



UNIT 1: Food safety and properties of food

Area of study 2: Food properties and preparation

Outcome 2 Analyse the physical, sensory, chemical and functional properties of key foods, and select, prepare and process foods safely and hygienically to optimise these properties using the design process.

Key knowledge

- the design process (including the design brief, criteria for evaluation, research, the design plan and evaluation of processes and products) and its role in planning, and safely and hygienically preparing and processing foods in a way that maximises the qualities of key foods
- plant or animal origin, structure, and classification of key foods, including fruits, vegetables
- considerations in food selection including food quality
- physical, sensory, chemical properties of selected key foods
- functional properties of selected key foods and their role in food preparation and processing
- changes in physical and sensory properties of selected key foods during preparation and processing.

Key skills

- use the design process to plan and safely and hygienically prepare and process key foods to maximise quality
- make informed decisions about food selection
- prepare selected key foods to demonstrate functional properties in food preparation and processing
- compare physical and sensory properties of selected key foods before and after food preparation and processing.

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- use a teacher-initiated design brief that focuses on the use of a key food in the preparation of a main course dish; prepare a simple recipe that uses a key food as the main ingredient; complete the following components of the design process – development of criteria for evaluation, research, and evaluation; set up a tasting table to complete a sensory analysis of all the products produced by the class, encouraging use of appropriate terminology to describe the sensory properties.

Design brief:

A major supermarket chain is running a competition for new recipes that are suitable to include on their website to promote the use of fresh fruit and vegetables. The recipes will be part of a new campaign called 'Spectacular Summer Salads'. The recipes will be linked to their 'What's in season' page and therefore must use seasonally available ingredients. Competitors must include a recipe for both a fresh salad and a cooked salad and be suitable to serve as a one bowl main course meal. Each salad must include at least four different fruits and/or vegetables and take no more than 40 minutes to prepare. Presentation of the salads is also an important component of the competition as each recipe will be photographed to include on the website. Therefore it is essential to maximise the physical and sensory properties of the fruit and vegetables used to produce each main course salad.



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Key knowledge

- the design process (including the design brief, criteria for evaluation, research, the design plan and evaluation of processes and products) and its role in planning, and safely and hygienically preparing and processing foods in a way that maximises the qualities of key foods
- plant or animal origin, structure, and classification of key foods, including cereals, dairy foods
- considerations in food selection including food quality physical, sensory, chemical properties of selected key foods
- functional properties of selected key foods and their role in food preparation and processing
- changes in physical and sensory properties of selected key foods during preparation and processing.

Key skills

- use the design process to plan and safely and hygienically prepare and process key foods to maximise quality
- make informed decisions about food selection
- prepare selected key foods to demonstrate functional properties in food preparation and processing, including Maillard reaction, dextrinisation
- compare physical and sensory properties of selected key foods before and after food preparation and processing.

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Using the design process in the preparation of the key foods cereals and dairy products

1. Provide students with a design brief that focuses on the use of the key foods – cereals and dairy foods – to prepare a biscuit recipe for a special occasion.
Specifications in the design brief could include the:
 - Scenario, for example biscuits for a fund raising event such as the Cancer Council's Biggest Morning Tea
 - biscuits which include a filling or icing
 - importance of producing a high-quality product with appealing aroma, appearance, colour, flavour and texture that consumers will want to buy.
2. Students should complete the following components of the design process:
 - development of criteria for evaluation based on the specification in the design brief
 - research into the functional properties of each of the key ingredients used to prepare the biscuits
 - identification of how the functional properties of the key foods can optimise the finished biscuits, for example proportion of butter to enhance the eating and keeping qualities of the biscuits

- production of the biscuits
- sensory evaluation of the biscuits
- evaluation of the final product according to the previously established criteria.

Design brief

'Australia's Biggest Morning Tea' is an annual event run by the Cancer Council to raise funds for cancer research, prevention, education and support services. The Biggest Morning Tea takes place every May. The student council at your school has decided to make this event the focus of their fund-raising activities for Semester 1. They have asked Year 11 students to design and produce a sweet biscuit that would be suitable to serve at the Biggest Morning Tea. They have received support from a local supermarket who will supply the key ingredients of flour and butter that will be used in making the biscuits. The student council would like the biscuits to be very high-quality and include a filling or icing to make them visually appealing so that other students and staff will be encouraged to participate in this fund-raising event. The biscuits must be delivered to school on the day before the Biggest Morning Tea, therefore they must be able to be made in advance and have good keeping qualities.