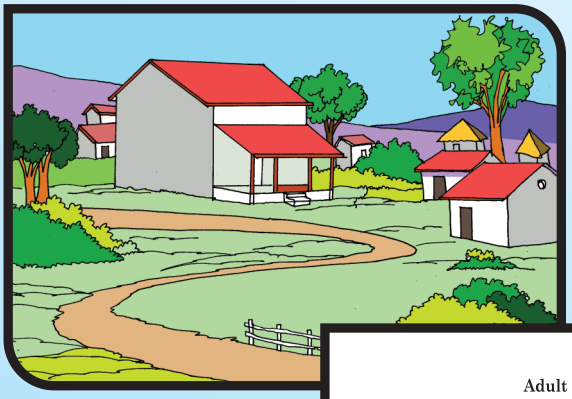
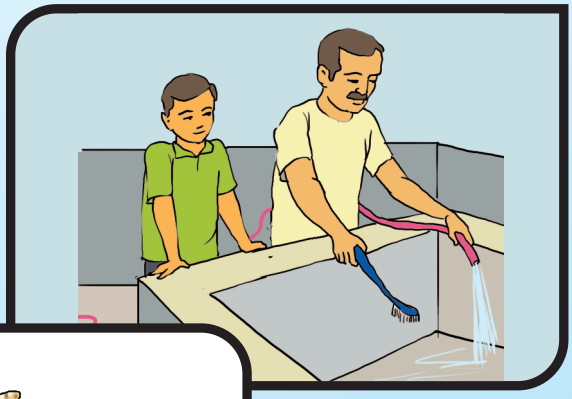
ENHANCING CIVIC ENGAGEMENT

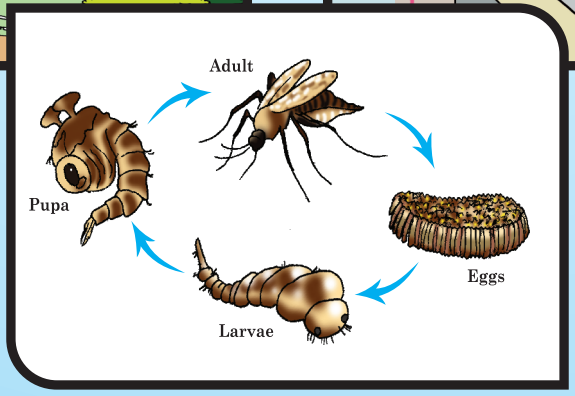
HYGIENE AND SANITATION

STUDENT BOOK

Class VII







State Council of Educational Research and Training
Government of Goa

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4	Concept of Bal Arogya Samiti, Page no - 32	(To be planned in the school yearly plan as part of exposure visits/eco clubs/ science committee /value education/art & craft period/work experience period/scouts & guides, science exhibition/science experiments)

A. Programmatic outcomes of Mulyavardhan - ECE

The following outcomes are expected to be achieved by the end of three years:

1. Schools would be able to raise awareness among students, teachers and parents about the problems and the potential solutions at the school and community level for sanitation, hygiene, waste management, traffic awareness and road safety.
2. Schools would be able to implement and promote safe and clean practices of sanitation and hygiene in the school and the immediate community.
3. Schools would be able to implement and promote effective practices of waste disposal, segregation, and recycling and reusing of various types of waste in the school and the immediate community.
4. Schools would be able to develop safe and responsible road habits among the students and the staff and also promote the adoption of safe and responsible road practices in the immediate community.

B. Expected student learning outcomes

TABLE 2: EXPECTED STUDENT LEARNING OUTCOMES

Themes	Long-Term outcomes (>=5 years)	Levels	Expected overall thematic outcomes (< 5 years)
Hygiene Sanitation and Waste management	The student will be able to consistently demonstrate desired standards of sanitation, hygiene and waste management and actively contribute towards the improvement of such practices in the larger community.	A. Cognitive 1. Awareness 2. Information/ Knowledge	• Is aware and informed about the importance of cleanliness of one's surroundings and waste management in day-to-day life
		B. Socio - Emotional 1. Belief 2. Attitude	• Develops a belief about the importance of cleanliness and hygiene • Has the right attitude about the importance of waste management
		C. Behaviour 1. Action	• Practises cleanliness and adopts preventive measures while using sanitary facilities • Cohesively works with the community and the government for cleanliness and waste management • Practises proper waste disposal and segregation, recycling and reusing wherever possible • Is able to conduct checks and audits for hygiene and sanitation • Can follow up with public institutions for waste management

TOPIC 1. PERSONAL HYGIENE

1.1 Activity no. 1 (class): Understanding the reasons, process and impact of dental decay

1. Dental decay (caries/cavities)

A cavity is a hole that forms when acids in the mouth break down the hard outer layers of the tooth.

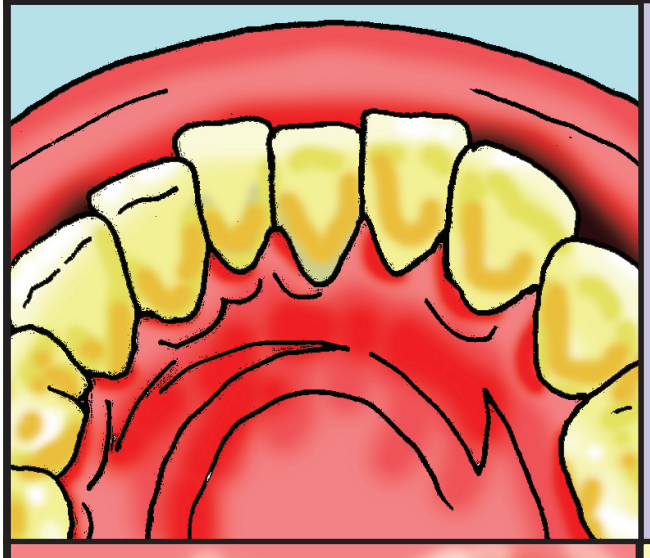
A cavity can form both in milk teeth and permanent teeth. However, we need to be especially careful of cavities in permanent teeth as these teeth once lost can never be reclaimed.

Different dental diseases/problems encountered

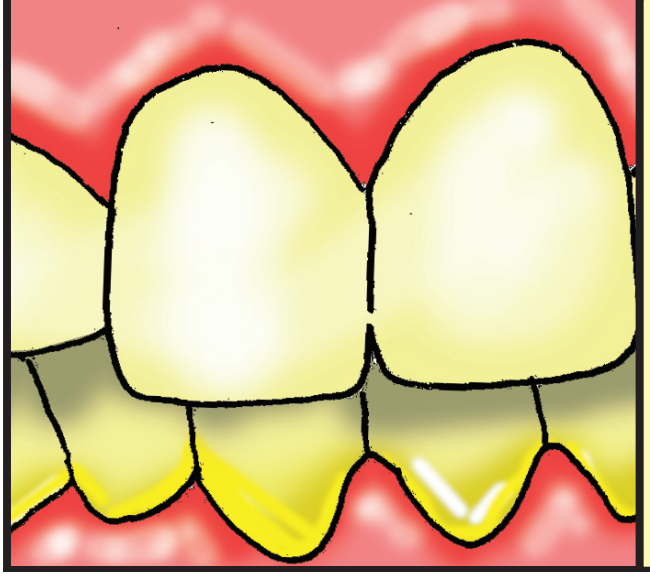
1) **Halitosis (bad breath) -** This dental problem usually occurs due to decayed teeth, gum diseases or improper tongue brushing. You can also get bad breath if you have a stomach infection or a common cold. To eliminate this problem, the cause must be identified and treated.

2) **Plaque -** Plaque is the sticky film that forms on your teeth, especially after your meals. It usually contains germs. You must have noticed how foul your mouth feels, tastes and smells if you go to bed without brushing your teeth. This is due to the formation of plaque.

This picture shows **plaque**. Keep your teeth free of plaque by rinsing your mouth after meals and brushing twice a day. If plaque is not rinsed or brushed away, it can lead to bleeding gums and other dental problems.

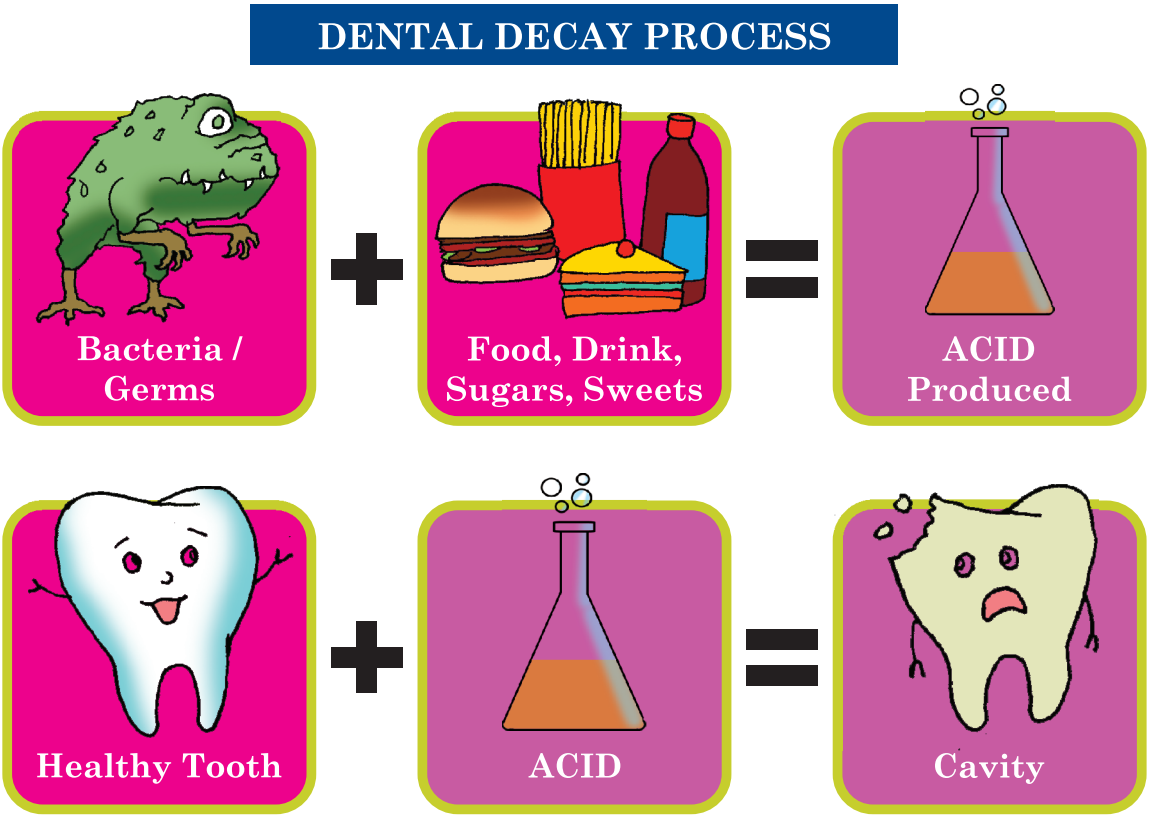


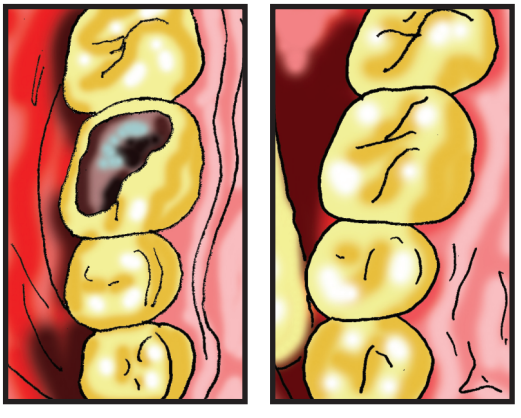
This picture shows **calculus** or plaque that has become hard due to minerals present in your saliva. To remove calculus, you must visit your dentist at least once a year. He or she will clean your teeth using a process called scaling.



This picture shows bleeding gums. This is an early sign of a disease called Gingivitis or gum infection. If your teeth are covered in plaque and calculus, you may suffer from this condition.

2) Process of dental decay





Do you like eating foods like candy, bread, chips, potatoes, etc.? These foods contain sugar and starch. If you don't rinse your mouth after eating, plaque will form on your teeth. The bacteria in this plaque feed on the sugar and starch and change them into acids that damage your teeth's enamel. Prolonged damage leads to a hole or cavity in your teeth.

STAGES OF DECAY

1

Early decay:
This deacay is restricted to the enamel and can be reversed with quick treatment.

2

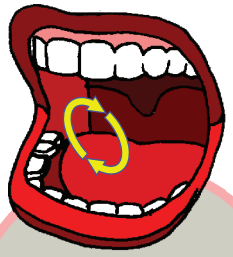
Dentine decay:
At this stage, the decay has spread into the dentine (the bony tissue beneath the enamel). It may not cause any symptoms yet and can be treated with a filling.

3

Advanced decay:
The decay has now spread into the nerve of the tooth and usually causes a toothache. Treatment involves either root canal or tooth extraction.

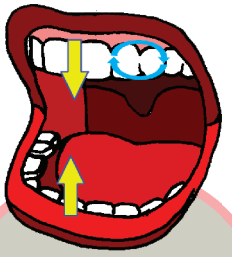
3) Golden rules for oral hygiene maintenance

- Brush your teeth twice every day: in the morning and before bedtime.
- Use a fluoride toothpaste and a good-quality toothbrush (with soft bristles) to brush your teeth. You don't need too much toothpaste; a pea-sized amount is enough.
- Follow a proper brushing technique (as explained in the diagram on page 12) and brush for at least two minutes each time. Don't forget to brush your tongue to avoid bad breath.
- After you're done brushing, use floss to clean the areas between your teeth. Floss can reach the areas where your toothbrush cannot, making your mouth squeaky clean.
- Do not share your toothbrush with others. Also, remember to change your toothbrush every three months. If you have been ill with a common cold, flu or fever, replace your toothbrush.
- Avoid eating sugary, sticky foods and fizzy drinks, especially between meals. Ensure to rinse your mouth with water after every meal.
- Visit your dentist at least once a year to maintain proper oral hygiene.



Use circular strokes to brush the inner and outer surfaces of your teeth.

Use back and forth strokes to brush the chewing surfaces of your teeth.



Use vertical strokes (starting from the gum and moving upwards / downwards) to brush across your teeth. Repeat this with circular strokes.

4) Benefits of avoiding spitting

DON'T SPIT

- Saliva is a transparent liquid produced by the salivary glands in your mouth.
- Every day, your mouth produces 0.75 – 1.5 litres of saliva.
- Many people have the habit of spitting several times during the day. However, you should avoid spitting for the following reasons:

a) Saliva keeps your mouth feeling moist and comfortable. You can chew, taste and swallow your food more easily because of saliva.

b) Saliva helps wash away remnants of your food, thereby keeping your gums and teeth healthy.

c) Saliva fights against the germs in your mouth and prevents bad breath.

d) It also contains minerals like calcium and phosphorus that keep your teeth strong.

1.1 Activity no. 1 (class): Understanding the reasons, process and impact of dental decay

1.1 Worksheet no. 1

Make a list of dos and don'ts for avoiding dental decay.

Sr. no.	Dos	Don'ts
1.		
2.		
3.		
4.		
5.		

1.2 Worksheet no. 2

List down the foods and drinks which you consume in your daily life and differentiate foods and drinks which can lead to dental decay.

Sr. no.	List of foods and drinks which you consume in your daily life.	Put (✓) mark if these foods/ drinks lead to dental decay. If not, then put(×) mark
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

TOPIC 2. SEWAGE AND SANITATION

2.1 Sewage and sanitation

2.1 Activity no. 1 (class): Understanding the basic concept of sewage management system and its importance

1. **What is sewage water?**

   Sewage water refers to the wastewater expelled from homes, industries, etc., that often contains faeces, urine, laundry waste and other contaminants.

2. **What is sewage management?**

   Sewage management is the process of treating sewage water using physical, chemical and biological processes to remove harmful contaminants. The output of sewage management is environmentally safer water that is also called "treated effluent".

3. **Sewage water and side effects**

   Sewage water contains many harmful, disease-causing organisms like parasites, bacteria, etc. If you come in contact with sewage, these organisms can enter your body and make you sick.

   The main health problems caused by exposure to sewage water are:

   - **Gastro-enteritis:** It can cause vomiting, diarrhoea, fever and abdominal pain.
   - **Hepatitis:** It can cause an inflammation of the liver, leading to skin discolouration, abdominal pain and poor appetite.
   - **Pus discharge from cuts and rashes:** If you have any cuts or rashes, then they can become worse and start discharging pus after exposure to sewer water.

4. **Benefits of managing sewage water**

   a. Keeps the environment clean and fresh

   b. Reduces the risk of infections, especially water-borne diseases

   c. Prevents mosquito breeding

5. Methods of sewage management at home

Two main methods of managing sewage water at home are:

A. Soak pit: A soak pit is a covered chamber with porous walls that allow water to soak into the ground slowly. When sewage water percolates through the soil from the soak pit, the soil matrix filters out small particles while the microbes in the soil digest the organic material. The soak pit should be away from a drinking water source (at least 30m).

How to make a soak pit:

1. Dig out a pit about 1.5 - 4 metres deep (at least 1.5 metres above the groundwater table).
2. Fill it with coarse rocks and gravel. This will stop the walls from collapsing but will still provide enough space for the sewage water.
3. Spread a layer of sand and fine gravel across the bottom. This will help disperse the flow of the sewage water.

When to build a soak pit:

Soak pits are best suited to rural and suburban areas for discharging pre-settled black water or grey water. They are not as effective for raw wastewater as the pit will quickly get clogged.

For soak pits to be effective, the soil must have sufficient absorption capacity. This means clay, hard-packed or rocky soils are not appropriate. Similarly, if the area you live in is prone to flooding or has a high groundwater table, a soak pit is not a good option.

Advantages of soak pit:

a. Human beings and animals have no contact at all with the sewage water. Thus, there is no risk of contracting infections.

b. A soak pit can be easily made by anyone using locally available materials.

c. A soak pit needs only a small area.

B. **Kitchen garden:** A kitchen garden is an excellent way of using the sewage water for an environment-friendly purpose. Homes, schools, etc., can develop kitchen gardens by using household wastewater like the water used for bathing, washing kitchen pots, washing hands and feet, etc. This water can be used to grow vegetables, fruits, etc., which can then be for domestic consumption.

6. **Important tips for students**

a. Don't walk into the sewage water.

b. Don't play near the sewage water. If a ball or another object belonging to you falls into the sewage water, don't put your hand inside to pick it up. Ask an adult to help.

2.1 Sewage and sanitation

2.1 Activity no. 1 (class): Understanding the basic concept of sewage management system and its importance

2.1 Worksheet no. 1

Make a list of the steps of constructing a soak pit and required materials based on the screened video (group work).

Sr. no.	Steps of constructing a soak pit and required material	
	Steps	Required material
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

2.1 Worksheet no. 2

List the areas of your community where sewage water is not disposed of properly.

Sr. no.	Location/area	Observations
1.		
2.		
3.		
4.		
5.		
6.		
7.		

TOPIC 3. COMMON ACTIVITIES FOR SANITATION

3.1 Water, toilet, hand washing, food hygiene, sewage

3.1 Activity no. 1 (school): School audit for toilet, food hygiene, and personal hygiene

AUDIT TOOL: SCORING REFERENCE SHEET		
Sr. no.	**Indicators to observe**	**Marks**
1. Availability of safe drinking water in the school		
1.	Pure and safe for drinking (not contaminated) water has appropriate colour and taste, looks clean and water is tested by the health authorities	4
2.	Looks clean but the taste is different from normal water	3
3.	Looks clean but the taste and smell are different from normal water	0
4.	Looks unclean, taste and smell are different from normal water	0
5.	Looks unclean, taste and smell are different from normal water, and water is not tested by the health authorities (contaminated and risky for health)	0
2. Drinking water system maintained hygienically, and water served hygienically		
1.	Drinking water storage system maintained properly (covered + specific height maintained), has proper instruments to take a water sample (hygienic glass and mug), all students are aware of and following standard hygienic practices while drinking water (cleaning the glass before using, not putting their hands into the drinking water, etc.)	4
2.	Drinking water storage system maintained properly, all students are aware of and following standard hygienic practices while drinking the water, but they don't have the proper instruments to take a hygienic water sample or serve the water hygienically even though the glass is cleaned every day	3
3.	Drinking water storage system maintained properly, all students are aware of and following standard hygienic practices while drinking the water, but they don't have the proper instruments to take a hygienic water sample or serve the water hygienically and even the glass is not cleaned every day	2
4.	Drinking water storage system is maintained properly, and the students are aware of, but not following the standard practices of drinking the water hygienically	1

AUDIT TOOL: SCORING REFERENCE SHEET		
Sr. no.	**Indicators to observe**	**Marks**
2. Drinking water system maintained hygienically, and water served hygienically		
5.	Neither is the drinking water storage system maintained properly nor are the students aware of or following standard practices of drinking the water	0
3. Availability of toilets in the school		
1.	Toilet (urinal and latrine facility) is available in the school separately for girls and boys	4
2.	Urinal facility is available separately for both, but latrine is common	3
3.	Separate latrines are available, but separate urinal facility is not available for girls and boys	2
4.	Urinal facility is separately available, but latrine is not available at all	1
5.	Neither urinal nor latrine facility is available in the school	0
4. Well-maintained and functional toilet		
1.	Toilets (urinal and latrine facility) are cleaned every day by using proper disinfectants and methods. Water supply in the toilet is available along with bucket and mug	4
2.	Toilets (urinal and latrine facility) are cleaned every day by using proper disinfecting liquids but not using proper methods. Water supply is available in the toilet along with bucket/mug or both	3
3.	Toilets (urinal and latrine facility) are cleaned twice a week (or less) by using proper liquids and methods, and water supply is available in the toilet along with bucket/mug or both	2
4.	No proper schedule is available for toilet cleaning, and there is no water supply in the toilet	1
5.	Toilets are not cleaned at all, and no water supply is available in the toilet	0
5. Hand washing practice after toilet use		
1.	All the students and teachers use the toilet regularly, flushing after use, and washing their hands with soap/liquid after use of toilet	4
2.	All the students and teachers use the toilet regularly, flushing after use, and washing their hands but without soap	3

AUDIT TOOL: SCORING REFERENCE SHEET		
Sr. no.	**Indicators to observe**	**Marks**
5. Hand-washing practice after toilet use		
3.	(i) All the students and teachers use the toilet regularly, flushing after use, but not washing their hands, OR (ii)All the students and teachers use the toilet regularly, wash their hands with/without soap, but do not flush	2
4.	(i) Students and teachers don't use the toilet regularly because toilets are not maintained well or not functional, OR (ii) All the students and teachers use the toilet regularly, but neither flush nor wash their hands	1
5.	Students and teachers don't use the toilet regularly in spite of toilets being in a working condition	0
6. Cooking practices in the school		
1.	Food is prepared hygienically (clean water available, kitchen and kitchen pots are cleaned), the cook washes his/her hands before the preparation of food, all cooking material is kept properly and hygienically, proper ventilation is available, and the kitchen shed is not smoky	4
2.	Kitchen shed and cooking material are kept properly and hygienically, but the cook is not following standard practices while preparing the food	1
3.	The cook is following standard practices, but the cooking material is not kept properly and hygienically	1
4.	The water is not clean enough to be used for cooking	0
5.	The cook is not following standard practices, and the cooking material and kitchen shed are also not kept properly and hygienically	0
7. Food hygienically maintained, served and consumed in the school		
1.	The cooked food is hygienically maintained (covered and stored), served (proper vessels for distribution) and consumed (all the students are washing hands and using clean plates/own tiffin boxes) in the school	4
2.	Before consuming food, all students are washing their hands and using clean plates/tiffin boxes. Proper vessels are used, and standard practices followed for the distribution. But food is not covered properly after cooking	3
3.	Before consuming food, all the students are washing their hands and using clean plates/tiffin boxes, but the food is not covered, and no proper vessels and/or practices are followed for food distribution	2

AUDIT TOOL: SCORING REFERENCE SHEET		
Sr. no.	**Indicators to observe**	**Marks**
7. Food hygienically maintained, served and consumed in the school		
4.	Before consuming food, all the students are washing their hands, but plates are not cleaned	2
5.	The students are not washing their hands before the school meal, although food storage and serving practices are proper	0
8. Post-meal standard practices		
1.	The school is maintaining post-meal standard practices (cleaning the kitchen and used pots with clean water, all the students are washing their hands after the meal)	4
2.	All the students are washing their hands after the meal, used pots are cleaned with clean water, but the kitchen is not cleaned after cooking	3
3.	All the students are washing their hands after the meal, but the kitchen and the used pots are not cleaned with clean water after cooking	2
4.	The students are not washing their hands after the meal, but the kitchen and the used pots are cleaned with clean water after cooking	1
5.	The students are not washing their hands after the meal, and the kitchen and the used pots are not cleaned with clean water after cooking	0
9. Proper sewage system exists and is functional in the school		
1.	A proper sewage system exists with modern concepts like soak pit/kitchen garden, closed drainage, and the sewage system is not contaminating any other water resource	4
2.	A proper, closed sewage system exists and is functional in the school without modern methods (yet, the sewage system is safe and not contaminating any other water resources)	3
3.	A sewage system exists within the school premises but with open drains and drain water spilling onto the road	2
4.	The school has open drainage, with drain water spilling onto the road and on the school premises, and it is risky for the water resources	1
5.	The school doesn't have a sewage system	0

AUDIT TOOL: SCORING REFERENCE SHEET		
Sr. no.	**Indicators to observe**	**Marks**
10. Cleanliness of school		
1.	All classrooms and school premises are cleaned twice a day, and the school has adequate garbage collection (dustbins), disposal systems, and trees/plants are seen on the school premises	4
2.	All classrooms and school premises are cleaned at least once a day and the school has proper garbage collection (dustbins), disposal system, but trees/plants are not seen on the school premises	3
3.	All classrooms and school premises are cleaned at least once a day, but no proper garbage collection (dustbins) and disposal system exists. Trees/plants are not seen on the school premises	2
4.	All classrooms are cleaned at least once a day, but school premises are not clean. The school does not have a proper garbage collection (dustbin) and disposal system, and trees/plants are not seen on the school premises	1
5.	Classrooms and school premises are both unclean, and no proper garbage collection (dustbin) or disposal system exists. Trees/plants are not seen on the school premises	0

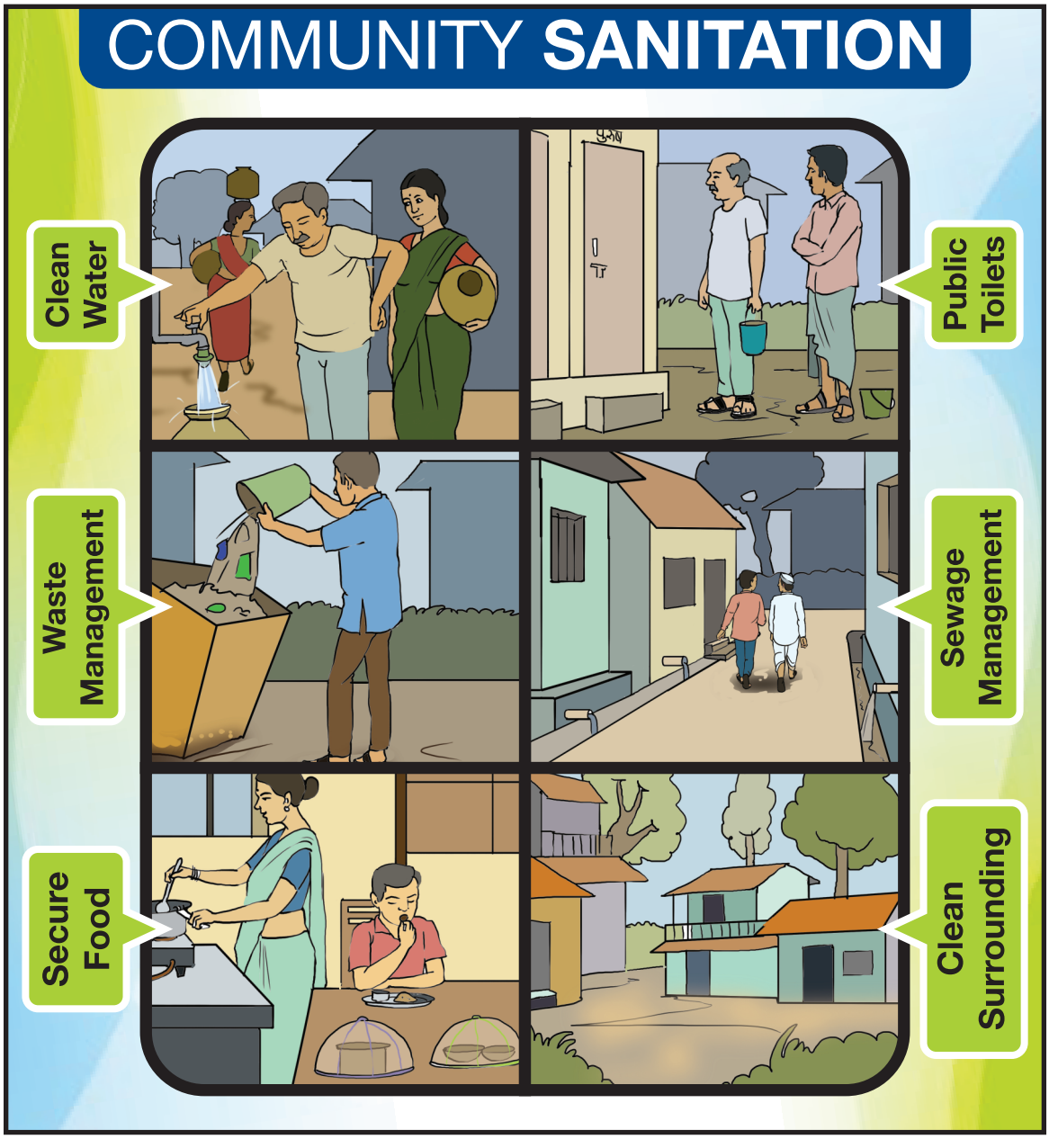
SCHOOL SANITATION AUDIT TOOL - SCORING SHEET

Sr. no.	What to observe?	Score
1.	Availability of safe drinking water in the school	
2.	Drinking water system maintained hygienically and water served hygienically	
3.	Availability of toilets in the school	
4.	Well-maintained and functional toilets	
5.	Practice of hand-washing after toilet use	
6.	Cooking practices in the school	
7.	Food hygienically maintained, served and consumed in the school	
8.	Post-meal standard practices	
9.	Proper sewage system in working condition in the school	
10.	Cleanliness of school	

3.3 Critical actions for improving the household, school and community hygiene

3.3 Activity no. 1 (class): Making a list of critical actions to improve sanitation facilities within the community

Poster: Critical actions to improve sanitation practices



3.3 Critical actions for improving household, school and community hygiene

3.3 Activity no. 1 (class): Making a list of critical actions to improve sanitation facilities within the community

Worksheet 3.3 (1)

Study the given example and make a similar list of critical actions to improve the sanitation facilities based on the understanding you developed after watching the cholera videos. **(Refer to the community sanitation poster given on page no. 18)**

Sr. no.	Sanitation facility	Critical actions		
		Individual level	Household level	Community level
1.	Drinking water	1. Avoid activities which will contaminate public drinking water, e.g., washing body in the drinking water source.	1. Bring and use non contaminated drinking water. 2. If water is contaminated, then disinfect it through boiling or by adding chlorine.	1. The water should be supplied to the people by applying the primary disinfection method like mixing bleaching powder in acceptable quantity in the common drinking water sources.
2.				
3.				