

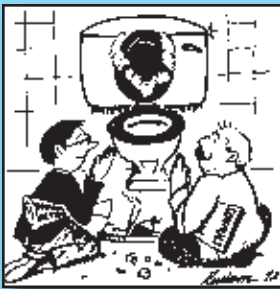


Green Schools Network

ACTIVITY SHEET

August 2011

Why talk about WATERBORNE DISEASES?



Waterborne diseases are extremely common and acutely dangerous and lead to a high mortality rate when left undetected. Did you know half of the world's hospitalisation cases are on account of waterborne diseases? According to the World Health Organization (WHO), two million children die due to diarrhoea every year. It is therefore, very important to prevent these infections and diseases from spreading and to ensure recovery.

What is a waterborne disease? A disease that spreads through water. It may also spread because of lack of access to safe drinking water, poor sanitation habits and facilities, and disposal of untreated human and other biological wastes into the environment.

Name.....

School Name

Class..... Date

Gobar Gyan: Do you know what causes such diseases?

The primary source of such diseases is consumption of contaminated water and eating with dirty hands. Water is generally contaminated by germs transmitted from human excreta causing diseases such as typhoid, cholera, ascariasis and amoebic dysentery, which are distributed globally and cause serious illness. World Bank has estimated that lack of access to safe water causes more than 21 per cent of all communicable diseases in India.



ACTIVITY – 1

On June 23, 2011 the *Deccan Chronicle* published a very interesting article about research on E coli on the front page. But then why are we discussing E. coli? It is because E. coli is a waterborne pathogen (a disease causing germ) that causes serious illness to anyone suffering from it. According to the article, scientists have found that Indians have become immune to this dangerous disease, despite staying in a dirty environment which E. coli could easily spread in. This is because of exposure to certain hormones that cows secrete. Therefore, cows and buffaloes have helped prevent E. coli outbreaks in India.

Like this article, there are a lot of other interesting articles in magazines and newspapers about waterborne diseases and the germs that cause them. Try finding some of them. Collect articles like these with your friends and teachers and use these to make a collage for your school bulletin board.



Hi! I am Pandit Gobar Ganesh. You will find me in Gobar Times—a magazine that tells you how your everyday life is linked to the world around you. Hooked, huh? If you want to know more about me and Gobartimes visit us at:

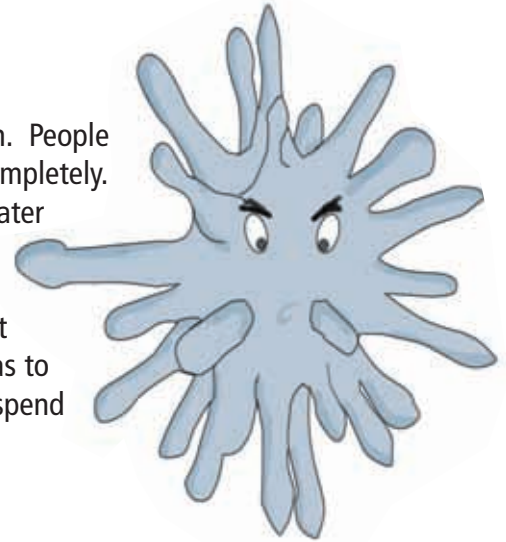
www.gobartimes.org

GOBAR GYAN:

How do waterborne diseases affect the lives of people suffering from them?

Many waterborne diseases have a severe impact on a patient's health. People suffering from amoebiasis and ascariasis can take a month or more to recover completely. Can you imagine that more lives are lost through disease caused due to the water and sanitation crisis than through guns in wars (United Nations Human Development Report 2006)?

Apart from their impact on health, waterborne diseases have a significant impact on the economy – both locally and globally. A diseased person usually has to bear a big financial burden for her/his treatment. Typically, a household has to spend around one-tenth of its income on treatment for just one person.



ACTIVITY-2

Are the names of the diseases listed earlier familiar? Ask your science teacher about any diseases that you haven't heard of.

Grab your science textbook or check the Internet to find out which kind of disease causing micro-organism (bacterium, parasite, protozoan or virus) cause each disease listed below. Also, find out symptoms of each disease, which organs are affected, what happens if the disease goes undetected and what causes the disease to spread. Write down your findings in the table given below. The first one has been done for you as a sample.

Disease	Pathogen	Symptoms	Organs affected	What happens if it goes undetected	What causes the disease to spread
Amoebiasis	Protozoan	Inflammation and pneumonia	Digestive system	Serious illness or acute respiratory failure	Poor sanitation and hygiene
Cholera					
Dysentery					
Diarrhoea					
Roundworm infestation					
Filariasis					
Typhoid					
Hepatitis					
Jaundice					

GOBAR GYAN: How can you prevent waterborne diseases from spreading?

Over 1,600 people in India die due to diarrhoea. Globally, a child dies from a waterborne disease every 20 seconds. The only way this can change is if we all play our part in prevention. How can YOU do this?

It is simple. Maintain good personal hygiene and keep sources of water near you clean. There is no better time than now – with so many cases of dengue being diagnosed. Monsoons have just about gone but rainy water is still around, carrying microorganisms and parasites that cause waterborne diseases from sources of infection to uninfected persons. Stagnant rainwater too serves as a breeding ground for disease-causing germs to breed and multiply and cause more infections. Even vectors of various other diseases like malaria and dengue fever breed in stagnant water. So what can you do to keep water clean?

1. The first and most important thing to do is to install a good water filtration system, which filters all the water that you use at home.
2. Regularly clean and disinfect water storage tanks and vessels with bleaching powder, and once in a while expose them to sunlight and air to dry completely.
3. Prevent flow of water from garbage dumps or overflowing drains towards water supply or storage arrangements.
4. Make sure there no leaking pipes, uncovered water storage or supply arrangements.

Apart from keeping water clean, you need to make sure that there is no collection of dirty stagnant water in your surroundings, such as in lakes and ponds, or even in big potholes and ditches along the road. For this, remove any obstructions to the free flow of water. For example, keep the drains and sinks clean, do not drain out solids and thick liquids like oils into the drain, and definitely do not dump garbage into roadside drains.

ACTIVITY – 3

Given below is a checklist of your school and municipality's responsibilities towards providing safe drinking water. If you agree please mark the statement with "YES" or "NO" if you don't. Give reasons or alternatives.

School:

- Does your school provide you with clean drinking water?
- Are the washrooms at your school hygienic and have a clean water supply?
- Are your school washrooms cleaned regularly?
- Do you have soap/hand wash at washrooms at school?
- Is the food at the cafeteria cooked in clean water?

Outside:

- Are public washrooms in your locality hygienic and have a clean water supply?
- Are public washrooms in your locality cleaned regularly?
- Do you have soap/hand wash at public washrooms?
- Are ponds, lakes, canals and sewers in your locality being cleaned regularly?
- Is your municipality disposing off wastes properly, instead of dumping waste in water?

GOBAR GYAN: Do you have a 'right to water'?

What do we mean by rights? The Constitution of India mentions fundamental and legal rights, which every citizen of India has. These rights include right to education, right to freedom, right to equality, and many other rights.

Do you have a 'right to water' too? Yes, you do. You have a right to water and a right to sanitation. It is recognised as a human right – a right that every person should have. It is the responsibility of the government to ensure that every person has access to clean water.

ACTIVITY – 4

Ask your political science teacher or check your textbook or the Internet and find out what the Constitution is. Also find out what other rights you have. Do you have a 'right to sanitation'? What can you do if you are being denied a certain right?

Don't forget to share your research and survey results with us!!!



Prepared by: Shuchi Agrawal

If you found the activity sheet interesting, E-mail us at eeu@cseindia.org or write to:
Activity Sheet, Centre for Science and Environment
41 Tughlakabad Institutional Area,
New Delhi-110062 or Call 29955124 Extension 219