



Rewarding Learning

**General Certificate of Secondary Education
2018**

Geography

Unit 2: Living in Our World

[GGY21]

WEDNESDAY 30 MAY, AFTERNOON

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are intended to ensure that the GCSE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for Geography.

Candidates must:

AO1 Demonstrate geographical knowledge and understanding of:

- Places, environments, processes and concepts; and
- The inter-relationships between places, environments and processes;

AO2 Apply knowledge and understanding to analyse, interpret and evaluate geographical information and issues and to make judgements; and

AO3 Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 16-year-old which is the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 16-year-old GCSE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Marking Calculations

In marking answers involving calculations, examiners should apply the 'own figure rule' so that candidates are not penalised more than once for a computational error.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response

Tasks and questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the 'best fit' bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Quality of written communication

Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is basic.

Level 2: Quality of written communication is good.

Level 3: Quality of written communication is excellent.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1

Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. A limited range of specialist terms is used appropriately.

Level 2

Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. A good range of specialist terms is used appropriately.

Level 3

Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. A wide range of specialist terms is used skilfully and with precision.

Theme A: Population and Migration

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- 1 (a) Study **Fig. 1** which shows the distribution of people aged over 65 years in England and Wales. Answer the questions which follow.

- (i) Indicate the type of map shown in **Fig. 1** by placing a tick in the correct box.

Sketch map	
Choropleth map	✓

[1]

- (ii) State the percentage of population aged over 65 years in England and Wales in location X.

20.0–24.9%

[1]

- (iii) The highest percentage of population aged over 65 years in England and Wales is 25.0 to 29.9%. Outline the location of these areas.

Award [0] for a response not worthy of credit.

Award [1] for a basic outline that includes a general compass point such as to the east or in the southwest or one correctly identified named place,
e.g. In Devon or in Eastern England or in Southern England.

Award [2] for a general compass point such as to the east or in the south or one correctly identified named place,
e.g. In Devon plus reference to the **coastal** location for [2] marks. [2]

- (iv) Explain **one** possible implication of having a large aged-dependent population.

Implication may be economic or social.

Award [0] for a response not worthy of credit.

Award [1] for a basic statement,
e.g. More health care is needed for elderly people.

Award [2] for a statement with a consequence,
e.g. More health care is needed for elderly people so more money will have to be spent on building hospitals or care homes.

Award [3] for a statement with a consequence plus elaboration,
e.g. More health care is needed for elderly people so more money will have to be spent on building hospitals or care homes; this means the working population will have to pay more taxes so the government can fund more hospitals. [3]

- (b) Study **Fig. 2** which shows two population pyramids for a LEDC, Kenya in East Africa. Answer the questions which follow.

AVAILABLE
MARKS

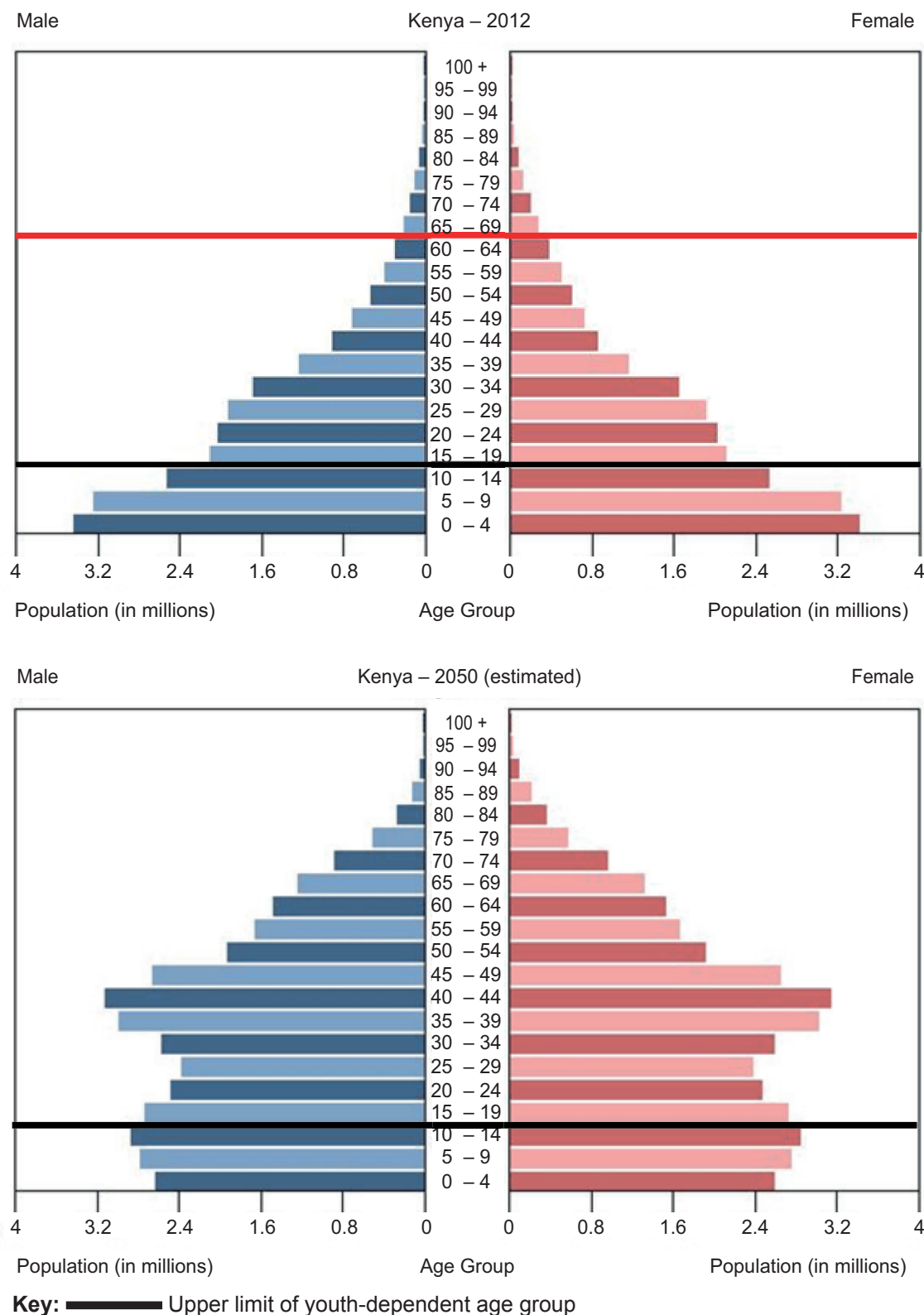


Fig. 2

Source: www.census.gov Public Domain

- (i) On **Fig. 2** for Kenya in 2012, draw a horizontal line to show the lower limit of the aged-dependent population.

Award [1] for accuracy of the line.

[1]

- (ii) Underline the correct answer to show the total of the youth-dependent population in Kenya in 2050.

16 million 30 million 50 million [1]

- (iii) Describe and explain two changes in the shape of the population pyramid for Kenya from 2012 to 2050. Refer to changes in birth and death rates in your answer.

Award [0] for a response not worthy of credit.

Level 1 ([1]–[2])

Basic description with no explanation of one change supported (by figures) or two general descriptions,
 e.g. There will be more elderly people by 2050 [1],
 e.g. The number of elderly people will increase, e.g. from 0.4 to 2.8 million people aged 65–69 years by 2050 [2],
 e.g. There will be more elderly people over 65 years but fewer youth-dependents by 2050

Level 2 ([3]–[4])

Description of two changes with figures for at least one and a simple explanation stated for the change,
 e.g. The number of elderly people will increase e.g. from 0.4 to 2.8 million people aged 65-69 years by 2050 because medical care will have improved [3],
 e.g. The numbers of children under 15 years of age will decrease by 2050.
 Description and explanation with no figures can get 3 marks.

Level 3 ([5]–[6])

Detailed description of two changes with figures related to both birth and death rates, – elaboration of shape needed for Level 3
 e.g. The number of elderly people [aged-dependents will increase from 0.4 to 2.8 million people by 2050 because medical care will have improved, reducing the death rate as people will be cured of diseases. The numbers of youth-dependents will decrease as shown by the narrowing base such as the numbers aged 0-4 years will fall from 6.8 to 5 million approx. because the birth rate will fall because of greater use of birth control [or lower infant mortality rates or better health care for mothers etc].

[6]

- (c) (i) State the meaning of the term emigration.

Award [0] for a response not worthy of credit.

Award [1] for a basic definition,

e.g. People leaving a country

Don't credit permanence on its own which is tagged onto a migration quotation.

Award [2] for a full definition,

e.g. People leave one country and moving to another to live/work,

e.g. People moving away to another country on a permanent or semi-permanent basis.

e.g. People leave a country, e.g. war, famine

must explicitly refer to leaving, exiting, moving **out**

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movement **from** one country **into** another to live [0 marks as this refers to migration]

People leaving one country into another to work [0]

People leave one country and move to another to live [2] [2]

- (ii) There are often barriers to people migrating. Complete **Fig. 3** by adding another example of a human and a physical barrier to migration.

Examples of human barriers to migration	Examples of physical barriers to migration
Need for a visa	Mountains

Fig. 3

Award [0] for a response not worthy of credit.

Human barriers could include:

Need for a passport/fear of homesickness/application forms/walls or fences created by governments/lack of language skills/political laws such as quotas or restrictions on nos. of migrants or types of migrants/cost of moving, police, illness, no education.

Physical barriers could include:

river, ocean, desert, distance. (A wall is not physical)

Any other valid responses

(2 × [1]) [2]

- (iii) Explain the challenges faced by both refugees and the destination country, using one case study of migration.
Name of country and refugee group – no mark

Award [0] for an answer not worthy of credit or one which refers to country of origin rather than destination.

If no country or refugee group identified then Level 1 only

Level 1 ([1]–[2])

A general answer which refers briefly to the general problems of refugees and/or answers which do not name the refugee group and country,
e.g. Refugees cannot find work easily and may not be able to afford good accommodation; they may find it hard to be accepted by the local people.

Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. A limited range of specialist terms is used appropriately.

Level 2 ([3]–[4])

An answer with limited explanation relating to the problems of refugees and the named destination country. The answer may be unbalanced

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with less emphasis on the problems of the destination country, e.g. Refugees from Sudan to Northern Ireland have problems finding a home and must pass an examination in English to obtain benefits. They live in houses of multiple occupancy in inner city Belfast areas such as the Lisburn Road. Refugees may find it hard to be accepted by the local people who may be unemployed themselves. They may face verbal or physical abuse.

Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. A good range of specialist terms is used appropriately.

Level 3 ([5]–[6])

A detailed explanation of the problems experienced by refugees specifically in the named destination and also looks at the situation from the point of view of the destination country,

1 fact/figure [5]

2 fact/figure plus good quality explanation [6]

e.g. About 40 refugees came from Sudan to Northern Ireland during 3 months in 2015 and they have experienced problems finding accommodation, not being allowed to work and being separated from their family at home; they must pass an examination in English to obtain asylum; they cannot get work because they have not yet been granted asylum. They live in houses of multiple occupancy in inner city Belfast. Refugees may find it hard to be accepted by the local people who may be unemployed themselves because the refugees receive support from Bryson Intercultural government agency to help them obtain homes and jobs. Local people may resent the fact that refugees are supported with private rental accommodation and may be paid £36.95 per week if they have no family or savings to support themselves.

Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. Candidates present and organise effectively relevant information in a form and using a style of writing which suits its purpose. The text is fluent and legible. A wide range of specialist terms is used skillfully and with precision. [6]

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MARKS

25

Theme A Total

25

Theme B: Changing Urban Areas

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- 2 (a) Study Photograph 1 which shows housing in an area of a MEDC city. Answer the questions which follow.

- (i) Underline the zone of land use where this type of housing is usually located.

Suburbs CBD Inner City [1]

- (ii) Explain the location of this type of land use in a MEDC city.

Award [0] for a response not worthy of credit.

Award [1] for a basic statement of location,
e.g. Suburban housing is found on the edge or near the outskirts of a city.

Award [2] for a statement with a consequence,
e.g. Suburban houses are found on the outskirts of the city because the land is cheap.

Award [3] for a statement, consequence and elaboration,
e.g. Houses are semi-detached with gardens and so take up more space and land is cheaper at the edge of the city farther from the CBD. [3]

- (b) Study **Fig. 4** which gives information about traffic congestion in European and North American cities. Answer the questions which follow.

- (i) Describe two problems resulting from traffic congestion which are facing many inner city areas of MEDCs. Credit any problem relevant to inner city areas of MEDCs such as more pollution or longer journeys to work.

Award [0] for a response not worthy of credit.

Award [1] for a brief statement,
e.g. There are longer journey times **or** people sit in traffic queues.

Award [2] for a statement with a consequence,
e.g. There are longer journey times for lorry drivers so goods cost more to deliver,
e.g. There is more pollution as travel times increase producing more CO₂ gas, increasing global warming
e.g. Traffic queues are long so commuters arrive home later.
(2 × [2]) [4]

- (ii) Outline one issue relating to public transport in inner city areas of MEDC cities.

Award [0] for a response not worthy of credit.

Award [1] for a basic statement,
e.g. Public transport is too expensive or it is not frequent enough,
e.g. Park and ride schemes.

Award [2] for a statement with a consequence,
e.g. Public transport is too expensive so people still take their cars to work.

Award [3] for a statement with a consequence and elaboration on the issue and (reference to a place), expensive, unreliable, safety, inefficiency
e.g. Public transport is too expensive so people still take their cars to work causing even more traffic congestion (as occurs along the Westlink in Belfast). This will lead to more greenhouse gases being emitted into the atmosphere causing climate change. [3]

- (c) Name **one** urban planning scheme you have studied and evaluate how it has regenerated and improved the housing **and** employment opportunities in the inner city zone of the city.

Name of planning scheme in an MEDC inner city area is likely to be Titanic (Quarter) Belfast (no mark).

Award [0] for a response not worthy of credit.
If no named inner city area then only Level 1.

Level 1 ([1]–[2])

Brief statements relating to one improvement or both aspects in general or there is no named planning scheme. Responses at this level lack evaluation, e.g. There were new apartments built and new modern, service jobs created.

Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. A limited range of specialist terms is used appropriately.

Level 2 ([3]–[5])

Both aspects of housing and employment are addressed with some detail and limited evaluation, if no negatives then only [3].

e.g. In the Titanic Quarter lots of new apartments have been built such as the 7,500 apartments in the development called the Arc which attract young professional people who can live close to their work in the area or walk to their jobs in Belfast's CBD. Employment opportunities have increased in the TQ with modern jobs in scientific research and service industries such as tourism in the Titanic Signature Project; new hotels provide work and there are also in jobs in modern technology and research. Locals may not access these jobs.

Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. A good range of specialist terms is used appropriately.
One F/F achieves Top Level 2.

Level 3 ([6]–[7])

A detailed response which addresses all aspects of the question [housing, employment opportunities and which contains evaluation of both].

An overall judgement or conclusion is needed for the full [7] marks,
e.g. In the Titanic Quarter lots of new apartments have been built such as the 7,500 apartments in the development called the Arc which attract young professional people who can live close to their work in the area/walk to their

jobs in Belfast's CBD. This means people can have a healthier lifestyle and saves on transport costs. However there are many unoccupied apartments in the Arc because only young professional people can afford these expensive apartments. Employment opportunities have increased in the TQ with new service industries such as tourism in the Titanic Signature Project, hotels and in modern technology and research. It is hoped that 20,000 new jobs will be created in the TQ, in such places as the NI Science Park and these will replace the traditional jobs in shipbuilding of the past. However local people will require more training in the new high technology and research centres in the area. [6]

Overall the benefits to people of this scheme outweigh the negatives and make Belfast a more modern, vibrant city for people to live and work in the future. [7]

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- (d) For a named LEDC city you have studied, describe and explain the **location** of its shanty town areas.

Name of LEDC city – may be Kolkata, India or any other LEDC city
(no mark awarded for name)
Don't credit growth or living characteristics.

Award [0] for a response not worthy of credit

Level 1 ([1]–[2])

An answer that describes or explains the location of shanty towns in general terms or there is no named city,
e.g. Shanty towns are built in swampy areas [1] and near railway lines. [1]

Level 2 ([3]–[5])

An answer which describes and explains the location of the shanty towns in a named LEDC city with some detail, one F/F
All description plus F/F or all explanation plus F/F [3]
General description and explanation – but no F/F get [4]
e.g. In Kolkata, India there are many shanty towns called bustees which are located on the steep banks of the **Hooghly** river and around train stations; some are also on the outskirts of the city. They are found here so people can access jobs in factories. [5]

Level 3 ([6]–[7])

An answer which describes and explains in detail the location of the shanty towns in a named LEDC city, 2 F/F needed
e.g. In Kolkata, India there are many shanty towns called bustees which are located on the steep banks of the Hooghly river close to the CBD where the inhabitants can more easily obtain informal jobs, hawking goods or shoe-shining etc. They are also found on the land around train stations, where people can erect shacks cheaply and they can walk along the railway tracks to work, e.g. at Ballygunge station. Some are also on the eastern outskirts of the city near the Salt Lakes because this is poor quality land, likely to flood and it is far away from the expensive homes around the CBD. [7]

AVAILABLE
MARKS

25

25

Theme B Total

Theme C: Contrasts in World Development

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MARKS

3 (a) (i) What do the initials HDI stand for?

Only accept the answer Human Development Index [1]

(ii) Underline the correct answer in each of the following sentences about the HDI. One has been completed for you.

- The country with the highest HDI figure is UK/USA
- China's HDI is 0.907/0.727
- MEDCs mainly have a very high/low human development
- NICs have a higher/lower HDI than LEDCs
- The country with the lowest HDI figure is Ethiopia/Brazil

(4 × [1]) [4]

(iii) Explain why the HDI is regarded as one of the most effective indicators of development.

Award [0] for a response not worthy of credit.

Award [1] for a simple statement of what HDI is;

- e.g. HDI is a composite measure or includes more than one indicator.
- e.g. HDI is more than just an economic measure of development.

Award [2] for a statement which shows some understanding of what is involved in the HDI;

- e.g. HDI is a composite measure which also includes social welfare such as health, education as well as wealth. [2]

Award [3] for a statement which shows understanding that both social and economic indicators are needed to measure development effectively. Responses may refer to specific countries;

- e.g. HDI is a composite measure which includes health, wealth and education. It is better because it measures development by including a variety of social and economic indicators therefore providing a more accurate picture of development. [3] (However using only social indicators or economic indicators alone can be misleading and not effective as a country may have a high level of wealth but low levels of social welfare/quality of life, e.g. Saudi Arabia.) [3]

Note: The education component of the HDI is now measured by the mean years of schooling for adults aged 25 years and expected years of schooling for children of school going age. [3]

(b) Many countries support the Sustainable Development Goals. Describe **one** of these goals and explain how it attempts to reduce the development gap between MEDCs and LEDCs.

There are 17 goals in total. Students can describe **any** goal. To reach Level 3 they must ensure they outline in detail how this will help reduce the world development gap.

Award [0] for a response not worthy of credit.

Level 1 ([1])

A simple statement — which may simply state the global goal,
e.g. is good health and well-being.

Level 2 ([2]–[3])

A statement and elaboration. However does not fully address how this can reduce the world development gap,
e.g. Goal 3 is good health and well-being which aims to end the epidemic of aids and malaria. Through research and development and improved access to medicines, life expectancies and infant mortality rates will improve in many LEDCs. [3]

Level 3 ([4])

A detailed statement with consequence and elaboration which relates to the world development gap becoming smaller – some reference to how it is achieved,
e.g. Goal 3 is good health and well-being. By 2030 this goal aims to end the epidemic of aids, malaria and other neglected tropical diseases. Through research and development and improved accessibility to medicines, healthcare in many LEDC regions such as Sub-Saharan Africa will improve. This will result in life expectancies improving and infant mortality rates decreasing globally. [4]

[4]

- (c) (i) State the meaning of the term fair trade.

Award [0] for a response not worthy of credit.

Award [1] for a basic definition,
e.g. Farmers get paid a higher price for their products.

Award [2] for a more detailed definition,
e.g. Farmers get paid a higher price for their products. Middlemen are cut out of the deal so more money goes to the farmer [2] or promotes environmental protection. [2]

Fair trade definition:

Fair trade relates to better prices, decent working conditions, local sustainability and fair terms of trade (must give 2 of these to get [2]). [2]
Environmental protection or middle men.

- (ii) With reference to a named LEDC describe one advantage of fair trade.

Award [0] for a response not worthy of credit – if MEDC [0]
If no LEDC [0]

Level 1 ([1])

A simple description outlining one advantage,
e.g. Fair trade promotes fair working conditions for farmers. [1]

Level 2 ([2]–[3])

A description with a valid consequence will access bottom of Level 2.
If the candidate provides further elaboration they can access top of Level 2,
e.g. Fair trade promotes fair working conditions for farmers enhancing their quality of life,
e.g. Fair trade promotes fair working conditions by removing toxic pesticides and providing suitable clothing for its workers. This has a positive impact on producers' health.

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Level 3 ([4])

A valid description, consequence and elaboration with reference to an appropriate LEDC,
e.g. Fair trade promotes fair working conditions by removing toxic pesticides and providing suitable clothing for its workers. This has a positive impact on producers' health. This is evident for coffee farmers in Costa Rica. [4]

- (d) Describe and evaluate the success of one appropriate technology product you have studied.

Award [0] for a response not worthy of credit.

No named product – max Level 1

Level 1 ([1]–[2])

A simple answer which may simply identify an appropriate technology project for [1] and gives a basic description for [2],
e.g. One appropriate technology product is the hippo roller. [1] This helps woman and children collect water. [2]

Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. A limited range of specialist terms is used appropriately.

Level 2 ([3]–[5])

A limited description of an appropriate technology product with a limited evaluation, if no negatives then [3]
e.g. The Hippo Water Roller was developed to help rural woman and children collect safe drinkable water from wells and other water sources. It is a barrel-shaped container with a handle and can hold more water than traditional buckets. [3] This has eased what was once a back-breaking chore to a task that can be completed a few times a week, enabling children to spend more time at school and providing more time for women to sell agricultural goods, but it is very expensive [4] It is said to have provided water for up to 300,000 people in Africa. [5]
pos + 1 F/F [4]
pos + brief negative with no F/F [4]
pos and negative + 1 F/F [5]

Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. A good range of specialist terms is used appropriately.

Level 3 ([6]–[7])

A detailed description which fully describes and evaluates the success of one appropriate technology product. Relevant case study material must be included. To access top of Level 3 a concluding evaluative statement is required, 2 F/F for [6], 2 F/F + overall conclusion for [7],
e.g. The 90 litre Hippo Water Roller was developed to help rural women and children collect safe drinkable water from wells and other water sources. This strong and durable barrel-shaped container can hold 5 times more water and is equipped with a steel handle allowing users to push these water stores effectively. It was specifically designed for daily use and so it has a long life span. This has eased what was once a back-breaking chore to a

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task that can be completed a few times a week, enabling children to spend more time at school and providing more time for women to sell agricultural goods. However, it is expensive, costing £96.00. Therefore many impoverished households rely on the goodwill of sponsors to access this piece of equipment. Also communities may still only be accessing dirty water and walking long distances to access the well. [6]
In conclusion this appropriate technology brings many benefits socially and economically to the area. [7]

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Theme C Total

**AVAILABLE
MARKS**

25

25

Theme D: Managing Our Environment

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MARKS

- 4 (a) Using **Fig. 7**, outline the change in the number of tourist arrivals in Turkey.

Award [1] for a simple outline of the trend in mass tourism,
e.g. The number of arrivals in Turkey has increased.

Award [2] for a detailed outline of the trend including relevant figures/dates,
e.g. The number of arrivals in Turkey has increased from 1995 to 2015. In
1995 there were 7 million arrivals but this increased quickly so that by 2015,
over 36 million people arrived into Turkey. [2]

- (b) (i) In which country would you find Ecocamp?

Chile [1]

- (ii) Using **Fig 8** state the name of the longest trail.

Grey Lake [1]

- (iii) State the meaning of the term **ecotourism**.

Award [0] for a response not worthy of credit.

Award [1] for a basic definition,
e.g. When people go on holiday but try not to harm the environment.

Award [2] for a full definition,
e.g. When people go on holiday but try not to harm the environment and
protects the people's way of life. [2]

- (iv) Explain one way this camp helps to protect the **environment**.

Award [0] for a response not worthy of credit.

A list of statements with no explanation = maximum [1]

Award [1] for a simple statement without explanation,
e.g. The camp uses renewable energy,
e.g. Energy is produced by hydro-electric power.

Award [2] for a limited explanation,
e.g. The camp generates energy from hydro-electric power and this
means that no greenhouse gases are produced.

Award [3] for a detailed explanation,
e.g. The camp generates 60% of its energy from hydro-electric power.
This means that no greenhouse gases are produced which helps to
protect the environment. [3]
e.g. The camp also recycles all the waste, e.g. plastic, it generates. This
means that there is no litter produced so no landfill sites are needed
which protects the environment. [3]

- (c) Describe how the greenhouse effect can contribute to climate change.

Award [0] for a response not worthy of credit.

Award [1] for a simple statement

e.g. The greenhouse effect means that temperatures are rising. [1]

Award [2] for a limited description,

e.g. The greenhouse effect means that greenhouse gases keep heat in the atmosphere and this causes the global temperatures to rise.

Award [3] for a detailed description,

e.g. The greenhouse effect means that greenhouse gases such as **carbon dioxide** will keep heat in the atmosphere and stop it escaping into space. This means that the global temperatures will rise and climate will change. [3]

- (d) Study **Fig. 9** which shows the key elements of the waste hierarchy. Answer the questions which follow.

- (i) Complete **Fig. 9** by selecting the correct term from the list below.

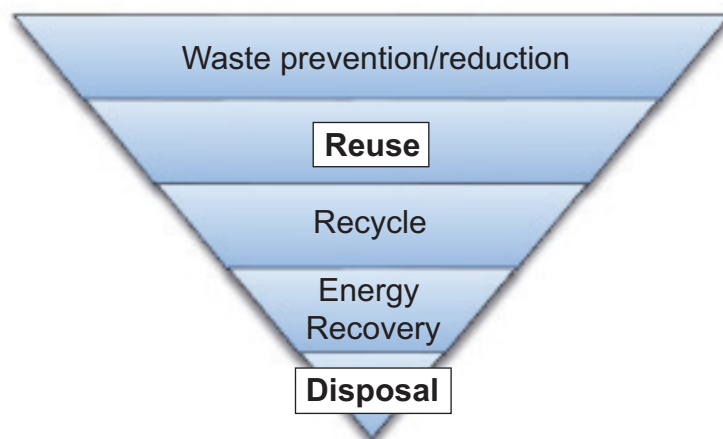


Fig. 9

(2 × [1])

[2]

- (ii) Describe one way that people could recycle their household waste. Don't credit examples of reusing/reducing or upcycling

Award [0] for a response not worthy of credit.

Award [1] for a simple description of a recycling method,

e.g. Families can put empty plastic bottles into recycling boxes or 'kerbies'.

Award [2] for a detailed description of a recycling method,

e.g. Families can collect up their empty bottles, cardboard, glass and tins and these can be collected in recycling boxes or 'kerbies' provided by the Council and used to make new products. [2]

- (iii) Explain one way that householders might be able to 'reduce' the amount of waste they produce. Don't credit examples of recycle/reuse

Award [0] for a response not worthy of credit.

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Award [1] for a simple statement relating to a method of waste reduction, e.g. Householders can take showers instead of baths.

Award [2] for a detailed explanation of a waste reduction method, e.g. Householders can take showers instead of baths as the shower uses much less water than baths – meaning less waste water is produced. [2]

- (e) For **one** renewable energy source that you have studied, evaluate its benefits and disadvantages as a sustainable solution.

There is no mark for identifying the renewable energy source.

Answers need to evaluate the sustainability in relation to both benefits and disadvantages.

If answer does not deal with a renewable energy source, award [0] marks.

Award [0] for a response not worthy of credit.

Level 1 ([1]–[2])

A brief response that might list general ideas about the benefits and/or disadvantages of a renewable energy source, e.g. The Walney wind farm is used to produce wind power in England. Wind farms are good for the environment as they do not pollute the air.

Level 2 ([3]–[5]) – no negatives [3]

A response that looks at both the benefits and/or disadvantages and makes some attempt to evaluate the sustainability of the chosen renewable energy source, e.g. The Walney wind farm is located off the coast of Cumbria in England. The wind farm is good for the environment because it does not produce any carbon emissions – the wind farms use inexhaustible wind energy. These turbines can produce energy for most of the year and will have a lifespan of about 20 years. They will produce energy relatively cheaply. 1 F/F [5] However, some people have concerns that these wind turbines harm local wildlife as the turbines could be creating their own electrical fields. Some also find the wind turbines ugly and do not like to see these from the shore.

Level 3 ([6]–[7])

A detailed response that evaluates the benefits and disadvantages of the chosen renewable energy source, its sustainability and has also included a final evaluative statement, e.g. The Walney wind farm is located off the coast of Cumbria in England. The wind farm is good for the environment because it does not produce any carbon emissions – the wind farms use inexhaustible wind energy. 2 F/F [6] These turbines can produce energy for 80% of the year and will have a lifespan of about 20 years. 2 F/F + evaluative comment [7]. They will produce energy relatively cheaply. However, some people have concerns that these wind turbines cause harm to local wildlife as the turbines could be creating their own electrical fields. Some people also find the wind turbines ugly and do not like to see these from the shore. The turbines take a lot of money to set up, Walney wind farm cost over £1 billion to set up. Overall, the positives outweigh the negatives as the green energy produced over a long period of time means that these are some of the most environmentally-friendly solutions for energy production. [7]

Theme D Total

Total

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25

25

100