**NZQA**

**Approved**

Achievement standard: 91352 Version 3

Standard title: Demonstrate understanding of advanced concepts used in processing

Level: 2

Credits: 4

Resource title: Sweet as …

Resource reference: Processing Technologies VP-2.61 v2

Vocational pathway: Primary Industries

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| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-02-2015-91352-02-8274 |
| Authenticity of evidence | Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material.Using this assessment resource without modification may mean that learners’ work is not authentic. Assessors/ educators may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

Vocational Pathway Assessment Resource

Achievement standard: 91352

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Learner instructions

# Introduction

This assessment activity requires you to demonstrate your understanding of advanced concepts used in processing to make honey based cosmetic products.

You are going to be assessed on how comprehensively you demonstrate your understanding of advanced concepts used in processing to make honey based cosmetic product.

The following instructions provide you with a way to structure your work so you can demonstrate what you have learnt and achieve success in this standard.

Assessor/educator note: It is expected that the assessor/educator will read the learner instructions, and modify them if necessary to suit their learners.

# Task

This activity requires you to create a presentation to demonstrate your understanding of advanced concepts used in processing to make honey based cosmetics. You need to show that you are able to process and interpret information, and prepare a presentation that includes:

* the processing operations used and their resulting outcomes
* the specific tests used, and how processing operations and tests can be combined in a processing sequence and visually explained
* the differences between processing in a classroom environment and in industry, and the differences between health and safety regulations used in a classroom environment and in industry.

Confirm the format of your presentation with your assessor/educator. This could be, for example, a brochure that includes diagrams and photos, a video, a PowerPoint presentation, or a combination. Whatever the chosen format, part of the presentation will need to include a visual explanation (for example a flow diagram).

Include the following in your presentation:

* Explain operations that combine or manipulate materials and/or ingredients (i.e. process) to make honey based cosmetic products, and how they achieve the outcomes that are required. Ensure that you include at least one processing operation from each of the following categories:
	+ measuring/shaping/forming (for example automated filling of moulds)
	+ contamination prevention/disposal (for example waste disposal, chemical cleaning, waste water treatment)
	+ mixing/extracting/separating/growing (for example using beeswax as an emulsifier)
	+ heating/cooling/reacting (for example heating oils)
	+ materials transfer (for example transfer lines).
* Describe tests, and explain why they are used in cosmetic processing operations.
* Explain visually, for example through a flow diagram, how cosmetic processing operations and tests can be combined in a processing sequence.
* Compare and contrast processing operations and tests and their suitability for different materials and/or purposes to produce cosmetics.
* Discuss possible processing decisions that could arise as the result of carrying out testing.
* Explain the differences between cosmetics processing in a classroom environment and in industry.
* Explain the differences between health and safety regulations in a classroom environment and in industry.

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Assessor/Educator guidelines

# Introduction

The following guidelines are supplied to enable assessors/educators to carry out valid and consistent assessment using this internal assessment resource.

As with all assessment resources, education providers will need to follow their own quality control processes. Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material. Using this assessment resource without modification may mean that learners' work is not authentic. The assessor/educator may need to change figures, measurements or data sources or set a different context or topic. Assessors/educators need to consider the local context in which learning is taking place and its relevance for learners.

Assessors/educators need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing learners against it.

# Context/setting

This activity requires learners to create a presentation demonstrating their comprehensive understanding of advanced concepts used in processing honey based cosmetic products.

# Conditions

The learners could work independently or in groups to develop their understanding, but they need to create their presentation independently and will be assessed individually.

Learners will need to confirm with you the format of their presentation.

# Resource requirements

To enable learners to achieve this standard, they should be given the opportunity to:

* Access information on processing operations and testing used to produce cosmetics in industry and in a classroom environment.
* Access facilities that enable processing operations and testing to be carried out.
* Examine different cosmetic products, and discuss how they may have been made and tested during production.
* Practise processing and testing cosmetics. Learners should consider the differences in equipment, volumes, packaging, testing and labour (noting specialised tasks) between a classroom environment and an industrial setting.
* Experience testing that would mimic that used in an industrial setting.
* Practise visually explaining processing operations and tests. Generally, flow diagrams would be used so learners will need an understanding of the symbols used, how to put them in the correct order, how to show where tests occur, and where they impact on the processing.
* Research and compare health and safety regulations followed in industry and in a classroom environment.

# Additional information

Learners should also have the opportunity to visit industries that either process cosmetics or use similar processes.

## Other possible contexts for this vocational pathway

Demonstrating understanding of advanced concepts used in processing cheese, beer or wine.

# Assessment schedule: Processing Technologies 91352 – Sweet as …

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| --- | --- | --- |
| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner demonstrates understanding of advanced concepts used in processing honey based cosmetic products by:* describing processing operations and identifying their impact on resulting outcomes

For example:The learner’s description includes at least one processing operation from each of the following categories:* + measuring/shaping/forming e.g. how moulds are automatically filled to produce units of the same weight
	+ contamination prevention/disposal e.g. how an alcohol based product is used to sterilise the plastic containers
	+ mixing/extracting/separating/growing e.g. the effects of using beeswax as an emulsifier
	+ heating/cooling/reacting e.g. the care needed when heating particular ingredients (in terms of such things as flammability and activity)
	+ materials transfer e.g. how heated pipes are used to transfer melted fats.
* describing the nature of specific tests used in processing operations

For example:The learner describes what the tests were used for, e.g. a water test for the purity of the honey to be used.* explaining visually how processing operations and tests can be combined in a processing sequence

For example:The learner draws a process flow diagram showing operations and testing, using accepted symbols and feedback loops.* explaining the differences between processing in a classroom environment and processing in industry

For example:The learner compares the honey based cosmetics made by them with those made in industry. The explanation considers such things as setting up machines, waste disposal, material transfer, testing and/or quality control, product specifications and cleaning regimes.* explaining the differences between health and safety regulations in a classroom environment and in industry

For example:The learner’s explanation includes an account of OSH (occupational safety and health) information, health and safety regulations, and the role of the health and safety officer in the plant the learner visited. The learner compares these with the rules in their own learning environment.*The above expected learner responses are indicative only and relate to just part of what is required.* | The learner demonstrates in-depth understanding of advanced concepts used in processing honey based cosmetic products by:* explaining processing operations and how they achieve required outcomes

For example:The learner’s explanation includes at least one processing operation from each of the following categories:* + measuring/shaping/forming e.g. how moulds are automatically filled to produce units of the same weight
	+ contamination prevention/disposal e.g. how an alcohol based product is used to sterilise the plastic containers
	+ mixing/extracting/separating/growing e.g. the effects of using beeswax as an emulsifier
	+ heating/cooling/reacting e.g. the care needed when heating particular ingredients (in terms of such things as flammability and activity)
	+ materials transfer e.g. how heated pipes are used to transfer melted fats.
* explaining why specific tests are used in processing operations

For example:The learner describes what the tests were used for, e.g. a water test for the purity of the honey to be used.The learner explains what the bleed test is, and how it determines whether the colourant will give the desired effect for the soap.* explaining visually how processing operations and tests can be combined in a processing sequence

For example:The learner draws a process flow diagram showing operations and testing, using accepted symbols and feedback loops.* explaining the differences between processing in a classroom environment and processing in industry

For example:The learner compares the honey based cosmetics made by them with those made in industry. The explanation considers such things as setting up machines, waste disposal, material transfer, testing and/or quality control, product specifications and cleaning regimes.* explaining the differences between health and safety regulations in a classroom environment and in industry

For example:The learner’s explanation includes an account of OSH (occupational safety and health) information, health and safety regulations, and the role of the health and safety officer in the plant the learner visited. The learner compares these with the rules in their own learning environment.*The above expected learner responses are indicative only and relate to just part of what is required.* | The learner demonstrates comprehensive understanding of advanced concepts used in processing honey based cosmetic products by:* comparing and contrasting processing operations and tests, and their suitability for different materials and/or purposes

For example:The learner compares and contrasts at least one processing operation from each of the following categories:* + measuring/shaping/forming e.g. how moulds are automatically filled to produce units of the same weight
	+ contamination prevention/disposal e.g. how an alcohol based product is used to sterilise the plastic containers
	+ mixing/extracting/separating/growing e.g. the effects of using beeswax as an emulsifier
	+ heating/cooling/reacting e.g. the care needed when heating particular ingredients (in terms of such things as flammability and activity)
	+ materials transfer e.g. how heated pipes are used to transfer melted fats.

The learner compares processing operations and how these produce a different cosmetic that has different materials and a different purpose, e.g. non-natural and natural cosmetics. The discussion includes:* + why natural cosmetics were processed in smaller batches and quantities per unit because of a shorter shelf life
	+ how different preservatives (e.g. bee propolis, formaldehydes and/or parabens) need to be treated when used in processing cosmetics.
* discussing the implications of testing outcomes on processing decisions

For example:The learner describes what the tests were used for, e.g. a water test for the purity of the honey to be used.The learner explains what the bleed test is, and how it determines whether the colourant will give the desired effect for the soap.The learner’s discussion covers how the results from a particular test will influence changes in processing, e.g. how lip balms can be tested for the required glossiness and/or creaminess and/or clinginess, and the mix of beeswax and/or butter and/or oil can be adjusted to attain the desired characteristics.* explaining visually how processing operations and tests can be combined in a processing sequence

For example:The learner draws a process flow diagram showing operations and testing, using accepted symbols and feedback loops.* explaining the differences between processing in a classroom environment and processing in industry

For example:The learner compares the honey based cosmetics made by them with those made in industry. The explanation considers such things as setting up machines, waste disposal, material transfer, testing and/or quality control, product specifications and cleaning regimes.* explaining the differences between health and safety regulations in a classroom environment and in industry

For example:The learner’s explanation includes an account of OSH (occupational safety and health) information, health and safety regulations, and the role of the health and safety officer in the plant the learner visited. The learner compares these with the rules in their own learning environment.*The above expected learner responses are indicative only and relate to just part of what is required.* |

Final grades will be decided using professional judgement based on an examination of the evidence provided against the criteria in the Achievement Standard. Judgements should be holistic, rather than based on a checklist approach.