



2010 Lifestyle and Consumer Technology

Higher

Technological Project

Finalised Marking Instructions

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STEP 1 Total mark allocation – 22 marks**1 : 1 Identification of the key points with explanation – 6 marks available**

The candidate should identify the ‘core’ key points – these are all the main key words of the Technological Project brief.

The number of ‘core’ key points which can be identified will depend on the wording of the Technological Project brief.

Candidates should number each key point identified.

Identify the key points – 3 marks

Candidates who record all the ‘core’ key points	2 marks
Candidates who record ½ or more, but not all the ‘core’ key points	1 mark
Candidates who record less than ½ the ‘core’ key points	0 marks

Candidates who provide an additional key point, other than those identified as ‘core’ will be awarded an additional **1 mark**.

Basic and accurate explanation of key points – 2 marks

Marks are determined by the number of key points which have a basic and accurate explanation.

If all key points have a basic and accurate explanation	2 marks
If ½ or more but not all of the key points have a basic and accurate explanation	1 mark
If less than ½ the key points have a basic and accurate explanation	0 marks

Detailed and accurate explanation – 1 mark

Candidates who provide further accurate detail within the explanations will be awarded an additional mark. Extra detail means one additional point of explanation is provided for any one of the key or additional points.

Brief 1

Develop a food or textile item to be sold in a Scottish gift shop.

Brief 1**Key points**

1. develop
2. (a) food (or) textile
3. item
4. (to be) sold
5. (in a) Scottish
6. gift shop.

Brief 2

Develop a food or textile item to encourage health in school.

Brief 2**Key points**

1. develop
2. (a) food (or) textile
3. item
4. (to) encourage
5. health
6. in school.

Example of basic accurate explanation of key points

Develop • create or devise ideas for a new product

Example of further accurate detail in explanation of key points

Develop • create or devise ideas for a new product
• make a product which is original or different to what is available at present

Brief 1 – Scottish gift shop Additional Key Points

7. Facilities/resources available
8. Aesthetic appeal
9. Time available for manufacture
10. Skills/abilities
11. Hygiene/safety
12. Likes/dislikes
13. Appeal to target group
14. Allergies
15. Money available/budget of target group
16. Quality/standard required for sale
17. Gender of target group
18. Age range of target group
19. Suitability for bulk production
20. Season of year/occasion
21. Current trends/fashion
22. Transportable
23. Packaging

Brief 2 – Health in school Additional Key Points

7. Facilities/resources available
8. Aesthetic appeal
9. Time available for manufacture
10. Skills/abilities
11. Hygiene/safety
12. Likes/dislikes
13. Appeal to target group
14. Allergies
15. Money available/budget of target group
16. Quality/standard required for sale
17. Gender of target group
18. Age range of target group
19. Suitability for bulk production
20. Season of year
21. Current trends/fashion
22. Hungry for Success/
Schools (Health Promotion &
Nutrition) Scotland Act2007/
Nutritional Requirements for Food &
Drink in Schools (Scotland) 2008
23. Nutritional needs of target group

1 : 2

Draw up appropriate criteria for a specification – 10 marks available

Candidate's specification allows for a range of possible solutions

1 mark

Specification allows for a range of possible solutions which are relevant to the brief	1 mark
If a range of solutions is not possible	0 marks

Candidate provides five specification points, each containing more detail than the brief

2 marks

Note: Candidates are expected to produce a **minimum of five** specification points. However due to constraints of time allocated for the Technological Project the candidates should not identify more than seven specification points as this would involve the candidate in unnecessary work.

Specification points must be **valid** (derived from brief) to gain marks in this section. When drawing up the criteria for the specification candidates should not just rewrite the key points – greater detail is required.

Five valid specification points contain more detail than the brief	2 marks
Three or four valid specification points contain more detail than the brief	1 mark
Less than three valid specification points	0 marks

Candidate has written all specification points in measurable/able to be tested terms

2 marks

Candidates must indicate how each specification point should be able to be measured/tested by a valid method.

All specification points are measurable/tested	2 marks
Half or more, but not all specification points are measurable/tested	1 mark
Less than half the specification points are measurable/tested	0 marks

Candidate has linked each specification point to the key points and additional point(s)

2 marks

Candidates must show that each specification point is linked to the key points and additional key points identified in Step 1.1. All key points should be covered.

Specification points are linked to all key points and additional key points	2 marks
Specification points are linked to half or more, but not all key points and additional key points	1 mark
Specification points are linked to less than half the key points and additional key points	0 marks

Candidate provides basic explanations**2 marks**

Basic explanations of the specification points, relevant to the project brief, should be provided by the candidate.

Basic explanations are provided for all specification points	2 marks
Basic explanations are provided for half or more, but not all specification points	1 mark
Basic explanations are provided for less than half the specification points	0 marks

Candidate provides detailed explanation**1 mark**

If further detail, relevant to the project brief, is provided within the explanation then an additional mark will be awarded. Extra detail means one additional point of explanation is provided for any one of the specification points.

Step 1.2 – Specification		
Brief 1 – Scottish gift shop		
Item must:		Measured by:
1	<ul style="list-style-type: none"> be edible/be a fabric product/solution 	Interview with food/textile technologist Component checklist/recipe analysis
2	<ul style="list-style-type: none"> be suitable as a gift 	Questionnaire/interview to retailer/tourist Interview with food/textile technologist/retailer/ appropriate teacher/tourist
3	<ul style="list-style-type: none"> contain components/ingredients sourced in Scotland/represent Scotland 	Interview with food/textile technologist/retailer/ appropriate teacher Internet/literary search
4	<ul style="list-style-type: none"> be suitable for sale in a (Scottish) gift shop 	Questionnaire/interview to retailer/tourist Interview with food/textile technologist/retailer/ appropriate teacher/tourist
5	<ul style="list-style-type: none"> be different to other products/be original 	Survey of retail outlets/Scottish gift shops Literary/Internet search Interview with retailer/food/textile technologist/ appropriate teacher/tourist
6	<ul style="list-style-type: none"> be a single item/product 	Questionnaire/interview to retailer/tourist Interview with food/textile technologist/retailer/ appropriate teacher/tourist
7	<ul style="list-style-type: none"> be comparable in cost to other similar items 	Costing exercise & price check/comparison Interview with food/textile technologist/retailer/ tourists
8	<ul style="list-style-type: none"> be cost effective to produce/be good value for money 	Costing exercise & interview with food/textile technologist/retailer/tourists Costing exercise & interview/questionnaire target group/tourists
9	<ul style="list-style-type: none"> be within the budget of the target group/ tourists 	Costing exercise & questionnaire to target group/ tourists Costing exercise & interview with food/textile technologist/retailer/tourists
10	<ul style="list-style-type: none"> be of an acceptable/satisfactory standard for sale 	Interview with food/textile technologist/EHO Sensory testing with food/textile technologist target group/tourists/retailer Quality checklist + interview with food/textile technologist/retailer
11	<ul style="list-style-type: none"> be aesthetically pleasing to target group/ tourists 	Questionnaire to target group/potential tourists in Scotland Interview with food/textile technologist/ appropriate teacher Sensory testing with target group/food/textile technologist/appropriate teacher/tourists
12	<ul style="list-style-type: none"> take account of likes/dislikes of target group/tourists 	Questionnaire to target group/potential tourists in Scotland Interview with food/textile technologist/ appropriate teacher/retailer/target group/tourists Sensory testing with potential tourists/food/ textile technologist
13	<ul style="list-style-type: none"> take account of current trends/currents dietary advice/fashion 	Interview retailer/target group/tourist/food/ textile technologist Questionnaire with target group/tourists

Step 1.2 Continued		
Brief 1 – Scottish gift shop		
Item must:		Measured by:
14	<ul style="list-style-type: none"> be suitable for the season/time of year 	Interview with retailer/food/textile technologist/tourist Questionnaire to target group/tourists Literary/Internet search
15	<ul style="list-style-type: none"> be made using the facilities/resources/skills available food outlet 	Interview with food/textile technologist/tourist Checklist of facilities/component checklist
16	<ul style="list-style-type: none"> be made using the facilities/resources available to the candidate 	Interview with food/textile technologist/tourist Checklist of facilities/component checklist
17	<ul style="list-style-type: none"> be within the capabilities of the candidate 	Trial of prototype Time plan/checklist Interview with food/textile technologist Skills analysis
18	<ul style="list-style-type: none"> be made in the time available to candidate 	Timed trial of prototype & interview with food/textile technologist Interview with food/textile technologist
19	<ul style="list-style-type: none"> be prepared under hygienic/safe conditions/ be safe to eat 	Interview with food technologist food/textile technologist Quality checklist & interview with food/textile technologist/EHO/retailer/chef
20	<ul style="list-style-type: none"> take account of allergies 	Interview with food/textile technologist/dietician/tourist
21	<ul style="list-style-type: none"> be easy to prepare/cook/reheat/portion/serve 	Interview with food technologist/retailer/chef Skills analysis & check with food technologist/restaurant manager/chef
22	<ul style="list-style-type: none"> be suitable to be made in advance 	Interview with food/textile technologist/retailer/chef
23	<ul style="list-style-type: none"> have an appropriate shelf life 	Interview with food/textile technologist/E.H.O/retailer/chef
24	<ul style="list-style-type: none"> be suitable for mass production 	Interview with food/textile technologist/retailer/chef
25	<ul style="list-style-type: none"> be able to be laundered/be easy to care for 	Interview with textile technologist/retailer User/wearer trials of prototype
26	<ul style="list-style-type: none"> be easy to transport 	Interview with food/textile technologist/chef/target group/retailer

Note:

- Food/textile technologist could include a person working in food/textile product development or a Home Economics teacher.

- NB**
- Specification Points** – It must be checked that the specification points are different
– A candidate may use different wording to state the same thing
 - Measured by** – The candidate must specify the term ‘expert’ if used

Method of measuring must be able to check/assess whether the specification point has been met.

Basic explanation of specification point

- be colourful/attractive/appealing to target group
- so the target group will like them

Detailed explanation of specification point

- be colourful/attractive/appealing to target group
- to encourage the target group or consumer to try the product again

Step 1.2 – Specification		
Brief 2 – Health in school		
Item must:		Measured by:
1	<ul style="list-style-type: none"> be edible/be a fabric solution/product 	Interview with food/textile technologist Component checklist/Recipe analysis
2	<ul style="list-style-type: none"> promote health 	Interview with food/textile technologist/ appropriate teacher/Health.& Well Being (HWB) or sports coordinator/health professional
3	<ul style="list-style-type: none"> be suitable for a school/school pupils 	Interview with food/textile technologist/ appropriate teacher/HWB or sports coordinator/ health professional/EHO/Trading Standards Officer
4	<ul style="list-style-type: none"> be nutritionally suitable for target group/ school pupils 	Nutritional analysis and check with food technologist/dietician/health professional Interview with food technologist/dietician/health professional
5	<ul style="list-style-type: none"> be healthy/take account of current dietary targets/Hungry for Success/Schools (Health Promotion and Nutrition) Scotland Act 2007/Nutritional Requirements for Food & Drink in Schools (Scotland) 2008 	Interview with food technologist/dietician/health professional/HWB or sports coordinator/ appropriate teacher
6	<ul style="list-style-type: none"> be different to other products/be original 	Interview with food/textile technologist/ appropriate teacher/HWB or sports coordinator/ Health professional Check against current products used for promotion
7	<ul style="list-style-type: none"> be a single item/product 	Questionnaire/interview with food/textile technologist Interview with appropriate teacher
8	<ul style="list-style-type: none"> be cost effective to produce/be good value for money 	Costing exercise & interview with food/textile technologist/school pupils/staff Costing exercise & interview/questionnaire target group/tourists
9	<ul style="list-style-type: none"> be within the budget of the target group/ school pupils/staff 	Costing exercise & questionnaire to target group/school pupils/staff Costing exercise & interview with food/textile technologist/school pupils/staff
10	<ul style="list-style-type: none"> be of an acceptable/satisfactory standard 	Interview with food/textile technologist/ appropriate teacher/EHO/Trading Standards Officer Sensory testing with target group food/textile technologist target group/tourists/retailer Quality checklist + interview with food/textile technologist/retailer
11	<ul style="list-style-type: none"> be aesthetically pleasing to target group/ school pupils/staff 	Questionnaire to target group/potential tourists in Scotland Interview with food/textile technologist/ appropriate teacher Sensory testing with target group/food/textile technologist/appropriate teacher/tourists
12	<ul style="list-style-type: none"> take account of likes/dislikes of target group/school pupils/staff 	Questionnaire to target group Interview with food/textile technologist/HWB or sports coordinator/target group Sensory testing with target group

1 : 3 Devise an overall plan for investigations – 6 marks available**Candidate presents a list of investigations (minimum five) - 2 marks**

Candidates who provide a list of possible investigations which focus clearly on <ul style="list-style-type: none"> the core key points of the project brief the candidate's specification points a clear aim/purpose 	2 marks
Candidates who provide a list of investigations <ul style="list-style-type: none"> Which do not focus clearly on the key points and the specification will be awarded. Obvious omissions from the list of investigations will result in marks being deducted. 	1 mark.
Candidates who provide a list of investigations <ul style="list-style-type: none"> Where less than half of the investigations focus on the key points and specification points. 	0 marks

Candidate identifies techniques to be used - 2 marks

All techniques must be appropriate for the investigations and so allow the candidate the possibility of collecting relevant data/information.	2 marks
½ or more of the techniques are consistently appropriate	1 mark
Less than ½ of the techniques are consistently appropriate	0 marks

Candidate justifies the need for the investigation – 2 marks

All justifications must be <ul style="list-style-type: none"> well thought out linked to the investigation/use of the technique. 	2 marks
½ or more of the justifications lack of clarity/well thought out/linked to the investigation or the technique.	1 mark
Less than ½ of the justifications lack clarity/well thought out/linked to the investigation or the technique.	0 marks

From the proposed list of investigations drawn up in 1 : 3 above, candidates should form a prioritised list of those investigations which they propose to undertake.

No marks are awarded at this stage but candidates are expected to focus on those investigations most relevant to the needs of the project brief. A number of investigations may be combined by using one technique.

No more than 3 investigations depending on their nature, could be realistically carried out in the time available. The three investigations identified should ensure that all specification points are investigated. Candidates will be disadvantaged if they do less than 3 as they will not have collected sufficient data to create a valid solution.

Candidates who intend to use a questionnaire as an investigation must issue a minimum of 20 in order to gain valid results. If, however, too many questionnaires are distributed, collecting the data may become problematic for candidates.

Candidates should complete this work on pages 9 – 11 of the pro forma.

Step 1.3		
Brief 1 – Scottish gift shop		
Investigation – to establish/find out/investigate		Technique
1	Range of Scottish ingredients/components/textiles	Interview with food/textile technologist/chef/retailer in Scottish gift shop Literary/Internet search Survey of food retail outlets
2	Potential gifts using Scottish ingredients/components/textiles	Literary/Internet/recipe search Interview with food/textile technologist/chef/retailer in Scottish gift shop/target group/potential tourists
3	Types of gift shops	Interview with a food/textile technologist/target group/tourist/retailer Literary/Internet search
4	Current range of potential food/textile gift items	Survey of retail outlets Interview with food/textile technologist/retailers/target group/potential tourists Questionnaire to tourists/target group
5	Suitability for target group/tourists	Interview with food/textile technologist/target group/potential tourists
6	Ideas for potential solutions	Survey of gift shops Literary/Internet/recipe/pattern search Interview with food/textile technologist/retailer in Scottish gift shop/target group/potential tourists Trial of prototype Sensory testing with target group/potential tourists
7	Aesthetic appeal of potential solutions	Sensory testing with children Interview/questionnaire to food/textile technologist/retailer in Scottish gift shop/target group/potential tourists
8	Likes and dislikes of target group/tourists	Interview/questionnaire with target group/potential tourists/retailer
9	Current trends/fashion	Interview/questionnaire to food/textile technologist/retailer in Scottish gift shop Survey of retail outlets Literary/Internet search
10	Price range of similar food/textile products in a gift shop/on the market	Interview with target group/food/textile technologist/retailer in Scottish gift shop Survey of current product range
11	Cost of potential ingredients/solutions	Costing exercise
12	Budget/amount prepared to pay by target group/tourists	Interview/questionnaire with target group/potential tourists/food/textile technologist/chef/retailer in Scottish gift shop
13	Care requirements of materials/resources used	Interview with food/textile technologist Trials of prototype(s)
14	Safety in use	Interview with EHO/Trading Standard Officer food/textile technologist/chef/retailer in Scottish gift shop Literary/Internet search
15	Facilities/resources available to the candidate	Interview with food/textile technologist Resource/equipment checklist

Brief 1 – Scottish gift shop		
Investigation – to establish/find out/investigate		Technique
16	Skills necessary for manufacturing the potential solution by the candidate/ manufacturer/retailer	Interview with food/textile technologist/chef/ retailer/manufacturer Skills audit & check with food/textile technologist/chef Recipe search/search of fabric construction books
17	Time available for manufacturing of the potential solution by the candidate	Interview with food technologist/restaurant manager/chef Timed trial of prototype & check with food technologist/restaurant manager/chef
18	Hygiene/safety requirements production	Interview with food technologist/EHO/restaurant manager/chef
19	Quality requirements of potential solutions	Interview with food technologist/restaurant or cafe manager/chef Manufacture prototype(s) & trial Sensory testing/questionnaire/interview with target group food/textile technologist/chef/ retailer in Scottish gift shop
20	Shelf life of potential solutions	Interview with food/textile technologist/chef/ retailer in Scottish gift shop
21	Appropriate portion/product size	Interview with food technologist/dietician/ restaurant customers/restaurant manager/chef/ retailer/tourist Literary/Internet/recipe search
22	Suitability for bulk production	Interview with food/textile technologist/chef
23	Influencing factors on final product	Interview with food/textile technologist/chef/ retailer in Scottish gift shop Interview/questionnaire to target group/potential tourists

Note:

- The candidate **must** specify the term ‘expert’ if used
- A food/textile technologist could include a person working in food/textile product development or a Home Economics teacher
- The retail outlet should be specified

Step 1.3		
Brief 2 – Health in school		
Investigation – to establish/find out/investigate		Technique
1	Current health issues in school	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Literary/Internet search Questionnaire to target group/school pupils
2	Type of health initiatives relevant to target group/school pupils	Literary/Internet/recipe search Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school/ target group/school pupils
3	Current range of food/textile items promoting health/methods of promoting health messages	Interview with a food/textile technologist/target group/HWB or sports coordinator/PE/PSD/ Guidance teacher in school/target group/school pupils Literary/Internet search
4	Suitability for target group/school pupils	Interview with food/textile technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school/target group/school pupils
5	Ideas for potential solutions/potential solutions on the market	Survey of school dining facilities Literary/Internet/recipe search Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Trial of prototype Sensory testing with target group/school pupils
6	Aesthetic appeal of potential solutions	Sensory testing with target group/school pupils Interview with food/textile technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school/target group/school pupils
7	Likes and dislikes of target group/school pupils/staff	Interview/questionnaire with children/parent/ HWB or sports coordinator/PE/PSD/Guidance teacher in school/target group/school pupils
8	Current issues/trends in health promotion	Interview/questionnaire to target group/school pupils/parent/food/textile technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Survey of retail outlets Literary/Internet search
9	Current trends/fashion	Interview/questionnaire to food/textile technologist/target group/school pupils Survey of retail outlets used by target group/ school pupils Literary/Internet search
10	Price range of similar food/textile/health promotion items	Interview with target group/school pupils/food technologist/HWB or sports coordinator/PE/ PSD/Guidance teacher in school Survey of current product range
11	Cost of potential ingredients/components/solutions	Costing exercise
12	Budget of target group/amount target group is prepared to pay	Interview/questionnaire with target group/school pupils
13	Care requirements of materials/resources used	Interview with food/textile technologist Trials of prototype(s)

Step 1.3 (continued)		
Brief 2 – Health in school		
Investigation – to establish/find out/investigate		Technique
14	Safety in use	Interview with EHO/Trading Standard Officer/ food/textile technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Literary/Internet search
15	Facilities/resources available to the candidate	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Resource/equipment checklist
16	Skills necessary for manufacturing of the potential solution/by the candidate	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Skills audit & check with food technologist/ restaurant manager/chef
17	Time available for manufacturing of the potential solution by the candidate	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Timed trial of prototype & check with food technologist/HWB or sports coordinator/PE/ PSD/Guidance teacher in school
18	Hygiene/safety requirements for food/textile production	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school
19	Quality requirements of potential solutions	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school Manufacture prototype(s) & trial Sensory testing/questionnaire/interview with target group/school pupils/restaurant customers/ restaurant manager/chef
20	Shelf life of potential solutions	Interview with food technologist/EHO/chef
21	Appropriate portion size	Interview with food technologist/HWB or sports coordinator/target group/school pupils Literary/Internet/recipe search
22	Suitability for mass production	Interview with food/textile technologist/chef/ school canteen supervisor
23	Influencing factors on final product	Interview with food technologist/HWB or sports coordinator/PE/PSD/Guidance teacher in school/ target group/school pupils

Note:

- The candidate **must** specify the term ‘expert’ if used
- A food/textile technologist could include a person working in food/textile product development or a Home Economics teacher
- The retail outlet should be specified

STEP 2 (Investigating) Total mark allocation

15 marks

2 : 1 Implement the overall plan for investigation – 12 marks available

The mark allocation for this area will be based on candidate's performance in a series of investigations.

Candidates will be assessed on the results and conclusions from each investigation – see the marking criteria breakdown listed on the next page.

Teachers/lecturers must ensure candidates present the results and conclusions of each investigation on pages 9 – 11 of the proforma only

Candidates using computer software to produce results eg bar charts or graphs must ensure that these are presented only on the pages allocated for this work ie pages 9 – 11 of the proforma.

Candidates who present the results and conclusions of each investigation on more than one A4 sheet of paper will be marked accordingly.

See Appendix 1 for guidance on carrying out investigations/tests

Implement the overall plan for investigations

- Results must be brief, concise and easy to interpret
- Results must show a clear link to the aim/purpose of the investigation
- Results must be derived from the investigations and based on facts and evidence
- Conclusions must be based on the results obtained

All investigations candidates have fulfilled the aims on page 8 of the pro forma	3 marks
½ or more investigations candidates have fulfilled the aims on page 8 of the pro forma	2 marks
Less than ½ investigations candidates have fulfilled the aims on page 8 of the pro forma	1 mark
In no investigations candidates fulfilled the aims on page 8 of the pro forma	0 marks

All investigations contain brief/concise/easy to interpret results	3 marks
½ for more investigations contain brief/concise/easy to interpret results	2 marks
Less than ½ investigations contain brief/concise/easy to interpret results	1 mark
No investigations contain brief/concise/easy to interpret results	0 marks

All results are based on fact/valid evidence/relevant to design brief	3 marks
½ or more of the results are based on fact/valid evidence/relevant to design brief	2 marks
Less than ½ of the results are based on fact/valid evidence/relevant to design brief	1 mark
No results are based on fact/valid evidence/relevant to design brief	0 marks

All conclusions are based on the results of investigations and/or show progression	3 marks
½ or more conclusions are based on the results of investigations and/or show progression	2 marks
Less than ½ conclusions are based on the results of investigations and/or show progression	1 mark
No conclusions are based on results of investigations and/or does not show progression	0 marks

2 : 2 Derive a solution from the investigations – 3 marks available

Generate one solution – 2 marks (ie ONE dish) **NB it is extremely important that centres strictly adhere to this rule. No marks will be allocated for STEP 3 or STEP 4 if candidates generate more than one solution.**

Candidates derive **one solution** which must

Be relevant to the needs of the project brief	1 mark
Be based on the results and conclusions reached in the investigations	1 mark
Describe the solution in detail	1 mark

The solution should be described in detail so it is able to be **visualised**.

Various methods may be used eg – written details, recipes, sketches, diagrams, labelled diagrams, storyboards – to ensure clarity.

Brief 1:Scottish Gift Shop
Possible solutions

Any food or textile item suitable for sale in a Scottish gift shop

Brief 2:Health in School
Possible solutions

Any food or textile item suitable to encourage health in school

NB Stop marking if more than one solution is given and refer Technological project to the PA

STEP 3 (Manufacturing and Testing) Total mark allocation**21 marks****3 : 1 Manufacture the chosen solution – 10 marks available****Candidate completes the planned sequence of work****5 marks**

Candidates must complete the plan **before** starting to manufacture the solution.

Candidates will be marked accordingly if the plan is written **retrospectively**.

Candidates who draw up a sequence of work which consistently demonstrates effective deployment of time	5 marks
Candidates who draw up a sequence of work with minor lapses in the deployment of time	4 marks
Candidates who draw up a sequence of work with occasional lapses in the deployment of time	3 marks
Candidates who draw up a sequence of work with regular lapses in the deployment of time	2 marks
Candidates who draw up a sequence of work with frequent lapses in the deployment of time	1 mark
Candidate who submits a retrospective sequence of work	0 marks

Candidates may choose to present their sequence of work in an appropriate form eg table, chart, written details, flow chart. An indication of dates, times and details of the proposed work to be undertaken must demonstrate effective use of time by the candidate.

The sequence of work must show logical progression and allow the solution to be manufactured.

Candidates' work must be completed on page 13 of the pro forma.

Candidate identifies and requisitions equipment and resources**3 marks**

Candidates who identify and requisition all resources and equipment	3 marks
Candidates who identify and requisition most resources and equipment	2 marks
Candidates who omit any obvious resources and/or equipment	1 mark

Resources will depend on the chosen solution and may relate to food, textiles, packaging materials, equipment.

Note: all resources and equipment required for manufacture must be listed and take into account

- metric weights
- exact weights of foods used
- types and colours of textiles and trimmings including sizes/dimensions

Candidate consistently justifies effective deployment of equipment and resources

2 marks

Justification should relate to all the identified equipment and resources to gain full marks.

After completing the **plan** for manufacture, candidates should start to manufacture the solution.

Candidates should be encouraged to make notes on page 15 as they are carrying out the manufacturing process. Notes may be made on how manufacture is proceeding, any problems encountered and any changes/modifications made to the plan.

Photographic evidence of the candidates' work must be attached to page 16 of the proforma.

Two photographs are required:

- one should provide evidence of the solution **during manufacture**
- the other should provide evidence of the **completed** solution.

Although the quality of the photographs is not important, they **must** give an indication of the type of work being carried out and completed by the candidate.

Although no marks are awarded here, **photographic evidence must be provided** of the candidate's solution.

If photographic evidence is not provided, no further marking of the Technological Project will be carried out as no evidence has been provided on which to base the marking of the next stages of work.

If problems occur with photographic evidence, then the teacher/lecturer should contact Graeme Findlay, Qualifications Manager (0845 213 5492) or Romana Howells, Qualifications Officer (0845 213 5480) immediately.

Please note:

Page 16 of the electronic version of the pro forma has been set up to allow the electronic insertion of digital photographs.

Such photographs **should not** be cut and then pasted into the spaces provided. Photographs should be inserted in the spaces provided by using the '*insert picture from file*' facility in Microsoft Word.

3 : 2 Devise two tests for the manufactured solution – 3 marks available**Candidate presents two tests****1 mark**

Candidates should present **two** appropriate tests – failure to do this will result in no marks being awarded.

Candidate identifies techniques to be used**1 mark**

Two different techniques should be identified.

Techniques must be **appropriate** to the tests, allowing candidates to collect relevant data/information.

Candidate justifies the two tests**1 mark**

Justifications should be

- clear and well thought out
- linked to the test.

NB Candidates are expected to include any literary titles/authors, web addresses and the title of any person/expert interviewed.

Candidates are expected to identify the target group which are used during testing.

Briefs 1 & 2

Test	Technique	Justification
1. Examination by a specified expert eg food/textile technologist/health professional/retailer/tourist	Interview/questionnaire with specified expert Sensory testing with specified expert which is backed up by interview questions	<ul style="list-style-type: none">• To check aesthetic qualities• To check if item is marketable• To check cost effectiveness/ profitability of item
2. Examination by target group	Interview/questionnaire/ discussion Sensory testing with target group Observational checklist Wearer/user trial by target group	<ul style="list-style-type: none">• To find out if item is acceptable/appropriate to target group• To establish marketability
3. Costing exercise	Costing exercise confirmed by interview with an expert, eg food/textile technologist/ appropriate teacher/retailer/ health professional/target group/ tourist	<ul style="list-style-type: none">• To establish whether item is cost effective to produce• To establish a selling price for the finished item
4. Nutritional analysis	Nutritional analysis and check interview with specified expert eg dietician/food technologist	<ul style="list-style-type: none">• To check/assess nutritional suitability for target group
5. Time trial of product/ solution	Time trial & check with specified expert	<ul style="list-style-type: none">• To check if product/solution can be made in time available

3 : 3 Implement the tests for the manufactured solution – 8 marks available**Implement the overall plan for investigations**

Marking Criteria

- Results must be brief, concise and easy to interpret
- Results must show a link to the aim/purpose of the test
- Results must be derived from the tests and based on facts and evidence
- Conclusions must be based on results obtained

For both tests – candidates have done as they intended from page 15	2 marks
For 1 test – candidates have done as they intended from page 15	1 mark
No test	0 marks

Both tests contain brief/concise/easy to interpret results	2 marks
One test contains brief/concise/easy to interpret results	1 mark
No test contains brief/concise/easy to interpret results	0 marks

All results of tests are based on fact/valid evidence/relevant to specification points/design brief	2 marks
One result of tests is based on fact/valid evidence/relevant to specification points/design brief	1 mark
No results of tests are based on fact/valid evidence/relevant to specification points/design brief	0 marks

Conclusions for two tests are based on the results of tests and/or show progression	2 marks
Conclusions for one test are based on the results of tests and/or show progression	1 mark
No conclusions for the tests are based on results of tests and/or show no progression	0 marks

STEP 4 Total mark allocation**12 marks****4 : 1 Evaluate the chosen solution – (6 marks available)**

Candidate provides accurate evaluation some of which is detailed against the specification.

5 marks

Candidates must rewrite (or copy and paste) the specification points in the appropriate column. Candidates must evaluate the solution against each specification point. Candidates should use the results of the investigations, manufacture and/or testing where appropriate.

Candidates who evaluate all or five specification points	5 marks
Candidates who evaluate four specification points	4 marks
Candidates who evaluate three specification points	3 marks
Candidates who evaluate two specification points	2 marks
Candidates who evaluate one specification point	1 mark

Candidate provides detailed accurate evaluation against specification

1 mark

If further detail is provided within the evaluations then an additional mark will be awarded.

Extra detail means that one additional point of evaluation is provided for **any one** of the specification points.

4 : 2 Evaluate the Technological Project – (6 marks available)

Candidates evaluate the Technological Project: Step 1 Analysing, Step 2 Investigating and Step 3 Manufacturing and Testing

All of the following criteria must be used in the evaluation

- time
- resources
- skills and abilities.

Marks will not be awarded to candidates who do not use these criteria in their evaluation.

The evaluation, which may include adaptations/modifications, **must be based on evidence** which can be found within the candidate's Technological Project pro forma eg from investigations, manufacture and/or testing.

In the evaluation the candidates should give an opinion based on facts from their Technological Project and then explain the consequences for the final solution.

Candidates should provide **two** points of evaluation for **each** step of the Technological Project.

One mark should be awarded for each point of evaluation. A minimum of one mark must come from each step evaluated.

Step 1	Analysing	2 marks
Step 2	Investigating	2 marks
Step 3	Manufacturing, and Testing	2 marks

Pages 23 to 24 of the pro forma should be used for the evaluation.

Appendix 1

Higher Technological Project

Guidance on Carrying out Investigations/Tests

Three investigations and two tests must be carried out.

The aim, which should be linked to the candidates' specification, should be rewritten or cut and pasted from page 8 of the pro forma onto the top of the investigation page.

Questionnaire

- Minimum of 20 respondents.
- Minimum 5/8 relevant/valid questions linked to aim/specification to allow relevant data to be collected.
- Questions and all possible answers must be displayed.
- All responses must be displayed including nil responses.
- Given constraints of space, it is not necessary to display results as pie charts/graphs.
- Table format for displaying results of questionnaires can be space saving.

Survey

- Must identify the source(s) of information.
- Source of information must be relevant to investigation.
- The following sources could be used including the internet, literary, shop, restaurant/café as a source of information.
- The source of information should be identified.
- The place selected should be related to the quality and quantity of the data available rather than the number of sources however more than one source should be used.
- Information should be displayed using appropriate headings, sub-divisions etc.

Interviews

- Carefully consider the suitability of the person interviewed. Must clearly identify their position in establishment/job title.
- Minimum 5/8 relevant questions linked to aim/specification to allow relevant data to be collected.
- Open-ended questions should be used to allow more data to be collected from the interviewee.
- Questions should be carefully formatted to extract useful facts and avoid one word responses such as Yes/No.
- All questions and responses must be displayed.

Internet/Literary search

- All sources must be clearly identified.
- Should be related to the quality/quantity/relevance of the data available rather than the number of sources.
- Graphics may be included where relevant.
- Data collected should be organised using appropriate headings/sub-divisions etc.
- Information should not be lifted 'en bloc' from websites. It is appropriate to summarise key points which are relevant to the aim/specification.

Costing

- Breakdown cost of all ingredients/components must be included.
- Details of quantities and unit costs must be included.
- Sources should be included where appropriate.
- Comparative costing should measure 'like for like'.

NB Costing only proves cost of items/components. On its own it does not provide low/high cost, value for money, acceptability of price to target group.

Costing

Nutritional Analysis

- Sources must be shown.
- All nutrients relevant to the aim should be shown.
- Nutritional analysis of all ingredients must be included. (A 'total' for a dish is not acceptable).
- Sufficient data must be accessed in order to draw relevant conclusions.
- When used as a test the suitability of the results should be assessed by a suitable expert eg community dietician, food technologist etc.

Fabric Analysis

- There is no need to repeat fabric tests where information is already easily available in textbooks/websites.
- Fabrics used for testing must be clearly identified ie construction/fibre composition.
- Only fabrics being considered for potential solution should be tested/sampled/investigated towards final solution.
- Details of method testing must be given.

Sensory Testing

- All potential solutions must be clearly described.
- Breakdown of results must be shown. Summary of results is not acceptable.
- Key must be provided.
- It is appropriate to ask questions to elicit potential improvements/modifications.
- It is suggested for sensory testing that a minimum of five people are used to assess the products.

Technological Project Higher

Summary Mark Allocation

Total 70 marks available

Step	Mark Breakdown	Allocation
1 . 1	Identification of the key points with explanation Identify the key points Additional key points Key points plus basic and accurate explanation Key points plus detailed and accurate explanation	2 marks 1 mark 2 marks 1 mark Total mark allocation 6
1 . 2	Draw up appropriate criteria for a specification Allow for a range of possible solutions Contain more detail than the brief Be written in measurable/able to be tested terms Link each specification point to the key points Provide basic explanations Provide detailed explanations	1 mark 2 marks 2 marks 2 marks 2 marks 1 mark Total mark allocation 10
1 . 3	Devise an overall plan for investigations Present a list of investigations Identify techniques to be used Justify the need for the investigations	2 marks 2 marks 2 marks Total mark allocation 6
Total mark allocation for Step 1 22 marks		
2 . 1	Implement the overall plan for investigations Aims fulfilled Brief, concise, easy to interpret Relevant and valid results Conclusions	3 marks 3 marks 3 marks 3 marks Total mark allocation 12
2 . 2	Derive a solution from the investigations Generate one solution – based on evidence Relevant to brief Describe the solution in detail	1 mark 1 mark 1 mark Total mark allocation 3
Total mark allocation for Step 2 15 marks		

Step	Mark Breakdown	Allocation
3 . 1	Manufacture the chosen solution Step by step sequence of work showing effective deployment of time Requisition of resources Justification of resources/equipment	5 marks 3 marks 2 marks Total mark allocation 10
3 . 2	Devise two tests for the manufactured solution Present two tests Identify techniques to be used Justify the two tests	1 mark 1 mark 1 mark Total mark allocation 3
3 . 3	Implement the tests for manufactured solution Aims fulfilled Brief, concise and easy to interpret Relevant and valid reasons Conclusions	2 marks 2 marks 2 marks 2 marks Total mark allocation 8
Total mark allocation for Step 3 21 marks		
4 . 1	Evaluate the chosen solution Accurate explanation some of which is detailed against each specification point (to include results of investigations and/or tests where appropriate) Valid evaluations Provide detailed accurate explanation	5 marks 1 mark Total mark allocation 6
4 . 2	Evaluate the Technological Project Candidate can evaluate Steps 1-3 of the Technological Project with detailed reference to the following criteria: Time Resources Skills/abilities Step 1 Analysing Step 2 Investigating Step 3 Manufacturing and Testing	2 marks 2 marks 2 marks Total mark allocation 6
Total mark allocation for Step 4 12 marks		

[END OF MARKING INSTRUCTIONS]