



# **2014 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 at a craft fair.

**Brief 2**

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

**Brief 1**

**Key points**

1. Develop
2. (a) food (or) textile
3. item
4. (to be) sold
5. (at a) craft
6. fair.

**Brief 2**

**Key points**

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

### **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 – item to be sold at a craft fair**

##### **Additional Key Points**

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

#### **Brief 2 – item to encourage health in teenagers**

##### **Additional Key Points**

7. Facilities/resources available
8. Aesthetic appeal
9. Time available for manufacture
10. Skills/abilities
11. Hygiene
12. Safety
13. Likes/dislikes
14. Appeal to target group
15. Allergies
16. Money available/budget of target group
17. Quality/standard required for sale
18. Gender of target group
19. Age range of target group
20. Suitability for bulk production
21. Season of year/occasion
22. Current trends/fashion
23. Transportable
24. Nutritional needs of target group
25. Healthy eating/Scottish Dietary Targets/CDA/nutrition standards for schools

**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 provide a **minimum of five** specification points. However due to constraints of the 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 the 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 <b>valid</b> specification points contain more detail than the brief.	2 marks
Three or four <b>valid</b> specification points contain more detail than the brief.	1 mark
Less than three <b>valid</b> specification points contain more detail than the brief.	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 key 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 if explanation is provided for any one of the specification points.

<b>Step 1.2 Specification</b>			
<b>Brief 1 – develop a food or textile item to be sold at a craft fair</b>			
<b>Item must:</b>		<b>Measured by: Technique</b>	<b>Identified expert:</b>
1	<ul style="list-style-type: none"> <li>be different to other products already available/be original</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Survey of retail outlets/ internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
2	<ul style="list-style-type: none"> <li>be edible/be a fabric item</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Component checklist/recipe analysis</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> </ul>
3	<ul style="list-style-type: none"> <li>be a single item/ product</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Component checklist/recipe analysis</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> </ul>
4	<ul style="list-style-type: none"> <li>be suitable for a craft fair</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Interview</li> <li>Internet/literary search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
4a	<ul style="list-style-type: none"> <li>be suitable to be sold</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Interview</li> <li>Internet/literary search</li> </ul>	<ul style="list-style-type: none"> <li>Food/Textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
5	<ul style="list-style-type: none"> <li>be suitable for the target group</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Craft fair organiser</li> <li>Food/textile technologist</li> </ul>
6	<ul style="list-style-type: none"> <li>take account of current trends/be fashionable</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
7	<ul style="list-style-type: none"> <li>take account of likes/ dislikes of target group</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> <li>Sensory testing</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Target group</li> </ul>
8	<ul style="list-style-type: none"> <li>be aesthetically pleasing to the target group</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> <li>Sensory testing</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Craft fair organiser</li> </ul>
9	<ul style="list-style-type: none"> <li>take account of allergies</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/ health professional/dietician</li> <li>Target group</li> </ul>
10	<ul style="list-style-type: none"> <li>be healthy/take account of current dietary targets</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist/dietician/ health professional</li> </ul>
11	<ul style="list-style-type: none"> <li>be nutritionally suitable for target group</li> </ul>	<ul style="list-style-type: none"> <li>Nutritional analysis &amp; check</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist/dietician/ health professional</li> </ul>
12	<ul style="list-style-type: none"> <li>take account of religious/moral/ethnic beliefs</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist/technologist textile dietician</li> <li>Craft fair organiser</li> </ul>
13	<ul style="list-style-type: none"> <li>be comparable in cost to other items in the range</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; price comparison</li> <li>Costing exercise &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
14	<ul style="list-style-type: none"> <li>be cost effective/be good value for money</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
15	<ul style="list-style-type: none"> <li>be within the budget of the target group</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; questionnaire</li> <li>Costing exercise &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Craft fair organiser</li> </ul>

<b>Step 1.2 Specification (continued)</b>			
<b>Brief 1 – develop a food or textile item to be sold at a craft fair</b>			
<b>Item must:</b>	<b>Measured by: Technique</b>	<b>Identified expert:</b>	
16	<ul style="list-style-type: none"> <li>be of an acceptable/satisfactory standard</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Sensory testing</li> <li>Quality checklist &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer/Trading Standards Officer</li> <li>Target group</li> <li>Craft fair organiser</li> </ul>
17	<ul style="list-style-type: none"> <li>be made using the facilities/resources/time available/to the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Checklist of facilities/component checklist</li> <li>Timed trial of prototype &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
18	<ul style="list-style-type: none"> <li>be within the capabilities/skills of the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Trial of prototype &amp; interview</li> <li>Skills analysis &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
19	<ul style="list-style-type: none"> <li>be prepared under hygienic/safe conditions/be safe to eat/use</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Quality checklist &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/Environmental Health Officer</li> <li>Trading Standards Officer</li> </ul>
20	<ul style="list-style-type: none"> <li>be easy to manufacture/prepare/cook/reheat/portion/serve</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Skills analysis &amp; check</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/Environmental Health Officer</li> <li>Craft fair organiser</li> </ul>
21	<ul style="list-style-type: none"> <li>be easy to transport</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/Environmental Health Officer</li> <li>Craft fair organiser</li> </ul>
22	<ul style="list-style-type: none"> <li>be able to launder/to care for</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>User/wearer trials of prototype</li> </ul>	<ul style="list-style-type: none"> <li>Textile technologist</li> <li>Target group</li> <li>Craft fair organiser</li> </ul>
23	<ul style="list-style-type: none"> <li>be suitable to be made in advance</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>
24	<ul style="list-style-type: none"> <li>have an appropriate shelf life</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer</li> <li>Craft fair organiser</li> </ul>
25	<ul style="list-style-type: none"> <li>be suitable for mass production</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> </ul>
26	<ul style="list-style-type: none"> <li>be suitable for the season/time of year</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Craft fair organiser</li> <li>Target group</li> </ul>

**Note:**

- A 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



<b>Step 1.2 Specification</b>			
<b>Brief 2 – item to encourage health in teenagers</b>			
<b>Item must:</b>	<b>Measured by: Technique</b>	<b>Identified expert:</b>	
1	<ul style="list-style-type: none"> <li>be different to other products/be original</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Survey of retail outlets/ internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> <li>Health professional</li> </ul>
2	<ul style="list-style-type: none"> <li>be edible/be a fabric solution/product</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Component checklist/Recipe analysis</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
3	<ul style="list-style-type: none"> <li>be a single item/ product</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
4	<ul style="list-style-type: none"> <li>be suitable for a teenager</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> <li>Target group</li> </ul>
5	<ul style="list-style-type: none"> <li>promote/encourage health</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/ Retailer</li> <li>Health professional</li> </ul>
6	<ul style="list-style-type: none"> <li>be healthy/take account of current dietary targets</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist/dietician/ health professional</li> </ul>
7	<ul style="list-style-type: none"> <li>be nutritionally suitable for target group (teenagers)</li> </ul>	<ul style="list-style-type: none"> <li>Nutritional analysis &amp; check</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist/dietician/ health professional/retailer</li> </ul>
8	<ul style="list-style-type: none"> <li>take account of current trends/be fashionable</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
9	<ul style="list-style-type: none"> <li>take account of likes/ dislikes of target group (teenagers)</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Sensory testing</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
10	<ul style="list-style-type: none"> <li>be aesthetically pleasing to target group</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Sensory testing</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
11	<ul style="list-style-type: none"> <li>take account of allergies</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile teacher/health professional/dietician</li> </ul>
12	<ul style="list-style-type: none"> <li>be suitable standard/ safe</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Internet/literary search</li> </ul>	<ul style="list-style-type: none"> <li>Retailer/food/textile technologist</li> </ul>
13	<ul style="list-style-type: none"> <li>be cost effective to produce/be good value for money</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; interview</li> <li>Costing exercise &amp; questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/ retailer</li> <li>Target group</li> </ul>
14	<ul style="list-style-type: none"> <li>be comparable in cost to other items</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; price check/comparison</li> <li>Costing exercise &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/ retailer</li> </ul>
15	<ul style="list-style-type: none"> <li>be within the budget of the target group</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise &amp; interview</li> <li>Costing exercise &amp; questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/ retailer</li> <li>Target group</li> </ul>
16	<ul style="list-style-type: none"> <li>take account of religious/moral/ethical beliefs</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile/appropriate teacher</li> <li>Target group/retailer</li> </ul>
17	<ul style="list-style-type: none"> <li>be of an acceptable/ satisfactory standard for sale/be safe</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Sensory testing</li> <li>Quality checklist &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> <li>Target group</li> <li>Environmental Health Officer</li> <li>Trading Standards Officer</li> </ul>
18	<ul style="list-style-type: none"> <li>be safe for target group</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Retailer</li> </ul>

<b>Step 1.2 Specification (continued)</b>			
<b>Brief 2 – item to encourage health in teenagers</b>			
<b>Item must:</b>	<b>Measured by: Technique</b>	<b>Identified expert:</b>	
19	<ul style="list-style-type: none"> <li>be suitable for the season/time of year</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/retailer</li> <li>Target group</li> </ul>
20	<ul style="list-style-type: none"> <li>be made using the facilities/resources/time available to the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Checklist of facilities/component checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
21	<ul style="list-style-type: none"> <li>be within the skills/capabilities of the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Trial of prototype</li> <li>Time plan/checklist</li> <li>Interview</li> <li>Skills checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
22	<ul style="list-style-type: none"> <li>be made using the facilities/resources/time available to the retailer/manufacturer.</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Checklist of facilities/component checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/retailer</li> </ul>
23	<ul style="list-style-type: none"> <li>be within the capabilities of the retailer/manufacturer</li> </ul>	<ul style="list-style-type: none"> <li>Trial of prototype</li> <li>Time plan/checklist</li> <li>Interview</li> <li>Skills checklist &amp; interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist/retailer</li> </ul>
24	<ul style="list-style-type: none"> <li>be suitable to be made in advance</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
25	<ul style="list-style-type: none"> <li>have an appropriate shelf life</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer/retailer/chef</li> </ul>
26	<ul style="list-style-type: none"> <li>be suitable for bulk production</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer/chef</li> </ul>
27	<ul style="list-style-type: none"> <li>be able to be laundered/be easy to care for</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>User/wearer trials of prototype</li> </ul>	<ul style="list-style-type: none"> <li>Textile technologist</li> <li>Target group</li> <li>Retailer</li> </ul>

**Note:**

- A 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

**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

- the core key points of the project brief
- the candidates specification points
- have a clear aim/purpose

will be awarded **2 marks**.

Candidates who provide a list of investigations which do not focus clearly on the key points and the specification will be awarded **1 mark**.

Obvious omissions from the list of investigations will result in marks being deducted.

**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.

Where techniques are not consistently appropriate, candidates will be awarded **1 mark**.

**Candidate justifies the need for the investigation**

**2 marks**

All justifications must be

- well thought out
- linked to the investigation.

Lack of clarity within the justification will result in candidates being unable to gain the full mark allocation available.

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.

A minimum of 3 website/literary sources should be evident in a **literary/Internet search**.

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

<b>Step 1.3</b>			
<b>Brief 1 – item to be sold at a craft fair</b>			
<b>Investigation – to establish/find out/investigate</b>		<b>Technique:</b>	<b>Specified expert:</b>
1	<ul style="list-style-type: none"> <li>• Range of ingredients/ component/textiles</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Literary/Internet search</li> <li>• Survey of food/fabric retail outlets</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> </ul>
2	<ul style="list-style-type: none"> <li>• Types of craft fair</li> </ul>	<ul style="list-style-type: none"> <li>• Interview/survey/ questionnaire</li> <li>• Literary/Internet search</li> <li>• Survey of craft fairs</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> </ul>
3	<ul style="list-style-type: none"> <li>• Types of items suitable for a craft fair</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Internet search</li> <li>• Survey of local fairs</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> </ul>
4	<ul style="list-style-type: none"> <li>• Current range of food/ textile craft items</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Survey of retail outlets</li> <li>• Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
5	<ul style="list-style-type: none"> <li>• Current trends/fashion</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Questionnaire</li> <li>• Survey of retail outlets</li> <li>• Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> <li>• Retailer</li> <li>• Target group</li> </ul>
6	<ul style="list-style-type: none"> <li>• Suitability for target group</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
7	<ul style="list-style-type: none"> <li>• Ideas for potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Survey of local retail outlets</li> <li>• Literary/Internet/recipe/ pattern search</li> <li>• Interview</li> <li>• Trial of prototype</li> <li>• Sensory testing</li> <li>• Interview</li> <li>• Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> <li>• Target group</li> <li>• Retailer</li> </ul>
8	<ul style="list-style-type: none"> <li>• Likes and dislikes of target group</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Target group</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
9	<ul style="list-style-type: none"> <li>• Aesthetic appeal of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Sensory testing</li> <li>• Interview</li> <li>• Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Target group</li> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
10	<ul style="list-style-type: none"> <li>• Safety in use/to eat (take into account allergies)</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Environmental Health Officer/ Trading Standards Officer</li> <li>• Craft fair organiser</li> <li>• Target group</li> </ul>
11	<ul style="list-style-type: none"> <li>• Religious/cultural beliefs of target group</li> </ul>	<ul style="list-style-type: none"> <li>• Interview/questionnaire</li> <li>• Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> </ul>

<b>Step 1.3 (continued)</b>			
<b>Brief 1 – item to be sold at a craft fair</b>			
<b>Investigation – to establish/find out/investigate</b>		<b>Technique:</b>	<b>Specified expert:</b>
12	<ul style="list-style-type: none"> <li>• Appropriate portion/product size</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Literary/Internet/recipe search</li> </ul>	<ul style="list-style-type: none"> <li>• Food technologist/textile</li> <li>• Dietician/chef</li> </ul>
13	<ul style="list-style-type: none"> <li>• Cost of potential ingredients/solutions/textiles</li> </ul>	<ul style="list-style-type: none"> <li>• Costing exercise</li> <li>• Internet/literary search</li> </ul>	<ul style="list-style-type: none"> <li>• Retailer</li> <li>• Food/textile technologist</li> </ul>
14	<ul style="list-style-type: none"> <li>• Price range of similar dishes/items</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Survey of current product range</li> </ul>	<ul style="list-style-type: none"> <li>• Target group</li> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> </ul>
15	<ul style="list-style-type: none"> <li>• Budget/amount prepared to pay by target group</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>• Target group</li> <li>• Food/textile technologist</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
16	<ul style="list-style-type: none"> <li>• Quality requirements of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Manufacture prototype(s) &amp; trial</li> <li>• Sensory testing</li> <li>• Questionnaire</li> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Target group</li> <li>• Craft fair organiser</li> <li>• Retailer</li> </ul>
17	<ul style="list-style-type: none"> <li>• Nutritionally suitable for target group</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food technologist</li> <li>• Dietician/health professional</li> <li>• Literary/Internet search</li> </ul>
18	<ul style="list-style-type: none"> <li>• Healthy/current dietary advice</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food technologist</li> <li>• Dietician/health professional</li> </ul>
19	<ul style="list-style-type: none"> <li>• Facilities/resources/times available to the candidate</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Resource/equipment checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> </ul>
20	<ul style="list-style-type: none"> <li>• Skills/Capabilities of the candidate</li> </ul>	<ul style="list-style-type: none"> <li>• Skills audit &amp; check with food/textile technologist</li> <li>• Recipe search/search of fabric construction books</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> </ul>
21	<ul style="list-style-type: none"> <li>• Facilities/resources/times available to the craft fair organiser</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Resource/equipment checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> </ul>
22	<ul style="list-style-type: none"> <li>• Skills/Capabilities of the craft fair organiser</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Skills audit &amp; check with food/textile technologist</li> <li>• Recipe search/search of fabric construction books</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Retailer</li> </ul>
23	<ul style="list-style-type: none"> <li>• Shelf life of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Retailer</li> </ul>
24	<ul style="list-style-type: none"> <li>• Hygiene/safety requirements for food/textile production</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Environmental Health Officer/Trading Standards Officer</li> </ul>
25	<ul style="list-style-type: none"> <li>• Suitability for making in advance</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Retailer</li> </ul>
26	<ul style="list-style-type: none"> <li>• Suitability for mass production</li> </ul>	<ul style="list-style-type: none"> <li>• Interview</li> </ul>	<ul style="list-style-type: none"> <li>• Food/textile technologist</li> <li>• Chef</li> <li>• Retailer</li> </ul>

<b>Step 1.3 (continued)</b>			
<b>Brief 1 – item to be sold at a craft fair</b>			
<b>Investigation – to establish/find out/investigate</b>		<b>Technique:</b>	<b>Specified expert:</b>
27	<ul style="list-style-type: none"> <li>Care requirements of materials/resources used</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Trial of prototype</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
28	<ul style="list-style-type: none"> <li>Implications of seasonality</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
29	<ul style="list-style-type: none"> <li>Influencing factors on final product</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Target group</li> </ul>

**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
- Craft fair organiser outlet must be relevant to investigation and be specified

<b>Step 1.3</b>			
<b>Brief 2 – Encourage health in teenagers</b>			
<b>Investigation</b> – to establish/find out/investigate		<b>Technique:</b>	<b>Specified expert:</b>
1	<ul style="list-style-type: none"> <li>Range of resources ingredients/component/textiles</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Literary/Internet search</li> <li>Survey of food/fabric retail outlets</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Chef</li> </ul>
2	<ul style="list-style-type: none"> <li>Current range of food/textile items for teenagers</li> </ul>	<ul style="list-style-type: none"> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Target group</li> <li>Retailer</li> </ul>
3	<ul style="list-style-type: none"> <li>Ways to promote health/types of health issues for teenagers</li> </ul>	<ul style="list-style-type: none"> <li>Literary/Internet search</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food technologist</li> <li>Health professional</li> </ul>
4	<ul style="list-style-type: none"> <li>Suitability of potential solutions for teenagers</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Target group</li> <li>Retailer</li> </ul>
5	<ul style="list-style-type: none"> <li>Suitable standard for sale</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Chef</li> <li>Environmental Health Officer</li> <li>Trading Standards Officer</li> <li>Retailer</li> </ul>
6	<ul style="list-style-type: none"> <li>Types of healthy resources/products</li> </ul>	<ul style="list-style-type: none"> <li>Survey of retail outlets</li> <li>Internet search/Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
7	<ul style="list-style-type: none"> <li>Ideas for potential solutions/potential solutions on the market</li> </ul>	<ul style="list-style-type: none"> <li>Literary/Internet search</li> <li>Sensory Testing</li> <li>Trial of prototype and interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> <li>Target group</li> </ul>
8	<ul style="list-style-type: none"> <li>Ways of incorporating healthy resources into products</li> </ul>	<ul style="list-style-type: none"> <li>Literary/Internet search</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
9	<ul style="list-style-type: none"> <li>Aesthetic appeal of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>Sensory testing with target group</li> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Food/textile technologist</li> <li>Retailer</li> </ul>
10	<ul style="list-style-type: none"> <li>Likes and dislikes of target group</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Retailer</li> </ul>
11	<ul style="list-style-type: none"> <li>Current trends/fashion</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> <li>Survey of retail outlets used by target group</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Retailer</li> <li>Target group</li> </ul>
12	<ul style="list-style-type: none"> <li>Price range of similar food/textile items</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Survey of current product range</li> </ul>	<ul style="list-style-type: none"> <li>Retailer</li> <li>Target group</li> </ul>
13	<ul style="list-style-type: none"> <li>Cost of potential ingredients/components/solutions</li> </ul>	<ul style="list-style-type: none"> <li>Costing exercise</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Retailer</li> </ul>
14	<ul style="list-style-type: none"> <li>Budget of target group/amount target group is prepared to pay</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Target group</li> <li>Retailers</li> </ul>
15	<ul style="list-style-type: none"> <li>Care requirements of materials/resources used</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Trial of prototype(s)</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
16	<ul style="list-style-type: none"> <li>Safety in use/to eat (take account of allergies)</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer</li> <li>Trading Standards Officer</li> </ul>



<b>Step 1.3 (continued)</b>			
<b>Brief 2 – Encourage health in teenagers</b>			
<b>Investigation – to establish/find out/investigate</b>		<b>Technique:</b>	<b>Specified expert:</b>
17	<ul style="list-style-type: none"> <li>Facilities/resources/time available to the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Resource/equipment checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
18	<ul style="list-style-type: none"> <li>Skills necessary for manufacturing of the potential solution/by the candidate</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Skills audit &amp; checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> </ul>
19	<ul style="list-style-type: none"> <li>Facilities/resources/time available to the manufacturer</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Resource/equipment checklist</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer/retailer</li> </ul>
20	<ul style="list-style-type: none"> <li>Skills necessary for manufacturing of the potential solution/by the manufacturer</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Skills audit &amp; check</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer/retailer</li> </ul>
21	<ul style="list-style-type: none"> <li>Hygiene/safety requirements for food/textile production</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer</li> <li>Trading Standards Officer</li> </ul>
22	<ul style="list-style-type: none"> <li>Quality requirements of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Manufacture of prototype and trial</li> <li>Sensory testing</li> <li>Questionnaire</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer/retailer</li> <li>Target group</li> </ul>
23	<ul style="list-style-type: none"> <li>Shelf life of potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Environmental Health Officer</li> </ul>
24	<ul style="list-style-type: none"> <li>Appropriate portion size</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer/retailer</li> <li>Target group</li> </ul>
25	<ul style="list-style-type: none"> <li>Moral, ethical and religious beliefs</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> <li>Literary/Internet search</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer/retailer</li> <li>Target group</li> </ul>
26	<ul style="list-style-type: none"> <li>Suitability for bulk production</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer</li> </ul>
27	<ul style="list-style-type: none"> <li>Influencing factors on final product</li> </ul>	<ul style="list-style-type: none"> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Food/textile technologist</li> <li>Manufacturer</li> <li>Health professional</li> </ul>

**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
- Retailer outlet must be relevant to investigation and be specified/A retailer may be a school canteen

**STEP 2 (Investigating) Total mark allocation**

**15 marks**

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

The mark allocation for this area will be based on candidates' 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 pro forma 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 penalised.

**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 or 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
Describes 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: Craft fair  
Possible solutions**

Any food or textile item suitable for a craft fair

**Brief 2: Promotes health  
Possible solutions**

Any food or textile item suitable for a teenager which promotes health

**NB Stop marking if more than one solution is given and refer technological project to the Principal Assessor.**

**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 penalised if the plan is written **retrospectively**.

Candidates who draw up a sequence of work which <b>consistently</b> demonstrates effective deployment of time	5 marks
Candidates who draw up a sequence of work with <b>minor</b> lapses in the deployment of time	4 marks
Candidates who draw up a sequence of work with <b>occasional</b> lapses in the deployment of time	3 marks
Candidates who draw up a sequence of work with <b>regular</b> lapses in the deployment of time	2 marks
Candidates who draw up a sequence of work with <b>frequent</b> 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 <b>obvious</b> 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.
- exact types and colours of textiles/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 candidates' 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) 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**

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

**3 : 3    Implement the tests for the manufactured solution – 8 marks available (revised)**

**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 – candidates have done as they intended from page 15	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 <b>all or five</b> specification points	5 marks
Candidates who evaluate <b>four</b> specification points	4 marks
Candidates who evaluate <b>three</b> specification points	3 marks
Candidates who evaluate <b>two</b> specification points	2 marks
Candidates who evaluate <b>one</b> 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 candidates' 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 – minimum of 3 websites/literary sources.
- 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.

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

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

[END OF MARKING INSTRUCTIONS]