Food Technology process unit plan
(Suggest year 7)

Heart Foundation™

vegetables.co.nz

heartfoundation.org.nz

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

The New Zealand Curriculum (1)

Vision: Young people who will be confident, connected, actively involved, lifelong learners.	
Principles: high expectations Treaty of Waitangi cultural diversity inclusion learning to learn community engagement coherence future focus	
Key competencies: managing self thinking relating to others participating and contributing using language symbols and texts	
Values: excellence innovation, inquiry and curiosity diversity integrity **School values:** *(please add if required)*	

Learning area: Food Technology (2,1)

This learning area comprises three strands: Technological Practice, Technological Knowledge, and Nature of Technology. Teaching and learning programmes will integrate all three, though a particular unit of work may focus on just one or two (1).

Strand	Achievement objectives (Level 3) *(please circle)*	Achievement objectives (Level 4) *(please circle)*
Technological Practice	*Students will:* **Planning for practice** Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. **Brief development** Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. **Outcome development and evaluation** Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.	*Students will:* **Planning for practice** Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome. **Brief development** Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation. **Outcome development and evaluation** Investigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity.
Technological Knowledge	*Students will:* **Technological modelling** Understand that different forms of functional modelling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development. **Technological products** Understand the relationship between the materials used and their performance properties in technological products. **Technological systems** Understand that technological systems are represented by symbolic language tools and understand the role played by the "black box" in technological systems.	*Students will:* **Technological modelling** Understand how different forms of functional modelling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological outcomes. **Technological products** Understand that materials can be formed, manipulated, and/or transformed to enhance the fitness for purpose of a technological product. **Technological systems** Understand how technological systems employ control to allow for the transformation of inputs to outputs.

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Nature of Technology	Students will:	Students will:
	Characteristics of technology Understand how society and environments impact on and are influenced by technology in historical and contemporary contexts and that technological knowledge is validated by successful function. **Characteristics of technological outcomes** Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.	**Characteristics of technology** Understand how technological development expands human possibilities and how technology draws on knowledge from a wide range of disciplines. **Characteristics of technological outcomes** Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.

Indicators of progression (3)
Note: These are the suggested indicators of progression for this unit plan. However, there may be others that are applicable, please add as required.

	Level 1	Level 2	Level 3	Level 4
Outcome development and evaluation (ODE)	*Students can:* • identify potential outcomes that are in keeping with the attributes, and selects one to produce • produce an outcome in keeping with identified attributes.	*Students can:* • evaluate potential outcomes in terms of identified attributes to select the outcome to produce • produce an outcome in keeping with the brief • evaluate the final outcome in terms of how successfully it addresses the brief.	*Students can:* • evaluate design ideas in terms of key attributes to develop a conceptual design for the outcome • select materials/components, based on their performance properties, for use in the production of the outcome • produce an outcome that addresses the brief • evaluate the final outcome against the key attributes to determine how well it met the need or opportunity.	*Students can:* • undertake functional modelling to develop design ideas into a conceptual design that addresses the key attributes • test the key performance properties of materials/ components to select those appropriate for use in the production of a feasible outcome • produce and trial a prototype of the outcome • evaluate the fitness for purpose of the final outcome against the key attributes.
Characteristics of technological outcomes (CTO)	*Students can:* • identify the physical attributes of technological outcomes • identify the functional attributes of technological outcomes.	*Students can:* • identify a technological product and describe relationships between the physical and functional attributes	*Students can:* • describe examples of technological outcomes with different physical natures that have similar functional natures • describe examples of technological outcomes with different functional natures that have similar physical natures	*Students can:* • explain the proper function of existing technological outcomes • explain possible physical and functional attributes for a technological outcome when provided with intended user/s, a purpose, and relevant social, cultural and environmental details to work within.

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Indicators of progression (3)				
Note: These are the suggested indicators of progression for this unit plan. However, there may be others that are applicable, please add as required.				
	Level 1	**Level 2**	**Level 3**	**Level 4**
Technological modelling (TM)	*Students can:* • describe what a functional <u>model</u> is • identify the purpose of functional modelling • describe what a <u>prototype</u> is • identify the purpose of prototyping.	*Students can:* • describe what functional modeling can be used for in technology • identify the design concept being tested in a particular functional model • identify why prototyping is important in technology • identify the specifications used to evaluate particular prototypes.	*Students can:* • discuss examples to identify the different forms of functional models that were used to gather specific information about the suitability of design concepts • identify the benefits and limitations of functional modelling undertaken in particular examples • describe examples of particular prototypes that did not meet specifications • explain why functional modelling and prototyping are both needed to support decision making when developing an outcome.	*Students can:* • explain how functional modelling and prototyping allows for consideration of both what '"can" be done and what "should" be done when making decisions • discuss examples to illustrate how particular functional models were used to gather specific information about the suitability of design concepts • identify information that has been gathered from functional models about the suitability of design concepts and describe how this information was used • describe examples to illustrate how prototypes were tested to evaluate a technological outcome's fitness for purpose • identify information that has been gathered from prototyping and describe how this information was used.
Technological products (TP)	*Students can:* • identify materials that technological products are made from • identify performance properties of common materials • identify how the materials have been manipulated to make the product.	*Students can:* • describe feasible ways of manipulating a range of materials • suggest why the materials used in particular technological products were selected.	*Students can:* • describe the properties of materials used in particular products that can be measured objectively • describe the properties of materials used in particular products that can be measured subjectively	*Students can:* • describe examples to illustrate how the manipulation of materials contributed to a product's fitness for purpose • describe examples to illustrate how the transformation of materials

	Level 1	Level 2	Level 3	Level 4
Indicators of progression (3) *Note: These are the suggested indicators of progression for this unit plan. However, there may be others that are applicable, please add as required.*				
			• describe how the properties combine to ensure the materials allow the product to be technically feasible and socially acceptable.	contributed to a product's fitness for purpose.

All learning should make use of the natural connections that exist between learning areas and that link learning areas to the values and key competencies (1).

Links to other learning areas:
- English – listening, reading, writing, presenting
- Health and Physical Education – food and nutrition
- Learning Languages – oral language, presenting, reading, receptive listening
- Mathematics and Statistics – measurement, using appropriate units and instruments
- Science – physical world, heat, electricity, living world (micro-organisms, bacteria)
- Social Sciences – economic decisions

Opportunities for e-learning:
- Digital camera to take photos of meals
- Skill and recipe videos
- Heart Foundation website and vegetables.co.nz
- Google Classroom activities

Opportunities for engaging gifted students: *(please extend as required)*
- Identify unfamiliar vegetables and source appropriate recipes
- Use further preparation techniques (e.g. traditional vegetable cuts, fermenting/pickling)
- Use recipes that allow for creativity, choice and modification
- Use open ended questions.

Opportunities for engaging students of Māori, Pacifika, Asian and other cultures: *(please extend as required)*
- Lessons with a New Zealand and multi-cultural focus
- Use recipes/resources from many cultures
- Engage parent community (e.g. parent helpers, workshops)
- Use traditional vegetables/spices from different cultures (e.g. kawakawa, okra, taro)
- Story telling (e.g. students talk about how their family uses ingredients and cooks, invite guest speakers)
- Karakia mō te kai (prayer to bless food)

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Unit title: Veg-up pizza	Suggested for Year 7 (level 2-4)	Duration: 8-10 lessons of 1.5 hr

Description of context

Students will begin to develop practical food skills, while being introduced to the food technology process. They will learn food hygiene, how to work safely in the kitchen, simple food preparation and cooking skills (e.g. boiling, cutting, grating, measuring, mixing) and how to follow a recipe. This will help equip them with fundamental life skills to cook a healthy meal.

Concepts of attitudes and values, hauora (wellbeing), health promotion and socio-ecological perspectives will be considered.

Scenario

Using vegetables as a pizza topping can help students eat more veggies.

Brief

Students are asked to show off their cooking skills by making the Veg-up pizza.

Specifications

Students work in pairs.

Their pizza must:
- have **three** different coloured vegetable toppings
- use **three** different vegetable cuts
- be prepared, cooked and ready to eat within the time frame.

They will be given a pizza recipe that lets them choose their own vegetable toppings.
They must **each hand in their own assignment.**
More resources can be found on the Heart Foundation website and vegetables.co.nz.

Teaching notes *(please choose and add as required)*

Students will learn to:
- bake, chop, cut, dice, grate, measure, mix, slice, spread (if using option 1 - wraps)
- bake, chop, cut, dice, grate, measure, mix, roll, slice, spread, sieve (if using option 2 – scone dough)
- use seasonal vegetables to make a healthy pizza
- start following the food technology process
- work as a team
- manage their time
- evaluate their pizza (food product).

Messages to reiterate during each lesson: • Safety, hygiene and kitchen rules • Use of equipment • Accurate measuring • Nutrition and healthy eating, e.g. use posters such as the Visual food guide and Eat your colours • Sustainability and the importance of not wasting ingredients • Cultural links to certain vegetables and ingredients • How food products could be developed further	**Technology language:** attributes, brief, evaluation, fit(ness) for purpose, need, opportunity, outcome, plan of action, specifications, sustainability, technological modelling, transformation processes (see glossary). **Preparation and cooking skills:** blend, boil, brown, chop, cut, deseed, dice, divide, drain, fry, grate, knead, make sauces from scratch, mash, measure, mix, pan fry, peel, reduce and thicken, roll, shred, simmer, slice, stir, stir fry, use herbs and spices to flavour dishes, whisk, zest.
Assessment: • Comment on student evaluation sheets. You could use Google Classroom, a tool where parents can also review or add comments. • Use a tick chart, e.g. tick next to student name if successfully met criteria for cleaning up. • Use peer assessment where possible, e.g. students can complete each other's lesson evaluation sheets or a tick chart.	**Additional teaching notes:** *e.g. "Hands up if you're listening" when students are busy and I need to stop them to listen, I can immediately see who is focused and engage those who aren't.*

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Lesson sequence						
Lesson	**Learning outcomes**	**Contents/strategies**	**Activity/skills/terminology**	**Underlying concepts**	**Resources** *(please tick)*	**Assessment**
1 **Welcome to the kitchen** (Introduction)	• Demonstrate safe practices in the kitchen. • Evaluate a product (ODE).	**Introduction:** safety, hygiene, dish washing, safe knife handling, orientation. **Make one of these recipes** (in pairs) • Colourful fruit jars <u>or</u> Rainbow salad jars **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** dice, grate, peel, slice. **Tech language:** evaluation.	Attitudes and values, hauora	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Word search – food skills ☐ Easy meals with vegetables (EmwV) cards – cabbage, carrot, cucumber, lettuce, sweetcorn, tomato	Evaluation and outcome reflect appropriate skills, time management and teamwork.
2 **Healthier pikelets**	• Demonstrate safe practices in the kitchen. • Evaluate a product (ODE).	**Introduction:** using equipment safely. **Make recipe** (in pairs) • Banana pikelets with berry sauce **Evaluation** **Planning for next lesson:** build a salad bowl activity	**ACTIVITY** Make recipe Evaluation **Skills:** fry, mash, mix, reduce and thicken. **Tech language:** evaluation.	Attitudes and values, hauora	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Visual food guide poster ☐ Food skill card - mashing	Evaluation and outcome reflect appropriate skills, time management and teamwork.
3 **Colourful and seasonal**	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (ODE).	**Introduction:** attributes (colour, vegetable cuts), seasonal vegetables. **Make recipe** (in pairs) • Build a salad bowl **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** chop, divide, grate, measure, slice. **Tech language:** attributes, evaluation.	Attitudes and values, hauora, sustainability	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Food shopping maze ☐ Seasonality leaflet/poster ☐ EmwV cards – beetroot, cabbage, carrot, cucumber, lettuce, rice, sweetcorn, tomato	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Lesson sequence						
Lesson	**Learning outcomes**	**Contents/strategies**	**Activity/skills/terminology**	**Underlying concepts**	**Resources** *(please tick)*	**Assessment**
4 **Know your noodles**	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (ODE).	**Introduction:** attributes (texture, colour), using seasonal vegetables to make healthier meals. **Make recipe** (in pairs) • Veg-up noodles **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** boil, chop, cut, dice, drain, grate, simmer, slice, soak, stir fry, rinse. **Tech language:** attributes, transformation processes, evaluation.	Attitudes and values, hauora, sustainability	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Eating your colours activity ☐ Vegetable colours poster ☐ EmwV cards – broccoli, carrots, cauliflower, green beans rice, onion	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.
5 **Using spices**	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (ODE).	**Introduction:** attributes (taste, smell). **Make recipe** (in pairs) • Sagwaala **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** chop, blend, dice, simmer, stir, use spices to flavour dishes. **Tech language:** attributes, evaluation.	Attitudes and values, hauora	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Writing a recipe poster ☐ EmwV cards – onion, spinach, tomato	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.
6 **Cooking eggs**	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (ODE).	**Introduction:** attributes, transformation processes (boiled eggs). **Make recipe** (in pairs) • Stuffed egg salad **Assignment:** Introduce assignment. Suggest that students complete page 2 - 4 if they are <u>not</u> doing a cultural lesson for the next lesson.	**ACTIVITY** Make recipe Evaluation **Skills:** boil, cut, dice, mix, peel, slice, use herbs and spices to flavour dishes, deseed. **Tech language:** attributes, transformation processes, evaluation.	Attitudes and values, hauora	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Sensory word bank poster ☐ Food skill card – boiled eggs	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

Lesson sequence						
Lesson	**Learning outcomes**	**Contents/strategies**	**Activity/skills/terminology**	**Underlying concepts**	**Resources** *(please tick)*	**Assessment**

7
 	
Practice and planning for assessment
Or
Cultural lesson (see additional lessons)
	• Identify and describe key attributes of a product (CTO, TP).
	• Identify and evaluate potential outcomes (ODE).
		Introduction: practice and planning for assessment.
		
		Trial assignment recipe (in pairs)
		• Veg-up pizza (choose one)
		  ☐ Option 1 – wraps
		  ☐ Option 2 – scone dough
		
		Assignment: complete food technology process activity (page 6).
			ACTIVITY
			Make recipe
			Evaluation
			Assignment tasks
			
			Skills (option 1 - wraps): bake, chop, cut, dice, grate, measure, mix, slice, spread.
			
			Skills (option 2 – scone dough): bake, chop, cut, dice, grate, measure, mix, roll, slice, spread, sieve.
			
			Tech language: attributes, design ideas, plan of action, technological modelling, transformation processes, evaluation.
				Attitudes and values, hauora, sustainability	☐ Assignment
					☐ Food and equipment
					
					Options
					☐ EmwV cards
					☐ Camera to photograph trial
						Evaluation and outcome reflect appropriate skills, language, planning and teamwork.
						
						Identify knowledge gained from trial.

8 **Assessment**	• Produce an outcome that addresses the brief then evaluate it (ODE).	**Introduction:** assessment. **Make recipe** (in pairs) • Veg-up pizza (final) **Assignment:** evaluation and any unfinished tasks.	**ACTIVITY** Make recipe Assignment tasks **Skills (option 1 - wraps):** bake, chop, cut, dice, grate, measure, mix, slice, spread. **Skills (option 2 – scone dough):** bake, chop, cut, dice, grate, measure, mix, roll, slice, spread, sieve. **Tech language:** attributes, design ideas, plan of action, technological modelling, transformation processes, evaluation.	Attitudes and values, hauora, sustainability	☐ Assignment ☐ Food and equipment **Options** ☐ EmwV cards ☐ Camera to photograph final	**Marked assessment.**

FOOD TECHNOLOGY PROCESS UNIT PLAN (suggest year 7)

ADDITIONAL LESSONS *(substitute or add the following lessons to suit your programme)*						
Lesson	**Learning outcomes**	**Contents/strategies**	**Activity/skills/terminology**	**Underlying concepts**	**Resources** *(please tick)*	**Assessment**
Cultural foods	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (OED).	**Introduction:** cultural foods (Māori, Pasifika and Asian). **Make one of these recipes** (in pairs) • Curried pork lap lap • Kūmara and watercress salad • Mapo pork and eggplant • Mussel and pumpkin fritters • Sushi	**ACTIVITY** Make recipe Evaluation **Skills:** *(please add as appropriate)* **Tech language:** attributes, evaluation.	Attitudes and values, hauora, socio-economic perspective, sustainability.	☐ Recipe and video ☐ Food and equipment ☐ evaluation sheet **Options** ☐ Huawhenua (vegetables) Māori Bingo ☐ Word search – Huawhenua (vegetables) ☐ Word search - Kipu tuna kai (words used in cooking) ☐ Toi te kupu (Māori and English Dictionary) ☐ EmwV cards – eggplant, kumara, onion, pumpkin, silverbeet, watercress. ☐ Food skill cards - mussels	Evaluation and outcome reflects appropriate skills, language, planning and teamwork.
Family favourites	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (OED).	**Introduction:** using household ingredients to make a healthy meal. **Make one of these recipes** (in pairs) • Potato top pie • Sweet and sour chicken stir fry **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** *(please add as appropriate)* **TECH LANGUAGE:** attributes, evaluation.	Hauora, attitudes and values, socio-economic perspective, sustainability.	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Word search - vegetables ☐ EmwV cards – broccoli, carrots, celery, onions, potatoes, pumpkin, tomato	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.

ADDITIONAL LESSONS *(substitute or add the following lessons to suit your programme)*

Lesson	Learning outcomes	Contents/strategies	Activity/skills/terminology	Underlying concepts	Resources *(please tick)*	Assessment
Cooking for allergies	• Identify and describe key attributes of a product (CTO, TP). • Evaluate a product (OED).	**Introduction:** allergies, transformation processes. **Make one of these recipes** (in pairs) • Scrambled tofu – egg free • Tofu mayonnaise – egg free • Corn chowder – diary free, gluten free **Evaluation**	**ACTIVITY** Make recipe Evaluation **Skills:** *(please add as appropriate)* **Tech language:** attributes, fit(ness) for purpose, stakeholder, evaluation, usability.	Hauora, attitudes and values, socio-economic perspective, sustainability.	☐ Recipe and video ☐ Food and equipment ☐ Evaluation sheet **Options** ☐ Find the gluten activity ☐ EmwV cards – carrot, onion, sweetcorn, tofu	Evaluation and outcome reflect appropriate skills, language, planning and teamwork.

LIST OF SUPPORTING RESOURCES *(pick and choose to suit your lesson)*

POSTERS/FLYERS/BOOKS			ACTIVITIES	LESSON SUMMARY
Healthy Eating	**Food Safety**	**Food Technology and Cooking Skills**	• Eating your colours • Find the gluten • Food shopping maze • Huawhenua Māori Bingo • Nutrition bingo • Veg-up assignment (option 1 and 2) • Word search – food skills • Word search – Huawhenua (vegetables) • Word search - Kipu tuna kai (words used in cooking) • Word search – vegetables • Writing a recipe	1. Welcome to the kitchen 2. Healthier pikelets 3. Colourful and seasonal 4. Know your noodles 5. Using spices 6. Cooking eggs 7. Practice and planning for assessment OR cultural lesson 8. Assessment ***Optional lessons*** 9. Cultural foods 10. Family favourites 11. Cooking for allergies
• Eat your colours (poster) • Visual food guide (poster) • Vegetable colours (poster)	• *Safe food* book/poster	• Sensory word bank poster • EmwV cards, food skill cards and videos • The technology process poster • Toi te kupu (Māori and English Dictionary)		
To order the Visual food guide or Toi te kupu, please use the <u>resource order form.</u> To order Eat your colours, Safe food or Skill cards, please visit Vegetables.co.nz. All other resources can be downloaded from the Heart Foundation website heartfoundation.org.nz.				

References:
1. Ministry of Education. The New Zealand Curriculum Wellington: Learning Media Ltd; 2007.
2. Ministry of Education. Food Technology in the New Zealand Curriculum Wellington: Learning Media Ltd; 2017.
3. Compton V, Harwood C. Indicators of Progression Wellington: Ministry of Education; 2010.