



General Certificate of Education

General Studies 5766

Specification B

GSB3 Space

Mark Scheme

2007 examination - June series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

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Unit 3**(GSB3 Space)**

- 1** Answers given in the mark scheme are not necessarily definitive. Other valid points must be credited, even if they do not appear in the mark scheme.

Total for this paper: **60 marks**

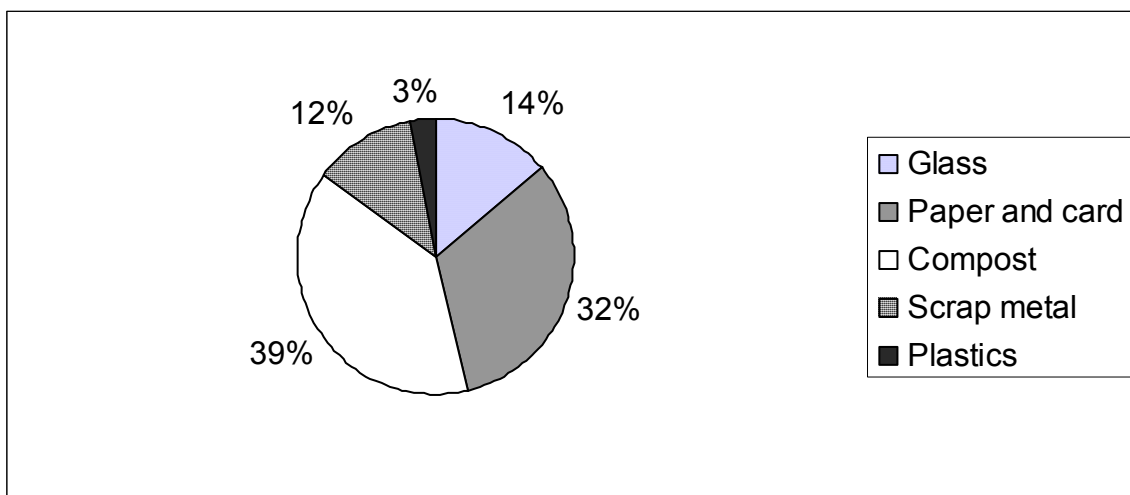
Look carefully at Sources 1, 2, 3 and 4.

- Source 1** shows the weights of materials collected from households for recycling (thousands of tonnes) in 2004.
- Source 2** shows examples of the environmental cost of imported organic food items in 2004.
- Source 3** shows the percentage change in greenhouse gas emissions from 1990 to 2003.
- Source 4** shows an advertisement from WWF (World Wildlife Fund).

Having studied the sources answer **all** of the following questions:

- (a) Using **Source 1** construct and label a pie chart showing the weights of materials collected for recycling. *(6 marks)*
- (b) Using **Source 1** and your pie chart suggest possible problems involved in the recycling or disposal of waste material. *(6 marks)*
- (c) (i) What percentage of the total amount of carbon dioxide emitted comes from the transport of the food items by air? (**Source 2**) *(2 marks)*
- (ii) What was the percentage increase for the approximate total distance that food imports have travelled by air in the last ten years? (**Source 2**) *(2 marks)*
- (iii) Identify **two** different types of pollution from the data in **Source 2**. *(2 marks)*
- (d) Why might the data in **Source 3** be of limited value? *(9 marks)*
- (e) **Sources 1, 2 and 3** refer to different pollution issues. Explain what could be done to reduce levels of pollution. *(9 marks)*
- (f) To what extent do you agree with the view that we should reduce food imports and rely more on food produced in the UK? *(12 marks)*
- (g) Using **Source 4** as a starting point how far do you agree that pressure groups can make a difference on environmental issues? *(12 marks)*

1 (a) PIE CHART



- (a)** Percentages 14, 32, 39, 12, 3 (all rounded)
 Angles 50, 115, 140, 45, 10 (rounded)
 Pie chart constructed – 1 mark per sector
 Correct labelling or key – 1 mark
 Working out correctly shown but no pie chart drawn – 2 marks (6 marks)

(b) Expect about **two** or **three** main points with development.

Examples of points:

- Cost: to household and to local authority for collection
- Cost: industrial costs of recycling
- Pollution: disposal of materials – landfill pollution, items which are not biodegradable and burning, causing air pollution
- Environment: unsightly tips and chance of disease. (6 marks)

(c) (i) $8600 / 10\,040 \times 100 = 0.85657 \times 100 = 85.66, 85.7, 86$
 1 mark if working out is correct but answer is wrong (2 marks)

(ii) $(27 - 22) / 22 \times 100 = 5 / 22 \times 100 = 0.2272 \times 100 = 22.7, 23\%$
 1 mark if working out is correct but answer is wrong (2 marks)

(iii) Two from the following points:

- Air pollution caused mainly by transport
- Noise pollution caused by planes and traffic
- Possibility of oil pollution at sea caused by accidents with ships. (2 marks)

(d) Banded mark scheme:

Band One	7 – 9	A good response which demonstrates awareness of the limitations of the data. Appropriate points/examples are chosen to help clarify arguments. The answer is well organised in a logical way with few, if any, errors of punctuation, spelling and grammar.
Band Two	4 – 6	A competent response which shows some awareness of the limitations of the data. A few relevant points/examples are chosen to help clarify arguments. The answer is, for the most part, clear and adequately structured, though there may be errors of punctuation, spelling and grammar which do not hinder communication.
Band Three	1 – 3	A limited response in which only one or two basic limitations are identified. Inappropriate points/examples are chosen or those selected are insufficiently explained to clarify arguments. The structure is flawed and frequent errors in punctuation, spelling and grammar may obscure points being made.
Band Four	0	No response, or no relevant information.

Examples of points:**Limitations of data:**

- No detailed figures, just shows percentage change with no details regarding measurements
- The use of four lines is confusing
- No information regarding areas where data have been collected or types of vehicles
- Out of date and therefore may be of limited use to monitoring agencies
- Source – government – might be biased.

(9 marks)

(e) Banded mark scheme:

Band One	7 – 9	<p>A good response which demonstrates understanding of the issue.</p> <p>Appropriate points/examples are chosen to help clarify arguments.</p> <p>There is a clear understanding of the problems involved in reducing the levels of pollution.</p> <p>The answer is well organised in a logical way with few, if any, errors of punctuation, spelling and grammar.</p>
Band Two	4 – 6	<p>A competent response which shows some understanding of the issue.</p> <p>A few relevant points/examples are chosen to help clarify arguments.</p> <p>There is some understanding of the problems involved in reducing the levels of pollution.</p> <p>The answer is, for the most part clear and adequately structured, though there may be errors of punctuation, spelling and grammar which do not hinder communication.</p>
Band Three	1 – 3	<p>A limited response conveying no, or only superficial, understanding of the issue.</p> <p>One or two relevant points/examples are chosen. Others are likely to be inappropriate or those selected are insufficiently explained to clarify arguments.</p> <p>There is little or no understanding of the problems involved in reducing the levels of pollution.</p> <p>The structure is flawed and frequent errors in punctuation, spelling and grammar may obscure points being made.</p>
Band Four	0	No response or no relevant information.

Examples of points:

- **Government:** fines for industries who continue to pollute; more finance available from Government to encourage industry to improve processes; more monitoring of problems
- **Education:** educate the public to raise awareness about climate change
- **Consumer:** more insulation in homes; use of cleaner fuels; awareness of recycling issues and consideration of effects on the environment of importing food
- **Industry:** research into 'greener' alternatives e.g. renewable sources of energy.

(9 marks)

(f) Banded mark scheme:

Band One	9 – 12	A good response which demonstrates understanding of the issue. Appropriate points/examples are chosen to help clarify arguments. There is an understanding of the nature of difference between fact and opinion. The answer is well organised in a logical way with few, if any, errors of punctuation, spelling and grammar.
Band Two	5 – 8	A competent response which shows some understanding of the issue. A few relevant points/examples are chosen to help clarify arguments. There is some understanding of the nature of difference between fact and opinion. The answer is, for the most part clear and adequately structured, though there may be errors of punctuation, spelling and grammar which do not hinder communication.
Band Three	1 – 4	A limited response conveying no, or only superficial, understanding of the issue. One or two relevant points/examples are chosen. Others are likely to be inappropriate or those selected are insufficiently explained to clarify arguments. There is little or no understanding of the difference between fact and opinion. The structure is flawed and frequent errors in punctuation, spelling and grammar may obscure points being made.
Band Four	0	No response, or no relevant information.

Examples of points:**Agree:**

- UK has up-to-date methods of growing food, including GM
- Farmers' markets provide food locally and are excellent ways in which we can promote our own produce
- Source 2 shows that there is an environmental issue to importing food despite our ability to have choice
- We have sufficient food available but choose to buy imported food – consumer choice.

Disagree:

- We have an increasing population problem and have to consider providing for the future and we should encourage economic links with other countries
- Some food cannot be grown in the UK as it requires a different climate
- There is still a pollution issue even if we use local food
- Source 2 shows that we **do** import some food that we can produce ourselves in the UK so there must be **need** for it.

(12 marks)

(g) Banded mark scheme:

Band One	9 – 12	<p>A good response which demonstrates understanding of the issue.</p> <p>Appropriate points/examples are chosen to help clarify arguments.</p> <p>There is an understanding of the nature of difference between fact and opinion.</p> <p>The answer is well organised in a logical way with few, if any, errors of punctuation, spelling and grammar.</p>
Band Two	5 – 8	<p>A competent response which shows some understanding of the issue.</p> <p>A few relevant points/examples are chosen to help clarify arguments.</p> <p>There is some understanding of the nature of difference between fact and opinion.</p> <p>The answer is, for the most part clear and adequately structured, though there may be errors of punctuation, spelling and grammar which do not hinder communication.</p>
Band Three	1 – 4	<p>A limited response conveying no, or only superficial, understanding of the issue.</p> <p>One or two relevant points/examples are chosen. Others are likely to be inappropriate or those selected are insufficiently explained to clarify arguments.</p> <p>There is little or no understanding of the difference between fact and opinion.</p> <p>The structure is flawed and frequent errors in punctuation, spelling and grammar may obscure points being made.</p>
Band Four	0	No response, or no relevant information.

Examples of points:**Agree:**

- Source 4 shows an advert for WWF with educational links and logos on climate change – use of adverts promotes awareness of main issues
- There is a sense of ‘belonging’ to a pressure group so funds and donations increase even if there is little participation from the public
- Pressure groups are committed to an idea and can sustain campaigns.

Disagree:

- Some actions by pressure groups may endanger lives or give negative publicity
- If the action encourages civil disobedience then they may not succeed
- How do we measure ‘success’ or ‘difference’ on environmental issues?
- There is little evidence that governments bow to pressure from environmental groups.

(12 marks)

Distribution of Assessment Objective marks across Unit 3

Question Numbers		AO marks per unit
Assessment Objectives	AO1	18
	AO2	8
	AO3	18
	AO4	16
Total marks for paper		60