

Urbani School Health Kit
TEACHER'S RESOURCE BOOK

A Lively and Healthy Me

A Campaign on Preventing and Controlling
Worm Infections for Health Promoting Schools



Urbani
School Health Kit



World Health
Organization
Western Pacific Region

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Objectives

After the lessons, schoolchildren **ages 5 to 9** will be able to:

- Describe what are worm infections
- Describe how worms enter the body
- Describe the impact of worm infection on children's growth and development
- Explain why worm infection should be prevented and controlled
- Demonstrate ways to prevent and control worm infection
- Take de-worming tablets twice a year

In addition, schoolchildren **ages 10 to 12** will be able to:

- Discuss reasons why worm infections are common among children
- Illustrate the life cycle of common worms and relate this to the mode of transmission of the disease

Key Messages

For ages 5 to 9

- Worms are parasites that feed on nutrients in the human bowels.
- Worm infections are common in children with poor hygiene practices
- Worm infections are transmitted through the mouth (by eating with dirty hands, eating contaminated food and water), and through skin contact with soil contaminated by faeces containing worms or worm eggs.
- Worms in the body can go unnoticed or cause abdominal pain, loss of nutrients, slow

growth and development, and even death.

- Children who are worm-free are more active, perform better in school, and are more resistant to other diseases.
- Worm infections can be prevented by improving personal hygiene, practicing proper hand washing (especially after defecating, and before preparing or eating food), cooking meat thoroughly, keeping food and water supplies clean, and keeping toilets clean.
- Worm infections can be easily treated by de-worming drugs.

In addition, **for ages 10 to 12**

- Eggs of worms are often ingested by children through dirty fingers or contaminated food and water. The eggs develop into larvae and mature into worms inside the body. Mature worms lay eggs which are excreted into the faeces.
- Worm infection can cause malnutrition, retarded growth and development, poor learning ability and frequent school absenteeism.

Activities

For ages 5 to 9

- Storytelling: How worms affect a child's health
- Role-playing: Worms around me
- Demonstration of proper hand washing

For ages 10 to 12

- Game: Arrange the sequence of the life cycle of worms

- Demonstration of proper hand washing
- Making Posters: Protecting food and water supplies from contamination
- Drawing Activity: Picture tells a story
- Investigative Report: Protecting food and water supply from contamination
- Field visit: Going to the toilets
- School Fair

Materials/Resources

For ages 5 to 9 and 10 to 12

- Pictures of the life cycle of worms

Children who are worm-free are lively, have a good appetite and are always ready to face new challenges in school. On the other hand, children who have heavy worm infections are usually pale and weak, and they may have a protruding abdomen. Because they often feel unwell, they are absent from school more days than other children.

Teaching children about preventing worm infections is an important goal of health promoting schools. Worms in the body cause abdominal discomfort and loss of nutrients. This can lead to anemia, which in turn causes school absenteeism, poor learning ability and poor school performance. In some cases, worm infections can lead to retarded development and even death of children who are malnourished and have recurrent infections.

Although it is a serious health problem, the good news is that prevention of worm infections is not difficult, infections can be easily detected and diagnosed, and treatment is available. Prevention of worm infection is the focus of this lesson. The most important points are personal hygiene and environmental sanitation.

Worms are parasites that live in human bowels (intestines). Some worms are big enough to see with the naked eye, some worms are very small and are harder to see. Some worms can enter the body through the mouth as worm eggs; others enter through the skin as larvae. It is therefore important for children to develop the habit of washing hands properly, keeping nails short and clean and always wearing footwear when playing in the ground (soil).



Why is preventing and controlling worm infections important?

What should children know about preventing and controlling worm infections?

How do worms enter the body?



Through the mouth

Worms can enter the body through the mouth by several means:

- Eating contaminated food or drinking water

Some worms are passed from one person to another through contaminated faeces. This usually happens when a person infected with worms defecates and does not wash his or her hands. The eggs of the worms are very small, and often you don't see them being transferred to food, water or the hands of other persons.

- Eating undercooked meat from contaminated animals

Some worms are also transmitted from infected animals. For example, animals such as cows and pigs might eat tapeworm eggs as they graze or forage for food. These eggs then move into the flesh of the animals where they live and grow. If the meat is not cooked properly, a person might ingest the tapeworm and thus get infected.

Through the skin

Worms can enter the body through the skin by several means:

- Skin contact with contaminated soil



Some worms enter the body through direct skin contact. This usually happens when walking barefoot on soil or sand that is contaminated with faeces. Larvae can enter the feet or buttocks of children and enter the blood stream. Once in the blood stream, they can reach the intestines.

Worm infections greatly affect a child's health and well-being. Light worm infections may have no symptoms and thus go unnoticed. When the number of worms increases, they can cause stomach ache and diarrhea.

Both light and heavy worm infections lead to poor health. Worms get the nutrients intended for the development of the child's body and cause:

- Loss of nutrients which can lead to anemia
- Retarded growth and development
- Poor learning ability and poor school performance

Children with worm infections often feel unwell, and so they are absent from school more often than healthy children. Children who are worm-free are more active, perform better at school, and are more resistant to diseases.

Prevent worm infections by improving hygiene practices and keeping food and water safe.

- Always practice proper hand washing especially after defecating and before preparing or eating food

Proper hand washing helps prevent the spread of worm infections. Worm eggs can be easily washed away with soap and water. This is a practice that should always be observed after going to the toilet and before preparing or eating food.

- Always cook meat thoroughly

The meat we eat could be contaminated by worms. It is therefore important that meat is thoroughly cooked.

- Always wash vegetables and fruits, especially if these will be eaten raw

High temperatures in cooking are enough to destroy worm eggs, but





some foods, like fruits and vegetables in salads are eaten raw. It is therefore very important that such foods are washed very carefully.

- Always keep food and water supplies clean

Always cover food and water containers to prevent these from being contaminated by insects or pests carrying worm eggs. Make sure that vegetable gardens and water supplies are not contaminated with fresh human faeces.

- Use clean toilets

Toilets should be properly constructed so that animals and insects are kept away from the faeces. They should also be kept clean and provided with soap and water to encourage hand washing after use.

Worm infections are easily treated using de-worming drugs

De-worming tablets effectively kill worms inside the body. De-worming can be done every six months or every year.

While de-worming is recommended for all children, it is important to know that there are certain instances when this should not be done. A child who is clearly sick should be referred to a doctor before giving de-worming tablets. Consent from parents should also be secured before de-worming. Securing consent from parents is also an opportunity to advocate for prevention and control of worm infections.

Children should be able to demonstrate the following skills:

- Explaining how worms affect the health of children
- Proper hand washing
- Keeping food and water supplies safe
- Using toilets properly

1. Explaining how worms affect the health of children

Children should be able to explain how worms enter the body and affect the health of humans. Teaching them how to communicate health messages reinforces their knowledge.

Game: The lifecycle of worms (for older children)

Divide the children into two teams. Then show them the cards that depict the stages of the lifecycle of worms. Ask them to arrange these in the proper sequence. Give a prize to the group able to do this correctly and in the shortest time. Ask that group to explain the lifecycle.

After the game, ask the children the following questions:

- What are the different modes of transmission of worms?
- How can we prevent worm infections?



What skills should children learn in order to prevent worm infections?

Story telling:

How worms affect my health

Have in hand a set of pictures on intestinal parasitism provided in the Urbani School Health Kit.

Show the children the picture of a child with a stomach ache and tell them how this is caused by worms inside his intestines. Show how the worms got into the child's body.

After the story telling, ask the children the following questions:

- Why does the child have a stomach ache?
- How did the worms get into his body?
- What should the child do to get rid of the worms?
- What should the child do so that he will not get worms in the future??

You may also ask the students to draw their own pictures about the worms and tell their own story.



Role-playing: Worms around me

Ask the children to do a role-playing on how worms are spread. Divide the children into groups with five members each and give them the following scenarios for the role-playing.

- A child playing in the dirt comes in contact with worm eggs
- A child who just defecated does not wash his hands properly before eating
- A child who just defecated does not wash his hands properly and then shakes hands with other children
- A child defecates out in the field and then a pig comes along to sniff around the faeces. The pig then drinks in a well where children drink.
- A child defecates out in the field and then a pig comes along to sniff around the faeces. The pig gets infected with a worm. Later, it is slaughtered, cooked improperly then served to children.

Encourage the children to be creative in developing the scenario into a five-minute play.

After the role-playing, ask the children the following questions:

- How did the children get worm infections?
- What can the children do so that they will not get worms in the future?

2. Proper hand washing

Hand washing is the single most important way of preventing the spread of germs. It is one of the most important healthy habits that children should learn. Proper hand washing washes away worms' eggs that might be present in children's hands and fingers. It also prevents contamination of food and water.



Demonstration: Proper hand washing

Ask the children to demonstrate proper hand washing (see the hand washing demonstration activity in the personal hygiene campaign)

Demonstrate the following steps then observe them as they try to do this themselves:

1. Wet your hands and wrists with water.
2. Put some soap on your hands and rub hands together palm-to-palm.
3. Then rub hands with right palm over the left hand, then left palm over the right hand.
4. Wash between your fingers and under your nails.
5. Make a loose fist then rub the backs of the fingers.
6. Grasp the left thumb with the right hand and rub some more. Then use the left hand to clean the right thumb.
7. Clean the tips of your fingers by rubbing them against the palm of the other hand.
8. Rinse hands thoroughly under a stream of water.
9. Dry hands completely with a clean cloth or dry paper towel.
10. Ideally, you should use a paper towel to turn the faucet off. Avoid touching the sink.

Wash hands for about 15 to 20 seconds. Try singing a song like “Happy Birthday” as you wash your hands.

After the hand washing demonstration, ask them when they should wash their hands. Emphasize the need to wash hands after going to the toilet, after playing outdoors, and before eating.

Making Posters:**Protecting food and water supply from contamination**

Ask the children to make some posters on how food and water supply should be protected. Let the children be guided by the following concepts:

- how water supply should be maintained clean and safe
- how food should be stored and handled
- how food should be prepared and cooked

Encourage the school children to make a slogan or theme for the posters. Keep the posters for a future school fair or exhibit.

3. Keeping food and water supply safe

Food and water supply can also be contaminated with worms' eggs. As shown in previous activities, worms' eggs can be transferred to food by contaminated hands. But other than that, worms' eggs can also contaminate food, especially vegetables, while they are still in the soil.

Some ways of preventing contamination of food and water supply are:

- Washing thoroughly vegetables and fruits that are eaten without cooking or peeling
- Washing hands before preparing food
- Separating raw and cooked food
- Using only clean and safe water and other materials when cooking
- Cooking food thoroughly
- Covering food and water supplies so that flies and other insects do not contaminate them
- Keeping food at safe temperatures



4. Using toilets properly

Emphasize the following habits:

- Urinate and defecate directly into the toilet, so that the seat, cover and surroundings do not become contaminated.
- Wash self properly with soap and water.
- Dispose properly of any cleaning material like tissue paper. Do not leave these lying around.
- Wash hands thoroughly with soap and water immediately after using the toilet.

Drawing Activity: Picture tells a story

Form groups with five members each. Tell each group to draw some pictures showing children using toilets. Ask them to draw different types of toilets and how people use them (properly and improperly). Let each group present their work.

As an alternative, you can also prepare the pictures or drawings yourself and ask the children which of them are examples of properly maintained toilets and which ones are clean. You can also show pictures of children using toilets in improper ways and then talk about how practices should be changed.

Putting It All Together



It is always important to ensure that the school environment supports every healthy campaign. To prevent worm infections, the school should provide proper facilities for hand washing, clean toilets, policies for keeping food and water supply clean and safe, and a programme for de-worming children twice a year. Check out the following activities that will help put all the health messages together.

Investigative Report: Protecting food and water supply from contamination

Ask the older children to make an investigative report on how well the food and water supply of the school is protected from contamination. Seek permission to visit the school canteen and interview the workers there. Let the children be guided by the following:

1. Observe the following:
 - how water supply is maintained clean in the school
 - how food is stored and handled in the school canteen
 - how food is prepared and cooked
 - how food is distributed to school children
2. Interview the workers in the school canteen
 - How do you help make sure that the food served to children is clean and safe?

Encourage the children to make conclusions and recommendations in their report.

If you observe unhygienic practices in the school canteen, talk to school administrators and canteen operators about making improvements. You can then document actions taken in an exhibit (see the Learning Activity on “Exhibit: School Canteen Improvements”).

Field visit: Going to the toilets

Ask the school children to visit the toilets in their school. Tell them to write down their observations on how the toilets are maintained and used by other school children. Tell them to look for signs that the toilets are being kept clean by using the following checklist:

Yes	No	
___	___	Toilet in proper order (flush works for flush-type toilets)
___	___	Presence of water for flushing (for non flush-type toilets)
___	___	Clean toilet (no shoe prints or feet marks on the toilet seat)
___	___	Presence of soap and water for hand washing
___	___	Presence of hand towel or tissue paper for drying hands
___	___	Trash can or trash bin is kept closed or emptied often
___	___	No dirty or used tissue paper lying around toilet
___	___	Pleasant smell
___	___	Doors are in place and not swinging off their hinges
___	___	Separate toilets for boys and girls
___	___	Toilet floors mopped regularly

Ask the children to make recommendations on how to maintain the cleanliness of the toilets and how should they be improved.

School Fair

“A Lively and Healthy Me” can be the theme of a school fair. Set up four booths/stations/classrooms that showcase the following:

- What are worms and worm infections?
- What is the lifecycle of worms?
- What are the ways of preventing worm infections from spreading?
- What is de-worming? (Include free de-worming tablets)

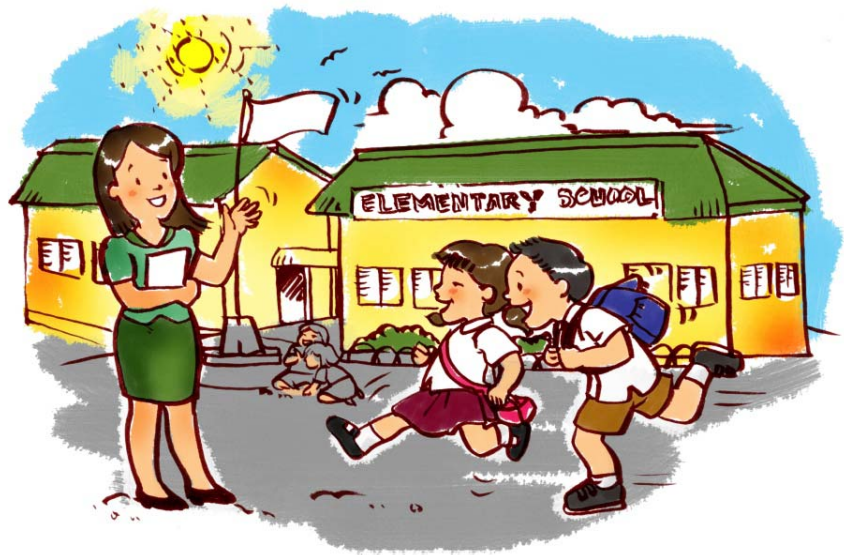
This is the time to exhibit the drawings, posters and other products that the school children created in the other activities.

Remember that change in health behaviour can be better maintained if the environment is supportive of that change. Keeping toilets clean is essential in stopping worm infections from spreading.

What **attitude** should children develop?

“I want to be healthy, lively and worm-free.”

Being worm-free means that children grow up strong, healthy and lively. Encourage children to develop healthy habits: personal hygiene, keeping food and water safe and clean, and using toilets properly.



- Worm infections slow down physical growth and reduce learning capacity.
- To prevent worm infections:
 - Wash hands before eating, after playing on the ground, and after using the toilet
 - Keep the fingernails short and clean
 - Always wear shoes and slippers when playing outdoors
 - Wash raw vegetables and cook meat thoroughly.
- Take deworming tablets every six months or yearly.

