Health Activities for Primary School Students
Information Collection and Exchange

The Peace Corps Information Collection and Exchange (ICE), a unit of the Office of Overseas Programming and Training Support (OPATS), makes available the strategies and technologies developed by Peace Corps Volunteers, their co-workers, and their counterparts to development organizations and workers who might find them useful. ICE works with Peace Corps technical and training specialists to identify and develop information of all kinds to support Volunteers and overseas staff. ICE also collects and disseminates training guides, curricula, lesson plans, project reports, manuals, and other Peace Corps-generated materials developed in the field. Some materials are reprinted “as is”; others provide a source of field-based information for the production of manuals or for research in particular program areas. Materials that you submit to ICE become part of the Peace Corps’ larger contribution to development.

This publication was produced by Peace Corps OPATS. It is distributed through the ICE unit. For further information about ICE materials (periodicals, books, videos, etc.) and information services, or for additional copies of this manual, please contact ICE and refer to the ICE catalog number that appears on the publication.

Peace Corps
Office of Overseas Programming and Training Support
Information Collection and Exchange
1111 20th Street, NW, Sixth Floor, Washington, DC 20526
Tel: 202.692.2640 Fax: 202.692.2641

Abridged Dewey Decimal Classification (DDC) Number: 372.37

Share your experience!

Add your experience to the ICE Resource Center. Send your materials to us so we can share them with other development workers. Your technical insights serve as the basis for the generation of ICE materials, reprints, and training materials. They also ensure that ICE is providing the most up-to-date innovative problem-solving techniques and information available to you and your fellow development workers.
Building Responsibility for Health: Activities, Songs, and Mini-Projects for the Classroom and Community
Contents

Acknowledgments ................................................................. 1
How to Use This Manual ......................................................... 2
Dental Health ................................................................. 4
Hygiene ................................................................. 13
Nutrition ................................................................. 27
General Health/Colds and Fevers ........................................... 36
First Aid ................................................................. 44
Self-Empowerment ............................................................. 47
Drugs, Alcohol, Smoking, and Fitness ....................................... 53
Environment ................................................................. 63
AIDS/ Reproductive Health ..................................................... 65
Resource List and References .................................................. 66
Acknowledgments

This manual would never have been completed without considerable help.

From the very beginning Pimsuda Tiandum, APCD/health, has guided and encouraged the production of this manual. Mukda Boonnikornvoravith, assistant to the APCD/health, has patiently and gracefully taken care of all the details and all the technical challenges.

Thank you to all of the ONPEC, national parks, and soil and water Peace Corps Volunteers from groups 104 and 106 who submitted lesson plan and activity ideas. There would not be a manual without all of your creative ideas! Additionally, all the ONPEC 106 Volunteers helped edit this work and gave valuable feedback on its contents and purpose.

Amy Jo Bonnema and Anne Branon contributed countless hours planning, typing and revising. Without them, the task of putting all of this material together would have truly been physically and mentally insurmountable. Sincerest thanks to you, Amy and Anne.

Everyone's time and patient efforts are truly appreciated. Thanks really cannot fully reward your contributions. So, thank you very, very much (as inadequate as this is)!

Bethann Kreiling
ONPEC Peace Corps Volunteer
Group 106
How to Use This Manual

RATIONALE
In May of 1995 when I was first thrown to the wolves, or in other words, first arrived at site, my Thai language skills were minimal and my health teaching experience with primary students was limited. I spent hours planning simple lessons, just trying to look up the five key vocabulary words in Thai and trying to think up creative health activities and lessons. Or, I would be taken to a school on two minutes’ notice and expected to teach an English lesson. Why not teach a health lesson on short notice instead, since that is the primary responsibility of a health Volunteer?

With time, all the health Volunteers from groups 104 and 106 have created their own child health activities and can usually teach them with a moment’s notice. This manual is intended to share all those tried-and-true lessons and activities, in addition to some excellent activities gathered from the resources in the Peace Corps library. The manual targets both new Volunteers, in the hope that your transition to site will be smoother with this little package of ideas under your arm, and second year Volunteers because these Volunteers do not often have the chance to share their excellent activities with one another.

CONTENTS
This manual consists of sections targeting dental health, hygiene, general health, first aid, self-empowerment, nutrition, and drugs, alcohol, smoking and fitness. It also contains a limited number of environmental activities.

Each section outlines basic technical information about the topic, contains several detailed lesson plans, and lists quick activities which can be carried out at the schools. Songs and recipes relevant to each section are also included. At the end of the manual, a resource list describes some of the best health resources available at the Peace Corps.

LESSONS
All of the lesson plans and activities emphasize active learning for students and, in the Synthesis section, encourage students to make healthy decisions and to be responsible for the health of their communities. Adapt the activities and lessons as you see fit, concentrating on the synthesis of the lesson or carrying out the activity and summarizing briefly. You may also wish to incorporate the lessons into projects.
Each lesson is described in the header by content area and type of activity (demo, game, activity, etc.). A glance at the top of the page will tell you the target group and its size, plus the approximate time for the lesson. At the end, you will find the technical vocabulary for the lesson in English and Thai. Teach in either language, depending on the simplicity of the lesson and the English language level of your audience.

FINAL NOTE
The manual is by no means complete, but is meant to be evolving as Volunteers update it and add contributions. Additionally, the manual is relatively short so that it saves you the time and effort of sifting through all the materials at the Peace Corps. Use the resource list to find additional information and use the *Rural and Child Health ONPEC Manual* to find more details about health projects and activities.
Dental Health

BASIC INFORMATION

FUNCTIONS
Teeth: good health, eating, speaking, good looks
Gums: hold teeth in place and help keep teeth strong

CARING FOR YOUR TEETH
Eat only good, healthy foods.
Clean teeth carefully every day.

HUMAN MOUTH

**top**
The first baby tooth comes in around seven months of age. By the time the child is 30 months old, there should be a total of 20 baby teeth
12-14 years, 2nd permanent molar
16-22 years old, third permanent molar, wisdom tooth, not always present
6-8 years old, first permanent molar baby teeth, replaced by permanent teeth

**bottom**
From 6 to 12 years of age baby teeth fall out and are replaced by permanent teeth. Baby teeth are important. They help the child eat healthily, speak correctly, and hold spaces for the permanent teeth to grow in straight. Then, the permanent teeth will be easier to keep clean throughout a lifetime.


**KEEPING YOUR TEETH HEALTHY**

People can clean their teeth with salt or baking soda, homemade toothpaste, or store-bought toothpaste. Even rinsing with water is better than nothing. Use a green branch chewed to become stringy or a soft toothbrush. Toothpicks or a sharp twig are good for cleaning between the teeth. Toothbrushes should be replaced when their bristles are no longer straight.

- Clean the teeth daily after every meal and before bed.
- Clean between the teeth as well with toothpicks or floss.
- Rinse with fluoride weekly.

**THAI TOOTH BRUSHING PROCEDURE**

1. Brush the front teeth on the outside.
2. Brush the front teeth on the inside.
3. Brush the bottom teeth on the outside.
4. Brush the bottom teeth on the inside.
5. Brush the surface of the molars.
6. Brush the tongue.

**TOOTHPASTE RECIPE (ONPEC Manual)**

1 part camphor* (available at any pharmacy)  
1 part bicarbonate soda (available at any pharmacy)  
2 parts salt  
*optional, for taste

Mix ingredients together, wet brush, dip in mixture and brush away.

**NEEM TOOTH POWDER**

Neem leaves  
Matches and wood for a fire  
Kitchen sieve, knit wire mesh, or gauze

Dry the neem leaves in the open sun until they are brittle. Use a kitchen sieve to sieve the ash obtained by burning the leaves. For taste and better effect, add salt to the ash. When brushing teeth, neem leaf powder may either be used on the index finger and applied straight to the teeth, or the powder may be used on a toothbrush.
Neem (Margosa) contains a series of active ingredients of crystalline and amorphous bitter constituents. The main active principle is Nimibidin, and it is a tonic for the gums. Several toothpaste manufacturers mix Neem into their products. Experiments have established that Neem kills several types of bacteria and has a healing effect on the human body.

COMMON DENTAL PROBLEMS IN THAI STUDENTS

Cavities: tooth hurts some of the time, black spot, fill it as soon as possible so the tooth doesn’t rot out. Prevent by regular cleaning, flossing (or use toothpicks) and rinsing with fluoride.

Gum disease: loose teeth, sore, red, bleeding gums. Eat more vitamin C. Avoid sweets and pop. Rinse with warm salt water daily. Clean teeth and gums after every meal.

SONGS

Brush, Brush, Brush Your Teeth (to the tune of Row, Row, Row Your Boat)

Brush, brush, brush your teeth, brush them twice a day
Brush the front; brush the back, and your smile will be “suay.”

OR

Brush, brush, brush your teeth, brush three times a day
Up and down, up and down, they’ll stay clean that way.
DENTAL Lesson

GOOD AND BAD FOODS

Primary students, especially younger ones/unlimited number/20 minutes

Objectives
Students should be able to

1) identify foods that destroy their teeth and gums
2) identify foods that do not destroy their teeth and gums

Materials
pictures of various foods (healthy and unhealthy)

Directions
1. To teach this lesson in English, teach the English names of the foods first.
2. Hold up each picture. Students must name the food (in English or Thai) and then say “yes” if it is good for their teeth or “no” if it is bad for their teeth. Repeat for each picture.

Synthesis
Ask the students what kinds of foods are good for their teeth (vegetables, fruits, kanomes, juices, pop, etc.). If they have trouble generalizing, show them the pile of good food pictures. Maybe even put all the fruits together, etc. Follow up by brushing your teeth with the students after lunch. The lesson can also lead into a lesson about food groups. Have students select only good foods to eat at lunch that day.

Comments and Considerations
This activity can be fun when done with enthusiasm. The louder the students answer, the more fun. Even very young students can participate and understand.
DENTAL | Game

TEETH AND GUMS GAME

Primary students/8-10 students per team/20-30 minutes

Objectives
Students should be able to
1) explain that healthy gums hold teeth in place
2) explain that brushing teeth protects the teeth and gums
3) explain that sweets and junk food destroy teeth

Materials
none

Preparation
This game can be played after teaching about teeth, gums, tooth brushing, and the evils of kanomes (sweet desserts).

Directions
1. Have the students line up in teams of eight to ten. Tell them they represent teeth.
2. Tell the students to join hands. When they hold hands, their arms and hands are just like healthy gums protecting the teeth and holding them in place.
3. Choose one student to represent the toothbrush. He/she must protect the teeth and gums.
4. Choose one student to be a kanome. He/she wants to break through the gums and “eat” (destroy) the teeth.
5. Play the game with the kanome student trying to break through the arms of the healthy teeth and gums. The toothbrush student tries to stop the kanome from doing this. If the kanome succeeds in breaking the gum line, then he/she can grab one of the teeth at the break to be another kanome. Both kanomes now try to break through the gums.

Synthesis
Stop the game as the toothbrush brushes away a kanome or as the gums break. Ask the students what they represent and what their actions represent. Review the functions of teeth and gums. Demonstrate how kanomes destroy teeth with another activity or review this concept. Follow up the game with tooth brushing after lunch that day. Have students take some responsibility for daily tooth brushing. They might select people to check their teeth after brushing, someone to lead the daily brushing, etc.

Comments and Considerations
Sometimes the boys will play pretty rough, and the girls and boys will refuse to hold hands. The game can be played with boys and girls in separate groups.
DENTAL | Experiment

TEETH BRUSHING EXPERIMENT

Older primary students/10 students or more/ 50-60 minutes

Objectives
Students will be able to

1) list different methods for cleaning their teeth
2) explain why it is important to brush their teeth three times daily
3) explain when to brush their teeth (after meals)

Materials
chocolate or other sticky and dark-colored kanomes, at least eight flashlights
2-3 bottles of drinking water
fibrous food (apple, guava, etc.) at least one toothbrush
toothpaste
4 drinking cups, one for each volunteer student
soap for hand washing before the experiment
paper, colored markers or crayons
tape or staples to hang the drawings

Directions
1. Select four student volunteers who have relatively clean teeth and as few cavities as possible.
2. Break the remaining students into four groups, one group corresponding to each volunteer.
3. Students in the group must shine the flashlight into their volunteer’s mouth and draw a picture of what they see. Label the picture in Thai, “before eating kanome.” After the drawing, have all four volunteers stand up front, and let all the students file by to look in their mouths. Tell them to remember what they see.
4. Each of the volunteers eats two sticky, dark-colored kanomes. The kanomes need to be visible on the teeth after eating.
5. Students in each group shine the flashlight into their volunteer’s mouth and again draw what they see. Label the picture in Thai, “after eating kanome.” Again, line up the volunteers, and let all the students look at their mouths and remember what they see.
6. Assign each of the four volunteers to clean his/her mouth differently. Student 1 does nothing; student 2 rinses his/her mouth with water; student 3 brushes his/her teeth and rinses; student 4 eats an apple (or other fibrous food).
7. The teacher guides students through guessing whose mouth will be cleanest and why. Predict only; do not give answers.

8. Students in each group examine their volunteer’s mouth and draw it. Label the picture in Thai with the action the volunteer took after eating the kanome (“nothing”, etc.). Line up the volunteers, and let all the students observe their mouths.

**Synthesis**

Have each group present its pictures and discuss whose mouth was cleanest, second cleanest, etc. Explain why even eating fibrous food and rinsing with water are better than not doing anything at all. If students don’t have toothbrushes, they should at least rinse their mouths out with water after eating. Put the pictures up in the classroom. This lesson can lead into a lesson about proper brushing technique. Vote on the best pictures. Encourage student responsibility and decision making by having them obtain and organize a place for toothbrushes, toothpaste, and cups in their classroom.

**Comments and Considerations**

Thai students draw slowly, so hurry them along depending on how much time is available. Use four flashlights, if available. This will make the lesson easier and faster. Groups of five or six students works well, but this is not always realistic.
DENTAL | Game

TEETH BRUSHING RELAY

Primary students/6 students per team or less/20 minutes

Objectives
Students will be able to
1) brush their teeth using the correct procedure

Materials
blackboard to keep score
every student should have a toothbrush
demonstration set of teeth and toothbrush from the amphur hospital dentist (optional)

Preparation
This game can be played after students have learned the proper tooth brushing technique.

Directions
1. The first person from each team goes to the front facing his team. He/she shows the first step of brushing teeth (top teeth, outside). The teacher watches and assigns points to each team: one point for brushing in the correct location, one point for brushing correctly (rotating the brush at the gum line, holding brush at a 45 degree angle). Write the points on the board.
2. Repeat for each person on the team. (top teeth, inside; bottom teeth, outside; bottom teeth, inside; molars; tongue) Keep points along the way and be sure to point out what is correct/incorrect about each student’s technique, or ask the students to tell you.
3. The team with the most points wins.

Synthesis
Discuss why it is important to brush teeth, when to brush them, and what would happen if students never brushed and all of their teeth fell out. How would they talk? eat? look? feel (if they’re hungry and malnourished from not eating any food)? If there is time, follow up or begin by checking the students’ teeth. Have each student write down something that will help him/her remember to brush his/her teeth after every meal and before bed.

Comments and Considerations
After playing the game one time slowly, the students will catch on. Then play it again as a fast relay.
OTHER DENTAL ACTIVITIES

1. **Play “Dental Pictionary.”** Write out slips of paper with dental vocabulary words on them. One student looks at the word and draws it. Other students must guess the word. Play in teams, groups, or as a class.

2. **Make toothpaste.** See the front of this section for the recipe.

3. Make all the students **rinse with fluoride.** Fluoride is available from the amphur (district) hospital.

4. **Chart your friend’s mouth.** Students pair up and draw each other’s mouth onto a dental chart. Draw in cavities, leave out missing teeth, draw plaque, etc.

5. Make a **poster** of good food snacks for teeth.

6. **Chew red tablets.** Use the chewable red tablets available from the amphur hospital dentist after students brush their teeth. The red indicates sugar on the teeth and means they need to brush again, until it comes off.

7. **Destroy teeth with acid.** Get four or five teeth from the hospital and put them into different solutions (pop, sugar water, water, salt water, milk, etc.). Observe after three days, and discuss what happens when students don’t brush their teeth. If teeth are unavailable, substitute chicken bones. Explain that the bones represent teeth and are made of the same thing (calcium) as teeth.

8. **Grow oral bacteria.** Use gelatin as “food” to grow mouth bacteria. Take a toothpick, and collect plaque from student mouths. Wipe it on the gelatin, or stick the toothpick in with the student’s name. Cover with clean plastic and tape so no bacteria floats in. In three days, you should see growth. Do a control with gelatin only, covered and taped. Practice this activity at home first to work out the problems. See the ONPEC Manual for more details.

9. **Make pictures or a bulletin board.** Take pictures of teeth brushing activities and student smiles, and make a bulletin board.

10. **Handout toothbrushes** and toothpaste from the Peace Corps or from Colgate.

11. Make a **cup and toothbrush holder,** labeled with student names, in each classroom.
Hygiene

BASIC INFORMATION

DAILY HYGIENE
1. bathing
2. hair washing
3. clean clothes
4. clean and short nails
5. hand washing after going to the bathroom and before every meal
6. teeth brushing after every meal
7. carefully washing any cuts, scratches, or scabs with warm, soapy water
8. always wearing shoes outside

HEALTHY HABITS

*Keep surroundings clean and healthy.*
1. garbage dumped in special place and buried or burned
2. keep water containers covered
3. put away equipment children could trip on
4. wash lunch tables and dishes well
5. sweep
6. wash clothes daily and bedding weekly and hang in the sun to dry
7. use latrines, clean them properly

*Keep bodies strong and healthy.*
1. do not share combs, toothbrushes, drinking glasses, barrettes
2. eat nutritious food
3. do all daily hygiene activities

SONGS

*Wash, Wash, Wash Your Hands* *(to the tune of Row, Row, Row Your Boat)*
Wash, wash, wash your hands
Wash them all the day
Use some soap, lots of soap
To wash the germs away.
HEAD LICE

Lice Checks
1. Look for actual lice jumping or white eggs stuck to the hair shaft usually near the scalp, at the base of the neck, above the ears and at the forehead especially. It is good to check the clumps of hair in all of these locations.
2. Sometimes you will find nits (the white eggs) still in the hair after several lice treatments. This may indicate that the student still has lice, or the lice may be dead, eggs and all. To check, pick a nit out of the hair and smash it between your thumbnails. If anything squeezes out of the egg, there was life inside and the student is still infected. If you squeeze 4-5 nits with no result, the student is probably no longer infected but has not washed and combed out all the nits yet.
3. Dandruff and lice eggs (nits) are not the same! Dandruff can be shaken out of the hair. Eggs stick.

Lice Basics

Lice are dangerous and harmful because
1. They spread typhus (fever and rash).
2. They cause skin infections.
3. They disrupt student learning by causing itching.
4. They carry bacteria.

Infection
1. sleeping with someone who has lice
2. sitting near someone who has lice
3. sleeping in the bed of someone who has lice
4. sharing combs, brushes, hats and hair clips with someone who has lice

Prevention
1. Wash hair daily.
2. Every week wash all bedding, soak in bleach water 1/2 hour, iron and let dry in the sun.
3. Wash all combs, hats and hair clips the same way every week.
4. If one person in a family is infected, everyone must be treated simultaneously.
Treatment with Lice Medicine

The day before treatment at the school, tell students with lice to bring a towel, combs, and shampoo from home. Get gloves and lice medicine from your health station, hospital. Sometimes schools will already have lice medicine distributed by the health office.

1. Put on gloves.
2. Tie a towel or other material tightly around the hairline. Let it hang down over the child’s eyes and ears for protection from the medicine.
3. Use 1/2 an envelope of lice medicine per student. Shake it onto dry hair, massaging into the roots. Especially treat the areas at the base of the neck and around the ears. Do not get the medicine in the eyes, ears, or nose!
4. Comb the medicine through the hair. The finer toothed the comb the better, but any comb will do.
5. Raise the ends of the towel up to cover the hair. Let the medicine sit for one hour.
6. Wash the hair carefully with regular shampoo, not getting medicine in the eyes and ears. Have the student sit in a chair and lean her head over the back or lie on a bench with head hanging over the edge.
7. Comb through the hair again.
8. Rinse with water.

After this, emphasize that everyone at home needs to be treated, too, and give out the appropriate amount of medicine. To guarantee treatment you need to go the village. If students have helped with the whole treatment at school, they will know how to do it at home, too.

Treatment at school and home should be followed that day with washing bedding, clothes, and combs and the following week both treatment and washing should be repeated.

Lice Medicine

Noi Na Seeds
Boiling water
Soap and bleach for combs and bedclothes

Crush 1 seed of Noi Na fruit until it is powder. Mix with 2 cups of boiled water. Lightly massage into scalp and leave on for 30 minutes. Repeat daily for 7 days.

For combs, barrettes, hairbrushes: Soak in hot soapy water with a little bleach for 30 minutes and dry in sunlight.
Hygiene

*For bed clothes:* Wash all bed clothes with hot soapy water and bleach or wash with soapy water and bleach and then iron hot. Dry in sunlight. Put all non-washable items in direct sunlight for several days.

**Herbal Shampoo**

**Ingredients**

<table>
<thead>
<tr>
<th>Amount</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aloe Vera juice 2 cups</td>
</tr>
<tr>
<td>2.</td>
<td>Magrut juice 1-2 cups</td>
</tr>
<tr>
<td>3.</td>
<td>Magrut peel from about 5 fruit</td>
</tr>
<tr>
<td>4.</td>
<td>Clean water 1 liter</td>
</tr>
<tr>
<td>5.</td>
<td>Lanolin 100 grams</td>
</tr>
<tr>
<td>6.</td>
<td>Thickening Agent 100 grams</td>
</tr>
<tr>
<td>7.</td>
<td>Foaming Agent 100 grams</td>
</tr>
<tr>
<td>8.</td>
<td>Shampoo Base 1 kilogram</td>
</tr>
<tr>
<td>9.</td>
<td>Fragrance 1 ounce</td>
</tr>
</tbody>
</table>

**Instructions:**

1. Wash and clean the aloe vera. Remove the peel, use only the white slimy stuff inside. Mince the inside stuff, using a knife or a blender. Strain the chopped up stuff through cheese cloth until you have 2 cups.

2. Remove the peel from the Magrut (about 20 Magruts). Squeeze the juice from the pulp. Strain the juice through cheese cloth. Use 1-2 cups. Save the peel from about 5 of the Magruts.

3. Mix the Magrut juice, the Magrut peel and the Aloe Vera juice in a pot. Stir until mixed, then boil the mixture. Strain the mix through cheese cloth one more time, throwaway the peel.

4. Add the Lanolin to the mixture. Stir until dissolved. You may have to put it back on the heat. It will not dissolve unless the mixture is hot. When it is mixed, remove from heat and mix in 1 liter of water.

5. When the mixture is room temperature, cool to touch, stir in the thickening agent then add the foaming agent. It is not easy to get the foaming agent to dissolve into the mixture. Use a spoon to smash it against the side of the pot but be careful not to make it foam too much.

6. When the foaming agent is dissolved, add the shampoo base. When that too is mixed in, add the fragrance. The shampoo is now ready to use or bottle. Be sure not to leave it in an aluminum pot. It will ruin it. It's best to use stainless steel pots, but they're not always available.
HYGIENE | Demonstration

**FLY AND FECES DEMONSTRATION**

Children and adults/unlimited number/30 minutes

**Objective**
Students should be able to
1) explain how flies spread disease and germs

**Materials**
fake fly
1 paint holder
green paint
picture or plate of real food

**Preparation**
Make a model fly out of clay, cork, or potato, toothpicks and paper wings. Fill a cut-off plastic water bottle with green paint.

**Directions**
1. Explain that the paint is feces, garbage and dirt, and the food is the students’ dinner.
2. Each student should dip the fly’s feet in the paint and put it on the food. After many students do this, the paint will be readily visible.

**Synthesis**
Ask the students if they would like to eat feces or garbage. If the green paint represents feces, do they want to eat the food dotted with green paint? Relate this to how flies can cause diarrhea and how covering food is a form of prevention. This lesson can lead from or into a discussion of diarrhea and spreading germs.

**Comments and Considerations**
After this activity, students can plan how they will keep school lunch food and food at home clean.
HYGIENE MUSICAL CHAIRS

Younger primary students/10–50 students/20–30 minutes

Objective
Students should be able to
1) list actions which promote good hygiene

Materials
one chair for each student, minus one

Directions
1. Make a large circle with chairs, one less chair than the number of students. Students walk in a circle around the chairs.
2. The teacher calls out the following actions: wash your hands, wash your face, wash your hair, take a shower, brush your teeth, wash your clothes. When the action is called, the students do the action while walking around the chairs. When the teacher calls out “dirty,” the students must run and find a chair to sit on. The student left standing becomes the leader calling out the actions.

Synthesis
Discuss why these actions are important and when you should do each of them. Do some of them right there at school.

Comments and Considerations
Older primary students can be included as leaders of this game and organizers of daily hygiene activities for first and second grade students.
**HYGIENE | Experiment**

**WATER BELLY***

Children or adults/unlimited number/20 minutes

**Objectives**

Students should be able to

1) explain why water is important for the human body
2) explain the dangers of diarrhea
3) demonstrate how to combat diarrhea and dehydration

**Materials**

container: plastic bag, hollowed out gourd, cup, water bottle, or anything that holds water and can represent a person

instrument to make a hole in the container

water

water scoop or cup for pouring

plug for hole in the container

**Directions**

1. Draw a face on the container.
2. Make a hole in the bottom of the container (there should already be one in the top).
3. Plug the hole, and fill the container with water. This represents a healthy body. Pull out the plug to show what happens during diarrhea.

**Synthesis**

Discuss what happens when there is too little water in your body. Explain how diarrhea is water leaking out of your body just like water leaking out of the hole in the bottle. Follow up with a discussion of ORS and why all living things need water to live and be healthy.

**Comments and Considerations**

This activity can be adapted numerous ways.

1. Use an orange and squeeze it out; then compare it to a dehydrated (wrinkled, shriveled, smaller) person.
2. Discuss the importance of water for living things by watering one plant or putting one clipping in water and not watering the other plant or clipping.
3. Emphasize that for every loose stool passed, a child needs one additional glass of liquid by drawing a line halfway up on the container. Then fill the container to the line with water. Unplug it and let one cup of water drain out. Catch the draining water in a cup. Explain that this is what happens during diarrhea. Does the body have enough water after a loose stool? What must be done for the body to be healthy again?

Plug the bottle again, and refill it with one cup. This shows that for every loose stool passed, the person must replace it by drinking one cup of water (ORS is better). Be sure to emphasize that the line represents the amount of water needed to be healthy. If many loose stools are passed and no water is replaced, what will happen? Tell students to think about a rice crop without any rainfall!

HYGIENE | Demonstration

**KEEPING WATER SAFE**

Children or adults/unlimited number/20 minutes

**Objectives**
Students should be able to
1) explain how water can be contaminated by bacteria
2) show three or more ways to keep water clean and safe at home or at school

**Materials**
white powder (cassava flour, anything that won't dissolve in water)
large water storage container
water scoop
drinking cup

**Directions**
1. Explain that the powder represents feces and germs.
2. Sprinkle the powder in two or three areas on the ground near the large water container. Place the drinking cup and water scoop on the ground. Be sure there is some powder next to the cup and scoop.
3. Walk through the powder, and approach the large container to fetch some drinking water. Get plenty of powder on your feet and into the scoop and drinking cup. Dip the scoop into the barrel, and pour the water into the cup.
4. Ask who would like to drink the water and why or why not.

**Synthesis**
Discuss where the germs came from, what is wrong with drinking the powdered water and ways to prevent this problem (keep water covered, keep the dipper off the ground, use a dipper with a handle, never let the dipper float in the barrel, keep the area surrounding the water clean, wash hands before using the water, wash the drinking cup before using it, clean out the barrel weekly, etc.). Ask for their input before lecturing them on these sanitation tips. Then examine the water supply at school, and correct any problems found.

**Comments and Considerations**
Adapt the procedure as you see fit. Try to model the actual situation at the school or village as much as possible. If they use the cup directly to scoop drinking water, then don’t use a scoop/dipper in the model. Use a lot of powder! Spread powder around as much as possible while walking and scooping. Be sure students understand what the powder represents. Discuss what will happen to anyone who drinks the germs/fecal matter (the powder). This may lead to a discussion about diarrhea.

*adapted from Training Guide on Hygiene Education, Handout 9-7*
OTHER HYGIENE ACTIVITIES

1. **Play “Shake My Hand.”** Explain that everyone’s skin has natural oils. Put Vaseline or vegetable oil on the hands of all the students. Put coffee crystals or dirt on the hands of a few students. Explain that the coffee represents germs which can make you sick. Have the students with dirty hands shake hands with others, and those students shake hands with yet other students. Discuss how germs pass from contact. Next have some students wash their hands with water only, and some with soap and water. Discuss why using soap is better than using water only.

2. **Make lice medicine.** See the page at the front of this section for the recipe.

3. **Check all the students for lice.**

4. **Treat all students who have lice with medicine.**

5. **Clean up the school** with the students: clean the bathroom, wash dishes after lunch, clean up the cafeteria, sweep, pick up trash, etc.

6. **Have a bath day for the youngest kids.**

7. **Make ORS** for the school hospital and for students to take home. See the page at the front of this section for the recipe.

8. **Make pictures or models of lice to physically show how lice jump to infect others.** Use powder to represent diseases lice can spread (typhus) by sprinkling the powder on the lice model and letting the model dance on students’ heads, spreading the powder around. Discuss and show other places lice can live (bedding, combs, and barrettes) and then jump onto students’ heads.

9. **Teach methods of lice prevention.**

10. **Play “Fly Tag.”** Play tag as usual, but the person who is “it” represents a fly carrying germs. When the fly tags someone, the person must sit down and count to 100 because he/she has become “sick.” Vary this activity by having all tagged students be “it” at the same time as the original fly. This shows how quickly germs and disease can spread.

Rinse soybeans, separate the good and the bad beans. Soak for at least 18 hours. Remove hulls and separate them from water and bean. Grind up beans using mortar and pestle or blender, if available. Add half the water to the paste. Heat the mixture for about 10 minutes. Skim the foam off the mixture. Strain the mixture through a cheese cloth. Heat again for 10 minutes. Add the rest of the water, sugar and salt to taste. Strain again. Drink hot or cold. Makes 5 L soymilk.
Hygiene

Peanut Kanomes
3 cups peanuts (remove skins and crush)
2 cups flour
1 cup sugar
1 box milk (sweetened is best)
1/2 cup of margarine
2 eggs

Mix all ingredients together and put little balls of dough on the baking surface. Bake in an oven until set. (Ovens can be made easily from many sources. Consult the Peace Corps library for oven designs.) Add salt or change amounts of ingredients if needed. Serve with milk for more protein.
Iodized Salt and Popcorn Activity

Many Thais still think of iodized salt as “special,” something similar to medicine. Some adults ask if the salt can be used in Thai food. In order to get across the idea that iodized salt is “normal” and can be used in all of the same ways as the salt that is commonly used in the village, then, the message has to be communicated that iodized salt tastes good and should be used daily in everything!

Arrive at schools with a big bag of popcorn made at home. Bring all the materials for mixing iodized salt. Tell the students ahead of time to each bring at least 200 grams (2 “keets”) of salt, although this amount will vary depending on the number of students.

Materials

2 big plastic washtubs
1 scale (must go up to at least 7 kg)
1 bottle of iodized water for each 6 kg. of salt (nam iodeen—usually available from the District Health Office or already at the school, but check this out and bring your own)
2 or more large spoons
1 spray bottle or if none is available a glass bottle
1 plate (can be borrowed from school)
1 small spoon (can be borrowed from school)
about 2 c. warm water
1 large bag of pre-popped popcorn
1 mixing bowl (for eating the popcorn with iodized salt)
1 set of acid/starch bottles to test the salt (kowat koo), available at local health offices

After carefully weighing the amount of salt to be mixed, explain to the students that by testing the salt with the acid/starch bottles we can find out if the salt contains as much iodine as it should. Have the students vote on whether or not the salt will change color. Usually the salt doesn't change color at all but it may slowly change, leading us to conclude that there is some but not enough iodine in the salt. The salt with sufficient iodine will turn a deep blue immediately. Using the small spoon and plate, test the salt.

For each 6 kilograms of salt, mix 15 cc. of the strong iodine solution in the eyedropper bottle with enough water to make 60 cc. Spray (or sprinkle if using a glass bottle) this over the salt, having the students stir constantly and thoroughly. When the salt has been blended well, test it again for its iodine content. The students are always fascinated by this!

Take out enough popcorn for each student to have a small handful and put it in the mixing bowl. Add plenty of the freshly iodized salt. Dig in! Some alternatives to popcorn are locally available fruits that are commonly eaten with salt.
Hygiene
## Nutrient and Micronutrient Sources, Functions and Deficiencies

<table>
<thead>
<tr>
<th>Nutrient/Micronutrient</th>
<th>Functions</th>
<th>Deficiency Signs and Symptoms</th>
<th>Foods Used to Treat the Deficiency</th>
<th>Thai RDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrates</td>
<td>Energy and heat source</td>
<td></td>
<td>Bananas, rice, tubers</td>
<td></td>
</tr>
<tr>
<td>Fats/oils</td>
<td>Concentrated energy source, energy storage, vitamin absorption</td>
<td></td>
<td>Oils, cooking fat, fatty meat, peanuts, soybeans</td>
<td></td>
</tr>
<tr>
<td>Proteins</td>
<td>Growth, repair, make up enzymes, energy source, help fight infections</td>
<td>Low height and weight, thin upper arm (less than 14 cm circumference), red sparse hair</td>
<td>Pork, chicken, fish, meat, eggs, milk, red beans, soybeans, mung beans, peanuts</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>Help prevent infections, healthy skin, healthy eyes</td>
<td>Night blindness, dry eyes, Bitot’s spots, blindness</td>
<td>Dark green leafy vegetables, milk, liver, eggs, kidney, ripe mangoes, papayas, eggplant, pumpkin, carrots</td>
<td>1250-3300 I.U.</td>
</tr>
<tr>
<td>Vitamin B1 (Thiamin)</td>
<td>Metabolism of carbohydrates</td>
<td>Dry beri-beri, numb hands and feet, weak/aching arms and legs</td>
<td>Eggs, liver, fish, pork, meat, chicken, peanuts, yellow beans, brown rice</td>
<td>.7–1.2 mg</td>
</tr>
<tr>
<td>Vitamin B2 (Riboflavin)</td>
<td>Metabolism of carbohydrates</td>
<td>Rough skin, cracks or red sores at the corners of the mouth</td>
<td>Liver, kidney, milk, eggs, meat, fish, chicken, large amounts of green vegetables</td>
<td>.8–1.2 mg</td>
</tr>
<tr>
<td>Vitamin B3 (Niacin)</td>
<td>Metabolism of carbohydrates</td>
<td>Sores and dark spots on the skin, pellagra</td>
<td>Liver, fish, chicken, peanuts, meat, black beans, milk, brown rice</td>
<td>9–16 mg</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>Calcium metabolism, iron absorption, fight infection</td>
<td>Loose teeth, scurvy, sore and bleeding gums</td>
<td>Milk, squash, chilies, citrus fruits (guava, oranges, pineapple, lemon, lime, mangoes, tomatoes), sardines, dark green leafy vegetables</td>
<td>20 mg</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>Absorption of calcium</td>
<td></td>
<td>Liver, fatty fish, milk, egg yolks, sunlight</td>
<td>400 I.U.</td>
</tr>
<tr>
<td>Calcium</td>
<td>Bone/tooth formation</td>
<td>Rickets, bow-legged, knock-kneed</td>
<td>Soy milk, milk, small fish with bones, shrimp, crab, Chinese celery, Chinese cabbage, mint, mung beans, neem</td>
<td>500 mg</td>
</tr>
<tr>
<td>Iodine</td>
<td>Growth, energy use, brain and nervous system development</td>
<td>Goiter, enlarged thyroid, Cretinism</td>
<td>Seafood, iodized salt</td>
<td>60–110 mcg</td>
</tr>
<tr>
<td>Iron</td>
<td>Hemoglobin formation, cell functioning</td>
<td>Anemia, pale inside of eyelid, pale gums, white fingernails, pale tongue, shortness of breath, weakness</td>
<td>Meat, liver, kidney, eggs, fish, chicken, beans, dark leafy vegetables</td>
<td>4 mg</td>
</tr>
<tr>
<td>Water</td>
<td>Cooling the body, flushing out wastes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**NUTRITION | Game**

**VITAMIN A GAME**

Primary students/5 people per team/30 minutes

**Objectives**
Students should be able to
1) identify vitamin A-rich local foods
2) rank local foods based on their vitamin A content

**Materials**
blackboard or paper to keep score
pictures of various local foods, drawn or cut out

**Preparation**
Look up the vitamin A content of each food in a resource manual, and write this number on the back of a picture of each food. All foods used should contain some vitamin A. Include foods that are good and poor sources of vitamin A. Alternately, rank the foods using a 1-10 scale with foods highest in vitamin A receiving a 10. Write these numbers on the back of the pictures instead.

**Directions**
1. Place all food cards picture side up. Divide the class into teams of five. Explain that all of the cards contain foods with vitamin A, yet not all of the foods have the same amount of vitamin A. Tell them that each food card has the amount of vitamin A written on the back. Show them a few examples.
2. The first team starts by selecting the one food card they think represents the best source of vitamin A. After they pick the card, they should turn it over to see the number. Award the team this amount of points.
3. The teams take turns picking cards until all the cards are chosen. A different team should pick the card each time.
4. The team with the highest score wins.

**Synthesis**
After the game is over, have students rank all the food cards in order of highest to lowest vitamin A content. Discuss which foods are locally available and what they are typically eaten with. Encourage the students to eat vitamin A-rich foods with oils and fats for better absorption.

**Comments and Considerations**
Use the *Table of Nutritive Values of Thai Foods* to find the vitamin A content of various foods and to find the names of foods in Thai. Have the students make the pictures; make a list of vitamin A foods, and tell the students to draw those foods.
NUTRITION | Game

NUTRITION MUSICAL CHAIRS

Primary students/10-50 students/30 minutes

Objective
Students should be able to
1) classify foods by Thai food group

Materials
pictures of food (optional)
one chair for each student, minus one

Preparation
Play this game after teaching about the Thai food groups.

Directions
1. Assign a food to each student. Each food should distinctly belong to one food group.
2. Have the students make a circle of chairs, with one student sitting in the middle.
3. Have the student in the middle call out the name of one food group, and the students assigned a food in that food group get up and switch seats. The student who sits down last does not get a seat and ends up being the person in the middle.
4. Repeat.

Synthesis
Emphasize that a good, healthy meal contains all the food groups. Have students list the food groups in their school lunch. Have students build a meal with all five food groups.

Comments and Considerations
It is easier to check whether or not the students are correct if each student draws a picture of his assigned food and holds it up during the game. The game can be varied and made more difficult by either assigning students a food group and having the person in the middle call out a food, or by adding foods that include more than one food group, such as gang som*; to the game. For example, a student with gang som, would switch seats if vegetables, protein, carbohydrates or fats were called.

*gang som = sour soup
Some examples of foods in each group:
1. **Protein**: meat, chicken, milk, nuts, seafood
2. **Carbohydrate**: rice, bread, potatoes, corn
3. **Fats**: oil, nuts, butter, eggs, seeds
4. **Fruits**: bananas, watermelon, mango, apple
5. **Vegetables**: green beans, cabbage, cucumber
**NUTRITION** | Game

**NUTRITION CONCENTRATION**

Primary students/2–3 teams/30 minutes

**Objective**

Students should be able to

1) identify symptoms of various nutrition-related health problems
2) list the micronutrient which treats each symptom

**Materials**

1 pair of pictures for each health problem, a picture of the health problem and a picture of someone without the health problem (e.g., a healthy eye and a dry eye with Bitot’s spots)

poster with enough numbered pockets to hold all the picture cards (or lots of tape to just tape them to the blackboard)

**Preparation**

Use this activity to teach about micronutrient deficiencies or after teaching as a review activity.

**Directions**

1. Put all the pictures face down into pockets on the poster. Mix up the pairs.
2. Divide the students into two or three teams.
3. Play concentration. The first team selects two pocket numbers. The teacher reveals the pictures in these two pockets for 10 seconds and returns them to the pockets face down. Students should try to remember which pictures are in which pockets.
4. Teams alternately select pairs of pictures. They can repeat pockets if they want. The object is to get a match (e.g., healthy eye and dry eye with Bitot’s spots).
5. If a team picks a match, the pair remains in the pockets, picture side out. Award the team one point for this. (Optional: The team must state the micronutrient deficiency causing the health problem in this pair for an extra point. Another point is awarded for naming a food rich in this micronutrient.)
6. Stop when all the pairs are matched. The team with the most points wins.
Synthesis

Make a chart listing the micronutrients, symptoms of their deficiencies, and two or three foods which can help prevent the micronutrient deficiency. Have a student write it in Thai! Have students check each other for these various health problems by weighing and measuring themselves, looking at eyes and fingernails, etc. Then have each student write down what he or she should and will eat more to solve his/her health problem(s).

Comments and Considerations

Have students help draw the cards. It may help to write the health problem and the remedy on the back of the respective cards. Here are some examples of some health problems:

1. Eye with Bitot’s spots-eyes without=vitamin A
2. Mucus sores on mouth-clean mouth=vitamin B
3. Short child-tall child=protein
4. Active student-tired student=iron/ minerals
5. Bad teeth-good teeth=calcium/toothpaste

Keep everyone involved in the game. Limit the number of students per team, if possible, and have a different team member play each round with the rest of the team helping.
**NUTRITION TUG-O-WAR**

Older primary students and above/ 10-50 students/ 20 minutes

**Objective**
Students should be able to
1) explain why they must eat food from all five food groups every day

**Materials**
- rope for tug of war
- five word cards, one for each food group (Thai or English)

**Directions**
1. After a brief discussion of the five food groups, show the students how eating the five food groups helps fight disease and makes them strong.
2. Pass out cards with the individual food groups fats/oils, carbohydrates, protein, vegetables, and fruits.
3. Draw a line on the ground. The teacher’s side of the rope represents sickness. Tell the students you are Mr. Sickness. If the students get pulled across the line, it shows they are sick and weak.
4. So, pick a small student, one you can beat in one-on-one tug of war. Tell the other kids, “This student has not eaten yet.” Ask the student how he/she feels. “Are you hungry? tired? sick?”
5. Play tug of war, and easily beat the student.
6. Ask the student if he/she wants to eat something to get strong. The student should call out all five food groups one by one. The students with the five food group cards join the student and play tug of war against the teacher.
7. This time the students should kick your butt and show that eating right, eating all five food groups, makes you strong and helps prevent sickness!

**Synthesis**
Follow up by classifying foods into the five food groups. Ask students what they ate that day or the previous day. Did they eat food from all five food groups? Analyze that day’s school lunch. If possible, have students plan examples of school lunches which supplement all five food groups.
OTHER NUTRITION ACTIVITIES

1. **Play “Nutrition Bingo.”**

2. **Make peanut butter.** Pound 1 lb. unshelled peanuts and 1/2 cube margarine or oil in mortar, until smooth. Add a little salt (iodized) for taste.

3. **Make hard-boiled eggs.** Place eggs in boiling water and boil for about 10 minutes. Rinse with cool water and let soak until the eggs are cooled.

4. **Make fruit juice drinks/shakes.**

5. Have students collect recipes from home and **make a class cookbook.** For each recipe, write in the micronutrients found in high quantities.

6. **Have a food-tasting party** using nutrient-rich foods.

7. **Make iodized salt and put it over popcorn.** See the front of this section for the recipe.

8. Teach how to **check for vitamin A deficiency.**

9. Do a **student health check** with the health station workers.

10. **Have a health poster contest.**

11. **Make farang food (pancakes, popcorn, etc.).**

12. **Plant a garden.**
13. **Design and make a bulletin board.**

14. **Play “Food Group Envelopes.”** Write the names of each food group on a separate envelope. Have each student make a card with a food representing one of the food groups ahead of time. Have students come up one-by-one and place their cards in the correct food group envelope. When everybody has taken a turn, pull out the cards and ask the students if the cards are in the correct envelopes. (e.g., banana -fruit, nuts -oil or protein, etc.).

15. **Make soymilk.** See the front of this section for the recipe.

16. **Make peanut kanomes.** See the front of this section for the recipe.

NOTE: The ONPEC Manual has many more games and activities related to nutrition. Use it!
General Health/Colds and Fevers

BASIC INFORMATION

DEHYDRATION
lack of water in the body

Occurrence: during severe diarrhea
            heat stroke
            other serious illnesses

Signs: little/no urine, urine dark yellow
       sudden weight loss
       dry mouth
       sunken, tearless eyes

Prevention/Treatment: give ORS and large amounts of liquids as soon as there is one watery stool. A child needs 1 8 oz. glass of ORS for every watery stool.

Dysentery: when mucus and blood can be seen in the stools.

COLDs/VIRAL INFECTIONS

Symptoms: some or all of the following:
           runny nose, cough, sore throat, fever or pain in the joints, mild diarrhea

Treatment: no antibiotics
           plenty of water and rest
           acetaminophen (paracetamol) for fever
           eat normally/if available drink/eat Vitamin C rich foods

Fevers above 40°C are extremely dangerous and can cause convulsions and brain damage.

High fevers must be lowered immediately!
• no clothing
• fan
• room temperature sponge baths/ compresses
• drink cool water
• give paracetamol, be sure to check dosage first
ORS RECIPE

clean drinking water
salt
sugar
large liquor bottle approximately 1 liter
spoon

Use clean water. When making one glass, add one level spoon of sugar and a pinch of salt. Drink one glass after every watery stool. To make one bottle, add four level spoons of sugar and one level spoon of salt. Taste the solution. If it tastes saltier than tears, it is too salty. Throw it away and mix a new solution with less salt. Another alternative is to put one spoon of salt into one liter of 7up, Sprite, or Slice. Use less salt for smaller containers of soda.

Drink the whole bottle in one day. If there is extra left after one day, throw it away. A small child needs at least one liter a day; larger people need three or more liters a day. If the person is vomiting, give the drink often in small sips only.
General Health/Colds and Fevers

GENERAL HEALTH/COLDS AND FEVERS | Game

SICKNESS ATTACK*

Primary students/unlimited number /20-30 minutes

Objectives
Students should be able to
1) explain how colds and fevers can be transmitted quickly
2) explain three ways colds can be transmitted

Materials
one piece of paper for every participant in a bag
one piece of paper only is marked “sick,” others are not marked at all

Directions
1. Every student draws one slip of paper. They cannot tell others what is written on the paper.
2. Explain that the person with the “sick” paper will spread the disease by winking at others during the game. This person must be in the inner circle during the game.
3. Players form an inner and outer circle. The circles walk in opposite directions, and the “sick” person begins winking, trying not to be noticed. When someone is winked at, he/she falls down onto the floor and moves out of the way, trying to touch others while falling. Whoever is touched must fall and get “sick,” too. This illustrates contagious spread of disease.
4. Stop when everyone has fallen ill.

Synthesis
Discuss types of diseases that are contagious. Explain and have the students think of examples of the ways contagious diseases can be spread, by physical contact, contact with body fluids directly or on objects, by sneezing and coughing. Discuss how long it took for everyone to get sick in the game, and that real diseases can spread this quickly and easily too. Have students suggest ways to prevent catching contagious diseases.

Comments and Considerations
This game can be adapted to specific diseases or even to parasites and vector-borne diseases. The immune system dance in the AIDS Manual is another variation on this game which examines the body’s ability to fight off contagious diseases.

GENERAL HEALTH/COLDS AND FEVERS | Demonstration

SONGKRAN

Primary students/unlimited numbers/20 minutes

Objectives
Students should be able to
1) explain how coughing and sneezing spread germs
2) show two ways to prevent spreading germs by coughing and sneezing

Materials
spray bottle
water

Directions
Fill spray bottle and hold up to your face. Pretend to sneeze or cough, and spray the kids or the blackboard as you do it.

Synthesis
Discuss how sneezing and coughing can spread germs. Explain that the water represents germs, which make you sick. Ask the students how they can prevent spreading germs this way (wash their hands before eating, after going to the bathroom, etc. and covering their mouth/nose when sneezing and coughing and washing their hands afterwards).
GENERAL HEALTH/COLDS AND FEVERS | Art Project

ACTION HEALTH POSTERS

Primary students/unlimited number/50–60 minutes or more

Objectives
Students should be able to
1) list health problems
2) describe actions they can take to solve health problems

Materials
pens, paint, markers poster board or paper

Preparation
This activity is good to use as a summary after teaching about many different health problems. If pamphlets of information on health problems are available in Thai from the health office, have students read them and use the information to make a poster. Then they can present their posters to the rest of the class.

Directions
1. Split the class into groups. Each group will be responsible for a health problem (e.g., colds, diarrhea, AIDS, etc.).
2. Brainstorm health problems the children know about. Ask them about what they and their families have had in the past year.
3. Assign each group a health problem, and tell them they are to make a poster about the problem. They should include a picture of what a person with the problem looks like, what a child can do to help prevent the disease or take care of someone with the problem, and what a group of children can do to prevent the disease or take care of someone with the problem.

Example: diarrhea; one student can wash his hands after going to the bathroom, wash the dishes at home with soap, and bury garbage in a pit or burn it away from the house/school, make ORS for his sick siblings; many students can start a village compost pile, teach other children about dehydration using a plastic bottle with a hole in it and teach how to make ORS, make ORS packets for village use (two spoons for the sugar and salt, a small bag of salt and of sugar with a short set of directions).

Synthesis
Follow up by having the students actually take some of the actions they have listed/drawn on their posters. Hang the posters up all over the school and community.
GENERAL HEALTH | Lesson

SICKNESS AND ACCIDENTS

Primary students/10–50 students/60 minutes

Objective
Students should be able to
1) understand common health problems
2) understand common accidents

Materials
*English Is Fun Book IV — Lesson 15*
sling, band-aid, bandage
flip chart for jazz chant

Directions
1. Have students act out cold, fever, diarrhea, headache, toothache, stomachache.
2. Have students role play accidents—cuts, burns, etc.

Synthesis
Have students decide if they should go to the health center, doctor or hospital. The whole class asks, “What’s the matter?”

One student role plays and says, “I have a stomachache.”

Continue role play with many students, many aches and pains. Do the following jazz chant. Use a flip chart.

Doctor: What’s the matter with you?
Patient: I’ve got a headache and a toothache too.
Doctor: Take these pills and go to bed.
Patient: That should help my aching head.

Students are divided into two groups—one group chants the doctor’s part—the other group chants the patient’s part. Later have the groups switch parts.

Comments and Considerations
Different words can be incorporated in the jazz chant.
GENERAL HEALTH | Activity

AGE, WEIGHT, AND MEASUREMENT

Primary students/10–50 students/60 minutes

Objectives
Students should be able to
1) state their ages
2) measure and state their weights
3) measure and state their heights

Materials
centimeter stick (usually found cut into wooden post of the school)
scale (usually found in the health room)
*English is Fun Book IV — Lesson 14* (optional)

Directions
1. Have each student tell his/her age and write it down.
2. Weigh each student and have the student write it down in kilograms and pounds (if the scale shows pounds).
3. Measure each student and have the student write it down in centimeters.

Synthesis
Ask the students their ages. Have two or three students come up to the front of the room. Who is older?
Ask students their weights. Who weighs more?
Ask students their heights. Who is taller, tallest?
Make age, height and weight graphs for the classroom.

Comments and Considerations
Make a class graph. If there are too many students, you could only do one measurement. Students can help by weighing and measuring each other. This activity can be done in English or Thai.
OTHER GENERAL HEALTH ACTIVITIES

1. **Make ORS.** See the recipe in the front of this section

2. **Teach about fevers.** Have a child run around and then wrap him in a blanket, head included. Ask him to tell how he feels. Explain that this is the same thing that happens when you wrap children with fevers in a lot of clothing or blankets. Take off the blanket and wipe his skin with a cloth soaked in water. Ask him to describe how he feels. Ask what should be done for a person with a fever and why. WARNING: Do not keep the child wrapped up for more than a minute. Causing fainting is not the goal of this exercise.
FIRST AID | Game

FIRST AID RESCUE RELAY

Children or adults/4–5 people per team/60–90 minutes

Objectives
Students should be able to
1) demonstrate first aid techniques
2) explain when to use different first aid techniques

First Aid Techniques
1. Application of a bandage to a small wound using sterile technique
2. Application of a leg and arm splint using local materials such as sticks, pillows, rags, or blankets
3. Application of a triangle bandage
4. Stopping bleeding
5. Application of an ace bandage to an injured area
6. Transfer of an injured person using
   a. Fireman’s carry (One man carry)
   b. Two person carry
   c. Chair carry
   d. 4–5 man carry of an unconscious person
   e. Blanket drag
   f. Two-person assist

Materials
use local equipment, available in the village
sticks
pillows
rags
blankets
strips of cloth
signs labeling each station (#1–4)
directions, in Thai, for each station
Preparation
Obtain all materials and designate labeled stations and the finish line ahead of time.

Directions
1. Demonstrate and explain all techniques.
2. Divide students into small groups to practice the techniques on each other. Have students find their own materials once they have divided into groups, or provide the materials ahead of time.
3. Play the game, “First Aid Rescue Relay” as directed in #4–7 below.
4. Divide students into teams of 4–5 people.
5. One person on each team is the patient. The others carry out the relay, going from station to station. Designate station locations ahead of time. They should be at least 15 feet apart.
6. The station sequence follows. Starting at Station I, Team Member 1 carries the patient to Station 2 using the fireman’s carry. At Station 2, Team Member 2 applies a triangle splint, and then Team Members 1 and 2 carry the patient to Station 3 using the two-person carry. At Station 3, Team Member 3 applies a leg splint to the patient. Team Members 1, 2, and 3 carry the patient to Station 4 using the unconscious person carry. At Station 4, Team Member 4 applies a pressure dressing to the patient’s arm. Team Members 1, 2, 3, and 4 roll the patient onto a blanket for a blanket drag. Team Member 4 drags the patient on the blanket to the finish line.
7. The first team to complete all the tasks correctly and cross the finish line wins.

Synthesis
Emphasize when to use each of these techniques. Follow up by asking students to give examples of when they would use each technique.

Comments and Considerations
This first aid lesson plan is a fun activity which can be used at English camps and Boy/Girl Scout camps. It is very important to teach students to do first aid in their own environments. Make it practical using local materials; villagers do not have hospital first-aid equipment. The relay race can be organized in other ways as well.
OTHER FIRST AID ACTIVITIES

Use the student health leaders!

1. Have them show you the school hospital/health corner.

2. Practice student health leader responsibilities with them (first aid, health checks, etc.).

3. Create a club of student health leaders. Play health games, make health posters ...

4. Inventory the supplies in the health room. Involve the health leaders. Involve a health station worker, too.

5. Visit the health station and amphur hospital with the health leaders.

6. Create a first-aid kit for the Office of Primary Education. The office should ideally be an example for the schools.
Self-Empowerment

BASIC INFORMATION

This section is included here in a health lesson plans manual because it addresses mental health and self-esteem issues which lie behind good health decisions. For example, children must have the confidence to make healthy decisions if they are responsible for looking after younger siblings. Or, a man or woman or even a teen child must have enough confidence to demand that sex not occur unless a condom is used to protect both partners from HIV / AIDS.

These activities can easily be altered; please do so as needed. Good luck! Also, check Shades: A Resource Manual for Diversity Awareness (Peace Corps/Thailand) for more activities related to awareness of self and appreciation of human diversity.
SELF-EMPOWERMENT | Activity

GOOD FEELINGS*

Children or adults/ 10-50 students/ 10-15 minutes

Objectives
Students should be able to
1) identify five things people can say and do to help them feel pleased with themselves
2) compliment at least one person in the class

Materials
paper for each student pencil/ pens

Directions
1. Hand out paper to each student. Have each student write five statements that make him/her feel good about him/herself. The statements can be verbal compliments or actions that make the student feel good. Provide many examples, such as “You are such a good helper in the school lunchroom!” or “Receiving a flower or piece of fruit at school.”

2. Break students into small groups to share their statements, or have them share with the whole class.

Synthesis
Discuss:
1. Is it easy to receive good feelings from other people?
2. How many good feelings did you get yesterday?
3. Is it easy for you to give good feelings?

The next day, each student should do or say something nice to or for a friend.

Comments and Considerations
An alternate activity is to arrange students in groups or pairs. Give students time to think or write down a compliment to give another person in the group. Have them make their compliments as specific as possible, avoiding impersonal remarks such as, “I like the color of your shirt.”

*adapted from Family Life Education, p. 35
SELF-EMPOWERMENT | Activity

I LOVE MYSELF *

Children or adults/ 10-50 students/ 20 minutes

Objective
Students should be able to
1) describe at least one quality they like about themselves

Materials
paper and pencils

Directions
1. Teach the students how to say, "I love myself," and the meaning.
2. Have the students write it on a piece of paper. Have the students finish the statement about why they love themselves in Thai.
3. When they are finished, have them share their statements with the class.

Comments and Considerations
Alter this activity by switching "I love myself" to any statement. Begin by having the students share their statements with smaller groups. A small, trusting environment builds confidence. Students can draw a picture to show why they love themselves as well.

English /Thai Vocabulary
I love myself (because)...

SELF-EMPOWERMENT | Art Project

COLLAGE OF SELF*

Children or adults/unlimited number/1–2 days

Objective
Students should be able to
1. describe themselves: their characteristics, qualities, interests, role models, etc.

Materials
1 large, sturdy piece of paper for each student
old magazines with pictures
glue
scrap paper (colored)
pens, crayons, or markers for each student
several pairs of scissors or cutters

Directions
Instruct students to make a collage entitled “me!” They should collect, draw, and/or cut out pictures, words, and symbols that are representative of themselves. They can include things they like to do, things they own, places they’ve been, people they admire, etc.

Synthesis
After the collages are completed, display them in the classroom or on a bulletin board. First, have the students try to guess who made each collage, then have the students explain all the items in their collages.

Comments and Considerations
Encourage students to be creative. They can use real objects on their collages, too. Do a complete example including brainstorming for ideas and planning what materials to use for the class first so they get the idea and understand what types of things they can include in their individual collages. Have a student help you write a list on the board of possible things to include (things they like to do, favorite people, family, friends, favorite foods, places they have traveled, things they do every day, etc.). Students can refer to this list as they are creating their individual collages.

*adapted from 100 Ways to Enhance Self-Esteem in the Classroom: A Handbook for Teachers and Parents (ICE No. CD040), Jack Canfield & Harold C. Wells. Prentice-Hall, Inc., 1976, p. 31
SELF-EMPOWERMENT | Discussion

A WAY IN WHICH I’M RESPONSIBLE*

Primary students/ 10–50 students/20–60 minutes

Objectives
Students should be able to
1) define responsibility
2) list responsible behaviors they regularly perform
3) describe tasks they are responsible for which can promote good health

Materials
none

Directions
1. Explain what “responsibility” means. Give examples of student and teacher responsibilities. Emphasize that if the responsible person doesn’t do what he/she should, problems occur.
2. Ask students to write down two responsibilities they have at home and two at school. Have each student read these to the class.
3. Relate the activity to health. Give an example of a health-related responsibility at home. For example: washing dishes, taking a bath, washing their hair, serving water, cleaning the bathroom, taking care of a younger sibling, burning garbage, cooking, etc.
4. Ask students to write down things that each person, including the student, in the family does which are responsible for the health of the family. Repeat for the teachers, students, principals, and others at school.

Synthesis
Emphasize the importance of being responsible, and that each student is important and good when he carries out his responsibilities. Make a classroom responsibility chart for sweeping, passing out papers, overseeing tooth brushing, doing health checks, etc. For homework, have students make a responsibility chart at home. Meet with the principal and assign grade level responsibilities at school.

Comments and Considerations
Give each student an opportunity to speak. Thank each person who shares, and remember to take a turn yourself. This activity can be reduced to 20 minutes by doing steps one and two only, or lengthened if all the steps are completed.

*adapted from Best Self-Esteem Activities for the Elementary Grades, p. 92
OTHER SELF-EMPOWERMENT ACTIVITIES

1. Remember to pick girls as often as boys.

2. Give a lot of praise.

3. Encourage children to make decisions and participate!
Drugs, Alcohol, Smoking, and Fitness

**BASIC INFORMATION**

**DRUG DEPENDENCE**
People use drugs for many reasons including peer pressure, escape, trying to stay awake, etc. Drugs can cause legal, economic, and personal problems. This is a growing concern among school-aged children in Thailand. Some very common types of drugs used by children in Thailand include:

*Primary School Level*
Mostly volatile substances such as alcohol and cigarettes

*Secondary School Level*
Mostly stimulants such as
- amphetamine (yah bah)
- Ephedrine (yah ee)
- Ecstasy (yah ee)

and, heroin, cannabis (marijuana), alcohol, and cigarettes

**SOME POSSIBLE SIGNS AND SYMPTOMS OF DRUG DEPENDENCE**

daily activities revolve around getting more drugs
other needs, even obtaining food, become secondary
ill health, injuries
personality changes, moodiness, violence
changes in peer group / friends
poor attendance at school or work
poor judgment
restlessness, excessive reflex action
“drunkenness,” drowsiness, irrational behavior, talkativeness, withdrawal
pinpoint or dilated pupils
needle marks on arms
possession of needles and syringes, roach clips, pipes

**STIMULANTS**

*Amphetamines (including “yah mah”)*

Effects on the body can include
- speeding up action of the central nervous system
- hallucinations
- tolerance, psychological, and sometimes physical, dependence
- heart problems, malnutrition, death
Cocaine

Effects on the body can include
- speeding up action of the central nervous system
- confusion, depression, hallucinations
- tolerance and physical dependence
- convulsions, coma, and death
- harm to nasal membranes
- lesions in lungs

DEPRESSANTS

Barbiturates, Tranquilizers, Methaqualone

Effects on the body can include
- slowing down the central nervous system
- confusion, loss of coordination
- tolerance, physical and psychological dependence
- coma, death
- (taking with alcohol can be especially dangerous)

CANNABIS

Marijuana, Hashish

Effects on body can include
- altered mood and perception
- confusion, loss of coordination
- tolerance, psychological dependence
- damage to lung tissue

HALLUCINOGENS

LSD, PCP, designer drugs

Effects on body can include
- temporary distortion of reality
- hallucinations, panic
- depression, confusion, irrational behavior (PCP)
- tolerance
- convulsions, coma, death (PCP)
- “flashbacks” of effects even after use is discontinued (LSD)
- birth defects in users’ children (LSD)
NARCOTICS

*Heroin, Morphine, Codeine, Opium*

*Effects on body can include*
- lower perception of pain
- lethargy, apathy, loss of judgment and self-control
- tolerance, physical and psychological dependence
- convulsions, coma, death
- malnutrition, infection, hepatitis

DELIRIANTS

*aerosol products, lighter fluid, paint thinner, fingernail polish, gasoline, model and plastic cements, glue, shoe polish*

*Effects on body can include*
- mental confusion
- loss of coordination, confusion, hallucinations
- convulsions, death
- psychological dependence
- permanent damage to lungs, brain, liver, bone marrow

ALCOHOL (a powerful depressant)

*Effects on body can include*
- slowing down the activity of the central nervous system
- slower reactions, loss of control over actions, erratic behavior
- impaired thinking and judgment
- staggering, disorientation, moodiness, slurred speech, double vision
- vomiting and incontinence
- unconsciousness, death due to respiratory paralysis
- cancer of the mouth, esophagus or stomach, due to irritating effect of liquor
- heart disease – enlarged heart, congestive heart failure
- liver damage – cirrhosis, alcoholic hepatitis, cancer of the liver
- ulcers and gastritis
- damage to adrenal and pituitary glands
- tolerance, physical and psychological dependence
- birth defects due to alcohol consumption during pregnancy

Alcoholism is a disease characterized by the uncontrolled use of alcohol. The causes of alcoholism may be a combination of genetic, environmental, cultural and psychological factors. ANYONE can become an alcoholic, and alcoholics can recover from the disease but never be cured.
Possible Symptoms of Alcoholism

greater tolerance
personality changes
obvious uncontrolled drinking
blackouts
denial
preoccupation with alcohol, drinking alone, shakes, malnutrition

SMOKING

The nicotine found in tobacco is an addictive drug.

Effects on the body can include

loss of appetite
associated with bronchitis and pneumonia, worsened asthma
coughing, wheezing
emphysema
lung cancer
heart disease and strokes
physical and psychological dependence
decreased physical fitness

Effects on non-smokers can include

increased respiratory illnesses (bronchitis, pneumonia) in infants and babies up to 18 months of age
increased chance for middle ear problems in children
increased coughing and wheezing, worsened asthma in children
low birth weights and lower survival rates in newborn babies due to smoking during pregnancy
DRUGS, ALCOHOL, SMOKING, FITNESS | Art and Writing Project

TELL A FRIEND ABOUT IT

All students/ 10-50 students/30-60 minutes

Objective
Students should be able to
1) write a factual message about staying drug- and alcohol-free

Materials
paper or cardboard
crayons, pencils, pens, markers

Directions
1. Talk to the students about the effects of drugs and alcohol, and then ask them to write to someone about this. This person can be someone they want to stop using drugs and alcohol or a younger sibling they want to warn about the effects of drugs and alcohol.

2. Have students draw a picture about drugs and alcohol and write a message (English or Thai) about drugs and alcohol.

3. When they are finished with the picture, have them turn the paper over and address it to the person of their choice. Deliver it or mail it!

Comments and Considerations
Alter this activity by making a bulletin board or having a drawing contest for awareness. It may help to take a health worker along to explain the effects of drugs and alcohol in Thai.
DRUGS, ALCOHOL, SMOKING, AND FITNESS | Experiment

STRENGTHENING YOUR HEART

All students/ 10-50 students/ 15 minutes

Objectives
Students should be able to
1) take their own pulse
2) explain how exercise strengthens the heart
3) explain that drinking and laziness weaken the heart

Materials
none

Directions
1. Teach the students how to take their pulse, feeling for the carotid artery or radial pulse. This will take some time. Demonstrate how to find it.

2. Once the students feel their pulse, ask them if their heartbeat is fast or slow. Explain to them that their heartbeat is at a normal resting rate, so it should not be too fast. It should be steady.

3. Explain that the heart is a muscle, so when students exercise their hearts become strong. Explain that their hearts are as big as their fists and pump blood through their bodies. Have the students open and close their fists to represent their hearts, clenching slowly at first, then faster to simulate exercising.

4. Have students exercise, take their pulses again, and then model their hearts with their fists again. They should be clenching their fists fairly quickly now.

5. Now have the students model what happens after drinking and laziness by making a weak fist and opening/closing it very slowly.

Comments and considerations
Alter this activity by having students run, complete an exercise circuit, or go to recess to raise their heart rates.
**DRUGS, ALCOHOL, SMOKING, FITNESS** | Activity or Game

**EXERCISE CIRCUIT TRAINING**

All students/ 10-50 students/60 minutes

**Objectives**

Students should be able to

1) complete all the activities in the exercise circuit  
2) take their own pulses  
3) explain that exercise strengthens the heart muscle as well as leg, arm, and stomach muscles

**Materials**

none

**Preparation**

Teach students how to take their pulses before this activity

**Directions**

1. Put students in groups, one group at each station: 1. jumping jacks, 2. running in place, 3. hopping on one leg, 4. push ups, 5. sit ups.  
2. When the teacher says, “go”, the students perform their exercise as fast as they can for about 15–20 seconds.  
3. When the teacher says, “change,” the students run to the next station and start performing the new exercise right away.  
4. Keep going until all the students complete the circuit. Be sure their heart rates are high. Have the students feel for their pulses, and ask them if they are slow or fast. They should notice a difference.

**Synthesis**

Explain the following depending on the level of the students. Explain that the heart pumps blood through the body. This pumping, moving blood is what students feel when they take their pulses. Exercise strengthens muscles including the heart by making them “practice” moving. The heart is working hard during exercise. They can feel it because their pulses speed up.
Comments and Considerations

A helpful hint is to demonstrate more than you speak. Make a circle with the students and teach the basic movements. Make it into a game having the students do the action, and when the teacher says, "stop," they must freeze. The last person to stop is out of the game.

This activity can be altered. Do aerobics instead of the exercise circuit. Stretch from neck to toes for 10 minutes. Do aerobics for 20 minutes (marching in place, forward, backward, and sideways; grapevine movement; arm circles; clapping). Cool down for five minutes by doing slow motion aerobics and stretching. Students should take their pulses before aerobics, immediately after aerobics and after the cool down. Notice how their pulses change at each time.
OTHER DRUG, ALCOHOL, SMOKING, AND FITNESS ACTIVITIES

1. Blow smoke through a tissue to show the students how a cigarette can blacken their lungs.

2. Tarred lungs: (Drugs, Alcohol, and Tobacco: Totally Awesome Teaching Strategies. p. 334)

   Put wet cotton balls into a plastic bag, and tie it off with a rubber band. Put a straw through the rubber-banded opening in the top of the bag. The bag represents the lungs; the cotton balls represent the inside of the lungs; and the straw represents the throat. Blow smoke into the bag (or have a teacher do it) in front of the students. What color is the cotton now? Since the cotton balls represent the inside of the lungs, how does smoking affect the inside the lungs? Discuss the negatives of smoking. Note: The bag cannot have any holes in it except where the straw enters.

3. Discuss the cost of cigarettes and alcohol, and brainstorm what else could be bought.

4. Simulate how seriously drinking can affect behaviors by having students:
   - write with their non-dominant hand
   - talk with their mouths full of marshmallows (or any other food)
   - run through a maze with one eye covered
Drugs, Alcohol, Smoking, and Fitness
Environment

For detailed environmental lesson plans, please see the National Parks Environmental Education Activities Manual co-produced by the Division of National Parks and Wildlife Sanctuaries and Peace Corps/Thailand.

OTHER ENVIRONMENTAL ACTIVITIES

1. Pick up or clean up the school with the students.
2. Make toys or art with packaging materials such as water bottles, newspaper, etc.
3. Draw and paint an environmental mural.
4. Set up recycling at the school or start a compost pile.
5. Guide students through drawing a picture of their favorite place outside. Then have them destroy it by adding pollution, factories, lumber cutters, etc. Discuss how they feel about the destruction of their favorite place. Would they ever visit there again? How will this change their lives? How will it affect other people in the area?
6. Use the following three sentences:
   If we destroy the soil, we starve.
   If we destroy the water, we sicken.
   If we destroy the air, we die.

   Split the class into three groups and have them draw before and after pictures for their respective sentences (one sentence assigned to each group). Next, each group discusses their pictures with the class, noting especially what humans have destroyed, how, and the consequences.

7. Do a tree project (from Cooperative Learning. Cooperative Lives, p. 422–6). Plant a tree for every child. Plant trees to replace those cut down, to create atmosphere and shade at school, a park, or in the village, or to create flood and windbreaks which protect farmland.
AIDS/Reproductive Health

For information about AIDS and for teaching activities, please see the Peace Corps/Thailand AIDS manual, *Alternative Techniques for Teaching about HIV/AIDS in the Classroom*. 
An Incomplete List of Useful Health Resources at Peace Corps

GENERAL HEALTH/TECHNICAL INFORMATION


*Rural and Child Health Manual. Peace Corps/Thailand.* Excellent resource for project ideas, health information on every topic related to child and adult health. Includes activities, lesson plan ideas, songs, and information about how the Thai school and health systems are set up. Don’t forget about the trusty manual; it expands on the information in this book. Technical information and school activities.

*Table of Nutritive Values of Thai Foods.* (September 1992). Thailand: Nutrition Division, Ministry of Public Health. Lists major nutrient and micronutrient values for hundreds of Thai foods. There is also a July 1985 edition. Both editions are accurate, but the 1992 version is illustrated. Use it to create your own healthy diet in addition to planning school lunch programs and teaching village health. Technical information.


GENERAL HEALTH/TEACHING STRATEGIES


Note: There is also a *Child-to-Child* book which contains the activities only. It has an orange cover.

Meeks, Land Heit, P (1992). Comprehensive School Health Education. Blacklick, Ohio: Meeks Heit Publishing Company, Inc. More than 600 pages of hands-on health activities. Encompasses every area of health. Each section also includes basic background information on the corresponding health topic. Some activities may need to be adapted to Thailand’s circumstances, but they are easily adaptable.


FIRST AID


NUTRITION


Take a Nutrition Break! Lessons and Activities for Every: Curriculum. (1990). Denver, Colorado: Colorado Department of Education. Excellent list of nutrition teaching strategies and learning activities. Includes many easy school projects for time periods of a few minutes to an hour, day, week, or month. Must be adapted to Thai food groups and nutritional circumstances. School activities.
Resource List and References

1996 TEFL Conference Manual Supplement: Teaching Nutrition in the Classroom. Peace Corps/Thailand. Packet of information developed into a hands-on, student-centered teaching plan. Students must examine their own diets and health. Can be taught in English or Thai. Includes activities and very basic technical information about nutrition.


SELF-ESTEEM/DRUGS & ALCOHOL


Canfield, J and Wells, H C (1994). 100 Ways to Enhance Self-Concept in the Classroom. Needham Heights, Massachusetts: Allyn and Bacon. Activities and lesson plans that emphasize self-esteem, a positive and supportive learning environment, self-awareness, and relationships. Adapt these activities to health, or consider them without any adaptations to develop spiritual/mental health. Use them as ice-breakers or to empower your students, young and old. Classroom/group activities.


OTHER PEACE CORPS-PRODUCED PUBLICATIONS


National Parks Environmental Activities from the Khao Khaew Workshop. (in progress). Royal Forestry Department, Bureau of Natural Resource Conservation, Division of National Parks and Wildlife Sanctuaries. Tried and true environmental education activities for the classroom and other groups, developed by national parks Volunteers and Thai nationals from the Division of National Parks and Wildlife Sanctuaries.


Our Greatest Resource of All