

SYLLABUS

Cambridge IGCSE®

Subject

0460

For examination in June and November 2015

Changes to syllabus for 2015

For syllabuses with no changes

This syllabus has been updated, but there are no significant changes.

For syllabuses with substantive changes (black lines included)

|| This syllabus has been updated. Significant changes to the syllabus are indicated by black vertical lines either side of the text. ||

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1. Introduction

1.1 Why choose Cambridge?

Recognition

Cambridge International Examinations is the world's largest provider of international education programmes and qualifications for learners aged 5 to 19. We are part of Cambridge Assessment, a department of the University of Cambridge, trusted for excellence in education. Our qualifications are recognised by the world's universities and employers.

Cambridge IGCSE® (International General Certificate of Secondary Education) is internationally recognised by schools, universities and employers as equivalent in demand to UK GCSEs. Learn more at www.cie.org.uk/recognition

Excellence in education

Our mission is to deliver world-class international education through the provision of high-quality curricula, assessment and services.

More than 9000 schools are part of our Cambridge learning community. We support teachers in over 160 countries who offer their learners an international education based on our curricula and leading to our qualifications. Every year, thousands of learners use Cambridge qualifications to gain places at universities around the world.

Our syllabuses are reviewed and updated regularly so that they reflect the latest thinking of international experts and practitioners and take account of the different national contexts in which they are taught.

Cambridge programmes and qualifications are designed to support learners in becoming:

- **confident** in working with information and ideas – their own and those of others
- **responsible** for themselves, responsive to and respectful of others
- **reflective** as learners, developing their ability to learn
- **innovative** and equipped for new and future challenges
- **engaged** intellectually and socially, ready to make a difference.

Support for teachers

A wide range of materials and resources is available to support teachers and learners in Cambridge schools. Resources suit a variety of teaching methods in different international contexts. Through subject discussion forums and training, teachers can access the expert advice they need for teaching our qualifications. More details can be found in Section 2 of this syllabus and at www.cie.org.uk/teachers

Support for exams officers

Exams officers can trust in reliable, efficient administration of exams entries and excellent personal support from our customer services. Learn more at www.cie.org.uk/examsOfficers

Not-for-profit, part of the University of Cambridge

We are a not-for-profit organisation where the needs of the teachers and learners are at the core of what we do. We continually invest in educational research and respond to feedback from our customers in order to improve our qualifications, products and services.

Our systems for managing the provision of international qualifications and education programmes for learners aged 5 to 19 are certified as meeting the internationally recognised standard for quality management, ISO 9001:2008. Learn more at www.cie.org.uk/ISO9001

1.2 Why choose Cambridge IGCSE?

Cambridge IGCSEs are international in outlook, but retain a local relevance. The syllabuses provide opportunities for contextualised learning and the content has been created to suit a wide variety of schools, avoid cultural bias and develop essential lifelong skills, including creative thinking and problem-solving.

Our aim is to balance knowledge, understanding and skills in our programmes and qualifications to enable candidates to become effective learners and to provide a solid foundation for their continuing educational journey.

Through our professional development courses and our support materials for Cambridge IGCSEs, we provide the tools to enable teachers to prepare learners to the best of their ability and work with us in the pursuit of excellence in education.

Cambridge IGCSEs are considered to be an excellent preparation for Cambridge International AS and A Levels, the Cambridge AICE (Advanced International Certificate of Education) Group Award, Cambridge Pre-U, and other education programmes, such as the US Advanced Placement program and the International Baccalaureate Diploma programme. Learn more about Cambridge IGCSEs at www.cie.org.uk/cambridgesecondary2

Guided learning hours

Cambridge IGCSE syllabuses are designed on the assumption that candidates have about 130 guided learning hours per subject over the duration of the course, but this is for guidance only. The number of hours required to gain the qualification may vary according to local curricular practice and the learners' prior experience of the subject.

1.3 Why choose Cambridge IGCSE Subject?

Successful Cambridge IGCSE Geography candidates develop lifelong skills, including:

- An understanding of the impacts which both physical and human geography can have and the processes which affect their development;
- A sense of place and an understanding of relative location on a local, regional and global scale;
- The ability to use and understand geographical data and information;
- An understanding of how communities and cultures around the world and how they are affected and constrained by different environments.

Recommended prior learning

We recommend that candidates who are beginning this course should have previously studied Geography.

Progression

Cambridge IGCSE Certificates are general qualifications that enable candidates to progress either directly to employment, or to proceed to further qualifications.

Candidates who are awarded grades C to A* in Cambridge IGCSE Geography are well prepared to follow courses leading to Cambridge International AS and A Level Geography, or the equivalent.

1.4 Cambridge ICE (International Certificate of Education)

Cambridge ICE is a group award for Cambridge IGCSE. It gives schools the opportunity to benefit from offering a broad and balanced curriculum by recognising the achievements of learners who pass examinations in at least seven subjects. To qualify for the Cambridge ICE award learners are required to have studied subjects from five groups: two languages from Group I, and one subject from each of the remaining four groups. The seventh subject can be taken from any of the five subject groups.

Geography (0460) is in Group II, humanities and social sciences.

Learn more about Cambridge ICE at www.cie.org.uk/cambridgesecondary2

The Cambridge ICE is awarded from examinations administered in the June and November series each year.

Detailed timetables are available from www.cie.org.uk/examsOfficers

1.5 How can I find out more?

If you are already a Cambridge school

You can make entries for this qualification through your usual channels. If you have any questions, please contact us at info@cie.org.uk

If you are not yet a Cambridge school

Learn about the benefits of becoming a Cambridge school at www.cie.org.uk/startcambridge. Email us at info@cie.org.uk to find out how your organisation can register to become a Cambridge school.

2. Teacher support

2.1 Support materials

Cambridge syllabuses, past question papers and examiner reports to cover the last examination series are on the *Syllabus and Support Materials* DVD, which we send to all Cambridge schools.

You can also go to our public website at www.cie.org.uk/igcse to download current and future syllabuses together with specimen papers or past question papers and examiner reports from one series.

For teachers at registered Cambridge schools a range of additional support materials for specific syllabuses is available online. For Teacher Support go to <http://teachers.cie.org.uk> (username and password required).

2.2 Resource lists

We work with publishers providing a range of resources for our syllabuses including textbooks, websites, CDs etc. Any endorsed, recommended and suggested resources are listed on both our public website and on Teacher Support.

The resource lists can be filtered to show all resources or just those which are endorsed or recommended by Cambridge. Resources endorsed by Cambridge go through a detailed quality assurance process and are written to align closely with the Cambridge syllabus they support.

2.3 Training

We offer a range of support activities for teachers to ensure they have the relevant knowledge and skills to deliver our qualifications. See www.cie.org.uk/events for further information.

3. Assessment at a glance

Cambridge IGCSE syllabuses are designed as two-year courses for examination at age 16-plus. This syllabus is available for examination in both the June and November series.

All candidates take	
<p>Paper 1 1 hour 45 minutes</p> <p>Candidates answer any three questions out of six. There are two questions set on each of three themes. Questions are structured with gradients of difficulty and are resource-based, involving problem solving and free response writing. (75 marks, weighted to 100 marks)</p> <p>45% of total marks</p>	<p>Paper 2 1 hour 30 minutes</p> <p>Candidates answer all the questions. The paper is based on testing the interpretation and analysis of geographical information and on the application of graphical and other techniques as appropriate. The questions will not require specific information of place. One question is based on a 1:25 000 or 1:50 000 topographical map of a tropical area such as Zimbabwe, the Caribbean or Mauritius. (60 marks)</p> <p>27.5% of total marks</p>
and either or	
<p>Paper 3 Coursework (Centre-based assessment*)</p> <p>Teachers set one school-based assignment of up to 2000 words. (60 marks)</p> <p>27.5% of total marks</p>	<p>Paper 4 1 hour 30 minutes Alternative to Coursework</p> <p>Candidates answer two compulsory questions, completing a series of written tasks based on the three themes (see section 4). The questions involve an appreciation of a range of techniques used in fieldwork studies. Questions test the methodology of questionnaires, observation, counts, measurement techniques, and may involve developing hypotheses appropriate to specific topics. The processing, presentation and analysis of data will be tested. (60 marks)</p> <p>27.5% of total marks</p>

*Centre-based assessments require the written approval of Cambridge. This will only be given to teachers who satisfy Cambridge requirements concerning moderation and who have undertaken training in assessment before entering candidates. Cambridge offers schools in-service training. Courses are held in Cambridge and elsewhere and also via Distance Training Packs.

- Candidates are **not** allowed to use atlases for the written papers;
- all measurements on the written papers will be metric;
- the twenty-four hour clock only will be quoted on the written papers.

Availability

This syllabus is examined in the May/June examination Cambridge and the October/November examination Cambridge.

This syllabus is available to private candidates.

Combining this with other syllabuses

Candidates can combine this syllabus in an examination series with any other Cambridge syllabus, except:

- syllabuses with the same title at the same level
- 2217 Geography
- 2223 Geography (Southern Africa)
- 2230 Geography (Brunei)

Please note that Cambridge IGCSE, Cambridge International Level 1/Level 2 Certificates and Cambridge O Level syllabuses are at the same level.

4. Syllabus aims and objectives

4.1 Syllabus aims

The syllabus aims are to encourage candidates to develop:

- a sense of place and an understanding of relative location on a local, regional and global scale;
- an awareness of the characteristics and distribution of a selection of contrasting physical and human environments;
- an understanding of some of the processes affecting the development of such environments;
- an understanding of the spatial effects of the ways in which people interact with each other and with their environments;
- an understanding of different communities and cultures throughout the world and an awareness of the contrasting opportunities and constraints presented by different environments.

4.2 Assessment objectives

The Assessment objectives (AOs) in Geography are:

AO1 Knowledge with understanding

AO2 Skills and analysis

AO3 Judgement and decision making

AO1 Knowledge with understanding

Candidates should be able to demonstrate knowledge and understanding of:

1. the wide range of processes, including human actions, contributing to the development of
 - (a) physical, economic, social, political and cultural environments and their associated effects on the landscape;
 - (b) spatial patterns and interactions which are important within these environments;
2. the inter-relationships between people's activities and the total environment and an ability to seek explanations for them;
3. the importance of scale (whether local, regional or global) and the time at which spatial distributions and the working of systems are considered;
4. the changes which occur through time in places, landscapes and spatial distribution.

AO2 Skills and analysis

Candidates should be able to:

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

A03 Judgement and decision making

Through their geographical training candidates should be able to:

10. reason, make judgements (including evaluation and conclusions) which demonstrate, where appropriate
 - (a) a sensitivity to, and a concern for, landscape, the environment and the need for sustainable development;
 - (b) an aesthetic appreciation of the earth including its people, places, landscapes, natural processes and phenomena;
 - (c) an appreciation of the attitudes, values and beliefs of others in cultural, economic, environmental, political and social issues which have a geographical dimension;
 - (d) an awareness of the contrasting opportunities and constraints of people living in different places and under different physical and human conditions;
 - (e) a willingness to review their own attitudes in the light of new knowledge and experiences;
11. recognise the role of decision making within a geographical context as affected by
 - (a) the physical and human contexts in which decisions are made;
 - (b) the values and perceptions of groups or individuals;
 - (c) the choices available to decision makers and the influences and constraints within which they operate;
 - (d) the increasing level of global interdependence.

4.3 Assessment objectives and their weighting in the components

Paper	Assessment objective			
	AO1 Knowledge with understanding	AO2 Skills and analysis	AO3 Judgement and decision making	Totals
1	21.5%	13.5%	10%	45%
2	3%	22%	2.5%	27.5%
3 or 4	5.5%	16.5%	5.5%	27.5%
Totals	30%	52%	18%	100%

The table indicates how the percentage marks for the whole assessment are planned to be allocated.

5. Syllabus content

5.1 Syllabus themes

The curriculum is divided into three themes which have been designed to develop an understanding of both the natural and the human environment:

- 1 Population and settlement
- 2 The natural environment
- 3 Economic development and the use of resources

5.2 Resources

Questions in all written papers are resource based. The resources may be photographic, map extracts, drawings, diagrams, graphs, text extracts, statistics and tables of data.

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

As an International GCSE the units used in all resources and examinations will be metres and kilometres for height and distance and degrees Centigrade for temperature.

5.3 Case studies

The curriculum gives teachers the opportunity to select case studies to illustrate the themes. Specific case studies have not been included in the syllabus. Teachers should select appropriate specific examples to illustrate the content of the three themes.

Further information on case studies is included in the Study notes for Paper 1.

5.4 Theme 1: Population and settlement

1 Population and settlement	Candidates should be able to:
1.1 Population dynamics	<ul style="list-style-type: none"> • Describe the growth of the world's population and associated problems and show an understanding of the causes and consequences of over-population and under-population. • Identify and suggest reasons for contrasting patterns of population growth (or decline) as influenced by migration, birth rate and death rate, especially the impact of HIV/AIDS. • Describe the consequences (benefits and problems) of different patterns of population growth. • Identify and suggest reasons for different types of population structure as shown by age/sex pyramids. • Describe the factors influencing the density and distribution of population and population migration.
1.2 Settlement	<ul style="list-style-type: none"> • Describe and explain the factors influencing the size, development and function of urban and rural settlements and their spheres of influence. • Describe and give reasons for the characteristics of land-use zones of urban areas in less economically developed countries (LEDCs) and more economically developed countries (MEDCs). • Describe the problems of urban areas in LEDCs and MEDCs, their causes and possible solutions. • Describe the impact on the environment resulting from urbanisation and possible solutions to reduce this impact.

5.5 Theme 2: The natural environment

2 The natural environment	Candidates should be able to:
2.1 Plate tectonics	<ul style="list-style-type: none"> • Describe the distribution of earthquakes, volcanoes and fold mountains in relation to plate margins. • Describe the causes and effects of earthquakes and volcanic eruptions.
2.2 Landforms and landscape processes	<ul style="list-style-type: none"> • Describe weathering, river and marine processes. • Describe and explain the landforms associated with these processes.
2.3 Weather, climate and natural vegetation	<ul style="list-style-type: none"> • Describe the methods of collecting and measuring meteorological data. • Describe and explain the characteristics of the climate and natural vegetation of two ecosystems: <ul style="list-style-type: none"> • tropical rainforest; • tropical desert. • Describe and explain the relationship between the climate and natural vegetation in these two ecosystems.
2.4 Inter-relationships between the natural environment and human activities	<ul style="list-style-type: none"> • Demonstrate the interaction between the natural environment and human activities with reference to natural hazards, landscape processes, climate and the two named ecosystems.

5.6 Theme 3: Economic development and the use of resources

3 Economic development and the use of resources	Candidates should be able to:
3.1 Agricultural systems	<ul style="list-style-type: none"> • Describe and identify the influence of inputs (natural and human) on the processes and outputs of each of the following agricultural systems: <ul style="list-style-type: none"> • a large-scale system of commercial farming; • small-scale subsistence farming. • Recognise the causes and effects of shortages of food and describe possible solutions to this problem.
3.2 Industrial systems	<ul style="list-style-type: none"> • Classify industries into primary, secondary and tertiary. • Describe and explain how the proportions employed in primary, secondary and tertiary industries differ in LEDCs and MEDCs and may change with time and level of development. • Describe and identify the influence of inputs on the processes and outputs (products and waste) of industrial systems. • Describe and explain the factors influencing the distribution and location of high technology industries and one other manufacturing/processing industry. Distribution should be studied on a global/national scale. Study should also be made of particular zones and/or industrial plants with respect to locational and siting factors.
3.3 Leisure activities and tourism	<ul style="list-style-type: none"> • Describe and account for the growth of leisure facilities and tourism in relation to the main attractions of the physical and human landscape. • Assess the benefits and disadvantages of tourism to receiving areas.
3.4 Energy and water resources	<ul style="list-style-type: none"> • Describe the significance of fuelwood, non-renewable fossil fuels (coal, oil and natural gas), renewable energy supplies (geothermal, wind, running water, solar and biofuels). • Describe the factors influencing the development and siting of power stations (thermal, hydro-electric and nuclear). • Describe the uses, provision and competition for water resources and the impact of water shortages.
3.5 Environmental risks and benefits: resource conservation and management	<ul style="list-style-type: none"> • Describe how human activities (agriculture, mining and quarrying, energy production, manufacturing industries, transport and tourism) may improve the quality of life and/or pose threats to the environment in terms of: <ul style="list-style-type: none"> • soil erosion; • global warming; • pollution (water, air, noise, visual). • Demonstrate the need for sustainable development, resource conservation and management in different environments. • Identify areas at risk and describe attempts to maintain, conserve or improve the quality of the environment.

Further guidance notes for the themes are available in the next section.

6. Notes for guidance on the themes

Theme 1: Population and settlement

1.1 Population dynamics

Candidates should be able to:

- Describe and suggest reasons for the rapid increase in the world's population in recent times, 'the population explosion'.
- Define the main components influencing population growth – birth rate, death rate and migration.
- Describe the relationship between population growth and resources and explain why problems may result in some areas such as over-population and under-population.
- Identify and suggest reasons for contrasting patterns of population growth in different world areas as influenced by differences in birth rate, death rate and migration. Factors affecting these influences should be considered such as differences in social, economic and other factors, e.g. government policies and their impact upon birth rates, differences in health care, social and other factors influencing death rates, especially the impact of HIV/AIDS. These factors should be illustrated by reference to selected examples.
- Describe the consequences (benefits and problems) of different patterns of population growth. Consideration should be given to variations in the size and nature of dependent populations and standards of living.
- Identify and suggest reasons for different types of population structure as shown by age/sex pyramids. Candidates should be able to describe population pyramids and relate them to the different stages of the Demographic Transition Model.
- Identify the major influences on population density and population distribution. Reference should be made to physical, economic and human factors.
- Describe and suggest reasons for population migrations. Reference should be made to internal movements such as rural-urban migration as well as to international migrations both voluntary and involuntary.
- Use statistics, graphs, diagrams and maps throughout their study of population. Such exercises could bond the preparation of candidates for Paper 1 and the other components of the Cambridge IGCSE Geography examination.

1.2 Settlement

Candidates should be able to:

- Describe the patterns of rural settlements – dispersed, linear, nucleated.
- Explain how physical factors (relief, soil, water supply) and other factors such as accessibility, agricultural land-use, influence the sites and patterns of rural settlements.
- Describe and explain the factors which may influence the size, growth and functions of rural and urban settlements.
- Describe and suggest reasons for the hierarchy of settlements and services.
- Describe and explain the land-use zones of towns and cities to include the Central Business District (CBD), residential areas, industrial areas, the provision of open spaces and transport routes. Differences in the patterns of urban structures in cities of LEDCs and MEDCs should be identified.

- Describe problems associated with the growth of urban areas such as congestion in the CBD, housing shortages, traffic congestion, squatter settlements. Suggested solutions to overcome these problems should be illustrated by reference to selected examples.
- Describe the effects of urbanisation on the environment – pollution (air, water, visual and noise), the results of urban sprawl on surrounding areas, the growth of out-of-town urban activities – shopping areas, sports facilities, etc.

Theme 2: The natural environment

2.1 Plate tectonics

Candidates should be able to:

- Describe the general distribution of fold mountains, volcanoes and earthquakes and explain how this distribution is related to movements at plate boundaries.
- Show a basic understanding of plate tectonics, describing the global pattern of plates, their structure, and an awareness of plate movements and their effects – constructive (plates moving away from each other), destructive (subduction) (plates moving towards each other) and conservative (plates sliding past each other).
- Demonstrate an understanding of the main features of volcanoes (and their eruptions) and earthquakes.

2.2 Landforms and landscape processes

2.2.1 Weathering

Candidates should be able to:

- Recognise that weathering involves the breakdown of rock in situ and, as such, should be distinguished from erosion.
- Describe what is meant by different types of weathering – physical/mechanical (freeze-thaw action, exfoliation), chemical (carbonation, oxidation) and biological.
- Explain the main factors influencing the type and rate of weathering – climate and rock features (mineral composition, grain size of the rock, presence of lines of weakness). The influence of climate on the rate of weathering could be illustrated with reference to simple explanation as to why weathering is more rapid in humid tropical regions of the world than in temperate regions.

2.2.2 River processes

Candidates should be able to:

- Demonstrate an understanding of the work of a river in eroding, transporting and depositing. Reference should be made to the erosional processes of hydraulic action, corrasion, corrosion (solution) and attrition. River transport should include the processes of traction, saltation, suspension and solution. Reasons why and where in a river's course deposition takes place should be studied. It should be realised that the effectiveness of the river processes concerned will vary according to the volume and velocity of the running water and the nature of the load (boulders, pebbles, sand and silt) which, in turn, will be affected by the bedrock along the course of the river.
- Describe and explain the landforms associated with these processes.

A study should be made of the following:

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

2.2.3 Marine processes

Candidates should be able to:

- Demonstrate an understanding of wave processes in eroding a coastline and re-sorting and depositing materials removed through erosion. Candidates should understand the types of waves and the components of waves, swash and backwash. The erosional processes of wave action should include an understanding of corrasion, hydraulic action, corrosion and attrition. Transport of material along a coastline should be appreciated; onshore and offshore movements together with an understanding of movement along a coastline (longshore drift). The action of wind in shaping coastal sand dunes should also be understood.
- Describe and explain the landforms associated with these processes.
- Describe the conditions required for the development of coral reefs.
- Describe fringing and barrier reefs and atolls.

A study should be made of the following coastal landforms:

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

2.3 Weather, climate and natural vegetation

2.3.1 Weather

Candidates should be able to:

- Draw, describe and explain the use and siting of the following instruments at a weather station: rain-gauge, maximum-minimum thermometer, wet and dry bulb thermometer (hygrometer), barometer, anemometer and wind vane.
- Make calculations using information from these instruments.
- Have an awareness of simple digital instruments which can be used for weather observations.
- Use and interpret graphs and other diagrams showing weather data.
- Describe and explain the characteristics, siting and use made of a Stevenson screen.
- Describe the main types of cloud and be able to estimate the extent of cloud cover.

2.3.2 Climate

Candidates should be able to:

- Describe and explain the main characteristics of the climate in the regions listed in the syllabus (tropical rainforest and tropical desert): temperature – mean temperature of the hottest month, mean temperature of the coolest month, therefore the annual range; rainfall – the amount and seasonal distribution; other climate features – wind, cloud, humidity, etc. Factors influencing these characteristics should be noted such as latitude, pressure systems and the winds to which they give rise, distance from the sea, altitude and ocean currents. Candidates should be familiar with climatic graphs showing the main characteristics of temperature and rainfall of the climates in the regions listed.

2.3.3 Ecosystems

Candidates should be able to:

- Describe the characteristics and distribution of the two ecosystems listed in the syllabus (tropical rainforest and tropical desert).
- Explain the relationship in each ecosystem of natural vegetation, wildlife and climate.

2.4 Interrelationships between the natural environment and human activities

Candidates should be able to:

- Demonstrate an understanding that the natural environment presents hazards and offers opportunities for human activities. Reference should be made to the hazards posed by volcanic eruptions, earthquakes, tropical storms, flooding and drought.

Use could be made of the study of contemporary examples to illustrate. Such examples would provide candidates with valuable case study information. Such examples could form resource material given in examination questions when candidates might be expected to illustrate inter-relationships between the natural environment and human activities from the data presented. Reference to the opportunities and problems posed for people could be incorporated when studies are made of the natural environment, for example the advantages and difficulties offered by river flood plains and deltas. The impact of human activities on the two ecosystems named in **2.3** should be considered.

Theme 3: Economic development and the use of resources

3.1 Agricultural systems

Candidates should be able to:

- Describe in general terms the main features of an agricultural system: inputs, processes and outputs.
- Describe the influence of natural and human inputs on the processes and outputs of the two agricultural systems listed in the syllabus (a large-scale system of commercial farming and small-scale subsistence farming). Studies should include natural inputs (relief, climate and soil) and human inputs (economic, social and sometimes political). Their combined influences on the scale of production, methods of organisation and the products of each system should be studied. Reference may be made to an example such as plantation agriculture or extensive commercial cereal farming or extensive livestock production, etc., to illustrate a large-scale system of commercial farming. Examples such as intensive subsistence rice cultivation or shifting cultivation, etc. could profitably illustrate a system of small-scale subsistence farming. Other illustrations might be selected rather than the above. In each case reference should be made to a detailed case study.
- Recognise the causes and effects of food shortages. Shortages of food may be related to natural problems such as soil exhaustion, drought, floods, tropical cyclones, pests, disease, etc. There should be an awareness of the effects of these natural problems on selected areas within LEDCs. Economic and political factors and their effects upon food shortages should be noted, for example low capital investment, poor distribution/transport difficulties, wars, etc. The effects of food shortages in encouraging food aid and measures such as those of the 'Green Revolution' to produce more food should also be considered.

3.2 Industrial systems

Candidates should be able to:

- Classify industries into primary, secondary and tertiary and be able to give illustrations of each. Describe and explain how the proportions employed in each sector change with respect to the level of development, including Newly Industrialised Countries (NICs).
- Demonstrate an understanding of an industrial system: inputs, processes and outputs (products and waste). Specific illustrations of high technology industries should be studied along with one other processing/manufacturing industry.
- Describe how a variety of factors must be considered when seeking the location for high technology industries and the selected industry.

3.3 Leisure activities and tourism

Candidates should be able to:

- Describe and explain the growth of leisure facilities and tourism in relation to the main attractions of the physical and human landscape in an area or areas selected for study.
- Demonstrate an understanding that the effects of a growth in tourism are generally positive and that careful management is needed if problems are to be avoided. Reference could be made to advantages accruing from tourism such as growth in income, an increase in foreign exchange, employment opportunities, the development of infrastructure and facilities which may be used by the local population, the encouragement of other developments to take place in an area, cultural advantages, etc. Disadvantages might include seasonal unemployment, under-use of facilities at certain times of the year, increased congestion, pollution, a shortage of services e.g. water supplies, social/cultural problems, damage to the physical landscape, etc. A selected sample study should be used to illustrate both the benefits and disadvantages associated with the growth of tourism.

3.4 Energy and water resources

Candidates should be able to:

- Describe the significance of fuelwood in LEDCs and of non-renewable fossil fuels in terms of their availability in certain areas and in terms of the contribution made by coal, oil, natural gas and wood in supplying vast amounts of energy.
- Describe the growing significance of renewable energy supplies (geothermal, wind, running water, solar, biofuels) to reduce dependence upon fossil fuels, to alleviate the world's energy crisis, and to offer opportunities for the development of alternative energy sources.
- Describe the factors influencing the siting of different types of electrical power stations with reference to those listed in the syllabus (thermal, hydro-electric power, nuclear).
- Describe the uses made of water for agriculture, domestic and industrial demand. Candidates should also recognise that in certain areas there are water shortages which impact upon the local people and the potential for development. This leads to competition for the use of the available water resources and requires careful management.

All these aspects would benefit from the selection of appropriate case studies.

3.5 Environmental risks and benefits: resource conservation and management

Candidates should be able to:

- Demonstrate the need for sustainable development, resource conservation and management in different environments. It is not intended that candidates should be familiar with a wide variety of illustrations here. Rather that by the use of well selected case studies, possibly integrated with the study of other concepts referred to above, candidates become familiar with general principles and can illustrate these from examples.
- Identify and describe the benefits associated with the development of agriculture, mining and quarrying, energy production, manufacturing industries, transport and tourism. This could be incorporated with the studies outlined above (3.1–3.4).
- Describe how these developments may also pose threats to the environment when natural ecosystems are interfered with including: soil erosion, global warming, and pollution (air, water, noise and visual).
- Identify areas at risk from these threats to the environment and describe attempts made to maintain, conserve or improve the quality of the environment.

7. Study notes for Paper 1

All candidates take Paper 1. Questions on the paper are resource based. The resources are for analysis and interpretation in answering a question or part questions. Candidates will be expected to know the location of the continents. All of the other information required to answer these part questions is within the resource itself. No previous knowledge is needed of the particular illustration presented. What is required is that candidates use the data provided to illustrate their understanding of the particular concept being assessed.

The resources may be:

- photographic
- map extracts
- sketch maps
- drawings
- diagrams
- graphs
- text extracts
- statistics and tables of data.

Resource materials are selected from various world areas and, as a result, candidates may be dealing with world areas with which they are not familiar. The resources **do not** require specific regional knowledge. This should be stressed to the candidates as they may be influenced in their question selection by the nature/location of the resource included.

Candidates should refer to appropriate case studies to illustrate the individual themes. Case studies could incorporate a number of concepts and assessment objectives and present candidates with an integrated approach to the study of curriculum content.

A case study may be selected 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 the teacher is familiar;
- a presentation in a newspaper, web pages, on video, film, a well documented illustration in a textbook, etc.

A case study may also be based on a field study undertaken as part of the work for Paper 3 (Coursework) or Paper 4 (Alternative to Coursework). Specific questions will not be set in Paper 1 based upon fieldwork, but candidates may use this information to illustrate answers on these papers.

Case studies should provide candidates with details of a particular illustration which can be profitably used in answers to certain questions on Paper 1. Some part questions on the paper require that reference is made to information from specific case studies made by candidates and opportunity is also provided for candidates to volunteer such details in answering other part questions.

Specific named illustrations of case studies have not been included in either the syllabus or these Study notes. This is to give teachers complete freedom in selecting examples which they feel are most appropriate for their candidates.

It is important that candidates comply with the instructions for Paper 1. Only **three** questions are to be selected. Sometimes within individual questions a choice is provided. It is very important that candidates make the correct choice and do not answer more than is required.

Candidates are also advised to note the sub marks printed on the question paper. These are included in order to guide candidates to the amount of detail and length of response anticipated and to manage their time effectively.

8. Study notes for Paper 2

All candidates take Paper 2 and must answer all the questions. The paper is based on testing skills of application, interpretation and analysis of geographical information e.g. topographical maps, other maps, diagrams, graphs, tables of data, written material, photographs and pictorial material and on the application of graphical and other techniques as appropriate. The questions in Paper 2 do not require specific information of place.

8.1 Equipment required for Paper 2

Candidates should have the following in the examination room:

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

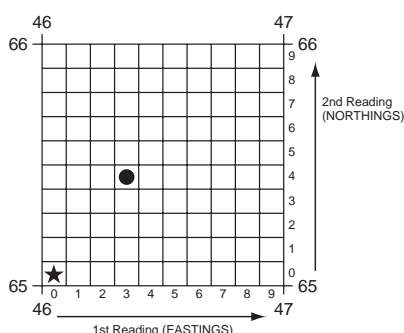
8.2 Topographical mapwork question

One question, worth 20 marks, is based on a topographical map. The large-scale maps chosen for examination purpose will be on a scale of either 1:25 000 or 1:50 000 and will always contain a full key. The maps will be of a tropical area such as Zimbabwe, the Caribbean or Mauritius.

One third of the marks available on this paper are awarded to the mapwork question and, therefore, it is essential that candidates are proficient in map reading and interpretation skills to enable them to describe and analyse topographical maps.

NOTE: All answers to this question must be based on map evidence only.

Candidates should be able to use a co-ordinate reference system and be able to give and to read four figure and six figure grid references to locate places. For example, the four figure reference for the dot is 4665 whilst the six figure grid reference for the dot would be 463654.



To give the six figure grid reference, first of all 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 similar division of the gap between northings 65 and 66. This would result in a grid reference of 463654 for the dot and 460650 for the star. It should be noted 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 as a point of the compass, such as north, north-east, etc. and as a bearing from grid north of one place from another. It is, therefore, important that candidates have protractors in the examination room with them.

Candidates should be able to measure horizontal distances. This is most accurately done 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.

Contour reading, which enables candidates to calculate differences in height, should be practised. The information gained from measuring horizontal and vertical distances should enable candidates to calculate gradients using the formula:

$$\frac{\text{Vertical Interval (difference in height)}}{\text{Horizontal Equivalent (horizontal distance)}}$$

Both measurements must be made in the same units before the calculation can be made. Cross-sections may be set for interpretation but candidates will not be asked to construct them.

Candidates should be able to translate the scale of a feature by describing its size and shape in real terms. They should also be proficient in using the key to the map to enable them to identify features on the map.

Candidates should be able to draw inferences about the physical and human landscape by interpretation of map evidence such as patterns of relief, drainage, settlement, communication and land-use.

Candidates are advised to practise identifying basic landscape features such as river valleys and uplands and to give brief descriptions of them using appropriate 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). To interpret these maps candidates should be able to recognise essential differences in density of drainage, stream patterns, gradients or sizes of streams in relation to the relief. They should be able to describe the physical features of coastlines and the shape and form of river channels as they are shown on large-scale maps.

Practice in describing variations in land-use should be part of the preparation for the examination. The interpretation of 'human' features would also require candidates to recognise and analyse patterns of settlement (dispersed, nucleated, linear) and candidates should be able to draw sketch maps illustrating these patterns. Candidates should be able to interpret and describe features of urban morphology as represented on large-scale maps and be able to describe the functions of and services provided by settlements. They should also be able to give reasons for the site and growth of individual settlements. Communication networks should be recognised in terms of their type and density in relation to physical and human features.

Explanations should be based entirely on map evidence showing the interaction between humans and their physical environment, e.g. differences in land-use between upland and lowland, differences in land-use within a town, differences between dense settlement on river plains and sparse settlement on steep upland slopes.

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

Questions will be set using some or all of these resources. They should be regarded as important ways of representing geographical data. They may be used to illustrate a basic principle and it is essential that candidates should be directed towards their interpretation. For example, a population pyramid may be used to illustrate the age and sex structure of a country. With this, a candidate may be required to describe the broad features of the population structure to show comparisons and contrasts between the male and female populations, the working and non-working population and the young and old age groups.

Maps based on global and other scales may be used and candidates may be asked to identify and describe significant features of the human and physical landscape on them, e.g. population distribution, population movements, transport networks, settlement layout, relief and drainage, etc. Candidates may be asked to recognise patterns and deduce relationships.

Candidates will be expected to be able to extract specified geographical information from graphs, diagrams, tables of data and written material. 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, pie graphs, triangular graphs and radial graphs) may be used and candidates may be asked to describe variations and identify trends in information. Graphs may show, for example, temperature, birth rate, death rate, energy, rainfall distribution, river discharge, etc.

Candidates may be required to plot information on graphs when axes and scales are provided.

Data tables may provide information on physical phenomena, on economic activities, on population, on settlement, on 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 an appropriate form of graphical representation for the data provided.

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

8.4 Photographic and pictorial material (including field sketches)

Oblique photographs will be used. Candidates should be able to describe human and physical landscapes (landforms, natural vegetation, land-use and settlement) and geographical phenomena from photographs. Simple descriptions only will be required. Candidates may be expected to add specified detail on maps or other material provided, thereby applying geographical knowledge and understanding. Field sketches of physical and human landscapes may be used to stimulate geographical description and annotation. Cartoons illustrating a geographical theme may be set for interpretation and analysis.

Candidates may also be asked to use supporting material in conjunction with large-scale maps to identify, describe and analyse features and thereby recognise patterns and deduce trends.

9. Paper 3: Coursework

Candidates must offer **one** Coursework assignment, set by teachers, of up to 2000 words. The proposal for the Coursework must be approved beforehand by Cambridge.

The Coursework assignment may be based on Physical Geography, Human Geography or on an interaction between Physical and Human Geography and must be clearly related to one or more of the Syllabus themes.

The time spent on the Coursework assignment should reflect the weighting of the component in the total assessment (i.e. 27.5%). The prime consideration will be the quality of the content of the assignment in relation to the criteria on which assessment is based.

School-based assessment will provide a complementary assessment of the Assessment objectives tested in Papers 1 and 2, with an emphasis on Assessment objective 2, Skills and analysis. The Coursework assignment must cover the assessment criteria in the proportions given below.

Assessment criterion		Marks allocated
AO1: Knowledge with understanding		12
AO2: Skills and analysis	Observation and collection of data	12
	Organisation and the presentation of data	12
	Analysis	12
AO3: Judgement and decision making (Conclusion and evaluation)		12
		Total 60 marks

Teachers should devise and structure a Coursework assignment to enable all candidates to fulfil these assessment criteria. Differentiation should be achieved by candidates pursuing common enquiries appropriate to their abilities, which allow them to display positive achievement.

9.1 Setting up the Coursework assignment

Teachers should structure the Coursework assignment to promote:

- the acquisition of geographical knowledge
- the understanding and application of ideas
- the development of skills and the clarification of values in a geographical context.

The focus of the assignment should be common to all pupils at a Centre, but there should be enough variety and differentiation of tasks and opportunity for individual initiative to fulfil all levels of achievement.

The Coursework assignment should follow the accepted 'route to geographical enquiry' as below.

The route to geographical enquiry	
1 Identification of issue, question, problem	A topic for investigation is recognised through observation, discussion, reading or previous study. The design of hypotheses to test the issue, question or problem.
2 Formulation of design of work	The objectives of the study are defined in specific terms. Decisions are made concerning: (a) what data is relevant to the study; (b) how the data can be collected.
3 Collection of data	Candidates carry out a group or individual set of tasks which may include fieldwork to collect primary data such as undertaking questionnaires, mapping or sketching observation, recording counts or measurements. It may also involve gathering data from secondary sources such as from Census information, the Internet, published maps, books, newspapers or magazines.
4 Selection and collation of data	Teacher collates data for class use. Candidates select data to develop the aims or hypotheses for the topic.
5 Representation and recording of results	Candidates individually record results and represent findings in an appropriate form using a variety of maps, graphs, etc.
6 Analysis and interpretation	Candidates individually analyse and interpret their findings in response to the issue/question/problem with reference to relevant geographical concepts.
7 Making effective conclusions, suggesting solutions, evaluation.	Candidates individually draw conclusions from their findings and make evaluations related to the original objectives. If appropriate, comments may be made on the limitations of the data and possibilities for further study.

9.2 Examples of suitable Coursework assignments:

- The varying pattern of land-use with distance from the centre of a settlement
- The differences between residential environments within a settlement
- The hierarchical distribution of shopping centres/leisure amenities within a settlement
- Possible locations for a new hypermarket
- Does the influence of a town decrease with distance from it?
- The problems caused by an uneven/unreliable supply of water within a selected area
- A study of agricultural patterns within an area
- Ways in which the industrial structure has changed in an area
- Are the leisure facilities of an area/town adequate for the needs of its population?
- The development of tourism in an area
- An analysis of the distribution, nature and possible reasons for the formation of selected landforms, e.g. along the course of a stream or at the coast
- The effects of anticyclones and depressions in influencing the weather recordings at a school weather station
- The nature of the environmental conflicts in an area
- Problems of landscape management and conservation in a National Park

Each Coursework assignment outline showing the specific 'route to the enquiry' should be submitted to Cambridge for approval and comment in advance to ensure it complies with the requirements of the syllabus. Coursework proposals should be submitted no later than 30 September 2012 for the June 2014 examination and 31 January 2013 for November 2014 examination and by equivalent dates in subsequent years.

9.3 An example of an outline submission to Cambridge

An investigation related to Syllabus Theme 1.2, Settlement:

'Is there a pattern to the distribution of rural settlements in Area X and the types of services they offer?'

- 1 **Identification of the problem.** Definition of the area to be studied. Relationship to concepts studied for 1.2 of the syllabus – in particular, site, situation and functions of small settlements; services in relation to settlements – threshold, range of a service. Candidates will select hypotheses from the following list and devise one additional statement:
 - 'larger settlements will have a higher number of services'
 - 'residents travel further to obtain high level goods'
 - 'services in smaller settlements serve the local community'
 - 'the number of services in smaller settlements has decreased recently'
- 2 **Objectives of the study are defined** – the characteristics of each settlement – its site, situation, size, population, shops and other services, sphere of influence.

How may each of these characteristics be investigated?

What data collection methods are appropriate? The role of map study both modern and older maps, counts, observations and questionnaire layout and sampling techniques are discussed as a group and decisions made.
- 3 **Fieldwork procedure** – the methods of field investigation are outlined and carried out.

The site and situation of the settlements are described by combining visual evidence recorded at each location with mapwork using a large-scale topographical map.

The size of each settlement – a count of the number of inhabited and uninhabited houses.

The population of each settlement calculated using an average head per household figure or secondary data found.

Recordings are made of the numbers and types of services found in each settlement – shops, telephone boxes, post boxes, bus stops, etc. Candidates encouraged to make individual additional observations and take photographs.

Questionnaires to residents to identify spheres of influence. More able candidates will devise three questions of their own to include in the group questionnaire.
- 4 **Selection and collation of data produced in the field** to be completed by the teacher but candidates will select the data related to their chosen hypotheses.
- 5 **Representation of results** – drawing of maps to show settlement distribution, desire lines for certain services, graphs, etc. Candidates will select appropriate graphs to present their results.

Analysis and conclusion will be completed by candidates individually following a suggested framework for each criterion and linking closely to the relevant geographical concepts and the stated original hypotheses.

9.4 Undertaking Coursework assignments

- The teacher should give guidance to all candidates in the identification of the issue, question or problem, the data collection and the collation of the results. The teacher is also required to introduce all the appropriate presentation techniques although the final choice should be left to the candidate. Any help beyond this stage should be taken into consideration when marks are awarded.
- The amount of time devoted to any one assignment will vary. However, in practice, the assignment should normally assess the outcomes of about **four or five** weeks' work in the classroom plus homework and should usually follow a programme of introductory work. The Coursework assignment should be incorporated into the teaching syllabus at an appropriate time during the course.
- The use of computers for the production of Coursework for Geography is encouraged, both for word-processed text and for computer generated maps, diagrams and graphs. Candidates will gain credit for selecting and using the most appropriate method for data presentation. Candidates should be reminded that hand drawn maps, diagrams and graphs can sometimes be more appropriate and more useful than those generated by computer.

9.5 The assessment of a Coursework assignment

For the assignment, teachers must use the generic mark scheme which allocates marks out of a total of 60 for this component.

It is recommended that the generic mark scheme is studied closely at the same time as the outline for the Coursework assignment is prepared. This should ensure, for example, that a topic will provide an opportunity for different levels of achievement to be demonstrated for each of the assessment criteria.

The best approach to marking a Coursework assignment is using a two-stage strategy.

Stage 1: Using the criteria stated in the generic mark scheme, identify the Level of achievement (Levels 1–3) for each assessment criterion.

Stage 2: For each assessment criterion, decide which *mark* within a Level of achievement best fits the standard achieved for an assignment.

Teachers should record the marks for each assessment criterion and the total mark for a study on the Individual Candidate Record Card.

Generic mark scheme for Coursework assessment

Assessment criterion	**Level 1 1–4 marks	Level 2 5–8 marks	Level 3 9–12 marks
Knowledge with understanding (within the context of teaching and guidance) (max 12)	Describes information in simple geographical terms and shows a tentative grasp of the aims.	Outlines relevant information using appropriate geographical terms and develops a clear link between the aims and geographical ideas.	Provides comprehensive information with a careful use of appropriate geographical terms and the aims are clearly related to relevant key geographical ideas.
Skills and analysis • Observation and collection of data (max 12)	Shows evidence of some ability to collect and record basic information from limited sources and shows evidence of simple planning .	Collects and records relevant information from valid sources with evidence of sound planning .	Collects and records detailed data from a range of valid sources within a clear planning design .
• Organisation and presentation (max 12)	The presentation is loosely ordered and uses one simple presentation technique appropriately.	The presentation is logically ordered using two or more presentation techniques appropriately and effectively.	A coherent presentation using a range of appropriate techniques with accuracy and clear relevance to the aims.
• Analysis (max 12)	Makes descriptive and simple comments about the information.	Makes a number of valid statements about the data with some explanations attempted.	A thorough interpretation of the data with reasoned explanations and comments.
Conclusion and evaluation (max 12)	States superficial conclusions showing tenuous links to the original aims. Simple evaluation showing little awareness of any shortcomings.	States tentative conclusions linked to the original aims. Some judgements linked to information collected. Some evaluation of a limited range of weaknesses.	States clear conclusions in the light of the aims, clearly related to evidence collected. Makes a sound evaluation identifying weaknesses and suggesting improvement.

**Level 0 (0 marks) is awarded for a criterion where there is no creditworthy material.

Bold words are level indicators.

9.6 Coursework moderation

Internal moderation

When several teachers in a Centre are involved in internal assessments, arrangements must be made within the Centre for all candidates to be assessed to a common standard. It is essential that within each Centre the marks for different teaching groups (e.g. different classes) are moderated internally for the whole Centre entry.

External moderation

The internally moderated marks for all candidates must be received by Cambridge on **30 April** for the May/June examination and by **31 October** for the November examination.

The methods for submitting internally assessed marks are in the *Cambridge Administrative Guide* available on our website.

9.7 Feedback from moderators

Moderators will comment on a Centre's application of the generic mark scheme in a short report.

10. Paper 4: Alternative to Coursework

10.1 Paper 4: Alternative to Coursework

As an alternative to Coursework, candidates will be set a series of tasks on this paper on issues relating to one or more of the syllabus themes (Curriculum content). Candidates must answer all the questions on the paper. It provides a complementary assessment of the syllabus assessment objectives with an emphasis on the Assessment objective 2, Skills and analysis.

Candidates should be made aware of the general requirements for this paper, and in preparation for it they should follow the route to geographical enquiry, as for Paper 3 (Coursework). Some practical experience, however limited, of Coursework methodology is desirable in preparation for this paper. One approach is to introduce the appropriate enquiry skills and techniques relevant to Paper 4 after the teaching of a specific topic for Paper 1 from one of the syllabus themes. For example after the river topic (Theme 2.2.2) time could be spent discussing how rivers could be measured, the plotting of depth data and the calculation of cross sectional area and discharge. The skill required for questionnaires, counts and observations may be introduced in a variety of topics, where practical for the Centre.

References should be made to the range of aspects involved in the route to geographical enquiry for Coursework assignments, such as formulating aims and hypotheses, using enquiry skills to collect data, presentation techniques to display data, making analyses of data and the formulation of conclusions. Further reading on the enquiry skills involved in Coursework assignments are stated in items 1 to 7 of 'The route of geographical enquiry' in Paper 3: Coursework section of the syllabus.

10.2 Enquiry skills for Paper 4

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 e.g. 'A CBD has the highest concentration of comparison shops'. Collecting relevant data, analysis and drawing conclusions using the data as evidence can test these.

2 Enquiry skills to collect data

Questions on this paper will test knowledge and application of the methodology used in the following range of data collection enquiry skills.

Questionnaires – Questionnaires can be oral or written to gain information from an individual or a group of individuals. Suitable themes in the syllabus where questionnaires may be appropriately studied include 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. Consideration should be given to factors influencing the successful design of questionnaires e.g. layout, format of questions, the appropriate wording of questions and the number of questions. The practical considerations of conducting a questionnaire e.g. the sampling methods, pilot survey, and location of survey should also be discussed.

Observation – Examples of using observations as an enquiry skill to collect data include the recording of land-use in an urban area or observations of river or coastal features. Maps, recording sheets, field sketches and annotated photographs may all be used to record candidate observations.

Counts – Pedestrian and traffic counts are two significant examples of this enquiry skill. Appropriate methods for recording the counts should be discussed including the layout of recording sheets, instructions and the necessary information required to identify the sheet following the count (i.e. time, date, location and name of recorder).

Measurement – When recording measurements, due consideration should be given to planning the layout of the recording sheet, the location of instruments and the sampling methods adopted to provide reliable data. Knowledge of the equipment used in measurement is required, such as the quadrat, the clinometer and the pebbleometer or callipers. Candidates 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 and weather study instruments closely linked to Theme 2.2 as well as measurement techniques associated with human fieldwork such as survey strategies and pedestrian/traffic counts.

3 Data presentation techniques

A knowledge of the illustrative techniques to present data across the topics for Paper 4 is required. This should 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, pie graphs, triangular graphs and radial graphs).

4 Analysis

Candidates should be able to describe the patterns in data presented in graphs and tables of results. Reference to relevant geographical knowledge and understanding is often required in the interpretation of the data. Practice of this skill will improve success in Paper 4 questions.

5 Formation of conclusions

Using the evidence from the data, candidates should be able to make judgements on the validity of the original hypothesis or aims of the assignment. Reference is also required to the reliability of the collected data and a critical evaluation of the chosen data collection methods.

11. Grade descriptions

The scheme of assessment is intended to encourage positive achievement by all candidates. Mastery of the curriculum is required for further academic study,

A **Grade A** candidate must show mastery of the curriculum and an outstanding performance on the more academic problems.

A **Grade C** candidate must show mastery of the curriculum plus ability in answering questions which are pitched at a more academic level.

A **Grade F** candidate must show success in a majority of tasks set on the curriculum.

The grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades.

	Grade F	Grade C	Grade A
Ability:	<i>For Grade F, the candidate is likely to have shown the ability:</i>	<i>For Grade C, the candidate is likely to have shown the ability:</i>	<i>For Grade A, the candidate is likely to have shown the ability:</i>
in relation to geographical knowledge with understanding	to demonstrate an elementary level of knowledge of physical and human geography and demonstrate a comprehension of simple geographical ideas and simple geographical relationships	to demonstrate a knowledge of physical and human geographical phenomena and demonstrate a comprehension of important geographical ideas, concepts, generalisations and processes	to demonstrate a wide knowledge and comprehension of physical and human geography, and a clear understanding of their inter-relationships
in relation to geographical analysis	to describe inter-relationships between people and their environment and analyse them in simple terms	to analyse inter-relationships between people and their environment and to recognise the dynamic nature of changes in these relationships	to analyse inter-relationships between people and their environment, to recognise the dynamic nature of these relationships and how and why they may change through time and space

	Grade F	Grade C	Grade A
Ability:	<i>For Grade F, the candidate is likely to have shown the ability:</i>	<i>For Grade C, the candidate is likely to have shown the ability:</i>	<i>For Grade A, the candidate is likely to have shown the ability:</i>
in relation to judgement and decision making within a geographical context	to recognise at an elementary level the existence of differing systems of values which influence economic, environmental, political and social issues which have a geographical dimension	to make balanced judgements on economic, political, environmental and social issues which have a geographical dimension through a recognition of conflicting viewpoints and solutions	to make balanced judgements and to show an awareness of the different attitudes and priorities of individuals and groups, and hence the problematical nature of the interaction of people with the environment
in relation to geographical investigation	(given specific guidance at all stages) to observe, record and attempt to classify geographical data; to use a range of source materials, including maps; to draw simple sketch maps and construct diagrams such as a bar graph; to communicate information by brief statements	(given general guidance) to plan and carry out effectively a geographical enquiry using relevant data from a variety of primary and/or secondary sources; to apply geographical techniques, use map interpretation at different scales, and a range of graphical, numerical and pictorial information such as flow-line diagrams, simple census extracts and photographs	(given a minimum amount of guidance) to carry out independently geographical enquiry in which appropriate methodology is applied; to communicate effectively the gathering, processing and analysis of the information, to recognise that solutions or conclusions may not readily be drawn from the enquiry

12. Appendix

12.1 Glossary of command words

Command words are those words in a question that tell the candidate what they have to do. The glossary has been deliberately kept brief with respect to the descriptions of meanings. Candidates should appreciate that the meaning of a term must depend in part on its context.

This glossary is neither exhaustive nor definitive and should be used specifically with the Geography papers.

<i>Annotate</i>	Add labels of notes or short comments, usually to a diagram, map or photograph to describe or explain.
<i>Calculate</i>	Work out a numerical answer. In general, working should be shown, especially where two or more steps are involved.
<i>Compare</i>	Write about what is similar and different about two things. For a comparison, two elements or themes are required. Two separate descriptions do not make a comparison.
<i>Complete</i>	Add the remaining detail or details required.
<i>Contrast</i>	Write about the differences between two things.
<i>Define or State the meaning of or What is meant by</i>	Give the meaning or definition of a word or phrase.
<i>Describe</i>	Write what something is like or where it is. Describe may be used for questions about resources in the question paper (describe the trend of a graph, the location of a settlement on a map, etc.). It may also be used when you need to describe something from memory (describe a meander, etc.). It is often coupled with other command words such as <i>Name and describe</i> (name the feature and say what it is like), <i>Describe and explain</i> (say what it is like and give reasons for this).
<i>Devise or Plan</i>	Present a particular feature such as a form or questionnaire to meet a specific requirement or requirements.
<i>Draw</i>	Make a sketch of. Often coupled with <i>a labelled diagram</i> (draw a diagram/ illustration with written notes to identify its features).
<i>Explain or Account for or Give reasons for</i>	Write about why something occurs or happens.
<i>Giving your views or Comment on</i>	Say what you think about something.
<i>How</i>	In what way? To what extent? By what means/method? May be coupled with <i>Show how</i> (prove how, demonstrate how).
<i>Identify</i>	Pick out something from information you have been given.
<i>Illustrating your answer</i>	Account for by using specific examples or diagrams. (Often coupled with <i>by a labelled diagram</i>).

<i>Insert or Label</i>	Add specific names or details to an illustrative technique in response to a particular requirement.
<i>Justify</i>	Say why you chose something or why you think in a certain way.
<i>List</i>	Identify and name a number of features to meet a particular purpose.
<i>Locate</i>	Find where something is placed or state where something is found or mark it on a map or diagram.
<i>Measure</i>	Implies that the quantity concerned can be directly obtained from a suitable measuring instrument.
<i>Name</i>	To state or specify or identify. To give the word or words by which a specific feature is known or to give examples which illustrate a particular feature.
<i>Predict</i>	Use your own knowledge and understanding, probably along with information provided, to state what might happen next.
<i>Refer to or With reference to</i>	Write an answer which uses some of the ideas provided in map/ photograph/diagram, etc. or other additional material such as a case study.
<i>State</i>	Set down in brief detail. To refer to an aspect of a particular feature by a short statement or by words or by a single word.
<i>Study</i>	Look carefully at (usually one of the Figures in the question paper).
<i>Suggest</i>	Set down your ideas on or knowledge of. Often coupled with <i>why</i> (requires a statement or an explanatory statement referring to a particular feature or features).
<i>Use or Using the information provided</i>	Base your answer on the information.
<i>With the help of information in</i>	Write an answer which uses some of the information provided as well as additional material.
<i>What</i>	Used to form a question concerned with selective ideas/details/factors.
<i>What differences are shown between A and B</i>	Use comparative statements to describe the changes involved as A changes to B. Factual descriptions of A and B are not required.
<i>Where</i>	At what place? To what place? From what place?
<i>Why</i>	For what cause or reason?

GEOGRAPHY
Individual Candidate Record Card
IGCSE

Please read the instructions printed on the following page and the General Coursework Regulations before completing this form.

Centre Number		Centre Name		June/November	2 0
Candidate Number		Candidate Name		Teaching Group/Set	

Title of Assignment	Knowledge with understanding	Observation and collection of data	Organisation and presentation	Analysis and interpretation	Conclusion and Evaluation	Total
	(max 12)	(max 12)	(max 12)	(max 12)	(max 12)	(max 60)
			Amount of Scaling (if relevant)		Internally Moderated Mark	(max 60)

INSTRUCTIONS FOR COMPLETING INDIVIDUAL CANDIDATE RECORD CARDS

1. Complete the information at the head of the form.
2. Mark the Coursework assignment for each candidate according to the generic mark scheme provided in the syllabus.
3. Enter marks and total marks in the appropriate spaces. The Total Mark should be transferred to the Coursework Assessment Summary Form. Complete any other sections of the form required.
4. Ensure that the addition of marks is independently checked.
5. **It is essential that the marks of candidates from different teaching groups within each Centre are moderated internally.** This means that the marks awarded to all candidates within a Centre must be brought to a common standard by the teacher responsible for co-ordinating the internal assessment (i.e. the internal moderator), and a single valid and reliable set of marks should be produced which reflects the relative attainment of all the candidates in the Coursework component at the Centre. The outcome of internal moderation, in terms of the number of marks added to or subtracted from the initial total, must be clearly written in the box marked 'Amount or scaling if relevant'. If no scaling is necessary, please indicate by writing a zero in this box.
6. Transfer the marks to the Coursework Assessment Summary Form in accordance with the instructions given on that document.
7. Retain all Individual Candidate Record Cards and Coursework **which will be required for external moderation.** Further detailed instructions about external moderation will be sent in late March of the year of the June examination and early October of the year of the November examination.
See also the instructions on the Coursework Assessment Summary Form.

Note: These Record Cards are to be used by teachers only for candidates who have undertaken Coursework as part of their Cambridge IGCSE.

A. INSTRUCTIONS FOR COMPLETING COURSEWORK ASSESSMENT SUMMARY FORMS

1. Complete the information at the head of the form.
2. List the candidates in an order which will allow ease of transfer of information to a computer-printed Coursework mark sheet MS1 at a later stage (i.e. in candidate index number order, where this is known; see item B.1 below). Show the teaching group or set for each candidate. The initials of the teacher may be used to indicate group or set.
3. Transfer each candidate's marks from his or her Individual Candidate Record Card to this form as follows
 - (a) Where there are columns for individual skills or assignments, enter the marks initially awarded (i.e. before internal moderation took place).
 - (b) In the column headed 'Total Mark', enter the total mark awarded before internal moderation took place.
 - (c) In the column headed 'Internally Moderated Mark', enter the total mark awarded *after* internal moderation took place.
4. Both the teacher completing the form and the internal moderator (or moderators) should check the form and complete and sign the bottom portion.

B. PROCEDURES FOR EXTERNAL MODERATION

1. University of Cambridge International Examinations sends a computer-printed Coursework mark sheet MS1 to each centre (in late March for the June examination and in early October for the November examination) showing the names and index numbers of each candidate. Transfer the total internally moderated mark for each candidate from the Coursework Assessment Summary Form to the computer-printed Coursework mark sheet MS1.
2. The top copy of the computer-printed Coursework mark sheet MS1 must be despatched in the specially provided envelope to arrive as soon as possible at Cambridge but no later than 30 April for the June examination and 31 October for the November examination.
3. External moderation of internal assessment is carried out by Cambridge. Centres must submit candidates' internally assessed marks to Cambridge. The deadlines and methods for submitting internally assessed marks are in the *Cambridge Administrative Guide* available on our website.
4. Cambridge reserves the right to ask for further samples of Coursework.
5. Send, with the sample work, instructions given to candidates and information as to how internal moderation was carried out.

WMS320



13. Other information

Equality and inclusion

Cambridge International Examinations has taken great care in the preparation of this syllabus and assessment materials to avoid bias of any kind. To comply with the UK Equality Act (2010), Cambridge has designed this qualification with the aim of avoiding direct and indirect discrimination.

The standard assessment arrangements may present unnecessary barriers for candidates with disabilities or learning difficulties. Arrangements can be put in place for these candidates to enable them to access the assessments and receive recognition of their attainment. Access arrangements will not be agreed if they give candidates an unfair advantage over others or if they compromise the standards being assessed.

Candidates who are unable to access the assessment of any component may be eligible to receive an award based on the parts of the assessment they have taken.

Information on access arrangements is found in the *Cambridge Handbook* which can be downloaded from the website **www.cie.org.uk**

Language

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

Grading and reporting

Cambridge IGCSE results are shown by one of the grades A*, A, B, C, D, E, F or G indicating the standard achieved, A* being the highest and G the lowest. 'Ungraded' indicates that the candidate's performance fell short of the standard required for grade G. 'Ungraded' will be reported on the statement of results but not on the certificate. The letters Q (result pending); X (no results) and Y (to be issued) may also appear on the statement of results but not on the certificate.

Entry codes

To maintain the security of our examinations we produce question papers for different areas of the world, known as 'administrative zones'. Where the component entry code has two digits, the first digit is the component number given in the syllabus. The second digit is the location code, specific to an administrative zone. Information about entry codes, examination timetables and administrative instructions can be found in the *Cambridge Guide to Making Entries*.

14. Additional information for England, Wales and Northern Ireland

This syllabus appears on the Register of Regulated Qualifications (<http://register.ofqual.gov.uk>) as a Cambridge International Level 1/Level 2 Certificate. In other contexts it is known as a Cambridge IGCSE.

Cambridge International Level 1/Level 2 Certificates are approved for regulation in England, Wales and Northern Ireland and are eligible for inclusion in school and college performance tables.

For up-to-date information on the performance tables, including the list of qualifications which count towards the English Baccalaureate, please go to the Department for Education website (www.education.gov.uk/performance-tables).

Candidates who are awarded grades D to G will have achieved an award at Level 1 of the National Qualifications Framework. Candidates who are awarded grades A* to C will have achieved an award at Level 2 of the National Qualifications Framework.

Prior learning

Candidates in England who are beginning this course should normally have followed the Key Stage 3 programme of study within the National Curriculum for England.

Other candidates beginning this course should have achieved an equivalent level of general education.

Progression

Cambridge International Level 1/Level 2 Certificates are general qualifications that enable candidates to progress either directly to employment, or to proceed to further qualifications.

This syllabus provides a foundation for further study at Levels 2 and 3 in the National Qualifications Framework, including GCSE, Cambridge International AS and A Level GCE, and Cambridge Pre-U qualifications.

Candidates who are awarded grades C to A* are well prepared to follow courses leading to Level 3 AS and A Level GCE Geography, Cambridge Pre-U Geography, or the Cambridge International AS and A Level Geography.

Grading and reporting

Cambridge International Level 1/Level 2 Certificate results are shown by one of the grades A*, A, B, C, D, E, F or G indicating the standard achieved, A* being the highest and G the lowest. 'Ungraded' indicates that the candidate's performance fell short of the standard required for grade G. 'Ungraded' will be reported on the statement of results but not on the certificate. The letters Q (result pending); X (no results) and Y (to be issued) may also appear on the statement of results but not on the certificate.

Overlapping qualifications

Every qualification is assigned to a national classification code indicating the subject area to which it belongs. Candidates who enter for more than one qualification with the same classification code will only have one grade (the highest) counted for the purpose of the school and college performance tables. Centres may wish to advise candidates that, if they take two qualifications with the same classification code, colleges are very likely to take the view that they have achieved only one of the two qualifications. Candidates who have any doubts about their subject combinations should seek advice, either from their centre or the institution to which they wish to progress.

Cambridge International Examinations
1 Hills Road, Cambridge, CB1 2EU, United Kingdom
Tel: +44 (0)1223 553554 Fax: +44 (0)1223 553558
Email: info@cie.org.uk www.cie.org.uk

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