

# Classroom Caterers

Mathematics and Statistics, Levels 3 - 4

## The Learning Context:

*In this unit students will plan, prepare, and serve a 3 course lunch for a group of visitors to their classroom. The visitors could be another class, parents, grandparents, special friends, etc. Students will be given a set budget for the lunch. Money for this project could come from the mathematics curriculum budget. Students could charge their guests a gold coin donation to subsidise their expenses.*

*Students will firstly need to conduct a statistical investigation to discover the food preferences of their intended lunch guests. They will list potential meal choices and ask their guests to nominate their favourite options. Students will decide on a menu for the lunch using the results from this investigation.*

*Students will need to apply number knowledge to calculate the costs of the required ingredients for the lunch. Students will also have to practice measurement skills as they gauge food quantities and formulate a timetable to follow when making and serving the lunch.*

Approximately 10 lessons

## Achievement Objectives:

### **MATHEMATICS AND STATISTICS CURRICULUM (Level 3/4)**

#### **Statistics:**

#### **Statistical Investigation: Level 4:**

*Plan and conduct investigations using the statistical enquiry cycle by:*

- *Determining appropriate variables and data collection methods.*
- *Gathering, sorting, and displaying data to detect patterns, variations, relationships, and trends.*
- *Communicating findings, using appropriate displays.*

#### **Number Strategies: Level 3:**

*Use a range of additive and simple multiplicative strategies with whole numbers, fractions, and decimals.*

#### **Measurement: Level 4:**

*Use appropriate volume and capacity, weight (mass), temperature and time.*

## Mathematics and Statistics Learning Outcomes:

Students will be able to:

1. Carry out a statistical enquiry to determine the food preferences of a select group.
2. Calculate the costs and quantities of ingredients required for a 3 course lunch.
3. Operate within a budget.
4. Construct and follow a task timetable for the lunch preparation using analogue time.
5. Evaluate the success of the task.

## Enterprising Attributes:

- Generating, identifying, and assessing opportunities.
- Identifying, solving, and preventing problems.
- Working with others and in teams.
- Matching personal goals and capabilities to an undertaking
- Identifying, recruiting, and managing resources.
- Planning and organizing.
- Being flexible and dealing with change.
- Collecting, organising and analyzing information.

*Teachers to observe and collect evidence of these enterprising attributes in action.*

## Resource Requirements:

- Decision Making Grid
- Expenditure Budget
- Internet sites– [www.foodtown.co.nz](http://www.foodtown.co.nz), [www.woolworths.co.nz](http://www.woolworths.co.nz) and [www.yellowpages.co.nz](http://www.yellowpages.co.nz)
- Supermarket brochures
- Supermarkets
- Telephone
- Kitchen facilities

# Teaching and Learning Sequence

*NB: Teachers are encouraged to gauge the prior knowledge of their students before implementing each unit so that they can provide personalised and meaningful learning opportunities. The teaching and learning sequence provided in each unit is to be viewed as a guide only. Teachers will need to adapt this sequence to meet the needs of their students, school and community.*

*The future focus issues of citizenship and enterprise can be explored during this unit. Students work with a limited budget to acknowledge the work of others in their community. They will have a range of choices for their menu, but need to be innovative and enterprising in working out which choice will bring the most benefit to the guests. In ensuring their event is a success, again students will need to apply enterprising practices along the way, including striving for personal excellence. Students will be engaged in social entrepreneurship.*

*The numbered activities listed below are learning steps rather than lessons. Teachers may choose to combine two or three learning steps into one lesson. Alternatively, they may spread one learning step out over several lessons. This will be largely dependent on students' prior knowledge and their subsequent learning needs.*

<p><b>Getting started:</b></p> <p>The teacher tells the class that they are going to plan, prepare and serve a 3 course lunch for a group of visitors to the classroom. Students and teacher brainstorm who they can invite to the lunch – possible guests could include: a buddy class, parents, grandparents, special friends, etc. The class decides who they will cater for.</p> <p>The class creates a timeline for the unit with key dates for critical actions. This process will make the teaching sequence of the unit explicit to the students.</p>	<p style="text-align: center;"><b>LINKS TO BES</b> <b>Best Evidence Synthesis</b></p> <p><i>5. Quality teachers create effective and sufficient learning opportunities.</i></p>
<p><b>Teaching Sequence:</b></p> <ol style="list-style-type: none"> <li>The teacher sets a budget for the task (this could be between \$3 and \$5 per head). The class estimates how many guests they are expecting and the total amount of money they have to spend. (Learning Outcome 3)</li> <li>Invite a caterer in to school to speak to the class about the food industry. The caterer could talk about the process that they follow when catering for a group of diners - How do they decide on menu items? How do they stick to a budget when purchasing ingredients? How do they manage their time when preparing and serving food for a large group of people? Etc. This caterer may be invited back to school for the catered lunch so that they can provide feedback on the students' achievements.</li> <li>Teacher and students list "success criteria" for their shared lunch. The criterion could include: menu items reflect findings from investigation, purchases kept within budget; students kept to the timeline, all students aware of their roles, etc. <b>Excellence</b></li> <li>Students decide on a theme for the lunch. The theme could be: international cuisine, red food, healthy choices, Mexican dishes, etc. The possibilities are endless! Students may use a Decision Making Grid to assist with their decision. <b>Generating, identifying, and assessing opportunities</b></li> </ol>	<p><i>8. Quality teachers develop all students' information skills; ensuring students have ready access to resources to support the learning.</i></p> <p><i>10. Quality teachers involve students in the process of setting specific learning goals.</i></p>

5. Once a theme is established students can brainstorm possible menu items that they may offer to their guests. Students need to consider options for entrée, main and dessert and take their budget into account when thinking of ideas. Students also need be aware of the cooking facilities available to them – Do they have access to an oven? A microwave? Is cutlery and crockery available? Etc. The available resources will influence what food choices they can offer. **Generating, identifying and assessing opportunities**
6. Teacher and students draw up a questionnaire to present to their intended guests which lists potential food options for the lunch. Guests select their favourite dishes so that the students can determine which meal options are popular. Students present the information that they gather in charts and graphs. Students draw conclusions about their investigation and use the information gained to help shape the lunch menu. (Learning Outcome 1) **Collecting, organising and analyzing information** .
7. Students work in groups to calculate how much a particular menu item will cost to produce. Students will need to estimate quantities required and contact a range of supermarkets to find the lowest price for the ingredients. The following websites will assist students in this process: [www.foodtown.co.nz](http://www.foodtown.co.nz), [www.woolworths.co.nz](http://www.woolworths.co.nz) and [www.yellowpages.co.nz](http://www.yellowpages.co.nz) . Each group presents their calculations. (Learning Outcomes 2 and 3) **Working with others and in teams. Planning and organising**
8. As a class work out the total estimated cost of the lunch. Is it over budget or under? If it is over budget the students will need to try and adapt their menu to bring costs down. If it is under budget students may consider adding additional items to the menu. (Learning Outcomes 2 and 3) **Identifying, recruiting, and managing resources, Being flexible and dealing with change**
9. Students list all the jobs that need to be done to prepare and serve the lunch. Jobs may include: making and sending invitations, collecting RSVPs, shopping for ingredients, preparing menu items, setting tables, welcoming guests and collecting donations, serving food, doing dishes, etc. (Learning Outcome 4) **Planning and organizing**
10. Teacher and students revisit timeline and double check that the required jobs and deadlines for their completion are recorded (deadlines need to refer to dates and analogue time). Students select jobs that they would like to do. Teacher records students' names on the timeline next to their allocated jobs. (LO 4) **Identifying, solving, and preventing problems, Matching personal goals and capabilities to an undertaking Integrity**
11. Students fulfil job requirements as they prepare for the lunch. (LO 4)
12. The lunch is served to guests. (LO 4) **Community and participation**
13. Students evaluate the success of the lunch using the criteria established at step 3. The caterer may help with this process. Students may also seek feedback from their guests. (Learning Outcome 5)
14. Discuss reflective questions below: (LO 5)

**2. Quality teachers encourage learners to work as a community.**

**5. Quality teachers allow students to solve problems.**

**7. Quality teachers encourage critical thinking.**

**Reflective Questions:**

Exploring new knowledge and skills

- What are the crucial steps you need to take to prepare and serve lunch for a group of people? Can we draw these steps in a flow diagram?
- What did we learn by carrying out the investigation on food preferences?
- Which supermarkets offer cheaper prices? Which supermarkets are more expensive?
- How hard was it to stay within budget?
- How hard was it to keep to the timeline?
- How well did we carry out our jobs?
- How do we feel about the lunch that we provided?
- What did our guests think of the lunch?
- Would we do anything differently next time?

Exploring what it is to be innovative and enterprising

- What step/s were you doing when you used each of the Enterprising Attributes? Break each attribute into its separate words and refine your answers.
- How could you improve on using the Enterprising Attribute/s for next time?
- Can you transfer this learning to your other topics?

Exploring further future focus issues

- Explain why you were social entrepreneurs.
- Explain why people provide a service such as your lunch, and not for a profit.
- What values were important to your success?

**Possible Assessment Activities (Teacher):**

Learning Outcome 1: Teacher assesses student's ability to gather, present and interpret data on guests' food preferences.

Learning Outcome 2: Teacher assesses group's achievements as they calculate the cost of a specific menu item. Does the group accurately gauge the required quantities of food? Do they source a range of prices and select the cheapest options? Do they make accurate calculations?

The following assessment tasks from the Assessment Resource Banks offer further opportunities to measure students' abilities to make calculations with money:

**LEVEL 3**

NM 1075

NM 1070

NM 1066

NM 1027

NM 1014

NM 1012

**LEVEL 4**

NM 1105

NM 1057

NM 1040

NM 1038

NM 1000

## Handy Hints:

- This unit could be presented as a unit for 'deserving people' thus doubling up as community service as well as a mathematics catering unit.
- The money angle can be difficult – source different ways to finance the lunch – it could perhaps double as a staff lunch, community focus, etc, to allow for easier access to funds.
- The budget could be divided  $\frac{1}{4}$  entrée,  $\frac{1}{2}$  main,  $\frac{1}{4}$  dessert, etc so that more children have direct input and hands-on experience.
- Before students start using the Woolworths or Foodtown websites to research prices for their catered lunch give them a fun scavenger hunt using the site so they can learn how to navigate their way around it with confidence.
- Each group could work out a funding action plan and do a fundraising activity to pay for their budget requirements.
- Think very carefully about the amount of money allocated to each course.
- Don't over-cater – people eat less than you think.



