues

engaged, with geographical issues, ideas and solutions that will have positive long-term impacts on the physical and human environment.

'Cambridge O Level has helped me develop thinking and analytical skills which will go a long way in helping me with advanced studies.'

Kamal Khan Virk, former student at Beaconhouse Garden Town Secondary School, Pakistan, who went on to study Actuarial Science at the London School of Economics

International recognition and acceptance

Our expertise in curriculum, teaching and learning, and assessment is the basis for the recognition of our programmes and qualifications around the world. The combination of knowledge and skills in Cambridge O Level Geography gives learners a solid foundation for further study. Candidates who achieve grades A* to C are well prepared to follow a wide range of courses including Cambridge International AS & A Level Geography.

Cambridge O Levels are accepted and valued by leading universities and employers around the world as evidence of academic achievement. Many universities require a combination of Cambridge International AS & A Levels and Cambridge O Levels or equivalent to meet their entry requirements.

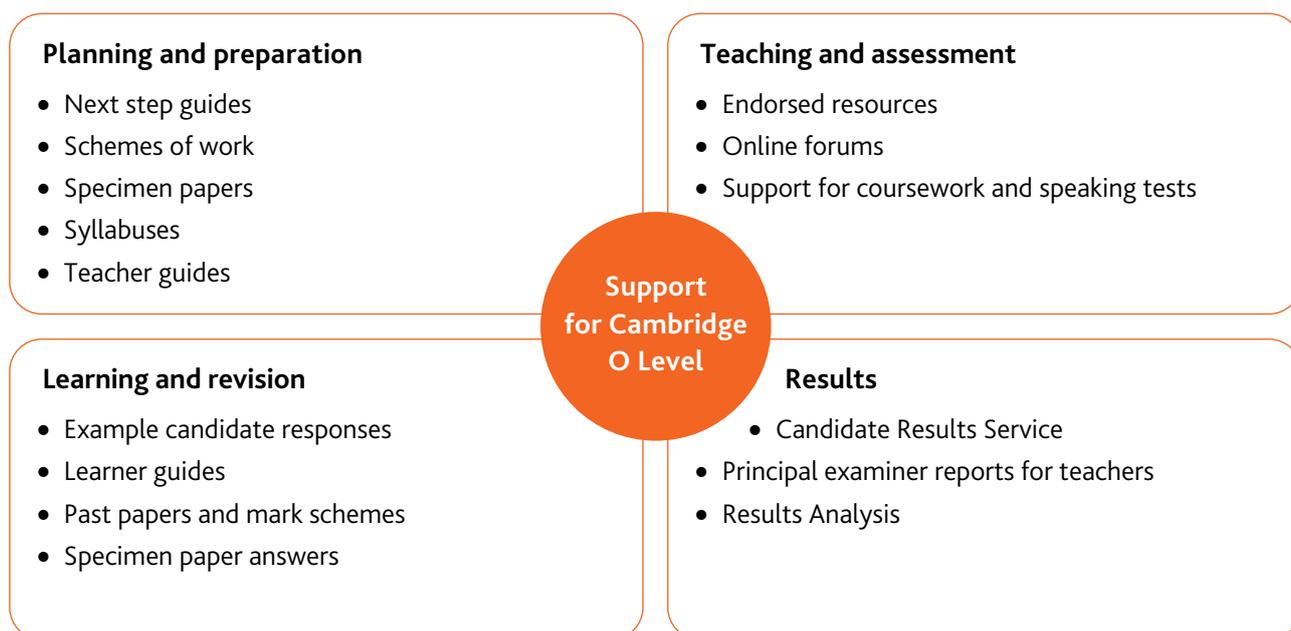
Learn more at www.cambridgeinternational.org/recognition

Supporting teachers

We provide a wide range of resources, detailed guidance and innovative training and professional development so that you can give your students the best possible preparation for Cambridge O Level. To find out which resources are available for each syllabus go to our School Support Hub.

The School Support Hub is our secure online site for Cambridge teachers where you can find the resources you need to deliver our programmes. You can also keep up to date with your subject and the global Cambridge community through our online discussion forums.

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- Extension Training – face-to-face or online
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2 Syllabus overview

Aims

The aims describe the purposes of a course based on this syllabus.

The aims are to enable students to:

- an understanding of location on a local, regional and global scale
- an awareness of the characteristics, distribution and processes affecting contrasting physical and human environments
- an understanding of the ways in which people interact with each other and with their environment
- an awareness of the contrasting opportunities and constraints presented by different environments
- an appreciation of and concern for the environment
- an appreciation of the earth including its people, places, landscapes, natural processes and phenomena.



Cambridge Assessment International Education is an education organisation and politically neutral. The contents of this syllabus, examination papers and associated materials do not endorse any political view. We endeavour to treat all aspects of the exam process neutrally.

Content overview

The syllabus is divided into three themes:

Theme 1: Population and settlement

Theme 2: The natural environment

Theme 3: Economic development.

The themes are designed to develop an understanding of natural and human environments.



[‘This O Level syllabus shares content with other [subject] syllabuses. For further support see the School Support Hub for IGCSE [subject]. Textbooks endorsed to support IGCSE [subject] are suitable for use with this syllabus’.]

Assessment overview

All candidates take three components. Candidates will be eligible for grades A* to E.

All candidates take:

Paper 1 1 hour 45 minutes
Geographical Themes 45%
75 marks, weighted to 100 marks
Candidates answer three questions, each worth 25 marks. Candidates must answer one question from each section
Externally assessed

and:

Paper 2 1 hour 30 minutes
Geographical Skills 27.5%
60 marks
Candidates answer all the questions
Externally assessed

and

Paper 3 1 hour 30 minutes
Geographical Investigations 27.5%
60 marks
Candidates answer two compulsory questions, completing a series of written tasks
Externally assessed

Information on availability is in the **Before you start** section.

Assessment objectives

The assessment objectives (AOs) are:

AO1 Knowledge with understanding

Candidates should be able to demonstrate knowledge and understanding of:

- the wide range of processes, including human actions, contributing to the development of
 - (a) physical, economic and social environments and their effects on the landscape
 - (b) spatial patterns and interactions which are important within these environments
- the relationships between human activity and the environment
- the importance of scale (whether local, regional or global)
- the changes which occur through time in places, landscapes and spatial distribution.

AO2 Skills and analysis

Candidates should be able to:

- interpret and analyse geographical data
- use and apply geographical knowledge and understanding to maps and in numerical, diagrammatic, pictorial, photographic and graphical form
- use geographical data to recognise patterns in such data and to deduce relationships
- select and show understanding of techniques for observing and collecting data
- select and use techniques for organising and presenting data.

AO3 Judgement and decision-making

Through their geographical training, candidates should be able to:

- reason and make judgements and decisions, including evaluation and conclusions, which demonstrate, where appropriate
 - (a) an appreciation of the attitudes, values and beliefs of others in issues which have a geographical dimension
 - (b) an awareness of the contrasting opportunities and constraints of people living in different places and under different physical and human conditions
 - (c) a willingness to review their own attitudes in the light of the views of others and new knowledge acquired
- make judgements and decisions and recognise how these are made within a geographical context as affected and constrained by
 - (a) the physical and human contexts in which decisions are made
 - (b) the values and perceptions of differing groups or individuals
 - (c) the choices available to decision-makers
 - (d) the increasing level of global interdependence and the need for sustainable development.

Weighting for assessment objectives

The approximate weightings allocated to each of the assessment objectives (AOs) are summarised below.

Assessment objectives as a percentage of the qualification

Assessment objective	Weighting in O Level %
AO1 Knowledge with understanding	30
AO2 Skills and analysis	52
AO3 Judgement and decision-making	18
Total	100

Assessment objectives as a percentage of each component

Assessment objective	Weighting in components %		
	Paper 1	Paper 2	Paper 3
AO1 Knowledge with understanding	48	11	20
AO2 Skills and analysis	30	80	60
AO3 Judgement and decision-making	22	9	20
Total	100	100	100

3 Subject content

This syllabus gives you the flexibility to design a course that will interest, challenge and engage your learners. Where appropriate you are responsible for selecting topics, subject contexts, resources and examples to support your learners' study. These should be appropriate for the learners' age, cultural background and learning context as well as complying with your school policies and local legal requirements.

The subject content is arranged into the three themes:

- Population and settlement
- The natural environment
- Economic development.

The content listed is exhaustive except where the word 'including' is used. Where 'including' is used, candidates must study everything in the list but may also study other relevant aspects. For example:

- in Topic 2.3, all the coastal landforms you must cover are listed
- in Topic 2.5, where 'including' is used, you may choose to introduce other climatic characteristics as well as the ones listed.

Resources

Some questions in all the written papers are based on resource material, such as photographs, map extracts, satellite images, drawings, diagrams, graphs, text extracts, statistics and tables of data.

To meet the aims of an international syllabus and examination, resource materials come from various areas of the world. Candidates may not be familiar with the world areas used in the resources. The questions **do not** require specific regional knowledge. The resources are designed to prompt candidates to use the general principles they have studied.

The units used in all resources and papers are:

- metres and kilometres for height and distance
- degrees centigrade for temperature.

Questions in all papers may include references to latitude or longitude.

Case studies

Where a case study is specified in a topic, teachers should choose a suitable example to illustrate the subject content. For example, Topic 1.6 requires a case study of an urban area. The case study can be from anywhere in the world but it must illustrate all the content listed under Topic 1.6.

You can choose more than one case study for a topic. For example, for Topic 1.6 you could choose Settlement X for a case study on land use and Settlement Y for a case study on urban problems.

You can also use the same case study for more than one topic as long as it is suitable for the subject content.

Theme 1: Population and settlement

Please see the guidance on case studies for the options when planning case studies and note whether the word 'including' is used in the further guidance column.

1.1 Population dynamics

Candidates should be able to:

Describe and give reasons for the rapid increase in the world's population

Show an understanding of over-population and under-population

Understand the main causes of a change in population size

Give reasons for contrasting rates of natural population change

Describe and evaluate population policies

Further guidance

Causes and consequences of over-population and under-population

How birth rate, death rate and migration contribute to the population of a country increasing or declining

Impacts of social, economic and other factors (including government policies, HIV/AIDS) on birth and death rates

Case Studies required for 1.1

- A country which is over-populated
- A country which is under-populated
- A country with a high rate of natural population growth
- A country with a low rate of population growth (or population decline)

1.2 Migration

Candidates should be able to:

Explain and give reasons for population migration

Demonstrate an understanding of the impacts of migration

Further guidance

Internal movements such as rural-urban migration, as well as international migrations, both voluntary and involuntary

Positive and negative impacts on the destination and origin of the migrants, and on the migrants themselves

Case Study required for 1.2

- An international migration

1.3 Population structure

Candidates should be able to:

Identify and give reasons for and implications of different types of population structure

Further guidance

Age/sex pyramids of countries at different levels of economic development

Case Study required for 1.3

- A country with a high dependent population

1.4 Population density and distribution

Candidates should be able to:

Describe the factors influencing the density and distribution of population

Further guidance

Physical, economic, social and political factors

Case Studies required for 1.4

- A densely populated country or area (at any scale from local to regional)
- A sparsely populated country or area (at any scale from local to regional)

1.5 Settlements (rural and urban) and service provision

Candidates should be able to:

Explain the patterns of settlement

Describe and explain the factors which may influence the sites, growth and functions of settlements

Give reasons for the hierarchy of settlements and services

Further guidance

Dispersed, linear, and nucleated settlement patterns

Influence of physical factors (including relief, soil, water supply) and other factors (including accessibility, resources)

High-, middle- and low-order settlements and services. Sphere of influence and threshold population

Case Study required for 1.5

- Settlement and service provision in an area

1.6 Urban settlements

Candidates should be able to:

Describe and give reasons for the characteristics of, and changes in, land use in urban areas

Explain the problems of urban areas, their causes and possible solutions

Further guidance

Land use zones including the Central Business District (CBD), residential areas, industrial areas and the rural-urban fringe of urban areas in countries at different levels of economic development

The effect of change in land use and rapid urban growth in an urban area including the effects of urban sprawl

Different types of pollution (air, noise, water, visual), inequality, housing issues, traffic congestion and conflicts over land use change

Case Study required for 1.6

- An urban area or urban areas

1.7 Urbanisation

Candidates should be able to:

Identify and suggest reasons for rapid urban growth

Describe the impacts of urban growth on both rural and urban areas, along with possible solutions to reduce the negative impacts

Case Study required for 1.7

- A rapidly growing urban area in a developing country and migration to it

Further guidance

Reference should be made to physical, economic and social factors which result in rural depopulation and the movement of people to major cities

The effects of urbanisation on the people and the natural environment

The characteristics of squatter settlements

Strategies to reduce the negative impacts of urbanisation

Theme 2: The natural environment

Please see the guidance on case studies for the options when planning case studies and note whether the word 'including' is used in the further guidance column.

2.1 Earthquakes and volcanoes

Candidates should be able to:

Describe the main types and features of volcanoes and earthquakes

Describe and explain the distribution of earthquakes and volcanoes

Describe the causes of earthquakes and volcanic eruptions and their effects on people and the environment

Demonstrate an understanding that volcanoes present hazards and offer opportunities for people

Explain what can be done to reduce the impacts of earthquakes and volcanoes

Case Studies required for 2.1

- An earthquake
- A volcano

Further guidance

Types of volcanoes (including strato-volcanoes [composite cone] and shield volcano)

Features of volcanoes (including crater, vent, magma chamber)

Features of earthquakes (including epicentre, focus, magnitude)

The global pattern of plates and their structure; an awareness of plate movements, subduction zones and their effects – constructive/divergent, destructive/convergent and conservative plate boundaries

2.2 Rivers

Candidates should be able to:

Explain the main hydrological characteristics and processes which operate in rivers and drainage basins

Demonstrate an understanding of the work of a river in eroding, transporting and depositing

Describe and explain the formation of the landforms associated with these processes

Demonstrate an understanding that rivers present hazards and offer opportunities for people

Explain what can be done to manage the impacts of river flooding

Case Study required for 2.2

- The opportunities presented by a river or rivers, the associated hazards and their management

Further guidance

Characteristics of rivers (including width, depth, speed of flow, discharge) and drainage basins (including watershed, tributary, confluence)

Processes which operate in a drainage basin (including interception, infiltration, throughflow, groundwater flow, evaporation, overland flow)

Forms of river valleys – long profile and shape in cross-section, waterfalls, potholes, meanders, oxbow lakes, deltas, levées and flood plains

Causes of hazards (including flooding and river erosion)

Opportunities of living on a flood plain or a delta or near a river

2.3 Coasts

Candidates should be able to:

Demonstrate an understanding of the work of the sea and wind in eroding, transporting and depositing

Describe and explain the formation of the landforms associated with these processes

Describe coral reefs and mangrove swamps and the conditions required for their development

Demonstrate an understanding that coasts present hazards and offer opportunities for people

Explain what can be done to manage the impacts of coastal erosion

Case Study required for 2.3

- The opportunities presented by an area or areas of coastline, the associated hazards and their management

Further guidance

Cliffs, wave-cut platforms, caves, arches, stacks, stumps, bay and headland coastlines, beaches, spits, and coastal sand dunes

Hazards (including coastal erosion and tropical storms)

2.4 Weather

Candidates should be able to:

Describe how weather data are collected

Make calculations using information from weather instruments

Use and interpret graphs and other diagrams showing weather and climate data

Further guidance

Describe and explain the characteristics, siting and use made of a Stevenson Screen

Rain gauge, maximum-minimum thermometer, wet-and-dry bulb thermometer (hygrometer), sunshine recorder, barometer, anemometer and wind vane, along with simple digital instruments which can be used for weather observations; observations of types and amounts of cloud

2.5 Climate and natural vegetation

Candidates should be able to:

Describe and explain the characteristics of two climates:

- equatorial
- hot desert

Describe and explain the characteristics of tropical rainforest and hot desert ecosystems

Describe the causes and effects of deforestation of tropical rainforest

Case Study required for 2.5

- An area of tropical rainforest
- An area of hot desert

Further guidance

Climate characteristics (including temperature [mean temperature of the hottest month, mean temperature of the coolest month, annual range]; and precipitation including convection and relief rainfall [the amount and seasonal distribution])

Factors influencing the characteristics of these climates (including latitude, pressure systems, winds, distance from the sea, altitude and ocean currents)

Climatic graphs showing the main characteristics of temperature and rainfall of the two climates

The relationship in each ecosystem of natural vegetation, soil, wildlife and climate

Effects on the natural environment (both locally and globally) and effects on people

Theme 3: Economic development

Please see the guidance on case studies for the options when planning case studies and note whether the word 'including' is used in the further guidance column.

3.1 Development

Candidates should be able to:

Use a variety of indicators to assess the level of development of a country

Identify and explain inequalities between and within countries

Classify production into different sectors and give illustrations of each

Describe and explain how the proportions employed in each sector vary according to the level of development

Describe and explain the process of globalisation, and consider its impacts

Further guidance

Indicators of development (including GNP per capita, literacy, life expectancy and composite indices, e.g. Human Development Index (HDI))

Primary, secondary, tertiary and quaternary sectors

Use of indicators of development and employment structure to compare countries at different levels of economic development and over time

The role of technology and transnational corporations in globalisation along with economic factors which give rise to globalisation

Impacts at a local, national and global scale

Case Study required for 3.1

- A transnational corporation and its global links

3.2 Food production

Candidates should be able to:

Describe and explain the main features of an agricultural system: inputs, processes and outputs

Recognise the causes and effects of food shortages and describe possible solutions to this problem

Further guidance

Farming types: commercial and subsistence; arable, pastoral and mixed; intensive and extensive

The influence of natural and human inputs on agricultural land use (including natural inputs [relief, climate and soil] and human inputs [economic and social]). Their combined influences on the scale of production, methods of organisation and the products of agricultural systems

Natural problems which cause food shortages (including drought, floods, tropical storms, pests) and economic and political factors (including low capital investment, poor distribution/transport difficulties, wars)

The negative effects of food shortages; the effects of food shortages in encouraging food aid and measures to increase output

Case Studies required for 3.2

- A farm or agricultural system
- A country or region suffering from food shortages

3.3 Industry

Candidates should be able to:

Demonstrate an understanding of an industrial system: inputs, processes and outputs (products and waste)

Describe and explain the factors influencing the distribution and location of factories and industrial zones

Further guidance

Industry types: manufacturing, processing, assembly and high technology industry

The influence of factors including land, labour, raw materials and fuel and power, transport, markets and political factors

Their combined influences on the location, scale of production, methods of organisation and the products of the system

Industrial zones and/or factories with respect to locational and siting factors

Case Study required for 3.3

- An industrial zone or factory

3.4 Tourism

Candidates should be able to:

Describe and explain the growth of tourism in relation to the main attractions of the physical and human landscape

Evaluate the benefits and disadvantages of tourism to receiving areas

Demonstrate an understanding that careful management of tourism is required in order for it to be sustainable

Further guidance

Case Study required for 3.4

- An area where tourism is important

3.5 Energy

Candidates should be able to:

Describe the importance of non-renewable fossil fuels, renewable energy supplies, nuclear power and fuelwood; globally and in different countries at different levels of development

Evaluate the benefits and disadvantages of nuclear power and renewable energy sources

Further guidance

Non-renewable fossil fuels including coal, oil and natural gas. Renewable energy supplies including geothermal, wind, HEP, wave and tidal power, solar power and biofuels

Case Study required for 3.5

- Energy supply in a country or area

3.6 Water

Candidates should be able to:

Describe methods of water supply and the proportions of water used for agriculture, domestic and industrial purposes in countries at different levels of economic development

Explain why there are water shortages in some areas and demonstrate that careful management is required to ensure future supplies

Case Study required for 3.6

- Water supply in a country or area

Further guidance

Methods of water supply (including reservoirs/dams, wells and bore holes, desalination)

The impact of lack of access to clean water on local people and the potential for economic development

3.7 Environmental risks of economic development

Candidates should be able to:

Describe how economic activities may pose threats to the natural environment and people, locally and globally

Demonstrate the need for sustainable development and management

Understand the importance of resource conservation

Case Study required for 3.7

- An area where economic development is taking place and causing the environment to be at risk

Further guidance

Threats to the natural environment (including soil erosion, desertification, enhanced global warming and pollution [water, air, noise, visual])

Using mathematical skills in geography

Candidates should be able to:

- add, subtract, multiply and divide
- understand map scale and the use of the scale line and representative fractions
- understand the terms *mean* and *range*
- use averages, decimals, fractions, percentages and ratios
- use standard notation, including both positive and negative indices
- understand significant figures and use them appropriately
- recognise positive and negative relationships shown by scatter graphs
- draw and interpret graphs from given data for the types of graph listed in the syllabus
- select suitable scales and axes for graphs
- use a ruler and protractor.

Calculators may be used in all examinations.

4 Details of the assessment

Paper 1 – Geographical Themes

Written paper, 1 hour 45 minutes, 75 marks

All candidates take Paper 1. They choose **three** questions.

Please note:

Candidates must comply with the instructions for Paper 1. They must choose only **three** questions, one from each of the three sections. Sometimes there is a choice within a question. Candidates must not answer more than is required.

Questions are structured with different levels of difficulty. They consist of a combination of resource-based tasks and free-response writing requiring place-specific information.

For resource-based tasks, candidates should interpret and analyse the resource and use the data provided to illustrate their understanding of the concept being assessed.

Candidates are expected to know the location of the continents.

All the other information they need to answer a resource-based question is in the resource. No other previous knowledge is needed of the content of the resource.

Resources may be:

- photographs
- sketch maps
- diagrams
- text extracts
- GIS data.
- map extracts
- drawings
- graphs
- statistics and tables of data-satellite images
- maps showing latitude and longitude

Resource materials are chosen from different world areas. This means that candidates may be dealing with world areas they are not familiar with. You should make it clear to candidates that they do not need any regional knowledge to answer a resource-based question. Everything they need is provided. It is important that candidates are not influenced in their choice of question by the nature or location of a resource.

Case studies

Candidates should refer to suitable case studies to illustrate the individual themes.

You may choose a case study because it relates to:

- the local school area
- a contemporary development such as the occurrence of a natural hazard in part of the world
- a particular illustration with which you are familiar
- a presentation in a newspaper or website or video or film, or a well-documented illustration in a textbook, etc.

A case study may also be based on an investigation undertaken as part of preparation for Paper 3 Geographical Investigations. Specific questions based on fieldwork will not be set in Paper 1, but candidates may use this information to illustrate answers on this paper.

The case studies should give candidates details which they can use in their answers to certain questions on Paper 1. Some part questions ask candidates to refer to information from the specific case studies for each theme. Candidates may also use details from these case studies to volunteer information when they are answering other part questions.

Specific named illustrations of case studies are not included in the syllabus. This is to give you complete freedom in selecting examples which you feel are most suitable for your candidates.

Candidates should be aware of the sub-marks for each part question. These are printed on the question paper. Candidates should use them as a guide to the amount of detail and length of response expected and to help them manage their time effectively.

Paper 2 – Geographical Skills

Written paper, 1 hour 30 minutes, 60 marks

All candidates take Paper 2. They must answer **all** the questions.

The paper tests:

- skills of application, interpretation and analysis of geographical information, for example:
 - topographical maps
 - other maps
 - diagrams
 - graphs
 - tables of data
 - written material
 - photographs and pictorial material
- application of graphical and other techniques.

Candidates do not need any place-specific knowledge to answer questions in Paper 2. Questions that require knowledge and understanding (AO1) will be based on topics from the three themes (see section 3).

Equipment for Paper 2

Candidates must have in the examination room:

- a pencil, rubber, ruler, protractor and calculator
- access to a sheet of plain paper for measuring distance or for assisting with cross-sections on the large-scale map.

Mapwork question

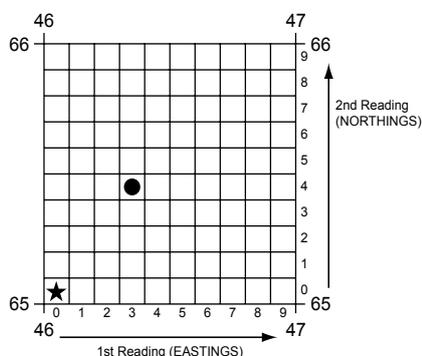
All answers to the mapwork question must be based on map evidence only.

One question will be based on a large-scale map. The large-scale maps provided will be on a scale of either 1:25 000 or 1:50 000 and will always contain a full key.

One third of the marks for Paper 2 are for the mapwork question. Candidates are asked to describe and analyse a large-scale map. This means that candidates must be proficient in map-reading and interpretation skills.

Candidates should be able to use a co-ordinate reference system and to give and read four-figure and six-figure grid references to locate places.

In this example, the four-figure reference for the dot is 4665 and the six-figure grid reference for the dot is 463654:



To give the six-figure grid reference, first identify the grid square, in this case 4665. The third figure is obtained by dividing the space between grid lines 46 and 47 into ten equal parts. Similarly, the sixth figure is obtained by a division of the gap between northings 65 and 66. This results in a grid reference of 463654 for the dot and 460650 for the star. Please note that the first tenth is 0 and the last tenth is 9 in the divided grid square.

Candidates should be able to give directions, both in terms of a 16-point compass (such as north, north-north east, north east, etc.) and as a bearing from grid north of one place from another. For this reason candidates must have protractors in the examination room.

Candidates should be able to measure horizontal distances. This is done most accurately by using a straight-edged piece of paper and the scale line. If the line to be measured is curved, divide the curve into straight sections and rotate the paper after each straight section to follow the next straight section. Finally, place the completed straight-edged piece of paper along the linear scale line on the map extract and read off the distance in kilometres/metres. This method avoids complicated mathematical calculations which can arise when rulers are used.

Candidates should also be able to:

- calculate differences in height by means of contour reading
- interpret, construct or complete a cross-section
- translate the scale of a feature by describing its size and shape in real terms
- be proficient in using the key to identify features on the map
- draw inferences about the physical and human landscape by interpreting map evidence (including patterns of relief, drainage, settlement, communication and land use)
- identify basic landscape features (such as river valleys and uplands)
- give brief descriptions of basic landscape features using suitable geographical terms (such as ridge, plateau, scarp, flood plain) and simple adjectives showing an appreciation of their nature (such as broad, flat, steep-sided, deeply cut, gently sloping)
- recognise essential differences in density of drainage, stream patterns, gradients or sizes of streams in relation to the relief
- describe the physical features of coastlines and the shape and form of river channels as they are shown on large-scale maps
- describe variations in land use
- recognise and analyse patterns of settlement (dispersed, nucleated, linear)
- draw sketch maps illustrating these patterns

- interpret and describe features of urban morphology as they are shown on large-scale maps
- describe the functions of and services provided by settlements
- give reasons for the site and growth of individual settlements
- recognise communication networks in terms of their type and density in relation to physical and human features.

Maps, diagrams, graphs, tables of data, written material

Questions will be set using some or all of these resources, which are all important ways of representing geographical data. Resources may be used to illustrate a basic principle which candidates must be able to interpret. For example, a population pyramid may be used to illustrate the age and sex structure of a country. Maps based on global and other scales may also be used.

Candidates should be able to:

- Describe the broad features of the population structure and use the pyramid to identify comparisons and contrasts between the male and female populations, the working and non-working population and the young-, middle- and old-age groups.
- Identify and describe significant features of the human and physical landscape on maps, for example, population distribution, population movements, transport networks, settlement layout, relief and drainage.
- Recognise patterns and deduce relationships.
- Extract specified geographical information from graphs, diagrams, tables of data and written material. Various types of graphs, maps and diagrams may be used, for example: pictograms, line graphs, bar graphs, divided bar graphs, histograms, kite diagrams, flow diagrams, wind rose graphs, dispersion graphs, isoline maps, scatter graphs (including best-fit lines), choropleth maps, pie graphs, triangular graphs and radial graphs.
- Describe variations and identify trends in information. Graphs may show, for example, temperature, birth rate, death rate, energy, rainfall distribution or river discharge.
- Plot information on graphs when axes and scales are provided.

Data tables may provide various types of information on physical phenomena, economic activities, population, settlement, agricultural and manufacturing output, etc. and candidates may be asked to describe and analyse features and trends from the data provided. They may also be asked to suggest a suitable form of graphical representation for the data provided.

Written material may be extracts from books, periodicals and newspapers, and candidates will need to show an understanding of the material presented.

Photographic and pictorial material (including field sketches)

Questions may include field sketches of physical and human landscapes to stimulate geographical description and annotation. Cartoons illustrating a geographical theme may be set for interpretation and analysis.

Some questions will include oblique photographs. Candidates should be able to:

- Give simple descriptions of human and physical landscapes (landforms, natural vegetation, land use and settlement) and geographical phenomena from photographs, aerial photographs, satellite images and GIS.
- Add specified detail on maps or other material provided to show that they can apply geographical knowledge and understanding.
- Use supporting material in conjunction with large-scale maps to identify, describe and analyse features and show that they can recognise patterns and deduce trends.

Paper 3 – Geographical Investigations

Written paper, 1 hour 30 minutes, 60 marks

Candidates must answer **all** the questions.

Candidates are set a series of tasks on issues relating to one or more of the subject themes (see section 3). Questions test the methodology of questionnaires, observation, counts and measurement techniques, and involve testing hypotheses appropriate to specific topics. Questions also test processing, presentation and analysis of data.

Candidates should study the principles of geographical investigations and show understanding of the route to geographical enquiry. **They should have some practical experience, however limited, of fieldwork methodology.** One approach is to introduce the appropriate enquiry skills and techniques relevant to Paper 3 during the teaching of specific topics for Paper 1. For example, while you are teaching Topic 2.2 Rivers, you could discuss how key aspects of the form of rivers can be measured, how depth data can be plotted and how cross-sectional area and discharge can be calculated. You could introduce the skills required for questionnaires, counts and observations in a variety of topics, wherever this is practical for the centre.

Candidates should be aware of the range of aspects involved in the route to geographical enquiry, such as identifying aims and hypotheses, using enquiry skills to collect data, using presentation techniques to display data, making analyses of data and reaching conclusions.

Enquiry skills for Paper 3

1 Formulating aims and hypotheses

Candidates should be familiar with hypotheses as statements that form the basis of coursework assignments. The hypotheses may investigate a geographical concept, for example, 'A CBD has the highest concentration of comparison shops.' Hypotheses can be tested by collecting relevant data, by analysis and by drawing conclusions using the data as evidence.

2 Enquiry skills to collect data

Questions will test knowledge and application of the methodology used in the following range of enquiry skills to collect data.

Questionnaires

Questionnaires can be oral or written to gain information from an individual or a group of individuals. Questionnaires can be used when studying a number of syllabus topics, including: spheres of influence; use of services; shopping habits; a farm study; a factory or industrial study; leisure activities; tourism; or attitudes of the public to developments associated with resource development.

Candidates should be aware of:

- factors influencing the successful design of questionnaires, for example:
 - layout
 - format of questions
 - appropriate wording of questions
 - number of questions
- the practical considerations involved in conducting a questionnaire, for example:
 - sampling methods
 - pilot survey
 - location of survey.

Observation

Examples of using observations to collect data include the recording of land use in an urban area or observations of river or coastal features. Candidates can use maps, recording sheets, field sketches and annotated photographs to record their observations.

Counts

Examples of counts are pedestrian and traffic counts. Candidates should be aware of suitable methods for recording counts, including the layout of recording sheets, instructions and the information required to identify the sheet following the count (time, date, location and name of recorder).

Measurement

Candidates should be aware that when they are recording measurements, it is important to plan the layout of the recording sheet, the location of instruments and the sampling methods used to provide reliable data. They should know what measurement equipment is required, such as the quadrat, the clinometer and the pebbleometer or callipers. They should be familiar with:

- river measurements of channel width, depth, speed of flow and the size and shape of bedload
- beach studies of beach profile, the size and shape of pebbles and the movement of beach material
- weather study instruments closely linked to Theme 2: The natural environment
- measurement techniques associated with human fieldwork such as survey strategies and pedestrian/traffic counts.

3 Data presentation techniques

Candidates need to know about the illustrative techniques that can be used to present data. These include various types of graphs, maps and diagrams, for example:

- line graphs
- bar graphs
- divided bar graphs
- histograms, flow diagrams
- wind-rose graphs
- isoline maps
- scatter graphs (including best-fit lines)
- pie graphs
- triangular graphs
- radial graphs
- dispersion graphs
- choropleth maps
- kite diagrams
- pictograms.

4 Analysis

Candidates should be able to describe the patterns in data presented in graphs and tables of results. Questions often require candidates to refer to relevant geographical knowledge and understanding when they are interpreting data.

5 Making conclusions

Using the evidence from the data, candidates should be able to make judgements on the validity of the original hypothesis or the aims of the assignment. They must refer to the reliability of the data collected and give a critical evaluation of the data collection methods chosen, along with suggestions for other possible hypotheses and extension work.

Command words

Command words and their meanings help candidates know what is expected from them in the exam. The table below includes command words used in the assessment for this syllabus. The use of the command word will relate to the subject context.

Command word	What it means
Calculate	work out from given facts, figures or information
Compare	identify / comment on similarities and/or differences
Define	give precise meaning
Describe	state the points of a topic / give characteristics and main features
Devise	create a questionnaire to present other information according to specific requirements
Estimate	use judgement to give a unit value to a distance or area
Explain	set out purposes or reasons / make the relationships between things evident / provide why and/or how and support with relevant evidence
Give	produce an answer from a given source or recall/memory
Identify	name/select/recognise
Justify	support a case with evidence/argument
Locate	indicate the position of a place, feature or entity from/on a resource
Plan	create a method to obtain or present certain information (such as a questionnaire) according to specific requirements
Predict	suggest what may happen based on available information
Sketch	make a simple freehand drawing showing the key features, taking care over proportions
State	express in clear terms
Suggest	apply knowledge and understanding to situations where there are a range of valid responses in order to make proposals

Phrases such as 'How far do you agree ...?' and 'To what extent ...?' may also be seen in the assessment for this syllabus.

5 What else you need to know

This section is an overview of other information you need to know about this syllabus. It will help to share the administrative information with your exams officer so they know when you will need their support. Find more information about our administrative processes at www.cambridgeinternational.org/eoguide

Before you start

Previous study

We recommend that learners starting this course should have studied a geography curriculum at lower secondary level or equivalent national educational framework.

Guided learning hours

We design Cambridge O Level syllabuses based on learners having about 130 guided learning hours for each subject during the course but this is for guidance only. The number of hours a learner needs to achieve the qualification may vary according to local practice and their previous experience of the subject.

Availability and timetables

Cambridge O Levels are available to centres in administrative zones 3, 4 and 5.

You can enter candidates in the November exam series. You can view the timetable for your administrative zone at www.cambridgeinternational.org/timetables

Check you are using the syllabus for the year the candidate is taking the exam.

Private candidates can enter for this syllabus. For more information, please refer to the *Cambridge Guide to Making Entries*.

Combining with other syllabuses

Candidates can take this syllabus alongside other Cambridge International syllabuses in a single exam series. The only exceptions are:

- Cambridge IGCSE (9–1) Geography (0976)
- Cambridge IGCSE Level Geography (0460)
- syllabuses with the same title at the same level.

Cambridge O Level, Cambridge IGCSE™ and Cambridge IGCSE (9–1) syllabuses are at the same level.

Making entries

Exams officers are responsible for submitting entries to Cambridge International. We encourage them to work closely with you to make sure they enter the right number of candidates for the right combination of syllabus components. Entry option codes and instructions for submitting entries are in the *Cambridge Guide to Making Entries*. Your exams officer has a copy of this guide.

Exam administration

To keep our exams secure, we produce question papers for different areas of the world, known as administrative zones. We allocate all Cambridge schools to one administrative zone determined by their location. Each zone has a specific timetable. Some of our syllabuses offer candidates different assessment options. An entry option code is used to identify the components the candidate will take relevant to the administrative zone and the available assessment options.

Support for exams officers

We know how important exams officers are to the successful running of exams. We provide them with the support they need to make your entries on time. Your exams officer will find this support, and guidance for all other phases of the Cambridge Exams Cycle, at www.cambridgeinternational.org/eoguide

Retakes

Candidates can retake the whole qualification as many times as they want to. Information on retake entries is at www.cambridgeinternational.org/entries

Equality and inclusion

We have taken great care to avoid bias of any kind in the preparation of this syllabus and related assessment materials. In our effort to comply with the UK Equality Act (2010) we have taken all reasonable steps to avoid any direct and indirect discrimination.

The standard assessment arrangements may present barriers for candidates with impairments. Where a candidate is eligible, we may be able to make arrangements to enable that candidate to access assessments and receive recognition of their attainment. We do not agree access arrangements if they give candidates an unfair advantage over others or if they compromise the standards being assessed.

Candidates who cannot access the assessment of any component may be able to receive an award based on the parts of the assessment they have completed.

Information on access arrangements is in the *Cambridge Handbook* at www.cambridgeinternational.org/eoguide

Language

This syllabus and the related assessment materials are available in English only.

After the exam

Grading and reporting

Grades A*, A, B, C, D or E indicate the standard a candidate achieved at Cambridge O Level.

A* is the highest and E is the lowest. 'Ungraded' means that the candidate's performance did not meet the standard required for grade E. 'Ungraded' is reported on the statement of results but not on the certificate.

In specific circumstances your candidates may see one of the following letters on their statement of results:

- Q (PENDING)
- X (NO RESULT).

These letters do not appear on the certificate.

On the statement of results and certificates, Cambridge O Level is shown as GENERAL CERTIFICATE OF EDUCATION (GCE O LEVEL).

How students and teachers can use the grades

Assessment at Cambridge O Level has two purposes:

- to measure learning and achievement

The assessment:

- confirms achievement and performance in relation to the knowledge, understanding and skills specified in the syllabus, to the levels described in the grade descriptions.

- to show likely future success

The outcomes:

- help predict which students are well prepared for a particular course or career and/or which students are more likely to be successful
- help students choose the most suitable course or career.

Grade descriptions

Grade descriptions are provided to give an indication of the standards of achievement candidates awarded particular grades are likely to show. Weakness in one aspect of the examination may be balanced by a better performance in some other aspect.

Grade descriptions for Cambridge O Level Geography will be published after the first assessment of the syllabus in 2020. Find more information at www.cambridgeinternational.org/2217

Changes to this syllabus for 2023

The syllabus has been updated. This is version 1, published September 2020.

You must read the whole syllabus before planning your teaching programme.

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- Changes to syllabus content**
- We have added learner attributes, to communicate the benefits of the syllabus in more detail.
 - In section 4 Details of the assessment
 - Paper 1 Geographical Themes we have added 'maps showing latitude and longitude' to the resources.
 - Paper 2 Geographical Skills we have clarified scatter graphs to include best-fit lines.
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Any textbooks endorsed to support the syllabus for examination from 2020 are still suitable for use with this syllabus.



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