

Clean and Green

Health and Physical Education, and Science, Level 3

The Learning Context:

In this unit students will explore and establish the necessary hygiene and waste requirements to accommodate the gathering of a large number of people in one place, for example, Noho Marae (Staying at the Marae), Kapa Haka concert, School Gala, Community Hangi, School Camp/Sleepover, etc.

During the first stage of the unit students will identify an upcoming event where they will be able to act as consultants for the management of the hygiene and waste requirements. Students will brainstorm the range of situations within their event where hygiene and waste problems will occur. They will liaise with community people who have experience in developing and managing hygiene and waste management plans for large groups of people. Students will determine if people's attitudes and values, and legal rulings determine hygiene and waste practice.

During the next stage of the unit students will implement their plan. If the students are organising the entire event, the implementation may be the role of a sub committee. After the event students will evaluate the successes or otherwise of their hygiene and waste management plans.

Approximately 12 lessons

Achievement Objectives:

HEALTH AND PHYSICAL EDUCATION CURRICULUM LEVEL 3:

Strand D: Healthy Communities and Environments:

D1: Societal Attitudes and Values: Identify how health care and physical activity practices are influenced by community and environmental factors.

D 4: People and the Environment: Students will plan and implement a programme to enhance an identified social or physical aspect of their classroom or school.

SCIENCE CURRICULUM: Level 3:

PARTICIPATING AND CONTRIBUTING:

Students will use their growing science knowledge when considering issues concerning them, and explore various aspects of an issue and make decisions about possible actions.

Life processes: Recognise that there are life process common to all living things and that these occur in different ways.

Enterprising Attributes:

- Identifying, assessing and managing risk
- Planning and organising.
- Generating and using creative ideas and processes.
- Working with others and in teams.
- Monitoring and evaluating
- Communicating and receiving ideas and information.

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

Resource Requirements:

- Newspaper article or TV news item or health statistics on food poisoning at an event.
- Internet articles on food handling.
- Local expert on hygiene and waste planning.
- The local council
- An expert in protocol and cultural aspects to consider for the gathering.

Health and Physical Education Learning Outcomes:

Students will be able to:

1. Identify a range of healthy and unhealthy hygiene and waste practices and describe their effects on people at a large gathering.
2. Participate in implementing a healthy hygiene and waste management plan and take responsibility for the outcomes from this plan.
3. Describe the changes in the bacteria of food over time and identify appropriate storage conditions for food.
4. Evaluate the success, or otherwise, of their hygiene and waste management plan.
5. Describe how they applied Enterprising Attributes to support their tasks in this unit.

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, sustainability and enterprise can be explored during this unit. Even though community safety is the responsibility of all citizens, it falls on a few to create the awareness of the risks and manage them. How we manage waste and hygiene is important to sustaining a healthy community. Students will be enterprising in identifying their waste and hygiene needs and plans, and carry them through.

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.

Getting started:

The teacher shares with the students the opportunity for them to be involved in an upcoming event. The teacher explains to the students that they are going to organise (or be part of organising) the event and one of their key roles is to determine the hygiene and waste plan for that event. The teacher uses a newspaper article, health statistics or a TV news item, etc, to highlight the issue and consequences of poor hygiene practices, including food handling, in New Zealand.

The unit and focus for learning is described to the students. Explain that the class will:

- explore how waste management affects the environment,
- explore how food handling can affect people's health and wellbeing, and
- establish a plan of hygiene and waste management for the event and action it.

LINKS TO BES Best Evidence Synthesis

5. Quality teachers allow students to solve problems and link learning to real life experiences.

Teaching Sequence:

1. Complete a brainstorm to record what students already know about waste management and food hygiene when catering for large numbers of people. Prompt questions could include: What waste might result from this gathering? What waste actions might you need to take for gathering? What practices might you need to use when making, storing and supplying food? (Learning Outcome 1) **Ecological sustainability**
2. Students brainstorm potential risks associated with waste management and hygiene at their upcoming event. Students establish their first draft of their Risk Management Plan for Waste and Hygiene. (Learning outcome 2) **Identifying, assessing and managing risk**
3. Use a KWL Chart - What I **know**; What I **want** to learn; What I have **learned** - to help direct the research process. (Learning Outcome 1)

3. Quality teachers recognise and build on students' prior knowledge.

"The initial brainstorm showed me that the students knew a little bit about food safety but didn't really recognise all the waste issues that arise from large groups of people. I knew what new knowledge they needed to gain from here."

4. Invite a local expert to visit the school to help answer some questions that the students have about waste collection and food hygiene. The visitor could share information about what should be included in a risk management plan for waste and hygiene and provide guidance on the legal sides of handling waste and food at events. With the help of the expert the students list a range of success criteria for appropriate waste and hygiene management during a large event. (Learning Outcomes 1) **Identifying, assessing and managing risk, Communicating and receiving ideas and information Excellence Innovation, inquiry, and curiosity**

8. Quality teachers develop all students' information skills; ensuring students have ready access to resources to support the learning.

5. Students continue to research food handling practices and how food changes over time in varying environments. Students determine the range of bacteria that is a health risk in food, and identify practices that avoid these becoming a health risk. Students design and make display posters that communicate hygienic food handling practices. Their posters should also communicate the consequences of bad food handling practices. (Learning outcome 3) **Communicating and receiving ideas and information**
6. With this new knowledge, students update their draft risk management plan for waste and hygiene. (Learning Outcome 1)
7. Using the three headings, Reduce, Reuse, Recycle, students explore ways to handle waste at the gathering. From their findings, students create a Waste Management Plan. **Planning and organising, Generating and using creative ideas and processes**
8. Students brainstorm different ways to communicate their plan to people attending the gathering. The approach adopted will need to persuade people to follow their steps/plan. (Learning Outcome 2)
9. To decide which communication approach would be most successful in persuading people to follow the plan, students decide criteria to judge each approach. Criteria to consider could include: Will the approach be easy for us to implement? Will all people be able to see or hear the information/plan? Does the approach clearly communicate the information to all people, young and old? Students use a Decision Making Grid to help rank the possibilities and decide which approach would best suit. (LO 2)
10. Once a decision has been made the students then begin planning and organising the implementation of their plan. If desired, posters are made to display at the gathering. (LO 2) **Planning and organising**
11. Students finalise their Risk Management Plan for Waste and Hygiene. They consider if their planning and organising to date will mitigate or manage the defined risks. **Monitoring and evaluating**
12. Students are assigned roles and responsibilities and they work together to prepare for their gathering. (LO 2) **Planning and organising, Working with others and in teams**
13. Students have regular meetings to monitor progress, identify problems and seek solutions. (LO 2)
14. Students manage the hygiene and waste management side of the gathering. **Community and participation**
15. Students use a questionnaire and their own observations and opinions to identify the strengths and weaknesses of their plans and implementation, and areas for improvement. (Learning Outcome 4) **Monitoring and evaluating**
16. Students make a digital slideshow (using photographs) to show their hygiene and waste management plan in action. This slideshow can be used to help teach their community. **Communicating and receiving ideas and information. Excellence**

3. Quality teachers support parents and caregivers to understand the learning and skill development in school.

Reflective Questions:

Exploring new knowledge and skills

- Why is waste and hygiene an issue for people and their community?
- Why do people get food poisoning?
- Did we identify all the risks before we actioned our plans?
- How well did we communicate our hygiene and waste messages?
- How well did we carry out our responsibilities?
- 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?
- This unit links knowledge and skills from Health and Physical Education. How has each of these subjects contributed to your knowledge and how has that knowledge been used in this learning? How did this help you to be innovative in this unit?

Exploring further future focus issues

- How does waste management and hygiene practice link to making best use of our resources?
- How does making best use of our resources link to sustainability?
- Is it government who is responsible for managing our waste?
- What role does local and central government have in managing waste?
- What values did you apply in this learning? Did that help to make it a success?

Possible Assessment Activities (Teacher):

Learning Outcome 1: The students identify several healthy and unhealthy practises for hygiene and waste management giving reasons for their choices.

Learning Outcome 2: The teacher observes how well the students carry out their hygiene and waste management plan looking at the roles and responsibilities carried out by individuals.

Learning Outcome 3: The students present their knowledge about bacteria growth in food and safe storage techniques for food by making a poster, or writing a

KWL Chart

What I know	What I want to know	What I have learnt