

Principal Assessor Report 2004

Assessment Panel:

Home Economics

Qualification area

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

**Home Economics:
Health & Food Technology - Higher**

Statistical information: update

Number of entries in 2003	666
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Number of entries in 2004	714
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General comments re entry numbers

The total of centres presenting candidates for Higher Home Economics examinations was 158.

Number of centres presenting Higher Home Economics:

Health & Food Technology: 118

Fashion & Textile Technology: 12

Lifestyle & Consumer Technology: 29

Centres offering two contexts:

Lifestyle and Consumer Technology *plus* Health and Food Technology : 5

Fashion & Textile Technology *plus* Health and Food Technology: 5

This session no centres presented in all three contexts.

It was positive to see there were a number of centres presenting Higher for the first time.

Health and Food Technology: 11

Lifestyle and Consumer Technology: 6

Fashion and Textile Technology: 2

The number of candidates presented in Health & Food Technology has shown a slight increase which makes the numbers presented similar to 2002.

Statistical Information: Performance of candidates

Distribution of awards

Distribution of awards	%	Cum %	Number of candidates
A	22.3	22.3	159
B	33.0	55.3	236
C	27.6	82.9	197
D	7.3	90.2	52
No award	9.8	100	70

Comments on any significant changes in percentages or distribution of awards

- Distribution of marks between different bands is very similar to 2003
- Slight decrease in average written paper mark
- Slight increase in average technological project mark

Grade boundaries for each subject area included in the report

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
A	22.3	22.3	159	105
B	33.0	55.3	236	90
C	27.6	82.9	197	75
D	7.3	90.2	52	
No award	9.8	100	70	

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 prelim 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 arrangements 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 instructions are designed to be at 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 grade A.

Comments on candidate performance

General comments

Technological Project

General observations

Brief 1 – *Develop a nutritious baked product for sale at a school breakfast club*

- Some candidates had difficulty identifying an age group for ‘children’. It is important that this is identified early on in the project.
- Some candidates had a good opportunity to learn more about how breakfast clubs work by visiting primary schools. Although this is not essential it does make the learning experience more real.

Brief 2 – *Develop an iron rich food product to be included in a children’s range for a supermarket.*
“iron rich”.

- Many candidates thought it sufficient to include an ingredient which contained iron rather than considering quantity and quality. Many of the dishes produced would contain iron but would not be **iron rich**.

Word processing

Given the number of technological projects that were word processed the spelling and grammar had a number of mistakes. Candidates should be reminded about the spell/grammar check facility available on PC’s. There is a need for candidates to proof read their technological projects prior to submission.

The use of rainbow fonts throughout the work or pale coloured ink for printing should be discouraged as it makes it difficult for markers to read the work.

English

Sentence construction and spelling was often remarked as being poor.

Additional General Points

Candidates should know the dietary targets in detail as an area of course content at higher therefore there should be no need to investigate this area.

Step 1.1 Identification of the key points

- The correct wording has to be given to candidates or they will be disadvantaged. Omitting one word penalise candidates.
- Generally key points were well identified although some candidates failed to identify an additional key point and therefore lost one mark.
- Some candidates provided up to 6 additional key points. This makes it more difficult for candidates to earn all the marks at the next step.
- Explanations should show understanding of their importance in relation to the wording of the brief. Although only brief explanations are required, candidates who wrote slightly more information seemed to have a clearer understanding of the complexity of the work.
- A few candidates are still giving dictionary definitions which are not acceptable.

Step 1.2 Appropriate criteria for the specification

- Candidates should take care to ensure that they are not using the exact wording from the brief in the development of their specification points. They gain more marks if they provide more detail than the brief.
- Note: for Higher a five points specification is required. Full marks cannot be gained if a four point specification is provided.
- If a specification point is identified in relation to cost the candidate will need to carry out a costing exercise as a method of measuring or testing. Often the candidates fail to do this.
- A specification point should be worded correctly e.g. ‘must contain a rich source of iron’; ‘be aesthetically appealing to teenagers’ etc.
- Specifications which were more focused on the key points allowed the candidates to keep focused and allowed more suitable solutions to be devised.
- Some candidates are confused between dietary targets and nutrition.
- Some candidates provided a specification which contained too many specification points and therefore meant they gave themselves additional work and possibly lost marks.
- Explanations can occasionally be weak. They should provide some reasoning which takes account of the key points.
- A number of candidates omitted ‘links to the key points’ because they did not know how to complete it.
- Measuring is still an area of weakness. Candidates are identifying investigations and not tests. Measuring is

a way of testing whether the specification point has been met. The target group or expert who is going to be used to carry out the testing should be identified.

Step 1.3 Overall plan for investigations

- Candidates should be reminded that the purpose of the plan is to allow them to carry out a series of investigations to allow them to collect data so that a solution can be developed which meets their specification. Therefore the investigations should be developed from the specification. Sometimes not all the specification points were covered.
- There should be at least five investigations in the plan at Higher.
- Some candidates produced less than five and therefore lost marks.
- There should be a clear aim for each investigation.
- The technique should be identified briefly but must identify the target group or details of the expert used to collect the data.
- Justifications were often general, did not focus clearly on the investigation and were lacking in depth. Justification can be provided in terms of the choice of investigation or technique selected.
- Page 8 is very important. The candidate must clearly identify the three investigations selected. The wording of these aims is used at the next stage of marking.

Step 2.1 Implement the overall plan for investigation

Investigations are marked on the following areas:

Aim:

- Has the candidate achieved their aim as stated on page 8? Many candidates fail to do everything they plan and therefore lose marks.

Brief, concise and easy to interpret.

- The results should fit into one page and be easy to understand. Where bar charts etc are used they should have keys and scales clearly identified. Reducing the size of the font to make the work fit into the page should be avoided.

Validity of results

- A number of candidates lost marks because the investigations are not valid. They should state the website that they have used and the title of the person that they interviewed. Questionnaires should involve 20 people. On occasion work is not relevant to the brief. A number of candidates have provided summaries of their work, therefore there is no evidence of the work and the marker cannot give credit for validity of results.

Conclusions

- Conclusions can only be drawn on evidence that has been recorded as evidence in the investigation.
- Conclusions should record the findings that are relevant to the final solution. Conclusions should be based on results and not involve personal opinion or introduce new facts. A number of candidates failed to draw conclusions and just repeat the results and so this is an area of weakness.
- The most able candidates used the results of one investigation to narrow down the area of the investigation for the subsequent investigations.

Number of investigations

- The candidate is only required to carry out three investigations although they can choose to carry out less than three if they wish. However candidates who choose to carry out more than three will find in future that the additional investigations will not be marked.

Presentation

- Some candidates used ICT to present the results of investigations which caused difficulties when interpreting results. Where ICT is used tables, charts etc should provide a key and be easy to understand.

Step 2.2 Derive a solution from the investigations

- The candidate should be able to examine the **three** conclusions from their investigations and then come up with the solution. There are still candidates who are not linking their chosen solution to the investigation results.
- A number of centres allowed their candidates to propose and test more than one version of a solution. This is not permitted. The candidate must only derive **one** solution.
- Assuming that the candidates were working on this technological project independently it is surprising that in some centres all the candidates were producing similar solutions.
- In food based solutions the markers would like to see a recipe with a list of ingredients with exact weights. Candidates should be reminded that they are not permitted to use imperial or American measures and will be penalised. Where recipes have been sourced that contain these measurements they should be converted to

metric measurements.

Step 3.1 Manufacture the chosen solution

- Resource list should identify all the ingredients required and the exact weights.
- Time plans did not always contain dates, timing of lessons and duration of processes to manufacture the solution. There was insufficient breakdown of times and this area needs to be addressed. Some candidates produced a general plan rather than a plan for manufacture

Step 3.2 Derive tests for the manufactured solution

The planned tests should allow an objective assessment of the manufactured item against some or all of the specification points. When using an expert to test the success of the finished item the title of the expert should be specified e.g. retailer in a children's toy shop etc. Where a nutritional analysis is used, the validity of the results must be checked for suitability with some type of nutrition expert e.g. a dietician/ food technologist/ head of catering in school etc.

Step 3.3 Implement the tests for the manufactured solution

Questions used in testing were often weak and lacked sufficient depth to obtain constructive comments and feedback that would suggest possible areas for modification. Occasionally summaries of results were displayed with no information on how the averages were arrived at. Some results such as pie charts were not quantified.

- Depth at testing allows the candidate to write a more detailed evaluation against each specification point.
- Some candidates showed more understanding about testing as they had had previous experience with carrying out investigations.

Step 4.1 Evaluation

- Candidates lost marks because they offered personal opinion on the success of their solution. They are required to provide an evaluation based on evidence that can be found in the technological project either through the results of testing or possibility even their investigations.
- Candidates should be encouraged to use the evaluation words. Evaluations were brief and few candidates managed to earn the additional mark for detail.

Step 4.2 Review

Centres are reminded that each step of the technological project should be reviewed using evidence in the work of the technological project and making use of skills and abilities, time and resources.

- Step 1.3 and step 3.2 often contained a review of carrying out the plan rather than a review of implementing the plan.
- Candidates often made general sweeping statements that could not be backed up by evidence in their Technological project. They are reminded that they are asked to review their ability to carry out their technological project.

Health & Food Technology Paper 2004

Section A

Short answer section was well answered. However in many cases too much was written for the mark allocation. If candidates had an up-to-date copy of the course content this may help them learn the work for section A.

Section B

A number of pupils ran out of time at the end of their paper to provide detailed answers worthy of the mark allocation.

Candidates do not know the dietary targets in sufficient detail.

Evaluation is generally poor. Candidates gave straightforward explanations which did not take account of the wording of the question.

A few candidates answered all questions.

Lack of detail in a number of responses.

Section A

- 1. Name two fat-soluble vitamins.** 1
 - Most well answered although there was sometimes confusion.
- 2. State two statutory pieces of information required on a food label.** 1
 - Nutritional information is not a piece of statutory information. (unless to back up a nutritional claim)
- 3. State two conditions required for bacterial growth.** 1
 - A number of candidates listed 'light' in their answers.
 - Some candidates gave heat as an answer rather than warmth.
- 4. State two factors which affect the energy requirements of individuals.** 1
 - Well answered.
- 5. State two factors which hinder calcium absorption.** 1
 - Well answered.
- 6. What does the abbreviation CHD stand for?** 1
 - Well answered.
- 7. Explain the term osteoporosis.** 1
 - Well answered.
- 8. State one function of an antioxidant in food production.** 1
 - Candidates linked their answers to health rather than food production.
- 9. Describe two practical ways of preventing dental caries.** 2
 - Well answered.
- 10. Give one advantage and one disadvantage of following a vegan diet.** 2
 - Lack of reasoning provided e.g. why is it an advantage that the vegan diet provides more NSP?
 - No reference to LBV proteins.
 - No reference to essential amino acids.
- 11. State two benefits of exercise.** 2
 - Well answered
- 12. State one advantage and one disadvantage of food irradiation.** 2
 - Well answered by pupils who were familiar with this area of course content
- 13. Explain each of the following terms**
 - a) crystallisation**
 - b) gelatinisation** 2
 - Clear area of confusion with crystallisation.
 - Better knowledge about gelatinisation.
- 14. Give one advantage and one disadvantage of genetic modification in food industry.** 2
 - Candidates were more familiar with disadvantages than advantages.

Section B

Question 1

- (a) Using your knowledge of nutrition, and the information provided evaluate the suitability of this days nutritional intake of a days nutrient content of meals eaten by a male toddler.** 6
- Some candidates who had been taught answering technique completed this area of the question well.
 - However some candidates just copied down the figures and did not evaluate in terms of the needs of the

toddler.

- Some candidates interpreted the results incorrectly i.e. they thought the toddler had too much when they in fact had too little of a nutrient.
- The evaluation should take account of the impact of an increase or a decrease of the nutrient on the body.

(b) List a set of five menu planning guidelines to be followed by parents when preparing snacks for toddlers. 5

- Guidelines only are required.
- These should have been linked to preparation of snacks.
- Reasons were not required.

(c) The following breakfast was eaten by a toddler. Explain how this breakfast could be adapted to meet some of the dietary targets. 4

- Candidates would have gained more marks had they taken each food and suggested how it could have been changed in relation to the dietary targets.
- The dietary targets need to be learnt in detail, including figures.
- Some candidates appear to think there is target about NSP.
- Assumption that margarine is better than butter.

(d) Explain the inter-relationship of iron, NSP and phytic acid. 2

- Well answered

(e) Explain the effect of heat on: 3

(i) Vitamin B₁

(ii) Protein

- Effect in vitamin B₁ was not generally known by candidates.
- Good knowledge of the effect of heat on protein.

Question 2

(a) Identify and explain four social trends which have influenced current eating habits. 6

- Most candidates were familiar with social trends.

(b) Explain how the following functional properties are used to bring about change in food products: 3

(i) pH

- Good understanding shown.

(ii) air

- answers confused with oxidation, rancidity, MAP etc.

(iii) proportion of ingredients

- Disappointing given that this could be linked to practical work within the course.

(c) Evaluate the use of artificial sweeteners in food products. 3

- use of food products not considered in the written response.

(d) Food manufacturers provide a range of information on packaging. Evaluate the usefulness to the consumer of each point of information identified on the product sleeve. 4

- candidates did well in this question.

(e) Explain the functions in the diet of:

(i) Non Starch Polysaccharide (NSP) 2

(ii) Vitamin A 2

- A number of candidates appear to be unclear about the function of NSP.
- Answers lacked depth.

Question 3

(a) Evaluate the suitability of following menu for a person who is obese. 6

- Candidates failed to evaluate in terms of the obese person.

(b) Identify and explain two ways in which food manufacturers are helping consumers meet Scottish dietary targets. 3

- Very limited knowledge.
- Ways not clearly identified.

(c) Identify and explain two sensory tests used in food product development. 3

- Limited knowledge of the names of the various sensory tests or how these tests are conducted.

- Confusion between ranking and rating tests.
- Limited links made to the role in food product development.
- This is an area of weakness.

(d) Explain the role of Department for Environment, Food and Rural Affairs (DEFRA) 4

- Limited knowledge of this area with few candidates scoring high marks for this question.
- Some confusion with Food Standards Agency and Environmental Health Department.

(e) Explain the purpose of market research when developing a new food product. 4

- Answers should have made reference to a new food product.

Question 4

(a) Give three reasons for the dramatic rise of food poisoning cases in the UK. 3

- Answers should have made reference to causes of food poisoning/transfers of bacteria to food rather than recognising reasons for increasing incidence of food poisoning.
- Answers lacked detail/repetitive/vague.
- Few links made to how "high risk" foods or how food is now purchased and consumed in a different way due to our changing lifestyles could contribute to food poisoning.
- Candidates gave answers in relation to keeping the kitchen clean and failed to take account of the impact of the food industry.

(b) Identify and explain two control measures used to prevent the spread of Escherichia coli (E coli). 3

- General points made which did not make specific reference to/or show an understanding of e coli.
- Poor answering technique – no identification of control measures.
- Limited knowledge of food sources of e coli.
- Limited knowledge of specific control measures for e coli.
- Where control measures were identified the explanation was often poor.

(c) Evaluate the use of organic foods to the consumer 4

- Statements rather than evaluative comments.
- Some pupils clearly had an interest in this area and provided some good knowledge about organics foods however they were asked to evaluate in terms of the use with the consumer and therefore lost marks.
- Other pupils knew nothing and guessed wrongly.

(d) Identify and explain four health problems which may be associated with a high intake of fast foods. 6

- Health problems recognised and identified.
- Disappointing response.
- Poor layout of answers.
- Limited link to the development of the condition because of fast food consumption.

(e) The following marketing plan has been adopted by a fast food outlet.

Evaluate the effectiveness of this plan. 4

- Good response because candidates evaluated each step.
- Well answered.

Areas of external assessment in which candidates performed well

Technological project

- Step 1

Written Paper

- Short answer questions
- Nutritional evaluation question

Areas of external assessment in which candidates had difficulty

Technological project

- Quality of investigations and testing.
- Evaluation and review.

Written paper

- Gaps in knowledge about crystallisation, effect of heat on vitamin B1, functional properties of food.
- Answering technique in particular evaluation questions.

Recommendations

Feedback to centres

General points

- Answers lack depth of explanation required for Higher.
- Some evidence of poor answering technique where candidates are not using the allocation of marks and the wording in the question to help them plan their answers.
- Candidates should use the mark allocation as a clue to indicate the amount of information to write.
- Better time management to ensure that all questions are given the same amount of time as there is evidence of rushing at the end.
- There are no 1/2 marks given when answers are too brief therefore candidates should write enough information to be awarded the mark for Higher.
- Make use of the published marking instructions.
- Teachers should check the paper specification for the breakdown of marks and for the areas assessed in Question 1.
- Confusion between dietary targets and nutrition.

Suggestions for improving answering technique

- Check mark allocation for question.
- Establish if the question is testing an area of knowledge or evaluation skills.
- Write each answer on a different line.
- Underline points or factors when required.
- Check the focus of the question (underline or highlight in the question) - answers must take account of this.
- Evaluation ability needs to be improved as candidates are losing marks because they are not using the evaluation words - so, therefore, because, as etc.
- Candidates are encouraged to demonstrate sufficient depth of knowledge to be awarded the Higher.
- Learn details on the dietary targets.
- Some candidates give too much detail which is not directly in proportion to the marks allocated therefore candidates should use the mark allocation as a guide to the amount to write.