



NATIONAL QUALIFICATIONS 2008

HOME ECONOMICS

**All Contexts – Health and Food Technology
Fashion and Textile Technology
Lifestyle and Consumer Technology**

INTERMEDIATE 2

**Notes of guidance for Candidates
on the
Technological Project**

Introduction

To gain the award for this course you must pass the external course assessment and all the Outcomes of the three units of the course

- Management of Practical Activities
- Product Development
- Consumer Studies

The external assessment consists of a Question Paper and Technological Project. These notes offer guidance on the **Technological Project**, for which a total of 50 marks are available.

The time allocated for the Technological Project is 20 hours. You may carry out research and investigation outwith the school/centre but all the work which you record in the Technological Project pro forma issued by SQA must be completed under supervision in your school/centre.

All the work of the Technological Project should be your own

Your teacher/lecturer may assist you by giving

- advice on sources of information including persons, agencies or establishments which may be helpful
- assistance with planning your time to meet deadlines
- advice on how suitable and practical your ideas are as you proceed through the Technological Project.

The following table will give you information about the time and mark allocation given to the 4 steps involved in the Technological Project.

Step	Total Mark Allocation For Each Step
1	13
2	15
3	16
4	6

Technological Project pro forma

Each year SQA will issue **two** project briefs – you should choose **one**.

The Technological Project pro forma is issued by SQA and you should use it to record your work. It should be tidy and easy to read. Your work can be hand written, typed, produced on a word processor or reflect a combination of these methods. **Use only the number of pages within the Technological Project pro forma.** Extra pages are provided at the back of the pro forma. These should only be used if you require more space to continue any of your responses. Your written work must be clear and concise.

When you have completed the Technological Project it will be sent to SQA to be marked.

The following information will guide you through the 4 steps of the Technological Project.

Before you start – read both the Technological Project briefs issued by SQA and choose the one you wish to do.

Write the brief, in full, on page 2 of the Technological Project pro forma.

Step 1 ANALYSING

Pages 3–6 **Total mark allocation – 13 marks**

Step 1.1 5 marks available

Page 3

- **Identify the key points from the project brief.**
- **Explain the relevance of the key points to the situation, issue or problem given in the project brief.**

Identify the key points from the project brief.

- Read the Technological Project brief which you wrote on page 2 of the pro forma.
- Consider which words are important and underline them.
- These are the **key points** of the Technological Project brief.
- You should try to identify **all** the key points.
- **Number** the key points

Explain the relevance of the key points to the situation, issue or problem given in the project brief.

- Explain **each** of the key points.
- Make sure each explanation **relates back** to the Technological Project brief.
- Give accurate explanations.
- Give as much relevant detail as you can – this will gain you more marks.
- Avoid dictionary definitions.

Page 4

- **Draw up appropriate criteria for a specification**

A specification is a set of criteria that your solution must meet to successfully solve the Technological Project brief.

The criteria must be valid and relevant to the Technological Project brief.

Drawing up a specification is an important area of your work. Your specification should allow a range of solutions to be developed.

Complete the 2 columns on the page as described below.

- **Specification Points** – these must
- be relevant to the Technological Project brief – check back to page 2.
- link to the key points you listed on page 3. Do not however, just rewrite your key points – more explanation is needed.
- be numbered.

You must have a **minimum of 4** specification points.

- **How it can be measured**

- each specification point must be able to be **tested or proved** in some way eg by checking with a named/specified expert, costing exercise.

Page 5

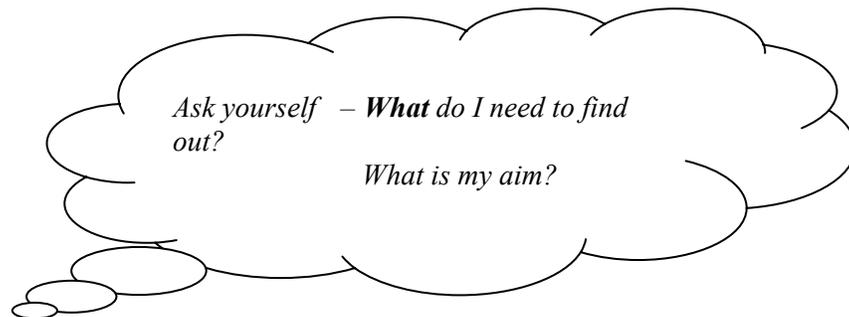
- **Devise an overall plan for investigations**

As part of your overall plan you have to:

- **Make a list of investigations**

Your investigations should

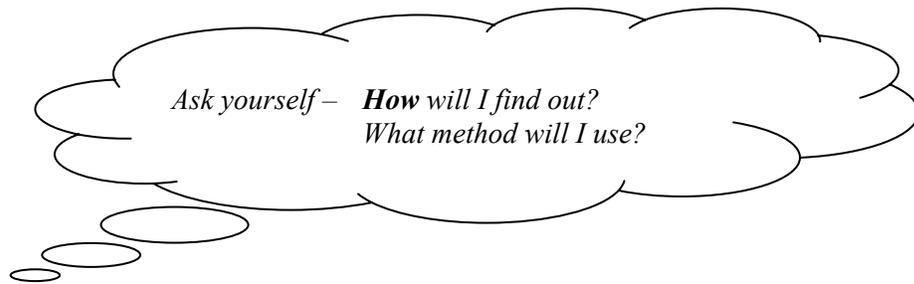
- be numbered
- have a clear purpose or aim
- link to the key points of the Technological Project brief and the specification points.



For example

- gaining new knowledge
- increasing present knowledge
- looking at existing products that meet the needs of the brief
- availability and suitability of resources
- costs involved.

- **Identify the techniques** to be used in the investigations.



You should choose techniques for each investigation which

- are appropriate
- help you gain information and
- give accurate and valid results.

For example

- letter writing to an identified person or group
- interview with an identified person
- internet/book research (include the sources of data)
 - questionnaires to a specified group (If you intend to use this method then you should issue 20 copies in order to gain valid results).

From your investigations on page 5 choose the ones you think are the most important in relation to the needs of the Technological Project brief. List these on page 6. These are the investigations you will carry out in Step 2.

No more than 3 investigations, depending on their nature, could be realistically carried out in the time available. These investigations should be carried out to ensure that all specification points are investigated. **You will be disadvantaged if you do less than 3.**

Although you will not gain any marks for this page, it is important your chosen investigations should be:

- relevant to the Technological Project brief.
- able to be completed in the time available.

Step 2	INVESTIGATING
Pages 7–10	Total mark allocation – 15 marks
Step 2.1	12 marks available
<p>Page 7–9</p> <p>Implement the overall plan for investigations</p> <p>The investigations which you identified on page 6 should now be carried out.</p> <p>For each investigation you should</p> <ul style="list-style-type: none"> • record the results • draw conclusions from the results. <p>Each investigation should be recorded on pages 7, 8 and 9.</p> <p>For each investigation you should:</p> <ul style="list-style-type: none"> • Carry out your aim from page 6 of the pro forma (you may wish to rewrite or copy and paste if you are word processing your Technological Project) • Display your results in a format which is brief, concise and easy to interpret. Your work must be recorded on A4 size paper. • Results are based on facts/evidence discovered during the investigations. • Draw conclusions from the results of the testing. Personal opinions must not be offered. <p>NOTE: If you are using computer software to produce your results eg graphs, charts etc, you must ensure they can be presented on one side of A4 paper, or marks will be deducted.</p> <p>See Guidance document on conducting investigations and tests – Appendix 1.</p>	

Step 2.2**INVESTIGATING (continued) – 3 marks available**

Page 10

- **Derive a solution from the investigations**

Using the conclusions of your investigations come up with **one** solution which will meet the needs of the Technological Project brief.

- **Describe your solution**

It is important that your description is clear so that the person marking your work can '**visualise**' your solution. To help you do this you could use one or more of the following methods

- written details
- design sketches
- diagrams
- labelled diagrams
- story boards.

You must not produce more than one solution ie ONE dish or ONE textile item only.

If you produce more than one solution, a significant number of marks will be lost from Step 3 and Step 4.

Step 3	MANUFACTURE
Pages 11–16	Total mark allocation – 16 marks
Step 3.1	MANUFACTURE – 12 marks available
<p>Pages 11–14</p> <ul style="list-style-type: none"> • Manufacture the chosen solution Draw up a plan for the manufacture of your solution. This plan must be completed before you start manufacture. The plan must include: <ul style="list-style-type: none"> • a sequence of work • all the resources and equipment you will need to make your solution. • Planned Sequence of work (page 11) Your sequence of work must describe clearly how you intend to make the best of the time you have. You will have to consider: <ul style="list-style-type: none"> • preparation and manufacturing time • your practical skills • sensible and logical ordering stages of your work • use of equipment which may save you time. <p>Your sequence of work must show dates and times of all stages involved in the manufacture of your solution.</p> <ul style="list-style-type: none"> • Resources and equipment (page 12) All resources and equipment needed to manufacture your solution must be listed. <ul style="list-style-type: none"> • You must use metric measurements • Include exact weights for foods used. • Include details of types and colours of textiles and trimmings. • This may include – foods, textiles, packaging materials, equipment, and electrical equipment. To gain full marks you must not miss any out. <p>When you have finished these pages, you should manufacture your solution, following your sequence of work drawn up on page 11.</p> <p>Page 13 is for your own use and will not be marked. It should be used to make notes whilst you are manufacturing your solution. You may wish to make notes about:</p> <ul style="list-style-type: none"> • how the stages of manufacture are progressing • the resources/equipment you are using • any changes/modifications you may wish to make to the plan. <p>These notes may be useful to you when completing Step 4.1 (Evaluate the Technological Project).</p>	

Before you manufacture your solution you should now complete the preparation for the testing of your proposed solution. You will require to devise one tests and then produce any materials required to conduct each test before you manufacture the solution. eg interview questions, facilities/graphs/charts to record results.

Photographic evidence of your solution must be provided on page 14.

Two photographs should be taken:

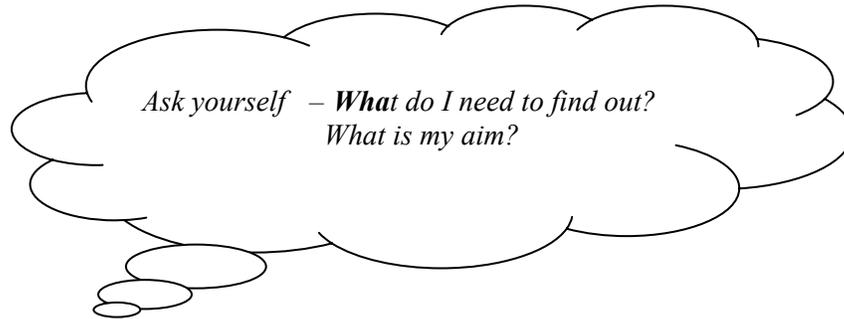
- one **during** manufacture
- one **after** manufacture.

Both photographs must be fixed onto the correct space on your page.

The electronic version of the pro forma has been designed to allow for the insertion of digital photographs.

- **Devise a test for the manufacture solution**

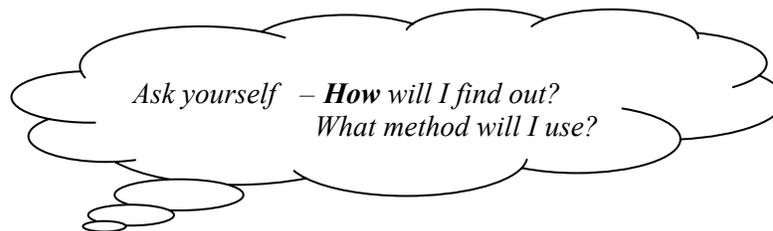
- **You must decide on one test** to carry out on your manufactured solution.



Remember your test should

- have a clear purpose and aim
- be a method of checking whether the specification has been met.

- **Identify the technique** to be used.



The technique to be used must be appropriate to the test, eg

- sensory evaluation
- observation of the target group
- interview with a named/specified expert
- questionnaire to the target group.

For example:

- interview with a dietician or textile technologist
- sensory evaluation with a minimum of five people from the target group

Now carry out the test

Step 3.3

MANUFACTURE (continued) – 3 marks available

Page 16

- **Implement the test for the manufactured solution**

For the test you must

- record the results
- draw conclusions from the results.

For each test you should:

- display your results in a format which is brief concise and easy to interpret
- ensure the results are based on facts/evidence discovered during the testing
- draw conclusions from the results of the testing. **Personal opinions must not be offered**

Note: If you are using computer software to produce your results eg graphs, charts, etc, **you must ensure these are presented on page 16.**

Step 4 **EVALUATION – total mark allocation – 6 marks**
Pages 17–18

Step 4.1 **6 marks available**

• **Evaluate the chosen solution (3 marks available)**

You should now evaluate your solution against **your specification points – using the results of the investigations and testing where appropriate.**

When evaluating, you must refer to your specification points from Step 1.2 on page 4 of your pro forma. You should also refer to your test results and conclusions on page 16.

You must briefly rewrite the specification points in the appropriate column – this will save you from continually looking back. **(You may wish to rewrite or copy and paste these if you are word processing your Technological Project)**

In your evaluation of **each specification point** you should:

- Give a judgement (good or bad, successful or unsuccessful) **based on facts** from your Technological Project and then explain the consequences for the final solution.
- When using the results of investigations or testing in your evaluation, you should identify the investigation, test number or page number which you are using as evidence of your evaluative comment.

• **Evaluate the overall plan (Step 1–3 of the Technological Project) (3 marks available)**

Evaluate the success or otherwise of the plan in relation to the following three criteria:

- **time**
- **resources**
- **skills and abilities.**

It is important that you use these three criteria in your evaluation otherwise you will lose marks. You should also try to give evidence from the TP within the evaluation.

- Your evaluation comments must be based on evidence which can be found within your Technological Project pro forma.
- You must **not state any personal opinions** in your evaluation.
- Use any notes you made on page 13 to assist you with your evaluation of Step 3 – Manufacture the chosen solution.
- Any adaptations/changes to the plan should be evaluated

Use page 18 for your evaluation

Appendix 1

Intermediate 2 Technological Project

Guidance on Carrying out Investigations/Tests

Three investigations must be carried out.

The aim, should be rewritten or cut and pasted from page 4 of the pro forma onto the top of the investigation page.

Questionnaire

- Minimum of 20 respondents
- Minimum of 5 questions linked to aim/specification to allow relevant data to be collected
- All question 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

- The source(s) of information must be identified. The following sources could be used including the internet, literary, shop manager, restaurant/café manager.
- Source of information must be relevant to investigation
- 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

- The suitability of the person interviewed should be carefully considered. The interviewee and their position in establishment/job title should be clearly identified.
- Minimum 5 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/subdivisions 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 prove low/high cost, value for money, acceptability of price to target group.

Nutritional analysis

- Sources must be shown
- All nutrients relevant to the brief 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 of 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 product(s)

Technological Project at Intermediate 2

Summary Mark Allocation

50 marks available

Step	Mark Breakdown	Allocation
1 . 1	Identification of the key points with explanation Identify the key points Key points plus basic and accurate explanation Key points plus detailed and accurate explanation	2 marks 2 marks 1 mark Total mark allocation 5
1 . 2	Draw up appropriate criteria for a specification Allows for a range of solutions Contains more detail than the brief Be written in measurable terms	1 mark 1 mark 2 marks Total mark allocation 4
1 . 3	Devise an overall plan for investigation List a range of relevant investigations Identify techniques to be used	2 marks 2 mark s Total mark allocation 4
Total mark allocation for Step 1 – 13 marks		
2 . 1	Implement the overall plan for investigations Holistic approach	Total mark allocation 12
2 . 2	Derive a solution From the investigation generate one solution Brief description of the solution	2 marks 1 mark Total mark allocation 3
Total mark allocation for Step 2 – 15 marks		

Step	Mark Breakdown	Allocation
3.1	<p>Manufacture the chosen solution</p> <p>Requisitions all main resources Requisitions most main resources Requisitions some main resources</p> <p>Requisition all main equipment Requisition most main equipment Requisition some main equipment</p> <p>Highly effective sequence of work Effective sequence of work Satisfactory sequence of work</p> <p>Highly effective deployment of time (time plan) Effective deployment of time (time plan) Satisfactory deployment of time (time plan)</p>	<p>3 marks 2 marks 1 mark Total mark allocation 3</p> <p>3 marks 2 marks 1 mark Total mark allocation 3</p> <p>3 marks 2 marks 1 mark Total mark allocation 3</p> <p>3 marks 2 marks 1 mark Total mark allocation 3</p>
3.2	<p>Devise a test for the manufactured solution</p> <p>One test presented</p>	<p>1 mark Total mark allocation 1</p>
3.3	<p>Implement the test for the manufactured solution</p> <p>Brief, concise and easy to interpret results Factual and relevant results Brief conclusions based on the results</p>	<p>1 mark 1 mark 1 mark Total mark allocation 3</p>
Total mark allocation for Step 3 – 16 marks		
4.1	<p>Evaluate the chosen solution</p> <p>Evaluation of specification points</p> <p>Evaluation of overall plan against set criteria: time/resources/ skills and abilities</p>	<p>3 marks Total mark allocation 3</p> <p>3 marks Total mark allocation 3</p>
Total mark allocation for Step 4 – 6 marks		