

Food & Nutrition 2019 v1.1

IA3: Sample assessment instrument

Project — folio (30%)

This sample has been compiled by the QCAA to assist and support teachers in planning and developing assessment instruments for individual school settings.

Student name

Student number

Teacher

Issued

Due date

Marking summary

Criterion.	Marks allocated	Provisional marks
Recognising and explaining	7	
Analysing and determining	9	
Synthesising, generating and evaluating	10	
Communicating	4	
Overall	30	

Conditions

Technique	Project — folio
Unit	Unit 4: Food solution development for nutrition consumer markets
Topic/s	Topic 2: Food development process
Duration	15 hours
Mode/length	Documentation of problem solution <ul style="list-style-type: none">• Multimodal: 10–15 A3 pages
Individual/group	Individual
Other	Title and content pages, reference list and appendixes are not included in the page count. Students may use class time and their own time to develop a response.
Resources	Stimulus, experimental equipment, internet

Context

Reformulating existing food products to improve the nutritional quality of food solutions presents significant challenges to food manufacturing companies wanting to increase market share. Maintaining desirable sensory properties and maintaining shelf life are already difficult enough that manufacturers are reluctant to change formulations, fearing loss of market share. However, food formulations containing high-risk components, such as salt, sugar, saturated and trans fats, and low dietary fibre can have health impacts on consumers.

During this unit, we have explored food formulations and reformulations which can contribute to solutions for different nutrition consumer markets to support health, decrease chronic disease and sustain sensory properties. The nutrition consumer markets include:

- elderly
- health-conscious
- allergic or food-intolerant
- consumers experiencing diet-related conditions or chronic disease, such as obesity, heart disease, type 2 diabetes or diet-related cancer.

Task

Using the provided stimulus, identify a nutrition consumer market problem and develop a food formulation or reformulation solution for this market. Document the problem-solving process using written and visual modes of communication.

To complete this task, you must:

Use your knowledge of the facts and principles about the food formulation process to:

- explain food science ideas and a problem related to food formulation for a nutrition consumer market
- analyse
 - the problem stimulus, including stakeholder needs
 - information and data related to food formulation for a nutrition consumer market to identify essential characteristics and constraints
 - relevant personal, social, ethical, economic, environmental, legal and/or sustainability impacts and implications of the solution
 - quality, functionality and reliability indicators for the nutrition consumer market problem
- determine
 - solution requirements to develop a brief
 - prescribed and self-determined criteria used to evaluate the solution
- synthesise
 - food and nutrition information and data
 - primary experimental data about alternative solutions ideas
 - alternative solutions ideas to determine a proposed solution
- generate the proposed solution for the nutrition consumer market problem to provide data to determine the feasibility of the solution

- evaluate and refine ideas and the solution, using self-determined criteria and generated data to recommend and justify enhancements to ideas and the solution to the nutrition consumer market problem
- communicate
 - application of the problem-solving process in response to the nutrition consumer market problem using written or visual features, e.g. annotations, diagrams, sketches, drawings, photographs, or a prototype
 - data using diagrams, tables, graphs and spreadsheets.

Checkpoints

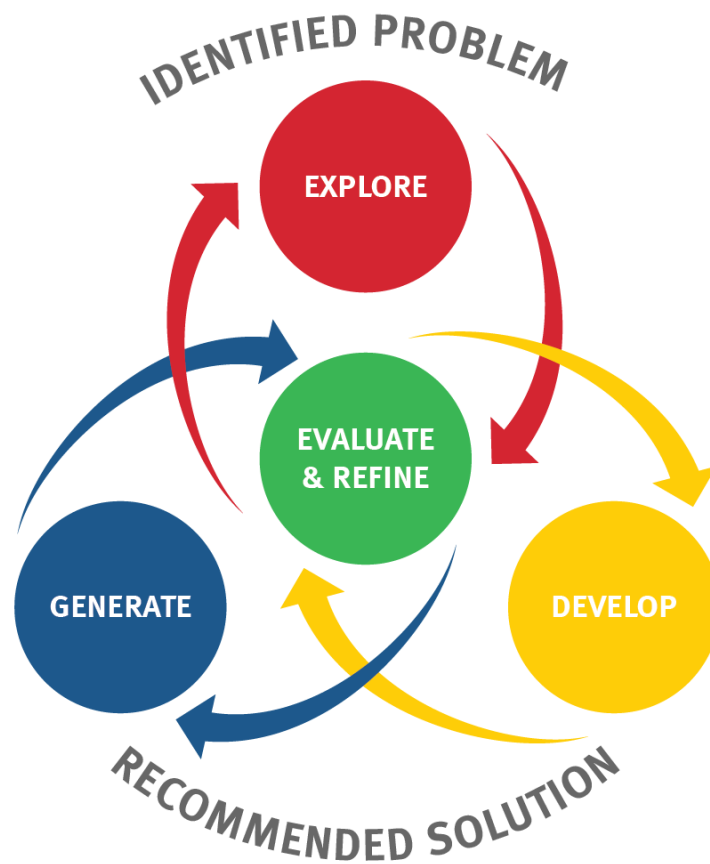
- Term 3 Week 3: Teacher check in on student progress
- Term 3 Week 5: Submit completed draft

Authentication strategies

- The teacher will provide class time for task completion.
- Students will provide documentation of their progress at indicated checkpoints.
- The teacher will collect and annotate one draft.
- The teacher will conduct interviews or consultations with each student as they develop the response.
- Students must acknowledge all sources.

Scaffolding

The folio is an individual written response that documents all activities you complete as you work through the stages of the Food & Nutrition problem-solving process. You can include graphs, tables, sketches or data from experiments, as well as other supporting evidence.



You must include:

- a table of contents
- headings that organise and communicate your thinking through the iterative phases of the Food & Nutrition problem-solving process
- a reference list and in-text referencing, using a recognised system of referencing.

Instrument-specific marking guide (IA3): Project — folio (30%)

Criterion: Recognising and explaining

Assessment objectives

1. recognise and describe facts and principles related to the food formulation process
2. explain ideas and a problem related to food formulation for a nutrition consumer market

The student work has the following characteristics:	Marks
<ul style="list-style-type: none">• accurate and discriminating recognition and discerning description of facts and principles related to the food formulation process and a specific nutrition consumer market• discerning explanation of food science ideas and a problem related to the nutrition consumer market.	6–7
<ul style="list-style-type: none">• accurate recognition and effective description of facts and principles related to the food formulation process and a specific nutrition consumer market• effective explanation of food science ideas and a problem related to a specific nutrition consumer market.	4–5
<ul style="list-style-type: none">• appropriate recognition and description of facts and principles related to the food formulation process and a specific nutrition consumer market• appropriate explanation of food science ideas and a problem related to a specific nutrition consumer market.	2–3
<ul style="list-style-type: none">• variable recognition and superficial description of the food formulation process related to a nutrition consumer market• superficial explanation of food science ideas and a problem related to a nutrition consumer market.	1
<ul style="list-style-type: none">• does not satisfy any of the descriptors above.	0

Criterion: Analysing and determining

Assessment objectives

3. analyse a problem, information and data related to a specific nutrition consumer market
4. determine solution requirements and self-determined criteria for a selected nutrition consumer market problem

The student work has the following characteristics:	Marks
<ul style="list-style-type: none"> • insightful analysis of a relevant problem, information and data related to a specific nutrition consumer market to identify essential characteristics and constraints • astute determination of <ul style="list-style-type: none"> – essential solution requirements from the brief – self-determined criteria that include the relevant impacts and implications of, and the quality, functionality and reliability indicators for, a selected problem that affects a nutrition consumer market. 	8–9
<ul style="list-style-type: none"> • considered analysis of a relevant problem, information and data related to a specific nutrition consumer market to identify essential characteristics and constraints • logical determination of <ul style="list-style-type: none"> – effective solution requirements from the brief – self-determined criteria that include the relevant impacts and implications of, and the quality, functionality and reliability indicators for, a selected problem that affects a nutrition consumer market. 	6–7
<ul style="list-style-type: none"> • appropriate analysis of a problem, information and data related to a specific nutrition consumer market to identify some characteristics and constraints • reasonable determination of some <ul style="list-style-type: none"> – solution requirements from the brief – self-determined criteria that include impacts and implications of, and the quality, functionality and reliability indicators for, a selected problem that affects a nutrition consumer market. 	4–5
<ul style="list-style-type: none"> • superficial analysis of a problem and information or data related to a specific nutrition consumer market to identify some characteristics or constraints • vague determination of some <ul style="list-style-type: none"> – solution requirements from the brief – self-determined criteria that include some of the impacts and implications of, and the quality, functionality or reliability indicators for, a selected problem that affects a nutrition consumer market. 	2–3
<ul style="list-style-type: none"> • description of a problem or information related to a nutrition consumer market • identification of a criterion for the consumer market. 	1
<ul style="list-style-type: none"> • does not satisfy any of the descriptors above. 	0

Criterion: Synthesising, generating and evaluating

Assessment objectives

5. synthesise information and data to develop ideas for a solution related to a selected nutrition consumer market problem
6. generate a nutrition consumer market solution to provide data to determine the feasibility of the solution
7. evaluate and refine ideas and a solution to make justified recommendations for enhancement

The student work has the following characteristics:	Marks
<ul style="list-style-type: none"> • coherent and logical synthesis of chemical, functional and nutritional information, and a range of primary and secondary data to develop ideas for a chosen solution • purposeful generation of a nutrition consumer market solution to provide valid sensory profiling data to determine the feasibility of the solution • critical evaluation and discerning refinement of ideas and a solution, against self-determined criteria, to make astute recommendations for enhancements, justified by data. 	9–10
<ul style="list-style-type: none"> • logical synthesis of chemical, functional and nutritional information, and primary and secondary data to develop ideas for a chosen solution • effective generation of a nutrition consumer market solution to provide valid sensory profiling data to determine the feasibility of the solution • reasoned evaluation and effective refinement of ideas and the generated solution, against self-determined criteria, to make effective recommendations for enhancements, justified by data. 	7–8
<ul style="list-style-type: none"> • simple synthesis of chemical, functional and nutritional information, and primary or secondary data to develop ideas for a chosen solution • adequate generation of a nutrition consumer market solution to provide relevant sensory profiling data to determine the feasibility of the solution • feasible evaluation and adequate refinement of ideas and a solution, against self-determined criteria, to make fundamental recommendations for enhancements, justified by data. 	5–6
<ul style="list-style-type: none"> • rudimentary synthesis of chemical, functional and nutritional information, and primary or secondary data to develop ideas for a chosen solution • partial generation of a nutrition consumer market solution to provide some sensory profiling data to determine the feasibility of the solution • superficial evaluation and refinement of ideas and a solution, against some criteria, to make elementary recommendations for enhancements. 	3–4
<ul style="list-style-type: none"> • unclear combination of information or ideas about a nutrition consumer problem • generation of parts of a solution • identification of a change to an idea or solution. 	1–2
<ul style="list-style-type: none"> • does not satisfy any of the descriptors above. 	0

Criterion: Communicating

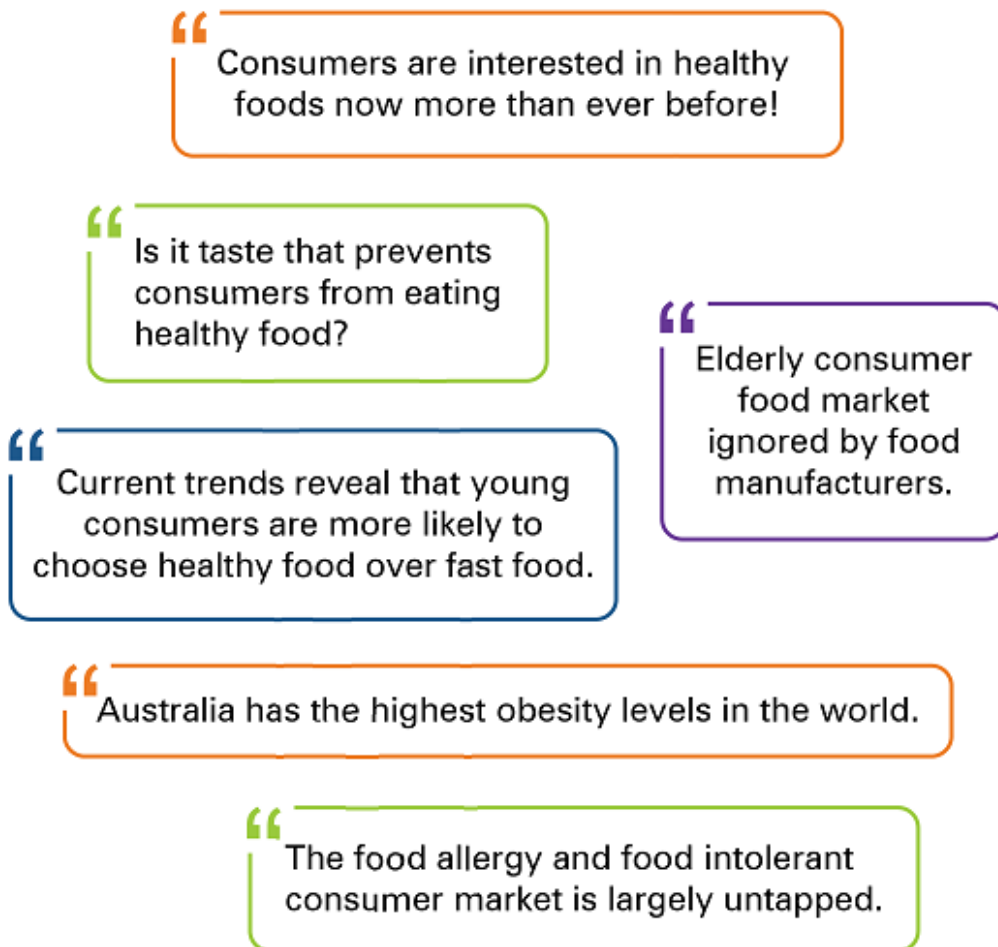
Assessment objective

8. make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts

The student work has the following characteristics:	Marks
<ul style="list-style-type: none">discerning decision-making about and fluent use of<ul style="list-style-type: none">written and visual (if appropriate) features to communicate about a solutionlanguage for a technical audiencegrammatically accurate language structuresreferencing and folio conventions.	3-4
<ul style="list-style-type: none">variable decision-making about and inconsistent use of<ul style="list-style-type: none">written and visual (if appropriate) featuressuitable languagegrammar and language structuresreferencing or folio conventions.	1-2
<ul style="list-style-type: none">does not satisfy any of the descriptors above.	0

Stimulus

Figure 1



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