

Principal Assessor Report 2003

Assessment Panel:

Home Economics

Qualification area:

**Subject(s) and Level(s)
Included in this report**

Health and Food Technology Higher

Statistical information: update

Number of entries in 2002	711
Pre appeal	

Number of entries in 2003	658
Pre appeal	

General comments re entry numbers

Number of candidates presented in Health and Food technology has dropped this session but there has been a corresponding increase in candidates entered in the other two contexts.

In the session 2002 — 03 current centres who presented at Higher level:

Health and Food Technology: 130 centres

Fashion and Textile Technology: 12 centres

Lifestyle and Consumer Technology: 30 centres

Of the above, the number of centres offering two contexts were:

Lifestyle and Consumer Technology *plus* Health and Food Technology: 8 centres

Fashion and Textile Technology *plus* Health and Food Technology: 8 centres

Therefore there are 16 centres presenting in two contexts.

Only **one** centre offered Home Economics in all three contexts.

Grade boundaries at C, B and A for each subject area included in the report

Grade	Minimum mark
C	75
B	90
A	105

General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the senior management team at SQA
- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry does not mean that centres should necessarily alter boundaries in their pre-exam in Higher Chemistry. The two are not that closely related as they do not contain identical questions
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as syllabuses evolve and change

Comments on grade boundaries for each subject area

Standardised 'a priori' Boundary Grades were set this year.

Question papers and their associated marking schemes are designed to be the required standard and to meet the assessment specification for the subject/level concerned.

For National Courses the examination paper is set in order that a score of 50% of the total marks for all components merits a grade C (based on the grade descriptions for that grade), and similarly a score of 70% for a grade A.

Comments on candidate performance

General comments

The changes to the format of the Technological Project seem to have been beneficial with candidates now being allocated marks for their work at the start of the Technological Projects. A number of centres still used the old project pro forma and are reminded that they should use the most up to date version which can be downloaded from the SQA website at www.sqa.org.uk.

Wording of Technological Project briefs seem to be clear with most of the candidates managing to identify the key points. More candidates selected brief 1 rather than brief 2 however in brief 2 a number of candidates spent too much time developing a dish using the sauce when the brief only required the development of a sauce.

The general standard of scripts is improving with candidates work benefiting from support that has been made available from SQA.

A large number of the submissions are now word processed however there is no need to word-process Technological Projects and no marks are awarded for presentation. However when candidates use the PC to word process their projects they are reminded that there is a spell check/grammar check facility that can make their submission easier to understand. The highest proportion of time should be spent on the content and the process and not word processing.

Technological Project

Step 1.1 Identification of key points with explanation

Well carried out. Good marks gained. A few centres had not appreciated that marks were allocated for additional detail **and** for additional key points and therefore lost marks.

Step 1.2 Draw up appropriate criteria for a specification

Well carried out other than last section on measuring. Candidates do not seem to understand 'measuring' and they list how each specification point can be investigated. The method of measuring is the way that the candidates can check whether they have met the specification point once their product has been developed.

Step 1.3 Devise an overall plan for investigation

Lack of depth in each investigation was common although this did not affect the final marks. However it made the investigation more difficult to follow and this affected the candidates understanding. Order was sometimes not logical or appropriate. Candidates should check that they have identified investigations which take account of all areas of the specification.

Investigations techniques were sometimes not quantified with target group and therefore marks were lost. Justification should be linked to either the data collected or the technique used for the investigation.

Still some evidence that final solution has already been decided by the candidate and that investigations have been engineered to achieve the solution.

Step 2

Step 2.1 Implement the overall plan for investigation

The area of investigations is still causing some problems although it is clear that candidates are more familiar with the requirement to collect data to allow the formulation of a solution. Now that the candidates only carry out three investigations this area is more concise. However a number of centres are still allowing their candidates to carry out four investigations, which does disadvantage the candidates.

Where the plan for investigations was wordy candidates lost marks because they failed to complete all areas identified.

Aim

On occasion the aims were not carried out fully or the investigations planned changed by the time they were carried out and this made the candidates lose a number of marks. There is more evidence of pupils using information gained from one investigation and using it to narrow down the area for the following investigations making it easier to arrive at the proposed solution.

Brief:

Some investigations were too brief and showed little depth of data. On occasions just results were provided. Some investigations were shallow i.e. four questions in a questionnaire.

Candidates clearly spend a lot of time creating computer generated pie charts/star diagrams etc however if they fail to provide labels to explain the data they will lose marks. A good way to display results is in a chart providing headings are used. However some candidates attempted to pack too much information into a page making it difficult to read and understand.

Facts/ Results

Occasionally blank questionnaires provided with no record of results therefore the findings are not clear. Candidates should be reminded that they should issue a minimum number of 20 questionnaires to ensure validity. If an expert is interviewed their title/area of expertise should be stated. Results for each area of sensory testing should be provided when using sensory evaluation, which adds to the validity.

Conclusions:

Very often general statements/summary of results made which are not based on evidence provided in the investigation. Candidates show a limited ability to draw conclusions. This is an area that needs to be addressed.

Step 2.2 Derive a solution from the investigations

Most candidates correctly identified and then described in detail their solution, which showed some evidence of links to their results and conclusions from the investigations.

A recipe showing exact types and quantities of ingredients and a step-by-step method helps the marker visualise the proposed solution.

Step 3

Step 3.1 Manufacture the chosen solution

Planned sequence of work

- ◆ Candidates need to take care that they follow the guidance provided and provide dates and times as instructed in the candidates guide. As period times vary between different centres actual times are required.

- ◆ Evidence of some candidates writing their plans retrospectively.
- ◆ Plans lacked depth of detail and demonstrated little effective deployment of time therefore it would be difficult to manufacture the item successfully.
- ◆ Little evidence of hygiene - washing vegetables, chicken etc

Identify and requisition all the resources and equipment required to manufacture the solution.

Requisitioning was poor — foods was ordered but often quantities of ingredients were omitted. Metric measurements are required but often imperial or American measurements were identified. Not all equipment identified/required was requisitioned. Justification was effective although repetitive. Some photographed ingredients did not match with the requisitioned list.

Step 3.2 Devise two tests for the manufactured solution.

Generally planning for tests was acceptable. The most successful tests focused on the specification and took account of the methods of measuring identified in Step 1.2. Techniques identified were generally correct and made reference in most cases to the target group. Justification tended to show an understanding of the reason for testing and the value of the information gained.

Step 3.3 Implement the tests for manufactured solution

Testing can cause problems. This was an area of weakness.

Many of the points that were identified in the Step 2.1 also apply to this area. Often sensory testing accounted for one of the two tests but there was little indication of how the results were arrived at. Table of results provided but no key to explain results and therefore the work fails to gain marks.

Interviews provided the most valuable information when both questions and answers were provided. When candidates identified questions, which drew on the specification detailed information was gained that could then be drawn on in the next section (evaluation).

When nutritional analysis is used as a test it should be completed by an interview with a dietician/food technologist or a home economics teacher to confirm/evaluate the results in terms of the chosen brief.

Conclusions were poor for the following reasons:

- ◆ a list of results or statements being given
- ◆ inaccurate results
- ◆ no evidence to back them up results
- ◆ no identification of appropriate expert
- ◆ no recognition of strengths and weakness of manufacture solution

Sound tests will provide more valuable data that can help formulate the next section.

Step 4

Step 4.1 Evaluate the chosen solution

Although there is evidence that some candidates are improving their evaluation skills there are still some candidates providing statements rather than evaluation. Very often the results from the tests were ignored when writing up the evaluation and therefore claims were not supported by evidence in the tests. The candidate should take care to ensure that they make evaluative comments about each specification point. At least one of the specification points should be evaluated in detail to ensure that full marks for this section are obtained. Comments were often subjective or personal and were not backed up by evidence. When evaluating ‘cost effective’ the candidate should provide evidence of costing to verify their evaluative comments.

Step 4.2 Review the Technological Project.

Although the candidates use the words time, skills and abilities, and resources time was the most frequent heading used for the review, however it often was not qualified by evidence found in the Technological Project. Some pupils used exemplar materials as a guide but what they wrote was not linked to evidence in their own Technological Project.

General Observations on the Technological Project.

The most successful candidates in the Technological Project could understand the concept of measuring, carried out both sound investigations and tests and also provided evaluations, which made reference to the results of tests.

Many candidates carried out one of the investigations 'to find out by research the Dietary Targets for 2005' as this is an essential piece of knowledge for both Standard Grade and Higher this should be considered as prior knowledge. Given that investigations are now limited to three this limits the range of investigations that can be carried out.

Section A

1. **Identify two factors, other than diet, which may contribute to coronary heart disease (CHD).** (1)
♦ Well answered
2. **Name two foods which would be considered 'high risk'.** (1)
♦ Well answered
3. **Name two food products which are produced by extrusion cooking.** (1)
♦ Well answered
4. **State two causes of food poisoning other than bacteria.** (1)
♦ Some knowledge shown
5. **What does the abbreviation HDL stand for?** (1)
♦ Some strange responses provided
6. **Explain the effect of dry heat on sugar.** (1)
♦ Well answered
7. **Explain one purpose of European Directives.** (1)
♦ Area of weakness — poor responses
8. **Describe one effect of adding too much liquid to a baked food product.**
♦ Some candidates unclear

9. **Describe two practical ways of avoiding hypertension.** (2)
 ♦ Well answered
10. **Give one advantage and one disadvantage to the consumer of using irradiated food.** (2)
 ♦ On the whole well answered but sometimes confused with organics and GM
11. **State two advantages and of breast feeding.** (2)
 ♦ Very well answered
12. **Give one advantage and one disadvantage of using a sugar substitute.** (2)
 ♦ Well answered
13. **Give one advantage and one disadvantage of growing genetically modified (GM) crops.** (2)
 ♦ Well done but sometimes confused with irradiated and organic at times.
14. **Explain the difference between a ranking test and a rating test.** (2)
 ♦ Some confusion evident
- (20)**

Some candidates clearly had made the effort to learn the work in detail and scored well in this section. However there are still some candidates who do not Achieve above 10 marks in this section.

Section B

- 1(a) **Prepare a set of five nutritional guidelines which a school nurse could give to a teenager wishing to reduce weight.** (5)
 ♦ Candidates giving too much detail for guidelines
- (b) **The table below shows the daily nutrient content of the meals eaten by a teenage girl who is showing symptoms of anaemia. Using your knowledge of nutrition, and the information provided, evaluate the suitability of this intake.** (6)
 ♦ Candidates appear to have been trained to answer this type of question and are much better at providing evaluative comments linked to the needs of the anaemic teenage girl.
 ♦ Most used kcal rather than kj
- (c) **Identify two groups of people, other than teenage girls, who may be likely to suffer from anaemia. Explain why each group may be at risk** (3)
 ♦ Very well done
- (d) **Give three reasons that account for the low intake of fruit and vegetables by teenagers.** (3)
 ♦ Well done on the whole

- (e) Describe the effects of storage, preparation and cooking on vitamin C. (3)
♦ Some did not use the word oxidation

(20)

- Much better response to this type of question than last year.
— It appears that candidates are being trained to answer this type of question which has resulted in an improved total mark.

- 2(a) A 35 year old man is training for a half marathon.
Evaluate the nutritional suitability of the following meal.

(6)

- ♦ Majority linked answers to 35year old man /training/running.
♦ Candidates that recognised the link to the effect on health later in life.

- (b) Explain the inter relationship of the following nutrients.

- (i) calcium, phosphorus and vitamin D
(ii) vitamin B complex and carbohydrate

(4)

- ♦ Candidates showed a better understanding of inter relationship between calcium, phosphorus and vitamin D rather between vitamin B complex and carbohydrate.
♦ Candidates did not mention specific B vitamins

- (c) A number of people wish to follow a diet that promotes good health.
Explain in detail four ways manufacturers are responding to this demand.

(4)

- ♦ Food products identified but not always linked to health

- (d) A food manufacturer plans to develop a new cook chill pasta product.
Identify and explain four stages in the development and marketing of this product.

(6)

- ♦ Stages not identified or wrong, confused with HACCP
♦ Stage must be identified before mark can be allocated for explanation.
♦ Little reference made to the cook chill pasta product that may have made it easier to answer.
♦ A weak area.
♦ Candidates need to learn the stages.

- 3 (a) Explain the effect of the following on a baked product.

- (i) whisking
(ii) creaming

(4)

- ♦ It was anticipated that candidates would have found this area easier because of obvious links to practical work.
♦ Poor responses, vague because they were not linked to the production of a baked product.
♦ Stronger response about whisking than creaming.

(b) Identify and explain four stages of risk assessment in the production of a chilled cream cake. (6)

- ◆ Candidates did not show a real understanding of risk assessment in food production.
- ◆ Stage must be identified before mark can be allocated for explanation.
- ◆ Stages not well identified
- ◆ Poorly answered.

(c) Evaluate the impact of each of the following technological developments on the consumer. (4)

- (i) **Chilling**
- (ii) **Modified Atmosphere Packaging (MAP).**

- ◆ Not well answered
- ◆ Some confused chilling and freezing
- ◆ Few mentioned gases in MAP and effect on bacteria.

(d) Evaluate the use of myco proteins in the diet. (3)

- ◆ Not always answered as an evaluation type question.
- ◆ Not always a good depth of knowledge demonstrated which had to be applied to evaluative comments.

(e) Explain the role of the Food Standards Agency in improving food safety. (3)

- ◆ Some confused Food Standards Agency and Food Safety Act (20)

4 (a) Identify and explain four categories of additives that could be used in food products. (6)

- ◆ Very well done
- ◆ Category has to be identified before mark can be allocated for explanation.

(b) Identify and discuss two factors which may have lead to the increased popularity of take away meals. (3)

- ◆ Factors had to be found but was well carried out

(c) The following information is provided on the packaging for a ready meal. Evaluate this meal in relation to the dietary targets. (5)

- ◆ Candidates found this difficult because they did not use all the information available to them in the question.
- ◆ Very few candidates used the list of ingredients to evaluate in terms of the dietary targets.
- ◆ A number of markers identified that candidates still seem to think there are dietary target 'increase NSP' '5 fruit and veg a day' 'salt reduced from 9gms to 6gms'.

(d) Explain three ways of preventing food contamination by Bacillus Cereus. 3

- ◆ Candidates showed little knowledge of bacillus cereus
- ◆ General prevention methods of food poisoning identified linked to foods rather than rice.

(e) Evaluate the protection offered to the consumer by the Food Safety Act 1990. (3)

- ◆ Reasonably well done but marks were lost as answers were not linked to the consumer
- ◆ Limited mention of Environmental Health Officer

Areas of external assessment in which candidates performed well

Technological Project

Step 1

Written paper

- ◆ Majority of candidates performed well in Section A and the Section B question 1.
- ◆ Good response to nutritional evaluation question.
- ◆ Good depth of knowledge
- ◆ Good answering technique

Areas of external assessment in which candidates had difficulty

Technological Project

- ◆ Measuring
- ◆ Investigations
- ◆ Testing
- ◆ Evaluating

Written paper

Knowledge

- ◆ Confusion between Food Standards Agency and Food Safety Act
- ◆ Lack of knowledge of technological developments in the food industry – this session MAP and chilling
- ◆ Candidates must know stages in product development strategy.

Evaluation

- ◆ Some centres still need to develop the evaluation skills of their candidates.
- ◆ Towards the end of the paper candidates executed their evaluation skills less effectively possibly because they were tired or because of poor management of time.

Recommendations

Feedback to centres

General comments

- ◆ Candidates choose a mixture of the three remaining questions showing that they were equally as accessible to the candidates although question 2 was the most popular followed by question 4.
- ◆ Teachers should be encouraged by the progress that has been seen this session and should continue to develop this good practice.
- ◆ Evaluation skills were better at the start of the examination than at the end of the examination when some candidates tended to revert to facts.
- ◆ Teachers should ensure that candidates practice evaluation type questions under examination conditions.
- ◆ There is good evidence that a number of candidates have been trained how to layout their answers to ensure that they obtain the highest possible marks.

Presentations

- ◆ Still some evidence of candidates presented at the wrong level.

Technological Project

- ◆ Centres must make sure they are using the up to date pro forma for their submission. .
- ◆ Ensure candidates know the difference between measuring and investigating
- ◆ Investigations require to be carried out exactly as planned, show scientific validity and have sound conclusions drawn that are based on evidence.
- ◆ Testing needs to be implemented following the same guidance as the investigations

Written paper

- ◆ Candidates should continue to practice evaluation style answers using the Evaluation Skills pack, which was first issued in March 2002 and the various updates.
- ◆ Practice Section A style questions
- ◆ Practice Section B Question 1 areas of course content.

Teachers should continue to maintain improvement in:

- ◆ Evaluation skills
- ◆ Using the issued marking schemes to train candidates in correct answering technique.