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Written by Tamara Logan with input from: Karen Young, Emily Findlay, Doris Susau, Paul Lewthwaite, Jacob Zikuli (Solomon Islands), William Chipu (Solomon Islands), Ben Ngava (PNG), Malinda Marvin (PNG), Kami Robert (Vanuatu), Morena Rigamoto (Fiji), Simione Koto (Fiji), Vasiti Seruvatu (Fiji), Alex Wilson (Fiji), William Young (Fiji), Kate McFarlane. Edited by: Vanessa Lanaway Illustrations by: Guy Ivison Design and layout: Live & Learn Environmental Education

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Live & Learn Environmental Education – International office 247–251 Flinders Lane Melbourne, Victoria 3000 Australia Tel: +61 3 9650 1291 E: livelearn@livelearn.org

Live & Learn Environmental Education – Fiji Islands 52 Imthrun Road Domain Private Mail Bag Suva, Fiji Tel: +679 3315 868 E: fiji@livelearn.org

Live & Learn Environmental Education – Papua New Guinea Section 35 Allotment 16, Kimbe Town PO Box 844 Kimbe, West New Britain Province Papua New Guinea Tel: +675 983 4716 E: png@livelearn.org Live & Learn Environmental Education – Solomon Islands DSE Building, Lombi Crescent Street, New China Town PO Box 1454 Honiara, Solomon Islands Tel: +677 23697 E: solomons@livelearn.org

Live & Learn Environmental Education – Vanuatu (opposite Fres Wota School) PO Box 1629 Port Vila, Vanuatu Tel: +678 27448 E: vanuatu@livelearn.org

www.livelearn.org



Teaching hygiene behaviour in Pacific schools



Teacher's guide



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Introduction



Strong schools, strong islands

The Pacific is a unique place on Earth, rich in diverse natural heritage, culture and tradition. The customs developed over the centuries have kept the Pacific islands and its people strong. However, this strength is now challenged by an 'invisible killer' – inadequate sanitation, unhygienic practices and the lack of access to fresh water.

There are close to 7 million cases of diarrhoeal disease in the Pacific each year, contributing to the deaths of almost 4,000 Pacific islanders – most of which are children (WHO 2008). This is largely due to the lack of basic sanitation, and unhygienic practices. Diarrhoea is both preventable and treatable – meaning that not one child, man or woman should die from this condition.

Access to basic sanitation should not be a luxury – it is a fundamental right that can be afforded to all Pacific islanders through simple and low-cost technology options. This resource provides the basic facts about water, sanitation and hygiene, and presents the simple behaviours that can be taught within a school environment to ensure the health and strength of Pacific children, families and communities.



What's in this resource kit?

This resource kit contains this Teacher's guide, the 'Germ-buster' Student workbook, posters, stickers and a board game.

All resources are designed to complement each other, but can also be used individually. The Student workbook is written to support the topics introduced in this manual. The resources are referred to throughout the modules, however, can be used at any time you feel is appropriate and will support the learning process.

The board game can be used to reinforce the key topics in this handbook.





Teacher's guide

Student workbook



Posters (these can be pinned up in classrooms or toilet areas)



Board game







Stickers (these stickers can be placed at handwashing points to remind students to wash hands with soap)





Reward stickers

Stickers for student's books

Using this resource

Who is this resource for?

This resource is for educators to support the adoption of hygiene behaviour in schools in the Pacific. This resource is primarily developed for a younger audience (upper primary school students), but can be tailored to suit secondary school students and the wider community.

How to use this resource

Teaching hygiene in schools can be a tricky subject. When teaching about personal hygiene, it is recommended that educators use the 'life-skills' approach. This approach focuses on teaching knowledge, attitudes and skills that help people develop new behaviours and take responsibility for their own lives.

This resource is designed to help educators highlight and teach hygiene behaviours in schools in the Pacific. It presents 6 key modules, 17 topics and 20 activities. The modules can be taught in succession, or not, depending on the school's curriculum. The Subject guide on the next page can help you link the modules and activities to your school curriculum.

As an educator, you will know the best way to approach these topics to maximise the learning outcomes for your students. For example, Modules 1 (Germs) and 2 (Hands) may be best linked to Health/Personal hygiene subjects/syllabus in the national curriculum, whereas Module 5 (Girls' sanitation needs) may be best taught in a separate 'girls-only' session.

The Subject guide is an indicative guide given the differences between curricula across the Pacific region. If possible, it is recommended that you establish the links between the national curriculum and this resource to ensure that hygiene behaviour becomes a key learning outcome in your school. It is recommended that you work closely with the Ministry of Education and the Ministry of Health to establish a hygiene program for your school.

Subject guide

| Module Topic Activity | | Recommended curriculum links | | | | |
|-----------------------|-------------------------------------|---|----|---|--|--|
| 1. | Germs | 1.1 Germs are everywhere | 1 | Germ alert! | Health (Personal Hygiene, | |
| | | | 2 | 'Germs and ladders' board game | Handwashing); Life skills; English; Science | |
| | | | 3 | Taking the 'Euew!' out of poo | | |
| | | 1.2 The faecal-oral cycle | | | | |
| | | 1.3 Breaking the faecal-oral cycle: the | 4 | Discussing diarrhoea | | |
| | | 'poo cycle' | | Making an oral rehydration solution | | |
| 2. | Hands | 2.1 Learn about handwashing habits in | 6 | Behaviour do's and don'ts | Social Science ; Health (Personal Hygiene, | |
| | | your school | 7 | Handwashing habits | Handwashing); Lite skills; Drama/Music; English | |
| | | 2.2 Handwashing high-five! | 8 | Handwashing demon- stration and song | English; Social Science; Music/Culture; Health | |
| | | | 9 | Handwashing hip-hop! | (Personal Hygiene, Handwashing); Life skills | |
| | | 2.3 Simple and low-cost | 10 | Build a Tippy-Tap | Science; Social Science | |
| | | handwashing options | 11 | Handwashing safety zone | Physical Education | |
| 3. | Toilets | 3.1 Sanitation in schools | 12 | Circle of strength! | All | |
| | | 3.2 Types of toilets | | | | |
| | | 3.3 Toilet considerations | 13 | WASH map | Social Science; English; Environment | |
| 4. | Water | 4.1 The importance of conserving water | | | | |
| | | 4.2 Water and health | 14 | Testing your drinking water – the H ₂ S test | Science; Environment | |
| | | 4.3 Water use and storage | | | | |
| | | 4.4 Threats to water | 15 | Where's all the water? | Social science; English | |
| | | | 16 | Who's responsible? | Social science; English | |
| 5. | Girls' sanitation needs | 5.1 Menstruation: the facts | | | | |
| | | 5.2 Addressing menstrual hygiene in your school | 17 | Discussing menstruation in schools | Health; separate session for girls and boys | |
| 6. | Developing a 'Strong schools' | 6.1 Become a 'Strong School' | 18 | Developing a 'Strong school' program in your school | All | |
| | program | 6.2 Raising support within the community | 19 | Spread the word – not the germs! | Social science; English | |
| | | | 20 | Dramatic connections | English/Drama | |



Changing hygiene behaviour in Pacific schools

The importance of teaching hygiene in schools

In the Pacific, some communities may not feel comfortable openly discussing human waste. This is understandable – it's a tricky topic to discuss. However, germs or pathogens found in human waste can cause sickness such as diarrhoea. Most diarrhoea is caused when we swallow infectious pathogens found in faecal matter. This can cost communities in many ways – sick children miss out on school, which may affect their level of education. Parents and other family members may have to take time off from their daily activities to care for the sick children, which may affect the household's income. People can also die as a result of diarrhoeal disease. Communities and countries as a whole are affected by the costs of ill health caused by unhygienic practices and the lack of access to basic sanitation.

Schools are one of the best environments to raise awareness of the importance of good sanitation and hygiene in order to ward off sickness. It is critical that schools attempt to raise awareness amongst their students about the importance of hygiene behaviours such as handwashing with soap. As a teacher, you will have a strong understanding of the best way to approach this topic.

One way of addressing this issue is to gain the support of the school, parents and the community. This might involve assessing the current situation and working together to come up with a realistic plan to address the sanitation issues in your school. The last module in this resource can help you develop a plan for your school.



What is 'hygiene'?

Hygiene refers to those actions we take to ensure the cleanliness of ourselves, our homes, schools, communities and other people. Hygiene is primarily about health. Good hygiene is a barrier to infectious diseases such as diarrhoea. Within a school setting, the strength of a child's health determines the strength of their education. It is critical that young people, and their communities, are educated about the importance of practising good hygiene behaviours, at home and at school.

Many of our personal habits, including how we look after ourselves and the world around us, are learnt when we are young children. Life skills are either taught to us or learnt through direct experience. Personal hygiene is one of the most important life skills that we can teach children in schools. Hygiene is not only about health – it also about pride, appearance, affiliation and status. Schools are the perfect location to teach young children the skills they need to help themselves stay healthy and to not spread disease.

What is 'hygiene behaviour'?

Hygiene behaviour simply means the way we act to ward off disease and stay healthy. This includes handwashing with soap, cleaning ourselves after using the toilet, and brushing our teeth and hair. It also refers to those actions we take that keep others strong (such as how we store, prepare and cook food).

We learn many of our hygiene behaviours at home, in schools and in our communities. Schools are one of the best places to teach young children about the key hygiene behaviours they need in life, such as handwashing with soap.



Some key points about behaviour

What people say is often very different to what they do. It is often the case that what people say they do is very different to their actual actions. We all know that exercising is good for us, but how many of us regularly make time to ensure we exercise enough? Although people understand a certain topic (through education), there may be barriers (real or perceived) to undertaking that behaviour.

Changing behaviour is a challenging process. There is no quick way to change behaviour, however, your school can support key behaviours through a number of small steps, including: understanding existing behaviours, being clear about preferred behaviour, understanding and reducing the barriers to adopting a certain behaviour, and offering incentives to encourage adoption and sustained behaviour.



Focus on small steps. When teaching hygiene behaviour, it is important to focus on small, easy steps that you want the students to adopt in the schools. There is a need to target key behaviours. Too many messages may exhaust the attention of the students. Throughout their time at school, children are exposed to information on a range of topics. By highlighting the key behaviours that you want the children to adopt, such as handwashing with soap, it is important to not only provide information about handwashing, but to also try to build good attitudes and to encourage the practice at critical times, such as after using the toilet and before food.

Behaviour together is easier to encourage. A number of studies have shown that it is easier to promote several interventions at a time than one alone. For example, encouraging toilet use and handwashing with soap at the same time.

Don't assume what people value. Health has long been promoted as the reason to wash hands. But it may not be the strongest driver to encourage people to partake in regular handwashing with soap at critical times. Consider other drivers - income, disgust, affiliation, status, comfort. (You can use the table on page 60 to identify the key drivers in your school.)

Whilst perhaps not applicable to the students in your school, it is important to consider the differences between individual and community values. For example, the wants or desires in your personal household, may not be valued collectively at the community level, or considered what's best for the community as a whole.

Remind people of behaviour. In order to sustain a behaviour ensure there are prompts at critical points to encourage ongoing behaviour. For example, researchers have found that most cues fall into four broad categories: a specific location or time of day, a certain series of actions, particular moods, or the company of specific people. Habits are formed when the memory associates specific actions with



specific places or moods. For example, positive messages near toilets (through posters and other prompts) encourage people to wash their hands when they finish, remind the toilet user of the importance of washing hands, and reinforce the action.

Reward good behaviour. Highlight and promote the 'champions' in your school who have adopted the new behaviour. You may decide to acknowledge 'Handwashing Hotshots' as a way of acknowledging the students who have adopted positive actions.

How to teach 'hygiene behaviour' in schools

Good hygiene in schools is dependent on two key things:

- 1. The physical environment
- 2. The behaviour of students and teachers

1. The physical environment

Sanitation and hygiene within a school is dependent on the facilities available to support preferred behaviours. Stopping open defecation is dependent on the provision of toilets or latrines. The use of the toilets and latrines is also dependent on the state of the facilities – students are more likely to use facilities that are clean and smell nice. Similarly, students are more likely to increase the incidence of handwashing when water points are placed close to toilets and soap is provided. Good hygiene is also linked to the prevalence of clean water – schools require a steady and convenient water supply to promote positive hygiene behaviours such as handwashing with soap at critical times. It is not expensive to provide simple and low-cost handwashing facilities such as Tippy-Taps (see page 35).

2. The behaviour of students and teachers

The key focus for teaching behaviour is to focus on the key values and motivations that will encourage the children to adopt certain hygiene behaviours (such as handwashing with soap at critical times). Schools are a fantastic environment to focus on long-term behaviour change. Schools provide the structure for learning and promote the important role that teachers play in teaching children key skills for life. The success of behaviour change relies on the ability to tap into the key interests and motivations that drive a certain audience. This means finding out what will engage, and sustain, the children in hygiene behaviours.



Learning and teaching methods for children aged 8–11 years

The development patterns of children of most ages can be divided into three key areas: Cognitive, Physical and Social-emotional.

Cognitive

Children aged 8 to 11 years develop the capacity to see other points of view. This development helps the child analyse, understand and see logical relationships.

For example, when discussing hygiene behaviours, the children can be asked to organise and have a discussion that analyses a hygiene-related problem in the community and develops a number of solutions.

Physical

Children aged 8 to 11 can perform movements involving better body control. Children can be asked to play games, for example, to depict different hygiene behaviours.

Social-emotional

Children aged 8 to 11 get embarrassed by physical displays of feelings and are sensitive to gender differences. In hygiene education, the teacher has to take these feelings into account. For example, when working in groups, being careful not to reinforce unhelpful or antisocial gender differences and stereotypes, but instead promoting cooperation. It may be useful to have a separate class for females in order to raise awareness about the importance of menstruation hygiene.

Lead by example

One of the best ways to teach good hygiene is to lead by example. Teachers can be important advocates for teaching hygiene behaviours. Teachers throughout your school should also be taught about the importance of critical hygiene behaviours, and encouraged to adopt these actions. Wash your hands with your students, and supervise their handwashing. If possible, encourage hygiene behaviour to be part of any teacher training opportunities at your school, and encourage the teachers to also discuss personal hygiene in their classrooms. A



whole of school approach to hygiene will improve a school's overall education standards by reducing student absenteeism due to sickness. Improved education levels benefits the whole community!



How to change behaviour in your school using the FOAMS model

What is the 'FOAMS' model?

The FOAMS model is a tool to help you design a hygiene behaviour program in your school. It focuses on introducing and sustaining certain behaviours, such as handwashing with soap, that will reduce the incidence of disease.

| Component | Description | Example | Actions at your school |
|------------------|--|---|---|
| F: FOCUS | WHAT behaviours are you promoting? WHO are you promoting to? | Handwashing with soap at critical times School children | Go to Activity 18 on page 60 to develop an action plan for |
| O: OPPORTUNITIES | WHAT are the barriers to adopt- ing a certain behaviour? Ensure the opportunities exist to support the adoption of the behaviour. | Barriers may include: no running water or soap; no education about the importance of washing hands. Water points and soap near the toilet | your school |
| A: ABILITY | Knowledge/skills to undertake a certain behaviour. | School children understand the importance of washing hands, and understand the best way to wash their hands. | |
| M: MOTIVATION | Why would the target audience adopt a certain behaviour? What are the drivers/ motives? | Present affirm- ing and positive messages about the behaviour eg: 'Handwashing is cool! Everybody is doing it!' | |
| S: SUSTAINED | How to turn the adopted behaviour into a habit. | Provide incentives to encourage and sustain the behav- iour (ie prompts in toilets, reward system, acknowledge handwashing champions within the school) | |

FOAMS is comprised of five key components:

Source: Coombes & Devine 2009



Key learning modules



This section presents 6 key learning modules, 17 topics and 20 activities. Most of the activities can be undertaken individually, however, each topic will highlight if activities need to be undertaken together to strengthen the learning outcomes.

| Module 1: Germs – The invisible killer | 16 |
|---|----|
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GERMS - The invisible killer

Background information

Germs are tiny organisms, or living things, that can cause disease. They are so small they can only be seen under a microscope. Germs are everywhere – even in our bodies – where they survive by using our nutrients and energy. The toxins they produce can cause infections and their symptoms such as fevers, running nose, rashes, coughing, vomiting and diarrhoea.

Topic 1.1: Germs are everywhere!

One of the biggest killers of children under five in the Pacific and the world is diarrhoea. Diarrhoea is defined as the passage of three or more loose or liquid stools per day, or more frequently than is normal for the individual (WHO 2008). Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by bacterial, viral and parasitic organisms. The infection can be passed on through contaminated food or drinking water, or from person to person through poor hygiene. Diarrhoea can last several days, and can deplete the body of the water and salts that are necessary for survival. Most people who die from diarrhoea actually die from severe dehydration and fluid loss. A mixture of water, salt and sugar can help replace lost fluids due to chronic diarrhoea.

Most people get sick when they touch something with germs, then touch their eyes, nose or mouth. Germs are transferred through the fluids in the nose and mouth from one person to another.

Most intestinal, stomach and cold viruses are spread by our hands. The easiest way to reduce your chance of getting sick is to regularly wash your hands with soap and water and avoid touching your face.

GERMS: the good, the bad, the ugly

There are generally four types of germs: bacteria, viruses, fungi, and protozoa.



Bacteria make up 60% of the living matter on Earth. Bacteria in our mouths and intestines help us digest the food we eat. Bacteria on our skin protect us from invading viruses and bad bacteria. Of the billions of types of bacteria, only 50 are known to cause infection.

Viruses only survive for a short time without a living host. For example, germs in infected body fluids left on surfaces like a kitchen bench or toilet seat can only live for a short time. Even so, once they find a host, viruses spread very easily and make a person sick.

Fungi are plant-like organisms that survive on plants, food and animals in damp, warm environments. Common fungal infections are athlete's foot and yeast infections. These are usually not dangerous to a healthy person, but can cause discomfort.

Protozoa are tiny parasites that are often spread through contaminated water. Common protozoa that cause diseases are malaria, dysentery and sleeping sickness.

Washing hands with soap is the best protection against germs.

The biggest killer of children under five in the world is pneumonia. Diarrhoea is the second biggest killer of children under five. It is estimated that handwashing with soap can reduce the incidence of pneumoniarelated infections in children under the age of five by more than 50%. Handwashing with soap can reduce the incidence of diarrhoeal disease by more than 40% (Fewtrell et al 2005). This simple act can have an immense impact on the number of young children dying unnecessarily around the world. Handwashing with soap after using the toilet and before handling food is one of the best ways to reduce the incidence of diarrhoea.





| Timing of activity: | 10–15 minutes |
|---------------------|---|
| Materials: | Ball Glitter/Chalk dust/Coloured powder/Clay or red mud |
| Activity summary: | An introductory activity to highlight that germs are everywhere and easily spread through contact with hands. Good introduction into demonstrating handwashing. |
| Age group: | This activity can be facilitated with students of all ages, however, is best suited to students in lower levels. |
| Outcomes: | Students will be able to: visualise that germs are everywhere, understand how easily germs are spread. |

ACtivity plan:

- 1. Before the game begins, ensure the ball is dampened and glitter or other material is spread all over it.
- 2. Ask participants to stand in a circle.
- 3. Throw the ball around and ensure that everybody has a turn to catch the ball.
- 4. Ask the participants to look at their hands. See if there is glitter on their hands. Ask them what they think it represents. Explain to the participants that in this game, the glitter represents 'germs'.
- 5. Explain to participants that each day we come in contact with germs, some of which can cause serious illnesses.

Follow-up:

- Ensure that all students have the glitter or other material on their hands. Provide each student with a piece of paper and instruct the students to make a handprint on their pieces of paper (both or only one hand, depending on the size of the paper).
- 2. Now is a good time to demonstrate the 'Handwashing high-five!' on page 33.
- 3. Revisit the handprints at a later stage and encourage the students to list the key reasons for handwashing on the paper next to their handprints. You can display the handprints in the classroom (with or without the reasons listed) as a reminder to the students about the germs on their hands.

This activity is based on educational exercises developed by Live & Learn Environmental Education and UNICEF Pacific



Activity 2: 'Germs and ladders' board game

| Timing of activity: | 20 minutes |
|---------------------|---|
| Materials: | 'Germs and ladders' board game (included in the 'Hands up for hygiene!' resource kit) |
| Activity summary: | Based on the popular 'Snakes and Ladders' board game, 'Germs and ladders' introduces key water, sanitation and hygiene facts in a fun and interactive manner. |
| Age group: | Upper primary/lower secondary |
| Outcomes: | Students will gain an understanding of key water, sanitation and hygiene principles. Teachers gain an understanding of the concept of the Sanitation Ladder. |

Activity plan:

Follow the directions on the board game. This board game should be included with the 'Hands up for hygiene!' resource kit.





Follow-up activity:

Set up a borrowing scheme within your classroom for children to take home the game to play with their families/communities.



Activity 3: Taking the 'Euew!' out of poo

| Timing of activity: | 15 minutes |
|---------------------|--|
| Materials: | Pens Paper |
| Activity summary: | A quick and fun 'brainstorming' game to desensitise the class to the word 'poo' by encouraging the students to come up with their own word. |
| Age group: | Upper primary |
| Outcomes: | Students feel more comfortable discussing poo in the class- room; and will perhaps share this learning with family and friends outside of the classroom. |

Activity plan:

- 1. Using a blackboard or piece of paper, draw a person having a poo, or show the children any relevant pictures in this resource.
- 2. Encourage a discussion about what the person is doing.
- 3. Ask the children to come up with as many names as they can for the word poo.
- 4. Encourage the children to come up with their own words (perhaps based on sounds).
- 5. Write all the words on the board or piece of paper and encourage the children to vote on which one they think should be used or to suggest other words.
- 6. In your future teaching, encourage children to use this word, and ensure that you use this word in your teaching.



Talking about poo may result in many reactions. Let children come up with their own words to take the 'Euew' out of poo.

Topic 1.2: The faecal-oral cycle: the 'poo cycle'

The *faecal-oral cycle* simply refers to how faecal matter (poo) can be transmitted from our environment into our mouths. The pathogens are most likely to reach us through what is referred to as the 'Six Fs':

The Six Fs

| Pictures | F | Description | Example |
|--|---------|---|---|
| 000 | Fluids | Dirty drinking water | Drinking water can be contaminated if open defecation occurs too close to the water source. |
| Marin Con | Fields | Soil and crops that have been contaminated with human faecal matter | Open defecation takes place where crops or food are grown. |
| | Fingers | Unwashed hands preparing food or going into the mouth | Hands are not washed with soap prior to food preparation. |
| | Feet | Walking barefoot through contaminated fields can spread faecal matter | Children walk barefoot through fields and then into the classroom. |
| 0- | Food | Eating contaminated food | Food that is contami- nated by unwashed fingers, or food that is not washed properly prior to preparation, or washed in water that is contaminated. |
| | Flies | Spreading disease from faeces to food and water or directly to people – particularly problematic where open defecation is the norm. | Flies carry poo particles into homes and schools and can affect food and water. |

Topic 1.3: Breaking the faecal-oral cycle

There are a number of ways that we can break the faecal-oral cycle to stop the spread of the disease-causing pathogens. They are organised into Primary and Secondary barriers. *Primary barriers* are the practices that stop the transmission of the pathogens found in human waste – this includes: using toilets and latrines, handwashing with soap after going to the toilet, and ensuring that a water source is not contaminated. The *secondary barriers* are those actions that can further stop the transmission of pathogens. These include: handwashing before preparing and eating food, reheating food, proper collection, storage and use of safe water, access to safe water for hygiene, ensuring the human environment is clean, and controlling flies.

Flies carry faecal matter or poo on their legs and can add germs to the food that we eat!



Activity 4: Discussing diarrhoea

| Timing of activity: | 20 minutes |
|---------------------|--|
| Materials: | A clear plastic bag or balloon filled with water (preferably yellow or light brown in colour) Small basin/bucket |
| Activity summary: | This activity aims to highlight the effects of diarrhoeal disease to our bodies. |
| Age group: | Upper primary/secondary schools (although can be tailored to suit a younger audience) |
| Outcomes: | Students can describe transmission routes for diarrhoeal disease and how the transmission can be prevented. |

Activity plan

 Read out the story below. Facilitate a discussion about diarrhoea: What happened to the child? Is diarrhoea a common condition in the community?

2. Show the children the plastic bag filled with the water.

Little Meri's sister is sick

Little Meri's sister is a happy bouncing baby. Although she is only little she likes to tell lots of stories. Every day after school, Little Meri carries her sister around the village, listening to her gurgle and

burble about everything that has happened during the day. One day, Little Meri's sister is very quiet. She does not tell any stories. She seems tired and her body feels floppy. Little Meri's mother tells her that her little sister is sick and has had watery poo in her nappy all night and day. Her parents are very worried as the baby seems to be losing weight and looks pale. They wonder what they can do to help her. What would you do?



(continued over page)

WARNING

This activity might be

messy



- 3. Explain that the bag represents a baby like Little Meri's sister who has diarrhoea.
- 4. Hold up the plastic bag filled with liquid. Tell the class that the bag represents Little Meri's sister. Tell the class that the baby is about to poo and ask them to watch carefully what happens.
- 5. Slowly open the balloon to allow the water to drip out. Ask the class to describe what happens (the bag empties and becomes wrinkled and limp).
- 6. Facilitate a discussion about what will happen to the baby. (Together with the excreta, the child loses all the fluids in its body and starts to dry out and become limp.)
- 7. Ask what the mother, father, brother or sister can do when this happens (replenish the fluids).

Follow-up activity:

Now would be a good time to try Activity 5.





Activity 5: Making an oral rehydration solution

| Timing of activity: | 30 minutes |
|---------------------|---|
| Materials: | Glass with clean water (boiled or bottled) Some sugar and salt Teaspoon |
| Activity summary: | This activity provides a simple solution to rehydrate following a bout of diarrhoeal disease. This can follow on from Activity 4: Discussing diarrhoea. |
| Age group: | All ages |
| Outcomes: | Students can make an oral rehydration solution. |

Activity plan:

- 1. Fill a glass with clean water. Put in one heaped spoonful of sugar and a pinch of salt and vigorously stir the mixture. Ask children what this mixture will do.
- 2. Facilitate a discussion about the need for clean water.
- 3. Invite one or more children to come and taste the oral rehydration solution and describe its taste. (They should taste both sugar and salt; the salty taste can be described 'as salty as tears'). Explain that sugar and salt are added as they help rehydrate.
- 4. Facilitate a discussion about the importance of using clean water.
- 5. Invite one or more children to come and taste the oral rehydration solution and describe its taste (ensure a clean glass is used for each student).
- 6. Help the class draw conclusions on what they can do to help somebody who has diarrhoea. Discuss the words 'dehydration' and 'rehydration'.









HANDS - Clean hands, strong start

It is Critical to wash hands with soap after using the toilet and before eating food.

Background information

Hands spread an estimated 80% of common infectious diseases like cold and flu. Handwashing with soap at critical times is considered the single most effective intervention for reducing diarrhoeal disease. Handwashing is easy to learn, cheap and very effective at stopping the spread of germs. It is estimated that handwashing with soap can reduce the incidence of diarrhoea by more than 40%. Handwashing with soap should be encouraged at critical times – after using the toilet, and before eating food. If the children do not wash their hands, they could swallow small amounts of faeces when they next eat.

Topic 2.1: Learn about handwashing habits in your school

Before teaching the reasons why students should wash their hands regularly with soap, it is important to understand the handwashing habits in your school. The reasons why children might not regularly wash their hands with soap might vary – it could be due to a lack of knowledge or understanding about the importance of washing hands, or that hands don't 'look' dirty and therefore must be clean. It could be that there is not a general awareness among the students about the importance of washing hands. Or it could be that there is simply no water, no soap or no dedicated handwashing point to regularly clean hands. The lack of knowledge, attitudes and current practices could be considered *barriers* stopping the students from adopting good hygiene practices. These *barriers* will have to be identified and addressed as part of the teaching about handwashing practice in the school.

Reviewing the barriers to hygiene practices such as handwashing with soap can be done at the same time as reviewing the motives or the reasons why students might undertake a certain behaviour. As discussed in the first part of this resource, what people say they do is



Just because they don't look dirty doesn't mean they are germ free.

not necessarily what they do in practice. The best way to learn about handwashing habits in your school is to *observe* or watch the students undertaking this action. This information can help in your efforts to encourage handwashing with soap throughout the school. (This information might also help if you develop a 'Strong schools' program in Activity 18.)

| Reasons why school children may not wash their hands regularly (Barriers) | Reasons why school children might want to wash their hands (Motivations) |
|---|--|
| Hands don't 'look' dirty | Soap smells nice |
| No water points | Health |
| No knowledge | Everybody else is doing it |
| Nobody else doing it | Peer pressure |
| No soap | Status |
| No water | Dirty is disgusting |

Activity 6: Behaviour do's and don'ts

| Timing of activity: | 40 minutes |
|---------------------|---|
| Materials: | Picture cards (see examples for photocopying or re-drawing on next page), scissors. |
| Activity summary: | Students use picture cards to identify 'good' and 'bad' behaviours. |
| Age group: | Lower secondary |
| Outcomes: | Students are able to differentiate between 'good' and 'bad' behaviours and to gain an appreciation of the benefits of adopting 'good' behaviours. |

ACtivity plan:

- Look at the pictures on the opposite page. Each picture shows a common sanitation behaviour (e.g. open defecation, using a pit toilet, covering faeces with dirt). You may decide to photocopy this page and give each group a set of pictures which they can cut up. Or each group can draw each practice as an additional activity. Some of the practices may need to be explained to the students to ensure that they are clear.
- Divide students into four groups. Ask each group to sort the behaviours into three piles:
 - **Good:** pictures showing activities that are good for health.
 - **Bad:** pictures showing activities that are bad for health.
 - **In-between:** pictures that show activities that are neither good nor bad, or which you are not sure about.
- After sorting has occurred, groups are given the opportunity to discuss their choices.
- Ask the groups to discuss common community sanitation behaviours and whether any of these behaviours are similar to any of the 'good' or 'bad' practices they identified.

| Key to illustrations on page 29 | | |
|---------------------------------|---|--|
| No. | Description | |
| 1 | Handwashing with soap at tap | |
| 2 | Person defecating into stream | |
| 3 | Person eating food covered in flies | |
| 4 | Burying rubbish | |
| 5 | Dirty toilet | |
| 6 | Keeping toilets and surrounds clean and attractive | |
| 7 | Person burying faeces | |
| 8 | Discussing sanitation issues in community | |
| 9 | Animal enclosures in village ensure that animal waste does not spread to living areas that could affect humans | |
| 10 | Composting toilet/VIP toilet | |
| 11 | Handwashing with soap and running water | |
| 12 | Animals roaming free in village | |
| 13 | Covering food | |
| 14 | Using a toilet | |
| 15 | Throwing rubbish on the ground | |





| Timing of activity: | 10–15 minutes |
|---------------------|--|
| Materials: | None |
| Activity summary: | A fun and engaging way to encourage participants to reflect on their daily hygiene practices and assess their habits in an honest and non-confrontational manner. |
| Age group: | All |
| Outcomes: | Students will be able to identify their habits. Also helps to develop interpersonal skills. This is a good lead into reflecting on and discussing good handwashing habits. |

Activity plan:

- 1. The participants all stand in a line on one side of a field.
- 2. Tell the participants that you will read out a set of questions and that they can only move a number of steps depending on their answer. At times, participants may not move at all.
- The questions are all based on sanitation and hygiene habits. Possible questions are listed below. These are just some of the questions that could be asked, others could be added depending on the surroundings and different scenarios.
 - 'Before I had my breakfast this morning I washed my hands with...'
 Soap and water (two steps); only water (one step); I didn't wash my hands (no steps)
 - 'After I finish playing in the playground during lunch break before I rush to the taps to drink water I first wash hands with...'

Soap and water (two steps); only water (one step); I don't wash my hands (no steps)

- 'After I use the toilet, the I always wash my hands with...'
 Soap and water (two steps); only water (one step); I don't wash my hands
 - (no steps)
- 'After playing/working with the dogs and animals at home I always wash my hands.'

Soap and water (two steps); only water (one step); I don't wash my hands (no steps).

This activity is based on educational exercises developed by Live & Learn Environmental Education, Fiji and UNICEF Pacific

Topic 2.2: Handwashing high-five! Handwashing with soap is a simple, yet highly effective way to ward off infectious germs. Here are five very simple steps to take to keep your hands clean of germs. START Wet hands 2. Soap Handwashing steps DRY on a clean cloth

It is very important to wash hands with soap after using the toilet and before eating food.

Rinse hands clean

4

Other times you should wash your hands include: before preparing food, after touching animals, after sneezing/coughing, after outdoor work, after picking up rubbish, before feeding children.

Scrub backs of hands, wrists, between fingers, under fingernails (15 seconds)



Activity 8: Handwashing demonstration and song

| Timing of activity: | 20 – 30 minutes |
|---------------------|---|
| Materials: | Clean water Soap |
| Activity summary: | This is a basic demonstration of handwashing. Use this at any stage to reinforce the Handwashing high-five! |
| Age group: | Primary |
| Outcomes: | Students are taught effective handwashing technique. |

Activity plan:

- 1. Write the song below on the board.
- 2. Demonstrate how to properly wash your hands using the Handwashing High-Five steps (Topic 2.2).
- 3. Whilst washing their hands, encourage the students to sing the lyrics below. (These lyrics can be tailored to suit the students in your school.)

The Handwashing Song

(to the tune of Row, Row, Row your Boat or to a tune you know)

Wet, wet, wet your hands, wet with water clean Wash them, wash them, wash your hands, to keep them always clean.

Put, put, put some soap, rub it in your palm Use the soap, use the soap, to make your hands all clean.

Rub, rub, rub your hands with soap and water too Scrub them, scrub them, scrub between, your fingers all the ten.

Rinse, rinse, rinse your hands, well with water again Clean them, clean them, clean them well, germs go down the drain.

Dry, dry, dry your hands, dry them really well On a fresh and clean cloth, now you're really swell!

Activity 9: Handwashing hip-hop!

| Timing of activity: | 20–30 minutes |
|---------------------|---|
| Materials: | None |
| Activity summary: | Students create a rap about handwashing and perform to the rest of the class. The winning rap is then taught to the other students and classes. |
| Age group: | Upper primary/lower secondary |
| Outcomes: | Students use music and dance to establish age-appropriate, fun and creative handwashing songs. |

Activity plan:

- 1. Divide the group into pairs or small groups.
- 2. Instruct the students to come up with a handwashing hip-hop song using the Handwashing high-five! (see page 31) that they will perform to the rest of the class and perhaps other classes in their school. (You may need to provide a few rhymes for younger students to incorporate into their raps.)
- 3. Encourage the students to be as creative as possible.
- 4. Reward the students who are 'Handwashing hot shots' with stickers, to promote and encourage good behaviour.
- 5. You can teach the younger children to wash their hands for as long as it takes them to sing the handwashing rap.

How to encourage students to wash their hands

- Lead by example
- Place hand-washing reminders at eye level, such as the posters (part of the 'Hands up for hygiene' resource kit) by the bathroom sink/water points to remind students to wash their hands.
- Make sure the sink is at the right height for the students to use, or that it has a stool underneath so that younger children can reach it.



Reward stickers for students





Topic 2.3: Simple and low-cost handwashing options

Not all schools have access to running water. Here are some simple, low-cost ways that you can establish a handwashing point in your school. These activities can be undertaken with your students as part of your teaching about WASH.

- 1. Dipper with a hole and soap
- 2. A pitcher and basin (one person pours the water for the other person to wash their hands).
- 3. A 'Tippy-Tap': a small bottle hung on a rope that pours water when tipped.
- 4. Soap on a rope
- 5. Plastic bottle as a handwashing facility



Dipper with a hole and soap



Pitcher and basin

i



Tippy-Tap



Soap on a rope

A plastic or fabric net around the soap not only holds it, but also is abrasive which helps scrub the hands more effectively. Plastic bottle as a handwashing facility

Tight-fitting lid

Support of wood or bricks



2. Vertical position


Activity 10: Build a Tippy-Tap

| Timing of activity: | 10-15 minutes to construct Tippy-Tap |
|---------------------|---|
| Materials: | Plastic container (approximately 5 litres) with a handle that has not previously contained any toxic chemicals such as bleach. Will also need candle, pliers, a nail, plastic net, string, bar of soap and plastic or metal cover (such as a tin can). |
| Activity summary: | Students and teachers construct a simple, low-cost water dispenser to encourage handwashing at critical times. |
| Age group: | Teachers in primary schools and secondary students |
| Outcomes: | Students will examine the technology and benefits of the Tippy-Tap |

This activity can be facilitated in the form of a drama, with the students acting out each part of the Tippy-Tap.

Activity plan:

| | Select a plastic container of approximately 5 litres with a handle. Ensure the bottle has not previously contained any toxic chemicals such as bleach. |
|---|--|
| | Warm the base of the handle with a candle/flame until the plastic is soft. |
| A | When the base of the handle is soft, pinch it closed with a pair of pliers and then let it cool. Make sure that no water can flow through the pinch-closed base. |
| | With a hot nail make a 2 mm hole just above the pinch-closed base of the handle. |
| | With a plastic net, suspend the bottle from a support. Tie the string straight to the net.* |
| | Make a hole in the centre of a bar of soap. Use the string to suspend the soap and a plastic or metal cover (such as a tin can) to protect it from sun and rain. |

* If a net is not available, two holes can be made in the back of the bottle, and the Tippy-Tap can be suspended by connecting a string through those holes to the support.



To install and use a Tippy-Tap

- Hang the Tippy-Tap near a latrine/toilet, kitchen, or school.
- Tie some string to the handle and use it to tip the container. Allow water to flow out of the hole onto your hands.
- Use soap every time you wash your hands!



Recommendations for Tippy-Tap maintenance

- If there is a water tap present, a hose can be used to fill the Tippy-Tap
- Clean the outside of the Tippy-Tap

Source: Centers for Disease Control and Prevention



Activity 11: Handwashing safety zone

| Timing of activity: | 10–15 minutes |
|---------------------|--|
| Materials: | Cardboard cutouts with a handwashing tip written on each, for participants to stand on. |
| Activity summary: | A fun and active way to highlight the importance of schools, homes and communities working together to reduce the spread of dangerous germs; highlight the importance of undertaking all the key handwashing steps. |
| Age group: | Upper primary/lower secondary |
| Outcomes: | Students will be able to: work in teams to promote the impor- tance of handwashing in their homes and communities; understand the handwashing steps. |

Activity plan:

- 1. Present participants with a scenario that dangerous pathogens are threatening the lives of people in their village.
- 2. Ask participants to line up at one end of the field. Mark off a 'Safety Zone' at the other end of the field. Participants are given 'Safety Pads' which each contain a handwashing tip.
- 3. This will encourage the participants to think strategically about how to use the limited number of pads to get everyone across safely. There should be four less pads given than there are participants in the group.
- 4. Advise the participants that their aim is to reach the 'Safety Zone' and that the only way they can reach the Zone is by using the pads they were given to step on.
- 5. Each time a participant stands on a pad, they are to demonstrate the handwashing step represented by the pad. If the participants are not demonstrating the step whilst on the pad or if the pad is unattended, it is removed from the game.

Questions to generate discussion:

- 1. How were all members of the village (participants) able to reach the Safety Zone?
- 2. How did the removal of the pads impact the team?
- 3. What does the Safety Zone represent in reality?
- 4. What simple actions can we take to reduce the chances of diarrhoeal disease?
- 5. What key messages can we learn from the game?

This activity is based on educational exercises developed by Live & Learn Environmental Education and UNICEF Pacific





TOILETS - Poo in one place

Background information

Sanitation refers to the management of human waste. Infectious pathogens that cause conditions like diarrhoeal disease can be spread through contact with human waste. The safe and effective disposal of human waste, through sanitation facilities such as latrines and toilets, can reduce the number of incidents of disease in your school, home and community.

Topic 3.1: Sanitation in schools

One of the most important hygiene considerations in schools is the safe disposal of human waste. Schools with clean toilets can increase attendance and productivity at school. They also send a strong message to the community about the need to improve the access to and use of toilets.

Whilst a fundamental human right, many people in the Pacific still do not have adequate access to basic sanitation. Access to basic sanitation is vital for human health. A safe, clean and private space to go to the toilet is essential for human dignity.



Children love to share many things

Children at school often share many things – stationery, books, balls and other playing equipment, their time, secrets and dreams. They can also share and spread germs which can lead to diseases. Here's how easily germs and diseases can spread:



Activity 12: Circle of strength!

| Timing of activity: | 5–10 minutes |
|---------------------|---|
| Materials: | None |
| Activity summary: | A fun and active ice-breaker to highlight the importance of blocking germs through the use of toilets and handwashing. |
| Age group: | All |
| Outcomes: | Students gain an understanding of the power of poo and the importance of barriers (such as proper latrines/toilets, and handwashing) to reduce contact. |

ACtivity plan:

- 1. Divide the class into three equal groups.
- This activity can take place outside or inside – either way, make sure that you have enough space. Place the first group in the middle of the room. They represent the kids in the village/ community.
- Place the second group of children (representing clean hands/toilets) in a ring around this group, facing out and holding hands. This group represents the strength of the community with clean hands and access to toilets. Tell this

Rules of the game

Ensure there is a large enough group to facilitate this activity.

Encourage the 'Poo' group to try and get into the circle in a fun, not rough, way.

Encourage the students to be as loud and active as possible.

group that their job is to protect the children inside the circle.

- 4. Place the third group of children in a ring around the outside of both the groups. Tell this group that they represent the poo. Their job is to try and get past the middle ring (the ring of clean hands/toilets) to the children in the centre.
- 5. Give each group a sound to make. For example, the Clean Hands group can say, 'Clean, clean, clean!'. The group that is acting as the poo, can say, 'Dirty, dirty, dirty!'.

Follow-up:

- 6. After discussing the activity, discuss how important it was for the middle group (the clean hands/toilets) to stay strong to protect the children from the poo.
- 7. Discuss the importance of clean hands/toilets as a barrier to stopping disease that can be spread by poo from reaching the children.
- 8. Generate a discussion amongst the group about the key ways to keep hands clean (handwashing with soap at critical times).

Topic 3.2: Types of toilets

There are many different types of sanitation facilities. The type of latrine or toilet available in a school, home or community is largely dependent on funds, community attitudes and knowledge about what's available. It also depends on the needs of the boys and girls attending the school. In some Pacific countries, flush toilets with water are preferred, however, the lack of fresh water available has often meant that building these types of toilets is not sustainable.

Do you know of any toilet blocks that have been built in your school, community or village that are misused, or not used due to the lack of water supplies or other reasons?

There are many examples of low-cost, easy to construct latrines and toilets available for construction in your school, home or community to fit your budget. Here are a few examples of some latrines/toilets that have been built throughout the Pacific.



The Ventilated Improved Pit (VIP) toilet is an easy option for schools to provide sanitation facilities (Live & Learn 2011).

| Type of toilet and description | | Advantages | Disadvantages |
|--|-----------------------|---|--|
| Pit toilet This is the simplest latrine to build. Using this facility generally means squatting over a slab (usually of concrete), placed over a hole in the ground to stop humans and insects coming into contact with human waste. There is usually a shelter for privacy. The hole may be lined to prevent it from collapsing. | | Cheap Easy to build | Odour Attracts flies Must be moved or emptied regu- larly |
| Ventilated Improved Pit (VIP) toilet | Ħ | Cheap | Dependent on |
| This design uses a vent pipe higher than the shelter to reduce any smell and flies. | | Easy to maintain | wind Needs to be dar to minimise flies |
| Compost toilet | | No water required | Users need a |
| Ine tollet seat sits above a dry chamb handful of organic material is added, producing fertiliser after six months. | er. Atter each use, a | Restrict a property maintained Groundwater and soil pollution prevented Can be located anywhere as chambers sit above ground. Produces a valuable fertiliser | understanding about organic matter to ensure balance to gen- erate fertiliser Expensive |
| Pour flush toilet | | Low-cost | Requires a wate |
| Uses a pan with a water-seal connected to a pit by a pipe. | | stops lifes and odours Contents of pit not visible Can be upgraded to sewer | Potential ground water pollution i seasonal water tables close to surface |

Topic 3.3: Toilet considerations

Students are more likely to access and use the provided latrines/toilets if they are clean, safe and suitable for their use. Some considerations for the school latrines/ toilets may include:

- **Access.** Consider the access to the toilets, both inside and outside and whether the students can sit on the latrine/toilet easily and comfortably. Also consider any special needs that exist in the school, i.e. students with disabilities, illness etc.
- **Privacy.** Ensure that the latrines/toilets are private so the students feel comfortable using them.
- **Different toilets for boys and girls.** It is critically important to ensure that boys and girls have separate, secure and clearly marked toilet blocks. It is recommended that there should be one toilet for every 25 girls and one toilet for every 35 boys.
- **Safety and security.** Ensure the toilets are in a safe and secure location, close to the school. This is particularly important for girls and women.
- **Cleanliness.** Students are more likely to use a latrine/toilet if it is a pleasant experience. This can be coordinated through the school teachers and students to ensure that the toilets are kept at a reasonable standard. This will



Girls need a safe and private place to go to the toilet.



- **Handwashing points with soap.** It is critical to also ensure that there is a handwashing point with soap close to the toilet. Simple handwashing options are on page 36.
- **Location.** It is important that sanitation systems stay separate from water supplies. Houses and toilets should be built at least 30 metres from the shoreline/water's edge. The horizontal distance to drinking water bores or wells should be at least 15 metres. It is also critical to keep animals away from your community's water source.





No latrines or toilets in your school?

There are simple and low-cost ways to build a latrine/toilet in your school. However, if your school does not have functioning toilets, then encourage the students to defecate in areas which are far away from water supplies and to bury their waste. And don't forget to provide water with soap for the students to wash their hands!



Stop children from going to the toilet in the open.

Encourage children to bury their waste.

A 'Tippy-Tap' is a cheap way to make handwashing facilities.



| Timing of activity: | 1 hour |
|---------------------|--|
| Materials: | Paper (large paper like butcher's paper is ideal) Pens or pencils Outline map of the school site or paper for students to create their own |
| Activity summary: | Encourage students to think and talk about water, hygiene and sanitation issues in their own school environment. Enable students to explore their school compound. |
| Age group: | Upper primary/secondary |
| Outcomes: | Students improve skills in observation and recording information. |

Activity plan:

Before the lesson

- 1. Draw a large outline map of the school compound. Be sure to include major features such as buildings, play areas, paths, fences etc. You can either draw the map on blackboard/whiteboard or on paper.
- 2. You may like to include a map key. Use symbols to represent the features mentioned above as well as trees, grass, dirt, rocks etc. Do not include water/ toilet features as this is what the students will fill in as part of the exercise.

During the lesson

- 3. Show the students the outline map of the school. Ask students what it is and how people use maps. Remind them that maps are views from above like what you would see from flying in an airplane.
- 4. Tell them they are going to make a map of their school compound.
- 5. Divide the group into teams of three four students (or larger if necessary).
- 6. Instruct the students to copy down the map in their notebooks/on pieces of paper.
- 7. Familiarise the students with the study area by having them identify features on the map.
- 8. Explain to the students that they are going to survey the school grounds for water, sanitation and hygiene features and mark them on the map.

Ask the students to mark the following items on the maps:

- Location of water supplies, i.e. taps, well, water tank, hand pumps
- Whether latrines/toilets exist and their locations
- Areas where open defecation occurs (if relevant)
- Location of rubbish bins

- Hand/body washing facilities
- Waste disposal areas, i.e. bins, rubbish pits, waste water drainage



- 9. Allow 30 minutes for students to finish their maps. Periodically check with each team and lend assistance as required.
- 10. When all the groups have finished, bring the teams together. Lay out all of the maps. Spend some time comparing and discussing the features.
- 11. Back in the classroom, combine all group maps into one comprehensive class map of the school compound showing all of the features listed above.

Next day or new session

- 1. As a class, discuss the school compound map to identify possible problems (through questions) e.g. play near defecation sites etc.
- 2. How close are the toilets to the clean water source? What is the chance of the water source being contaminated with faecal matter?
- 3. Are there any problems with the school compound that would increase the rate of waste affecting the health of the students?
- 4. Ask the students to create a new improved map of their school showing changes that would solve these problems.

Follow-up activity

Students identify key issues of concern in their school and list the various actions that need to be taken to address these issues. You can use the template below to support this activity. This activity can support the development of a school plan on page 60.

WASH Action Plan

| Feature | Issue | Solution |
|---------|-------|----------|
| | | |
| | | |
| | | |



Water and hygiene

Background information

Water is linked to our health, general well-being and livelihood. Good hygiene is dependent on safe water. Without water, there is no hygiene. Access to clean and safe water is a key determinant for handwashing and other hygiene behaviours in schools. Access to water (and soap) encourages regular handwashing.

It is important that schools provide enough safe water for students. It is recommended that each student needs at least 2 litres each day for drinking. Schools also need water to ensure that their toilets and classrooms are kept clean.

Topic 4.1: The importance of conserving water

Water is essential for life. Without it, we wouldn't survive. Water is one of the most basic needs in life. Humans need water for a range of daily activities – drinking, breathing, for washing and cooking, for keeping ourselves and our homes clean, for growing food to eat or to sell for our livelihoods. Water is one of the necessities of life – without it, we would simply not exist.

The Earth has a limited amount of water – there will never be more fresh water than there is on Earth right now. While the Pacific region is covered in water – 98% in fact – only a tiny percentage of this water is available for drinking and other daily uses. The Pacific's amount of available safe water is affected by two key factors – limited land size and proximity to coastlines (WHO & SOPAC 2008). While Pacific islanders have a long history of protecting their natural resources,



the region is rapidly becoming at risk of exceeding the natural capacity of the islands to sustain their lifestyles. Rapid urbanisation, population growth and the growth of industry are placing increased pressure on fresh water sources and natural resources.

Topic 4.2: Water and health

The human body is about 65%–70% water (Guyton 1976). Our bodies need a constant supply of clean water to function properly. Of the water in our bodies, 67% is located within cells; 25% located between cells, and the rest, about 8%, is located in the blood.

By drinking contaminated water or eating food that has been irrigated by this untreated water, the pathogens will infect people who in turn will contaminate the environment, via their waste. Faecal coliform bacteria is a type of bacteria that lives in the gut of humans and animals. The gas that coliform bacteria produces is called H₂S (the gas that smells like rotten eggs). You can use this test to check if the water is contaminated with H₂S (see Activity 14).



The human body is made up of 65%–70% water.

What is 'safe water'?

The World Health Organization (WHO) defines 'safe water' as water that:

- does not pose any significant health risk to the consumer over a lifetime of consumption.
- is suitable for human consumption and all domestic purposes.
- has no objectionable flavours or smells.
- is available in sufficient quantities for hygiene purposes.

Source: WHO 1997



Activity 14: Testing your drinking water - the Hydrogen Sulphide (H_2S) test

| Timing of activity: | 1 hour |
|---------------------|---|
| Materials: | Three sample bottles Labels/stickers (to attach to the sample bottles) Paper strip (reagent) Pens and paper |
| Activity summary: | The Hydrogen Sulphide (H_2S) test is a very easy and low-cost way to tell you if the drinking water is polluted. In order to check for the presence of coliform bacteria in water, a water sample is collected into a test bottle with a paper strip placed inside it. The paper strip contains chemicals that will turn black if they come into contact with H_2S . |
| Age group: | Secondary |
| Outcomes: | Students gain an understanding that clear water doesn't necessarily mean 'clean'. |







Method:

Step 1: Fill in the details

- (a) Write the sample number and date on a label and attach to a sample bottle.
- (b) Record your sample number, date, time, location and description of the water sampled on the Result Record Sheet (see Table 1 on page 52).
- (c) Record any other information e.g. turbidity (how cloudy the water is), smell, source of pollution, faulty pump etc.

Step 2: Collecting the Control

- (a) A control is used to compare the colour change in the test samples, and to ensure that the sample bottles are not contaminated before use. A control is a sample that you know for sure should not be contaminated. You need to collect the control only once for each monitoring programme.
- (b) Collect a sample of uncontaminated water (e.g. distilled water, boiled water, bottled water, water treated with chlorine). This is to be used as the control. Insert the paper strip (reagent) and record whether any colour change occurs. There may be a slight change in the colour of the sample to a pale yellow or light brown due to the colour change of the reagent. This is normal.

Step 3: Collecting the water samples

Water from the roof

- (a) Collect water from the roof in the rainy season in a very clean container; make sure you don't collect rainwater from the first week of the rainy season as this water is dirtier and is not normally collected for drinking.
- (b) Fill the test bottle carefully. This is because the test bottle will fill very quickly to the marked line and may overflow. If you overfill the bottle, do not spill the water out and do not worry. Your test will still work.
- (c) Immediately close the sample bottle.
- (d) You need to store the bottle in a dark place. Do not expose the bottles to the direct sunlight. The sun's rays can kill bacteria.

Water from your town's drinking water supply

- (a) Use a clean bucket to collect a sample of drinking water from a well or river. You may need to rinse the container several times to make sure it is clean.
- (b) Pour some of this water into your sample bottle, filling up to the mark.
- (c) Close the sample bottle.
- (d) Place all the test samples in a dark place at room temperature.
- (e) Wash your hands with soap!

Step 4: Check your results

- (a) Check your test sample at the same time each day for three days for changes in colour.
- (b) Record the date and time for each observation on your recording sheet and your result for each day.
- (c) Compare the colour change with that of the control.







Step 5: What do your results mean?

Use the H_2S colour code below to indicate the degree of contamination.

| Result C | Result Card: H ₂ S Colour Code | | | | |
|------------|---|---|--|--|--|
| \bigcirc | (-) | If there is no colour change this indicates that there is no hydrogen sulphide producing bacteria present. | | | |
| \bigcirc | (+) | If the water has turned grey, there is a possibility that bacteria, is present in the water. Wait for a few days and check again. | | | |
| \bigcirc | (++) | If the colour change is partially black then there is some amount of bacterial contamination in the drinking water. You may want to set up a regular monitoring programme and boil your drinking water! | | | |
| \bigcirc | (+++) | If the paper strip and the water sample are noticeably black then there is a very high risk of bacterial contamination in the drinking water, therefore, it is not safe for drinking. Take action! | | | |
| | (+++) | If there is a fast reaction—that is, the water solution and paper strip turns black overnight—that means that there is a high probability of bacteria present! | | | |

Table 1: Result Record Sheet

| Sample no. | Date/time | Location | Result/description |
|------------|-----------|----------|--------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



Topic 4.3: Water use and storage

The amount of water and the way we use it are determined by our families, communities and country's culture. However, there are a set of standard uses of water across the Pacific as highlighted in the table below.

| BASIC HUMAN NEED | REDUCE DISEASE | COOKING | GROWING FOOD |
|---|--|--|---|
| | | | |
| Humans are made up of 70% water Humans need water to be able to breathe. | Humans need clean and safe water to keep their bodies strong. Water is critical to good hygiene. We need water to keep clean. | Humans use water to wash fruit and vegetables before cooking; use water for boiling etc. | We need water to grow food for ourselves, but also for our livelihoods. |
| | | | a trusted and |
| | | | healthy source |

Where does the water come from?

Most of the water used by Pacific communities comes from three key places: surface water (water found above ground, i.e. streams, rivers etc), groundwater (water found in the ground and accessed through wells etc), and rainwater (water that is captured and stored in tanks etc after rainfall).



Surface water

Groundwater

Rainwater

of water.



Topic 4.4: Threats to water

Through their strong connection to the environment around them, Pacific islanders have a strong understanding of the connection between the natural environment and their livelihoods. For centuries, Pacific islanders have managed their natural resources, including fresh water, in a sustainable manner. However, urbanisation, population growth and the increase in industry are all placing demands on how fresh water is used, and how the waste water is managed.

| Population | Pollution | Practices | Industry | Urbanisation |
|--|--|--|----------------------------------|--|
| | | | | |
| Bigger population places pressure on limited water supplies | Pollution from households and businesses | How we use the water is affecting supply | Mining Logging Agriculture | The growth of towns and cities is placing demands on water supplies and resulting increased pollution |

Water storage

Studies show that the use of containers with narrow openings for filling and dispensing devices such as spouts or taps/spigots protect the collected water during storage and household use. Containers with narrow openings reduce the risk of the introduction of microbial contaminants via contact with hands, dippers, other faecally contaminated vehicles or the intrusion of vectors.

Other factors contributing to greater risks of contamination of stored water are higher temperatures, increased storage times, higher levels of airborne particulates (dust storms) and inadequate handwashing.

Water and climate change

The Pacific is extremely vulnerable to the effects of climate change and climate variability. The small supplies of fresh water are susceptible to changes in the climate - be it periods of drought, or wet periods and rapid flooding. The close proximity of the groundwater lens to the ocean means that the fresh water can become salty and unsuitable for drinking.

Activity 15: Where's all the water?

| Timing of activity: | 10–15 minutes | |
|---------------------|--|--|
| Materials: | Six measuring cylinders (or you can make your own by using plastic bottles by pouring in 1 mL and marking it up to 1,000 mL). Food colouring Dropper | |
| Activity summary: | A fun and active way to highlight the importance of schools, homes and communities working together to reduce the spread of dangerous germs; highlight the importance of undertaking all the key handwashing steps. | |
| Age group: | Upper primary and secondary | |
| Outcomes: | This activity will help you understand the amount of water available on Earth. | |

Activity plan:

- Fill one 1,000 mL marked cyclinder with coloured water to the 1,000 mL line. Think of this as all of the Earth's supply of water. Pour 28 mL of the total water into another cyclinder. This represents the Earth's total freshwater supply. The remaining 972 mL of water is salt water that is mainly found in oceans.
- 2. Divide the 28 mL of fresh water into smaller containers as follows:
 - 23 mL for icecaps and glaciers (frozen fresh water)
 - 4 mL for groundwater (fresh water deep underground)
 - 2 drops for surface water (lakes, rivers, streams)
 - 1 drop for water in the atmosphere and in the soil

Some questions to think about:

- 1. Which of the four fresh water cylinders represents the most fresh water on Earth?
- 2. Is this a source of fresh water commonly used by humans for drinking, watering gardens etc? Why or why not?
- 3. What percentage of Earth's fresh water is groundwater?
- 4. Where is most of Earth's water found?
- 5. Why is it not possible to use water from the ocean directly for cleansing, washing and drinking?

Source: SPREP 2004

Activity 16: Who's responsible?

| Timing of activity: | 40 minutes | |
|---------------------|---|--|
| Materials: | 'Opinion Cards': three large pieces of paper with one of the following statements written on each – Agree, Disagree, Undecided. | |
| Activity summary: | This activity allows students to share their opinion on water governance issues in a fun and interactive way. This is a good activity that can be applied across a range of topics. | |
| Age group: | Upper primary/secondary | |
| Outcomes: | Students understand that maintaining a clean water supply is everybody's responsibility. Encourage students to take responsibility for their water. | |

Activity plan:

- Place the opinion cards at eye level in a different area of the classroom or outside location (depending on where this activity takes place).
- Come up with three key statements. Some suggested statements are in the box to the right.
- 3. Before reading out each statement, instruct the students that there is no 'right' answer.
- 4. Ask the students to think about the statement and then move to the location of the opinion card that best matches their own point of view in relation to the statement. Once students have made their selection, facilitate a group discussion why do they agree, disagree or feel undecided about the statement?

Statement 1:

'Keeping our school water supply clean is the responsibility of the teachers.'

Statement 2:

'The government is responsible for ensuring that each school has clean toilets for use by the students.'

Statement 3:

'Students should not be expected to practice clean hygiene if there aren't clean facilities such as handwashing facilities and toilets.'

5. Indicate that as water is a shared resource, it is also a shared responsibility and that there are things we can all do to conserve water and keep it clean for drinking and hygiene purposes.

Follow-up activity:

Students can highlight the ways they can conserve water in their school, homes and communities.



Girls' sanitation needs

Background information

It is critical to ensure that girls continually attend school to obtain a good education. Research highlights that menstruation is one of the biggest contributing factors to school absenteeism and poor academic performance among schoolgirls (Wateraid 2009).

Girls who are menstruating may not attend school due to the lack of appropriate facilities such as: a place to wash and dry cloth pads, a place to dispose of sanitary pads and other protection, water inside toilet cubicles for cleaning, and a lack of general awareness and support within the school environment for girls' sanitation.

Menstrual hygiene promotion is a neglected subject in the area of hygiene education due to the social taboos that surround it. It can also be uncomfortable for teachers to discuss. However, it is essential that menstrual hygiene is a critical part of hygiene and sanitation programs within schools.

Topic 5.1: Menstruation: the facts

- Girls begin to menstruate anywhere between the ages of nine and 14.
- An average menstruation period lasts between 3 to 5 days, but anywhere from 2 to 7 days is considered normal.
- Most menstrual cycles (the time between the first day of one period and the first day of the next) are between 28 and 30 days long.
- During her lifetime, a woman will manage menstruation of an average of 3,000 days.
- For a girl's basic schooling period from grades 4–10, she will have to manage about 450 days of menstruation.



Topic 5.2: Addressing menstrual hygiene in your school

There are three key areas to consider when addressing menstrual hygiene:

- 1. **Education:** Provide information in schools about personal and menstrual hygiene within a broader hygiene program, to both boys and girls, and also to male and female teachers. This material will need to be taught in a sensitive manner. You may wish to hold a separate session just for girls, taught by female teachers. Boys will also require a separate session taught by male teachers.
- 2. **Provide sufficient sanitation facilities:** It is important to have sufficient clean, separate, safe and private sanitation facilities with accessible running water and effective waste management. Girls need to change their sanitation protection at least four times each day. For the girls that wear cloth pads, the pads need to be washed with soap and dried directly under the sun (to kill germs).
- 3. **Waste management:** Sanitary pads or other protection alternatives need to be disposed of in a hygienic and ecologically friendly way.

Disposable sanitary napkins or tampons require the presence of closed waste bins or containers, which are emptied and cleaned on a regular basis and preferably located in a place that offers privacy.

Activity 17: Discussing menstruation in schools

Activities for girls

Hold a separate session (preferably with a female teacher) to discuss the following:

- Menstruation: the facts
- The importance of menstruation hygiene
- What are the barriers to girls practising menstruation hygiene in schools?
- What are the key changes that need to take place in the school to support girls' sanitation practices around menstruation?

Develop a school plan based on the three areas identified in Topic 5.2.

Activities for boys

It is important that boys also learn about menstruation hygiene to increase their understanding of this topic. In a separate class, with a male teacher, the boys could participate in a discussion of the myths around menstruation. This could involve the boys writing down all they know or believe about menstruation and then being provided with the facts. It might be a consideration to hold a separate session for the male teachers in the school to build their awareness and understanding, and support of, girls' sanitation needs.



Module



Developing a 'Strong schools' program

Topic 6.1: Become a 'Strong school'

Is your school a 'Strong school'? The health of your students will determine the health of their education – and future. A 'Strong school' is built on three key components:

- 1. Students have access to safe drinking water
- 2. Separate toilets for girls and boys
- 3. Handwashing facilities with soap.

The key focus of this program is changing behaviour – your school is an important learning ground to help the students develop good hygiene practices that they will carry through life. A key place to start is to recognise the existing barriers to adopting a hygiene behaviour (i.e. why students don't undertake a certain desired behaviour such as washing their hands with soap) and putting in place actions that will encourage them to undertake this behaviour (i.e. making a Tippy-Tap and putting a Soap on a Rope next to it).

Use the table in Activity 18 to list the existing behaviours in your school, and the actions that can be taken to help the students develop good hygiene habits. Refer to the table on page 14 to help you.



Activity 18: Developing a 'Strong school' program in your school

Use this table to develop a program in your school that will encourage children to partake in key hygiene behaviours

| FOAMS component | Using toilets | Handwashing with soap after toilet | Handwashing with soap before food | Using safe water | Actions |
|-----------------------|---------------|--|---|------------------|---------|
| Focus | | | | | |
| O pportunities | | | | | |
| Ability | | | | | |
| Motivation | | | | | |
| S ustained | | | | | |

Refer to the table on page 14

Topic 6.2: Raising support within the community

Putting resources (financial and otherwise) behind changing your school's health and hygiene habits is a good investment. Encourage parents and the community to support the development and implementation of a 'Strong schools' program in your school to maximise the outcome of the children's education. Promote the benefits of good hygiene habits within the school environment, in the home and in the wider community. Building latrines and handwashing facilities does not have to be costly – there are low-cost, simple alternatives to reduce unhygienic practices. Once these facilities are in place, it is much easier to encourage hygiene behaviours such as handwashing with soap, and defecating in latrines/toilets. Investment in these 'life skills' now will not only support the development of hygienic habits at school, but will have multiple flow-on effects throughout the students' homes and communities.





Activity 19: Spread the word - not the germs

Develop an awareness Campaign

| Timing of activity: | 40 minutes | |
|---------------------|--|--|
| Materials: | Poster paper, markers, pens | |
| Activity summary: | This activity allows students to use visual aids to promote good hygiene behaviour. | |
| Age group: | Upper primary | |
| Outcomes: | Students use a creative and fun way to demonstrate their knowledge of WASH issues in their school. | |

Activity plan:

- 1. Divide the class into groups to create an information poster on one of the following topics:
 - Good hygiene habits
 - The importance of handwashing with soap
 - When to wash your hands
- 2. Once the theme is decided, encourage the students to be as creative as possible. They can draw pictures as well as write text on their posters.
- 3. Give the students the opportunity to explain their posters to their classmates or school.
- 4. Display the posters in the classroom or throughout the school and use the pictures as visual aids to remind students of good hygiene behaviour.
- 5. Organise other classes to visit your classroom to view the posters. Use this opportunity to give a small talk about good hygiene behaviour in the school.

Follow-up activities:

- 1. Invite the local media to feature your students' posters in the local newspaper.
- 2. Distribute the posters and stickers (provided in the resource pack) and ask students to place these around their school or community (e.g. community market or church toilets etc.).



Activity 20: Dramatic connections

| Timing of activity: | 40–60 minutes |
|---------------------|---|
| Materials: | Costumes and scripts |
| Activity summary: | Participatory game which encourages creative thinking and teamwork. |
| Age group: | Upper primary |
| Outcomes: | Students understand the links between waste and the social/ environmental impacts. |

Before the activity:

Copy the lists below and make enough copies to distribute to groups of six within the class.

| List 1 | List 2 | List 3 |
|-----------------------------|--|---|
| A baby | A student not using the toilet (open defecation) | A student using the school toilet |
| A well | A sick man | A student using soap to wash her hands after using the toilet |
| A student drinking | An animal | A student closing the toilet door after using it |
| Several dirty nappies | A woman cooking for her family | A girl helping to prepare vegetables for her family |
| A student with diarrhoea | An empty pocket/wallet | A family eating together |
| A student failing her exams | A sick baby | A happy family |

Activity plan:

- 1. Divide the students into groups of six.
- 2. Provide each group with one of the three lists. Ask each group to devise a short drama performance that must include each of the six objects or people on their list. Explain that the list can be arranged to tell a story that shows relationships between the actions and people's lives. There is no right or wrong order to use the objects or people in the drama. Alternatively, you may encourage each group to come up with their own sentences and develop the story from there.
- 3. Allow 35 minutes for the group to prepare a drama performance, and five minutes for each performance.
- 4. Discussion: After each performance ask the audience:
 - What was the message in the performance?
 - Do you agree with the links that were made between people and the actions?



- 5. Ask the performers,
 - Did you get your message across?
 - What were the relationships that you were trying to show?
 - Is this a realistic scenario in your community?

Follow-up activity:

Students can write their own lists about water, sanitation and hygiene to turn into plays and perform for the school or the wider community.

Glossary

Bacteria: very small living organisms, some of which cause illness or disease.

Coliform bacteria: very small living organisms found in the environment and in the faeces of humans and other animals. They do not usually cause serious illness; however, their presence often indicates that other, more dangerous, bacteria are present.

Composting: the process of converting/breaking down plant and animal waste into useful soil additives.

Contamination/contaminant:

food, water, soil or air etc that is contaminated has come into contact with a substance that may be harmful or potentially poisonous.

Defecation/defecate: to pass faeces from the body.

Dehydration: losing more fluid from the body than is replaced by drinking.

Diarrhoea: frequent and watery bowel movements; can be a symptom of things such as infection, food poisoning, illness.

Excreta: the solid or liquid waste material that people and animals produce and get rid of from their bodies.

Faecal/faeces: solid waste products from the body.

Faecal coliform bacteria: bacteria found in the intestinal tracts of humans and animals. Their presence in water is an indicator of pollution. **Faecal-oral:** transmission from faeces to the human digestive system via the mouth.

Gender: the roles and responsibilities of men and women and how they are expected to behave. Gender roles are changeable between and within cultures.

Germ: a very small living thing that can make you ill.

Groundwater: water that is found below the ground.

Groundwater lens: a layer of fresh water derived from rainfall, overlying saline (salty) groundwater.

Hygiene: clean and healthy practices that maintain good health.

Health: the general condition of your body and how healthy you are.

Infection: a disease that affects a particular part of your body and is caused by bacteria or a virus.

Latrine: a small building or structure, usually separate from a house, where people go to get rid of faeces and urine.

Malaria: a serious disease, resulting from the bite of an infected mosquito, which causes repeated high fever and headaches and may cause death.

Map key: a diagram which explains the different symbols on a map.

Menstruation: the regular monthly loss of blood and womb lining from a woman of child-bearing age.



Menstrual pad: an absorbent item worn by a woman while she is menstruating (see menstruation).

Microbes: a general term to describe the many different kinds of microorganisms which can cause diarrhoea and disease.

Nutrients: chemicals or foods that provide what is needed for plants or animals to live and grow.

Open defecation: defecating in the open and leaving faeces exposed.

Oral: relating to or involving the mouth.

Organic: living, or produced by or from living things.

Organism: an animal, plant, human, or any other life form.

Parasite: a plant or animal that lives, grows and feeds on or within another living organism.

Participatory: a way of organising or doing something, or making decisions etc that involves everyone who will be affected.

Pathogen: a disease-causing organism such as bacteria, virus or fungi.

Sanitation: safe methods to dispose of human faeces, urine and other household waste.

Reagent: a strip of paper with a chemical on it used to detect bacteria.

Transmission: the process of sending or passing something from one person, place, or thing to another.

Waste water: water that has been used in homes, industries, and businesses that is not suitable for reuse as a drinking source unless it is treated.

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Feedback form

Please help us to improve this Teacher's guide. Let us know what you think by answering the questions below and sending them to us. We suggest you photocopy this form or write/type out the questions and your responses, rather than tearing out this page, so other users of these materials can also tell us what they think. You can fax or mail this form to one of the Live & Learn offices listed on the inside front cover. Or you can provide feedback via email: resources@livelearn.org

Your name and location: _____

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1. Briefly explain how you used this book.

2. Is this book easy to follow? (if not please tell us what was not clear)

3. Was there information that you think was missing?

4. How could this book be improved?

5. Did the students like / dislike some activities more than others?

6. Please list any other comments or suggestions below:



Teaching hygiene behaviour in Pacific schools

This resource is designed to help teachers highlight and teach hygiene behaviour in schools in the Pacific. It presents 6 key modules, 17 topics and 20 activities. The modules can be taught in succession, or not, depending on the school's curriculum.

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