

The Healthy Eyes Activity Book

A Health Teaching Book for Primary Schools



2nd Edition

By Victoria Francis and Boateng Wiafe



The authors



Victoria Francis is an educationist, social researcher and artist. She began her career in Health Communication as a lecturer in Applied Linguistics and Communication at what is now the Nelson R Mandela School of Medicine, South Africa. She has continued to work in health

communication in other African and Asian countries on a range of projects, dealing with different health issues. Her association with the International Centre for Eye Health began in 1988 when she worked on the book *Hanyane, a village struggles for eye health*. More recently, she has been Editor of the *Community Eye Health Journal*. Now based in London, UK, Victoria Francis works with different organisations and develops initiatives to communicate health amongst different audiences, from policy makers to school children.



Boateng Wiafe is a public health ophthalmologist. At the time of writing the 1st edition of *The Healthy Eyes Activity Book*, he had recently completed an MSc in Community Eye Health at the International Centre of Eye Health, and was working at the Mwami Adventist Hospital, Zambia. He

then went on to be consultant ophthalmologist and Medical Director of the Lusaka Eye Hospital. During his time in Zambia, Dr Wiafe established a reputation not only as a skilled ophthalmic surgeon and manager of clinical services, but also an effective innovator of community-based prevention of blindness programmes, and ophthalmic training courses. His wide experience with education departments, community organisations, teachers and health workers, brought a rich background to *The Healthy Eyes Activity Book*. Now based in his native Ghana, Dr Wiafe works with Operation Eyesight Universal as their Regional Advisor for Africa.

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SIGHT AND LIFE

Preface to the 2nd edition



The Healthy Eyes Activity Book was first published ten years ago. The authors, Victoria Francis (Educationist, Social Researcher and Artist) and Boateng Wiafe (Ophthalmologist) decided to make this book because of a need identified through research into children's understanding and experiences of eye problems. Using the 'draw and write' technique, studies were carried out with primary school children in Ghana, Zambia and Kenya. The children's contributions provided the basis for this book, and the intention was to develop an activity book to use in rural African schools. The book has been widely used in selected districts in Zambia, Ghana, Malawi, The Gambia and Nigeria. However, the appeal seems to have been even wider, with requests for books, and translations of the book, coming from different countries. *The Healthy Eyes Activity Book* has been translated into at least nine languages: French, Chichewa, Tamil, Sinhalese, Mandarin, Tibetan, Gujarati, Urdu, and Bangla (Bengali).



Sightsavers International supported the development of the 1st edition of the book, including the preliminary research, pilot testing, and initial print runs.



SIGHT AND LIFE, through the efforts of Dr Martin Frigg, 'adopted' *The Healthy Eyes Activity Book* and supported reprints for wide distribution. They also oversaw translations into French, Tamil, Sinhalese, Chinese, Tibetan, Gujarati, and Urdu. This legacy of SIGHT AND LIFE continues under the direction of Dr Klaus Kraemer, with active support of *The Healthy Eyes Activity Book* 2nd edition. Through this partnership, the authors have been able to build on some of the lessons learnt in making the book available and useful beyond the original audience.

Like the 1st edition, this 2nd edition encourages users to adapt the book to the local setting. However, we now know that the book has a more international appeal, and so the authors have tried to reflect this by modestly 'internationalising' it. Furthermore, this 2nd edition expands on some areas that were not covered in detail in the 1st edition; there is a chapter devoted to nutrition and a chapter devoted to refractive errors. The section on 'How to adapt and translate this book' has been expanded to further promote adaptation of the material so that the stories reflect children's' reality, and also to incorporate SIGHT AND LIFE's experiences in overseeing translations of the book. Children in Bangladesh and the UK contributed additional drawings for the 2nd edition.

Children are our future and they help to make VISION 2020: The Right to Sight a reality. We hope that *The Healthy Eyes Activity Book* 2nd edition continues to engage children in thinking about the health of their eyes, and playing their part in preventing blindness in their communities.



Professor Allen Foster
Director, International Centre for Eye Health

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Meet your friends who will show you through the book. If you would like to give them names, write in the spaces below.



















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How to use this book

To the pupil

This book is about how to look after your eyes. There are stories and drawings written by other children. You can tell your own stories and draw pictures in the book in the empty spaces. You can colour the other drawings to make the book look nice. This book is to help you to know how to look after your eyes and what to do if you or your family has a problem with your eyes. There are things you can do at school and there are things you can do at home to learn about eyes and to help keep your and your family's eyes healthy. At the end of the book there are ideas on what you can do with your friends to prevent blindness in your community.

To the teacher

This book is an activity book. This means that the children should be active as they use it. The book does not tell them all the answers; it encourages them to think and to do things at school and at home. The book should be used to encourage the children to learn by doing, not by telling. It should also be used to encourage children to take the messages home – they can do much to inform their elders about preventable blindness. Let them take their books home. If there are not enough copies, photocopy relevant pages.



Class Activity

In these activities the children should do things such as draw, tell or write a story, or perform a task with classmates.



Home Activity

Children should do these activities at home. They could be asked to discuss something with their parents, look at something or make something at home.



Class Discussion

After a story or an activity in class the children talk about the meaning of what they have learnt.



Health Messages

Each section ends with a summary of the main health messages to prevent blindness.

The messages can be learnt in a number of ways. For example, the teacher could make up a song or make a poster. It is up to you, the teacher, to think of interesting ways to make sure that pupils understand and remember the messages.

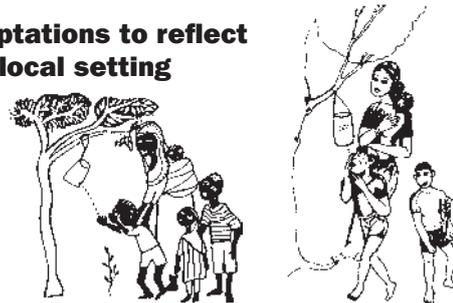
To the health educator

The 1st edition of *The Healthy Eyes Activity Book* was also used by health educators in the community. The stories written by children can easily be adapted to make street plays or other performances within the school or in the wider community. The health messages at the end of each section can be used in other teaching materials, or to give to media professionals to publicise in radio spots, TV or print media.

How to adapt the book

The causes of eye problems differ in different countries and different settings. For example, children living in rural areas might be in danger from snake spit in the eyes; children living in a town might be more likely to damage their eyes by playing with firecrackers. This book is designed in a way that you can adapt all or parts of it to show the situation and problems of where you live. You might want to change a picture, a story, a page, or make more changes such as adding a chapter. Here are some examples of how the 1st edition of the book was adapted.

Adaptations to reflect the local setting



For example, the Sinhalese version adapted the drawings to reflect local clothes.

Adaptations to reflect local eye problems

For example, in The Gambia more detail was added to the section on trachoma. A good starting point would be to get children to do the Draw and Write exercise on page 7. This will give you lots of material about local eye problems which you could choose from.

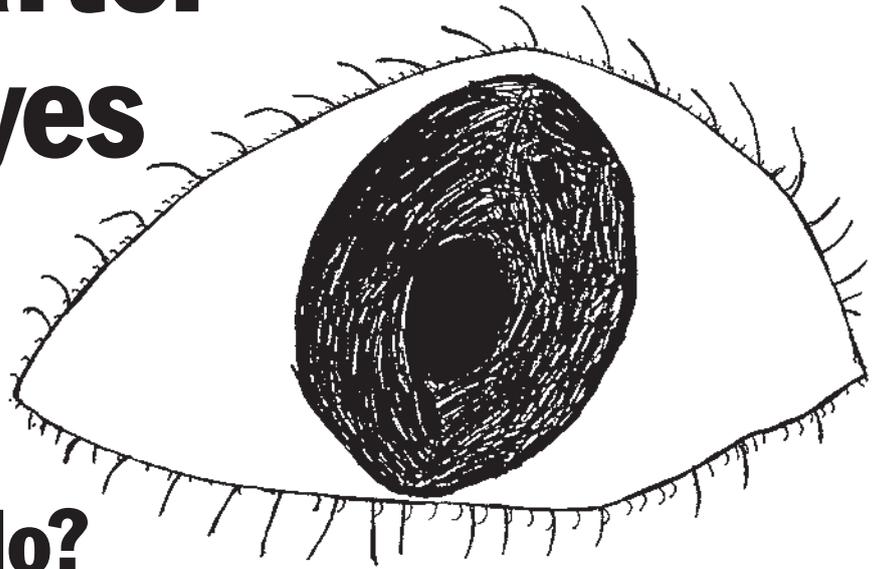
Adaptations to include additional material

The version developed in Bangladesh includes an additional chapter about famous blind people, and how blind people use braille to read. This good idea was taken up in this 2nd edition.

Note to the translator

Try to keep the simple tone of the book – it is meant to entertain and engage children, it is not a medical textbook! Always do back translation. In other words, once it has been translated into the other language, ask a bilingual person to translate it back into English. This should indicate if there are any problems.

1 Look after your eyes



Without eyes, what can we do?



Class Activity

What do you like to see?

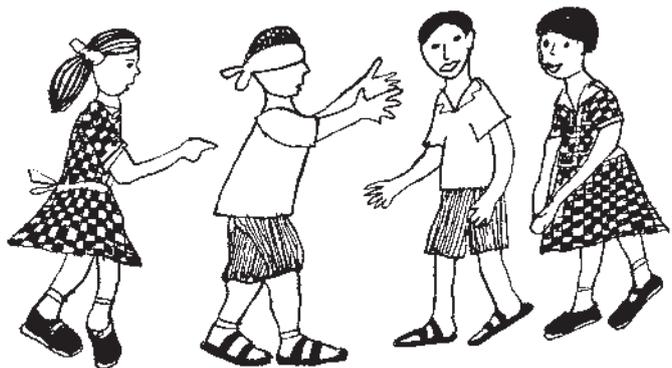
Draw a picture of all the things that you like to look at.



Class Activity

What is it like to be blind?

Blindfold one person in the class. Ask him or her to walk around the room. Afterwards, talk about what it is like to see darkness. Then give other children a chance to be blindfolded.



What do healthy eyes look like?



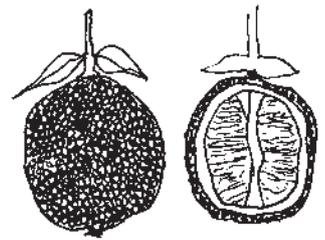
Class Activity

Draw an eye

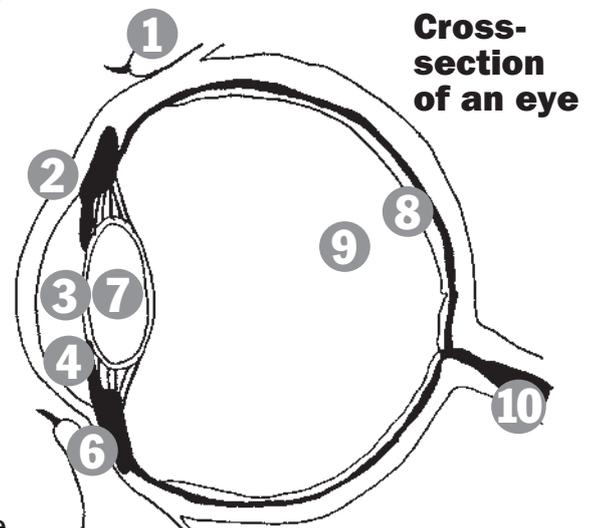
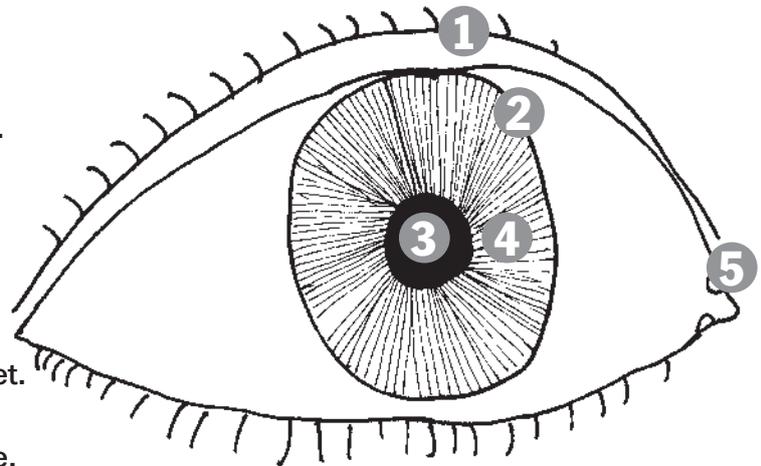
Look into your friend's eye. Draw what you see.

The parts of the eye

When you drew your friend's eye, did you see that there are different parts in the eye? Each part has its own work to do to help you to see. Look at the pictures below and you will see what work each part of the eye does. The pictures show the eye as you see it when you look at a person and the cross-section of an eye. The cross-section helps us see what is inside. For example, the cross-section of the picture of the orange helps us to see the inside parts of the orange.



- 1 **Eyelids** are to protect the eyes
- 2 There is a clear window at the front of the coloured part of the eye. This is the **cornea**.
- 3 In the centre of the eye is a black circle. It is the **pupil**. It lets light into the eye.
- 4 The coloured part changes the size of the pupil. It is called the **iris**.
- 5 There are small holes – the **tear ducts**. Tears help to clean the eyes and keep them wet.
- 6 The **conjunctiva** is the thin, transparent tissue that covers the outer surface of the eye.
- 7 The **lens** focuses light onto the retina. In young people, the lens changes shape to be able to see close or distance things. This is called accommodation. When we grow older, the lens gradually hardens, and the eye is not able to accommodate so well.
- 8 The **retina** is the back part of the eye. It contains the cells that respond to light. These cells are called photoreceptors. They capture light rays and convert them into electrical impulses. These impulses travel along the optic nerve to the brain where they are turned into pictures.
- 9 The **vitreous** fills the center of the eye. It is a thick, transparent substance. It gives the eye its form and shape.
- 10 The **optic nerve** carries electrical impulses from the retina to the brain. It connects to the back of the eye.



Cross-section of an eye

What can we do to keep our eyes healthy?



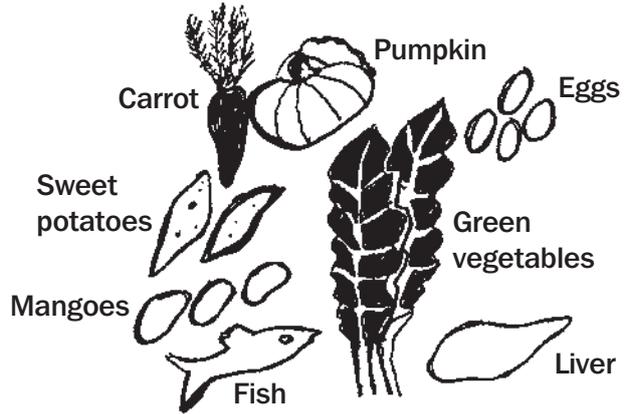
There are six things you can do to keep your eyes healthy



Health Messages



Keep your face clean



Eat good food



Immunise against measles



Go for treatment early

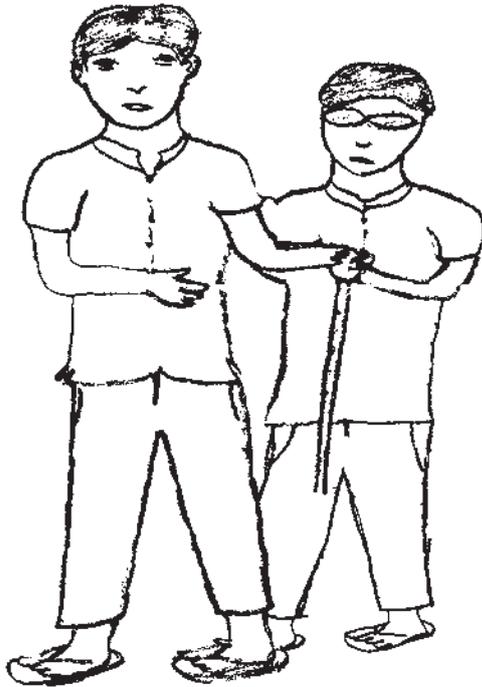


Get your vision checked



Do not put any medicines or anything else in your eyes without advice from a health worker

2 What makes some people blind?



Do you know why some people become blind?



Class Activity

Draw and Write

Draw a picture of yourself or someone who you know who has an eye problem. The picture should show what happened to the eye, what the person did to get help and what happened after that. Then write a story about your drawing.

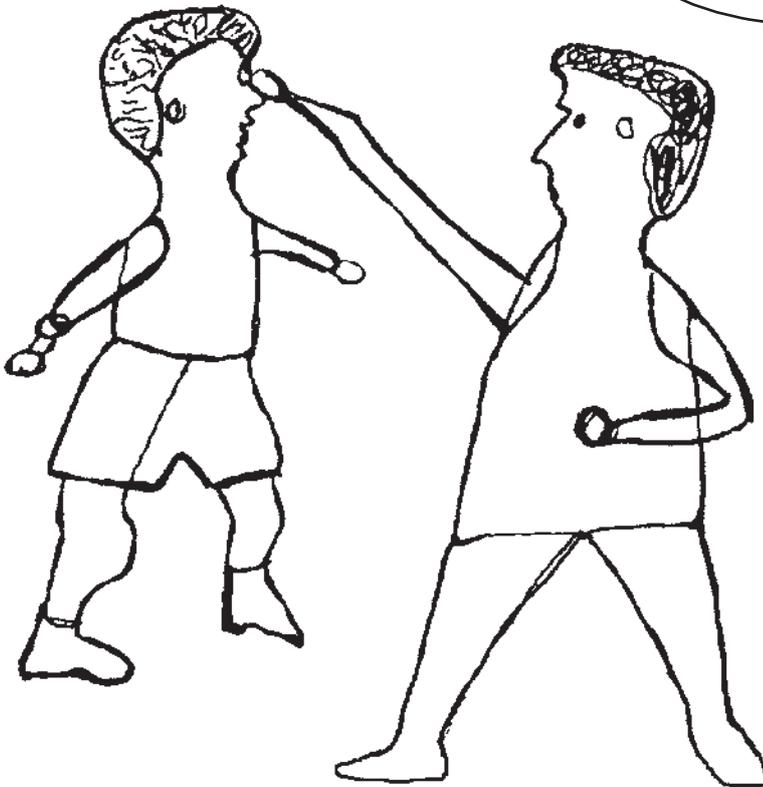
What can make a person blind?

Share the stories you have written about people who have an eye problem. Using the chart below, count up the number of people suffering from different types of eye problems described in the stories.

	Things that can make a person blind	Number of people
1	The person was hurt in the eye	
2	The person had a sickness in the eye and then became blind, for example: <ul style="list-style-type: none"> • red eyes • glaucoma 	
3	The person had a sickness in the body and then became blind, for example: <ul style="list-style-type: none"> • malnutrition (caused by not eating enough healthy food) • measles • onchocerciasis (river blindness) • diabetes • sickle cell anaemia (a disorder of the blood) • HIV/AIDS 	
4	The person became blind after putting something in the eye	
5	The person became blind because they were old	
6	The person had cataract	
7	The person was born blind	
8	If there is another reason, write it here	
9	I do not know why the person became blind	

3 Prevent blindness from accidents

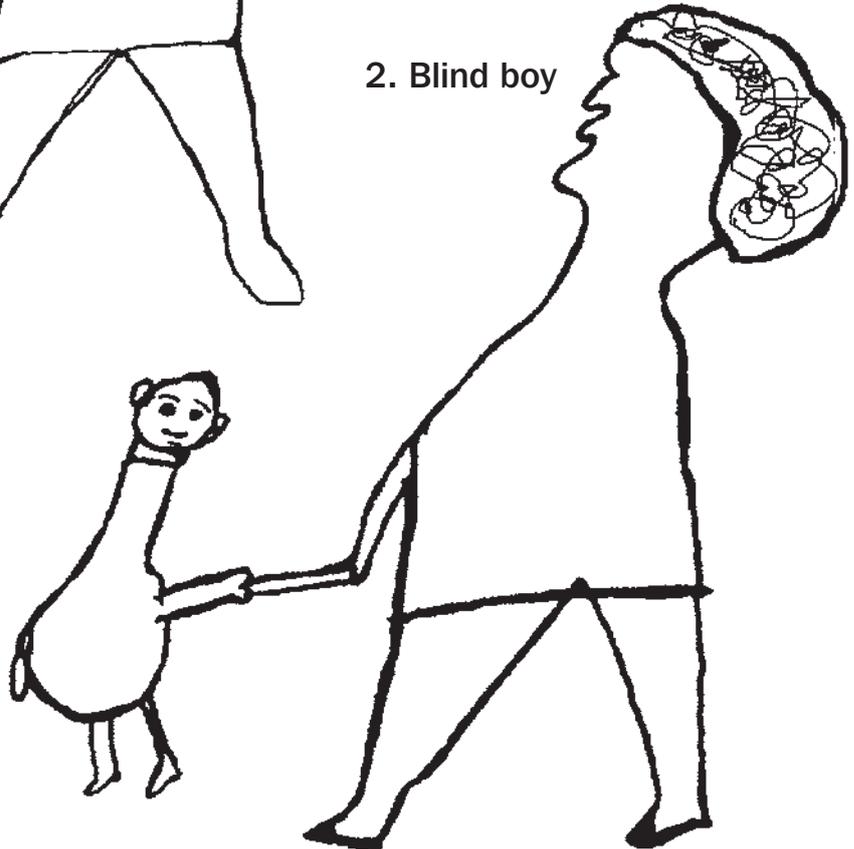
1. Fighting



There are many kinds of things that can damage the eyes



2. Blind boy





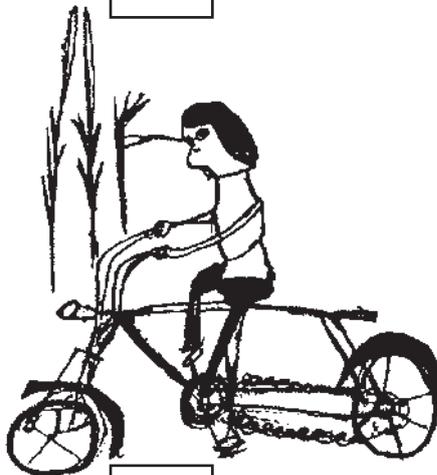
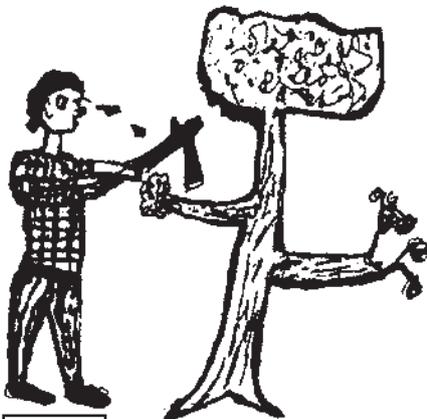
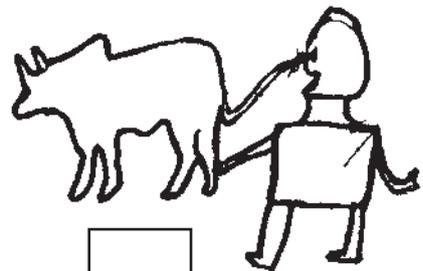
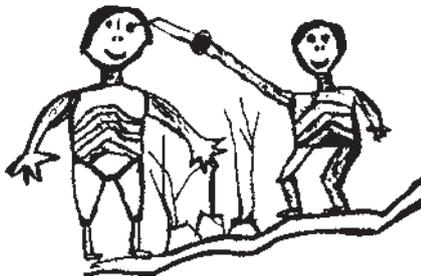
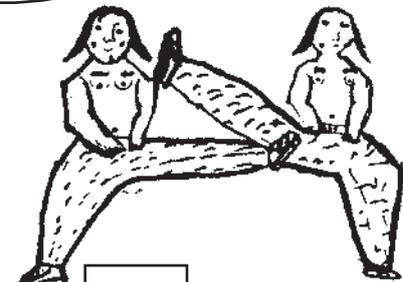
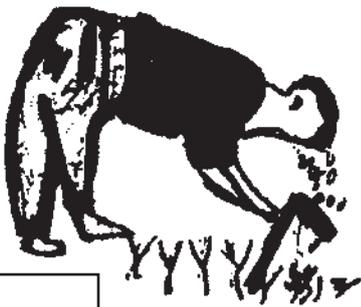
Class Activity

What is happening in these pictures?

Look at these pictures. What kind of accident do you think is happening? Is it...

- A** things hitting the eyes
- B** things piercing the eyes
- C** things falling in the eyes
- D** things burning the eyes

Write the letter you think it is – **A, B, C** or **D** – in the box under each picture



Things can hit the eyes



What should you do if something hits the eyes?



These boys were playing football. One boy kicked the ball into the eye of his friend. The eye became very red and painful.



Class
DISCUSSION

What should the boys do now?

Things can pierce the eyes



What should you do if something pierces the eyes?



Long ago there was a boy called Kireku. He was cutting a tree. By bad luck the tree he was cutting pierced his eye. He ran home. When his mother saw him she cried and said, "Quickly, I will take you to hospital!"

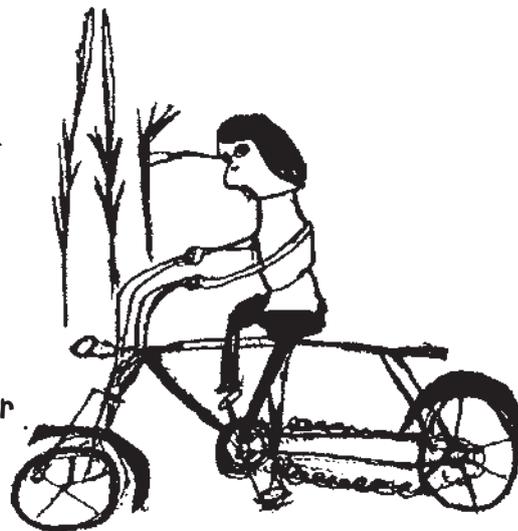
When they discharged him from hospital, the eye was dressed with a bandage. Kireku was told to go back to the hospital after one week to check if the eye was cured.



Class Discussion

Did Kireku's mother do the right thing?
What else could she have done?

This boy was riding on his bicycle. On the path, a piece of long dry grass poked him in the eye and it remained there. He rushed home to his mother.



Class Discussion

Should the boy's mother pull out the piece of grass from her son's eye?

Things can go into the eyes

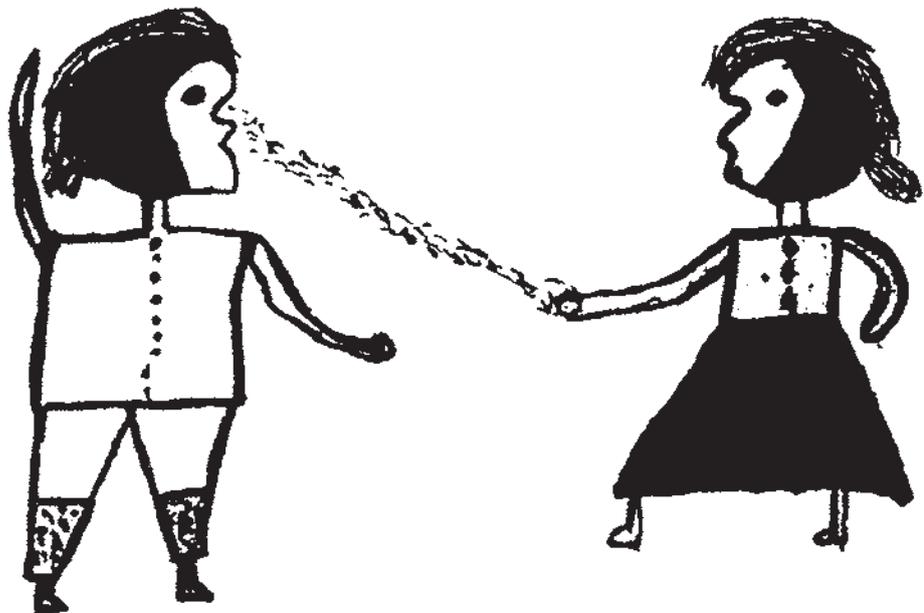


What should you do if something goes into the eyes?



A piece of wood went into Ana's eye when she was chasing a goat.

These children are throwing sand into each other's eyes.



Class Discussion

What should you do if something goes into the eyes?

Things can burn the eyes



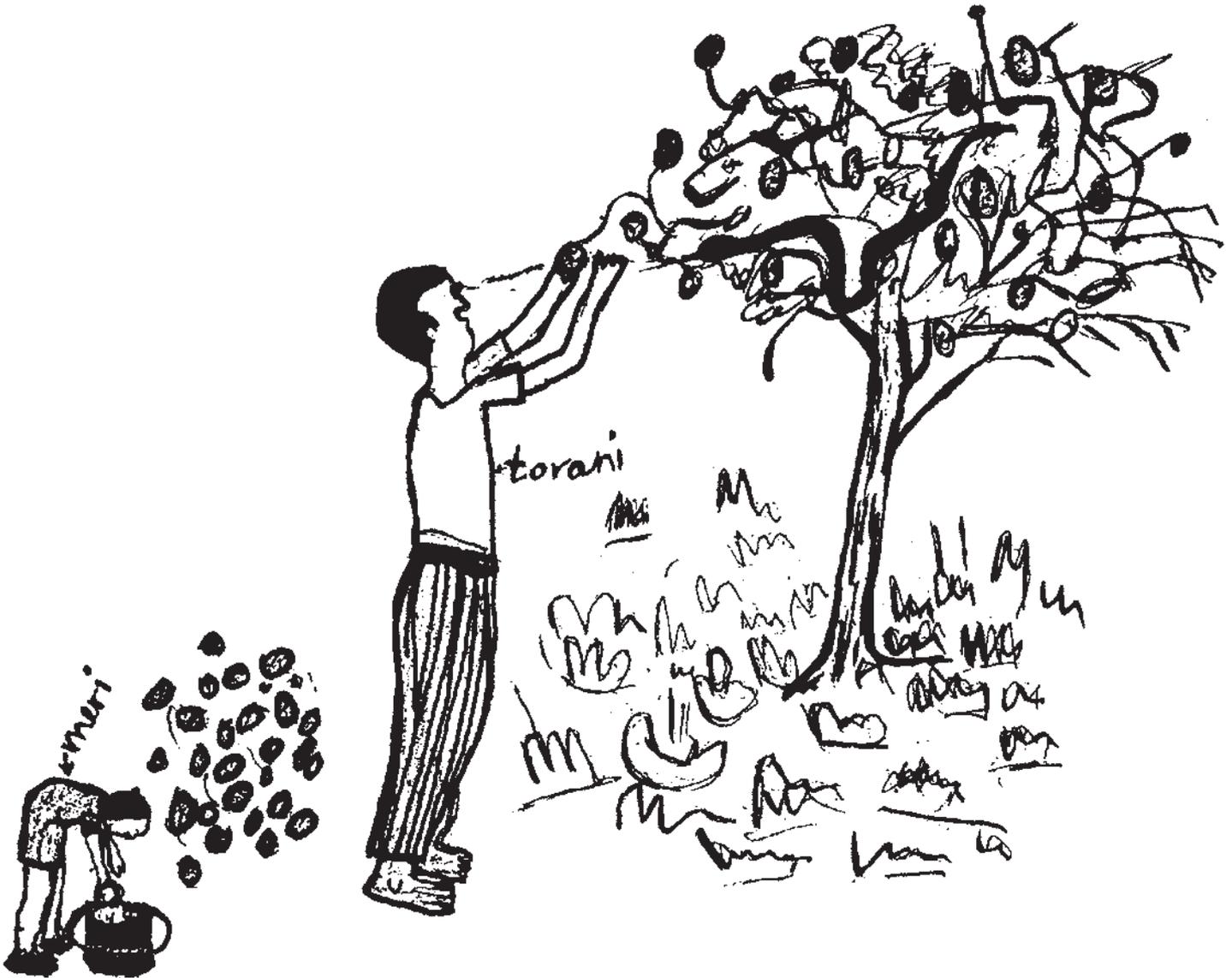
What should you do if there is something burning the eye?



Zione's mother was cooking porridge. The girl was standing near to where the mother was cooking. When they were talking the porridge jumped into her eyes and that was the time when her eyes were damaged. She did not find help and she remained blind.

Zara had a little sister called Bibi. One day Bibi was playing in the kitchen. When no one was watching her, she took the top from a bottle and by accident the liquid inside jumped into her left eye. She screamed with pain saying "Oowee, oowee, its burning mama, its burning mama!" Zara knew that the liquid was for cleaning, and she called her mother to come quickly.





Torani and Meri were picking mangoes. The snake was in the tree. Saliva came straight from the snake into Torani's eye. Meri did not know what to do to help him. From that day the eye was destroyed.



Class Discussion

Make a list of all the things which can burn the eye, for example lime, bleach, battery fluid. Read the instructions on page 19 on how to wash an eye which has been burnt with chemicals or snake spit.



Health Messages

What to do if an accident damages the eye



1

Do not panic

Tell the person to sit down quietly. Tell the person not to touch the eye.

2

Go and get help

Call the teacher if you are at school. Call your parents if you are at home.

You can help save a person's sight if you act calmly and quickly.



3 Take the person to the nearest clinic or health centre

It is good to have an accident plan. Think about where the nearest health centre is, and what transport could be used to get there.

4 Do not put any medicines in the eye

If you put anything except water in the eye without the health worker's advice, the person could become blind.

First aid for eye accidents

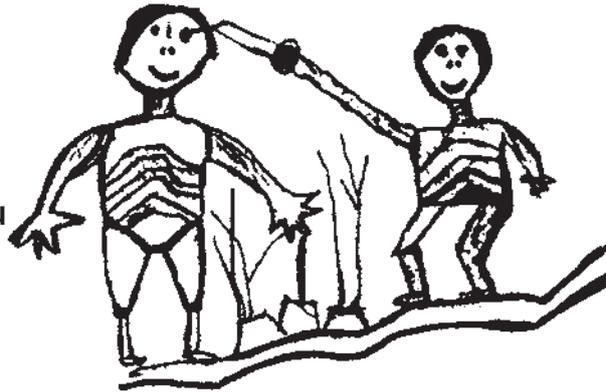


If something hits the eye

- Do not try to feel if the eye is there.

If something pierces the eye

- Do not try to pull it out.
- Do not delay to get help. If you waste time, the person might lose the vision in the eye.



If something falls in the eye

- Do not try to remove it yourself.
- Sit quietly for 10 minutes with your eyes closed. This might bring the thing out with tears.
- Do not rub your eye.
- If it is something small like sand, you can “look in water”. Get a basin or bucket of water and put your face into it. Open your eye in the water for some minutes to let the thing wash out.

If something burns the eye

- Wash the eye for a long time with clean water. See how to wash the eye on page 19.



Home Activity

Find out where is the nearest health centre or clinic where you can go for help if someone is hurt in the eye.

Write it here

Simple first aid for injured eyes

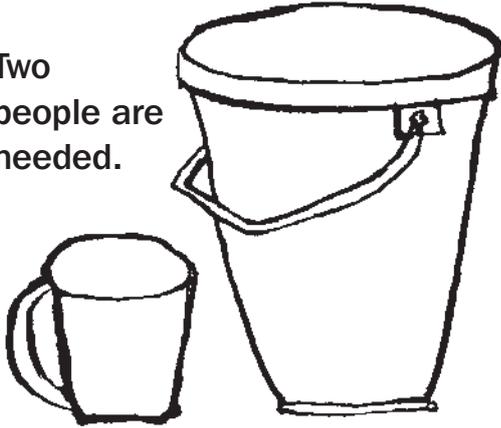


Class Activity

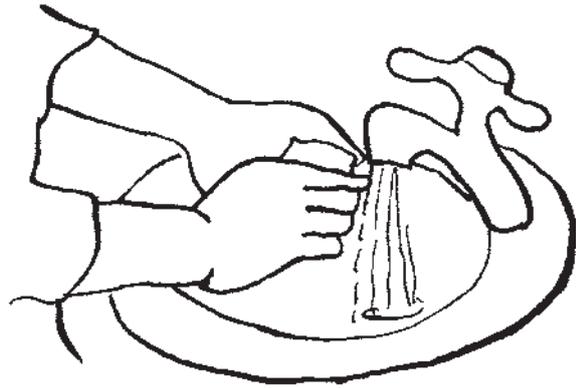
How to wash the eye

Make a group of three with your friends. Imagine that one friend has something burning the eye. Practice washing the eye of your friend.

Two people are needed.



You will need: A cup or leaky tin and a bucket of clean water



Wash your hands



Ask the person to lie down with the head tilted towards the side of eye that is hurt. One of you should open the eyelids and keep the eye open.

The other person should pour water into the eye from a distance of about 15 cm (two hands away). Keep pouring for 20 – 30 minutes.

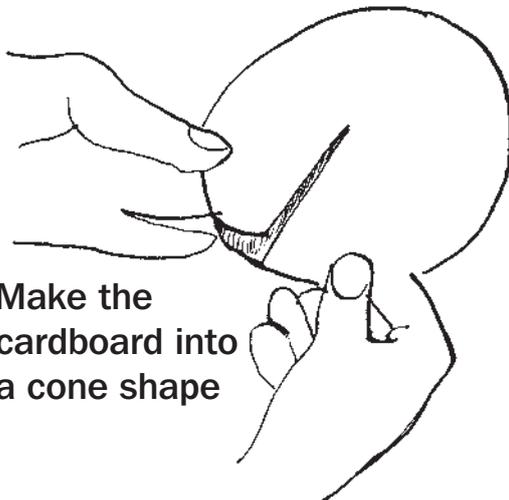
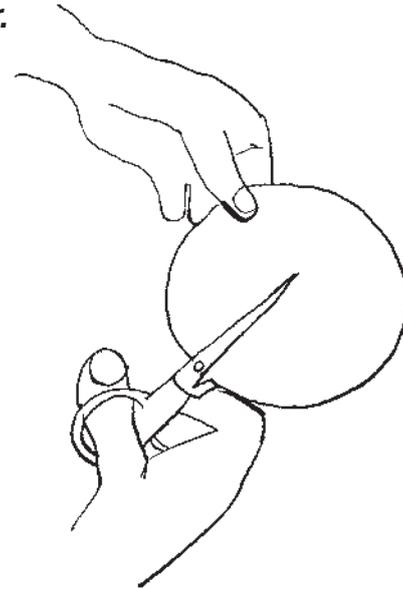
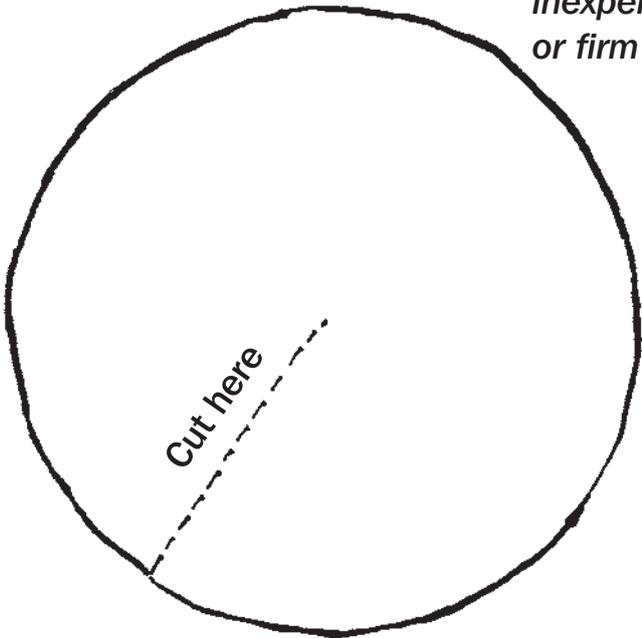
Put an eye shield on the eye before taking the person to a clinic. When you have done this, look for more help.



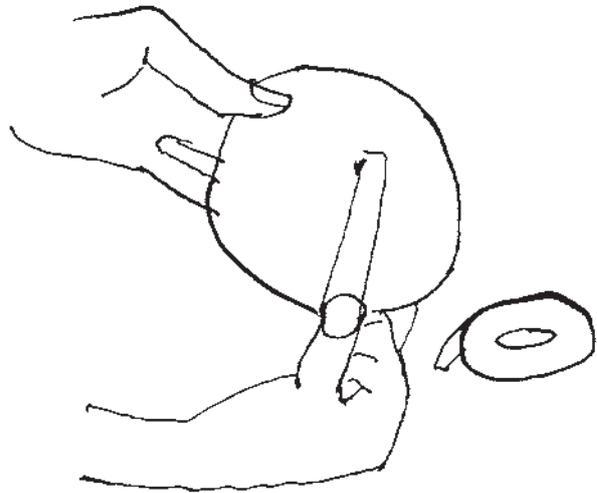
Class Activity

How to make an eye pad

Many eye injuries happen at some distance away from a health centre. It helps to cover the eye to protect it during the journey to hospital. Making an eye shield is easy and inexpensive. It can be made from cardboard or firm paper.



Make the cardboard into a cone shape



Secure the cone shape with tape

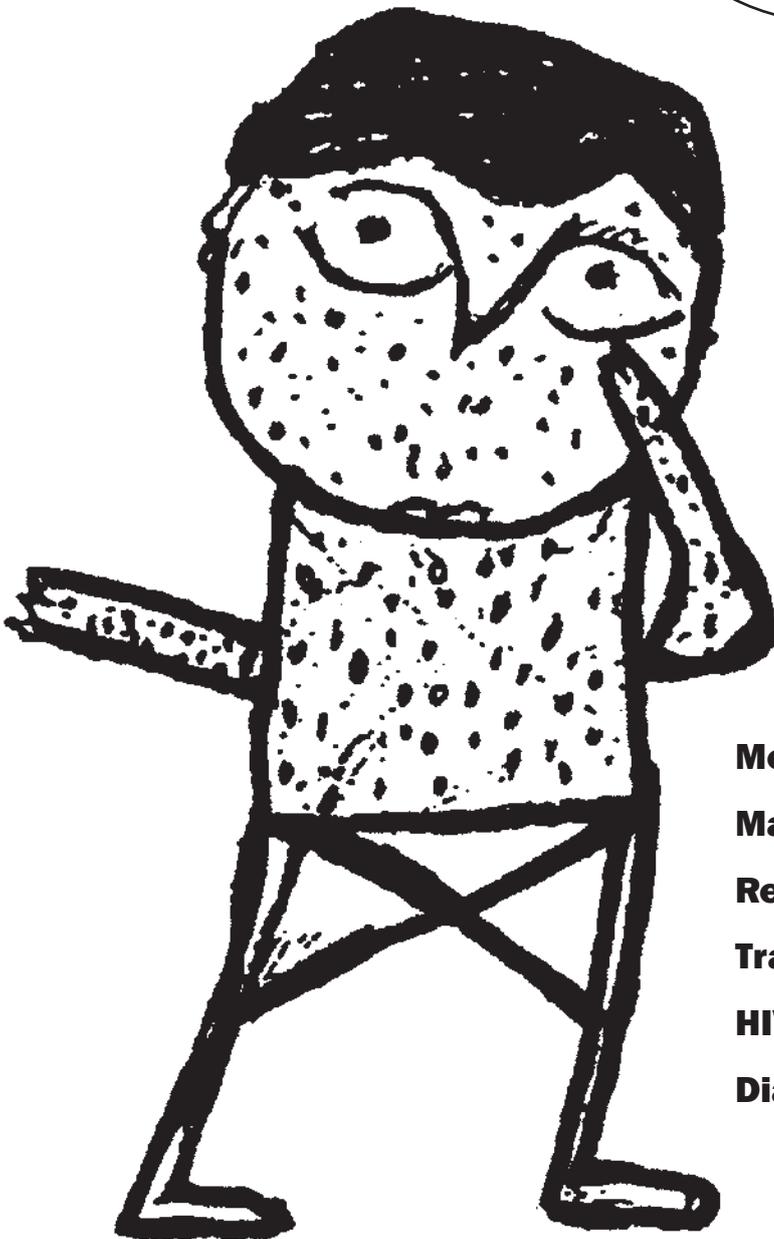


To apply: attach one piece of tape to the cone and place over the affected eye. Add a second piece of tape to secure the shield

4 Prevent blindness from sickness

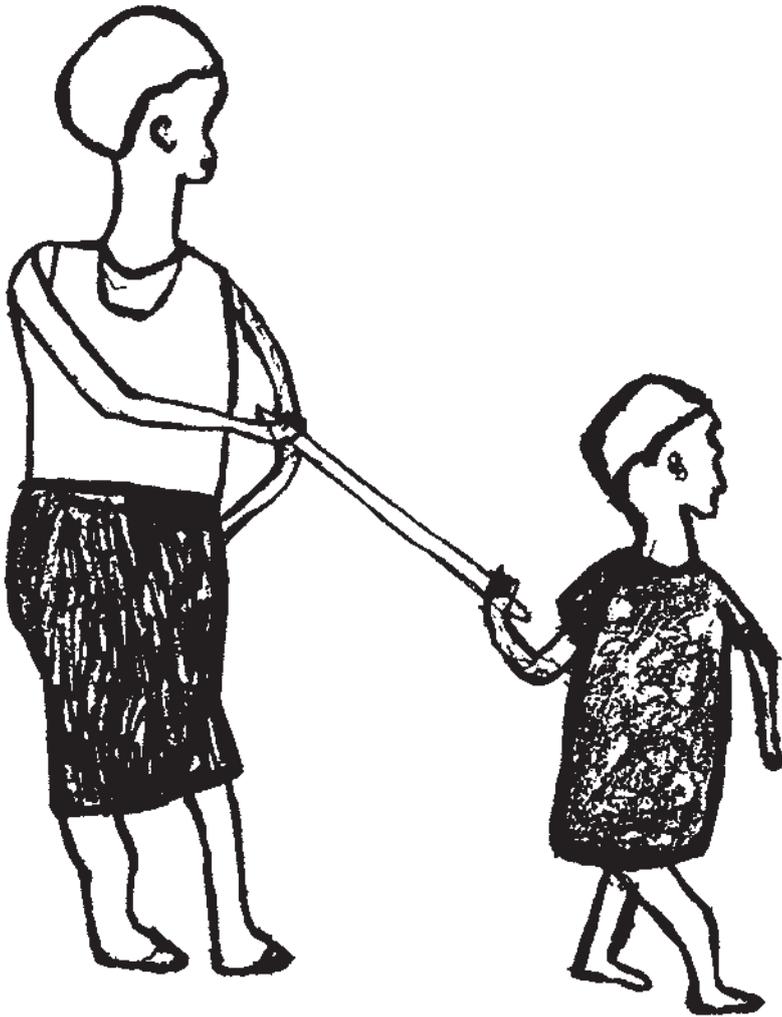


Some sicknesses can make a person blind.



- Measles** can make a child go blind
- Malnutrition** can make a child go blind
- Red painful eyes** can cause blindness
- Trachoma** can lead to blindness
- HIV** can cause blindness
- Diabetes** can cause blindness

Measles can make a child go blind



This is Absiig Azong. She was blind since she was a child. This is because she had measles. During that measles they were always waking her. They thought if she slept she would go blind. A herbalist person put herbs in Absiig Azong's eyes. until now, she is blind.



Class Discussion

Is there a word for measles where you live?

Write it here

Is it true that children with measles will go blind if you let them sleep?

Is it a good idea to put herbs in the eyes?

How could Absiig's mother have prevented her from getting measles?

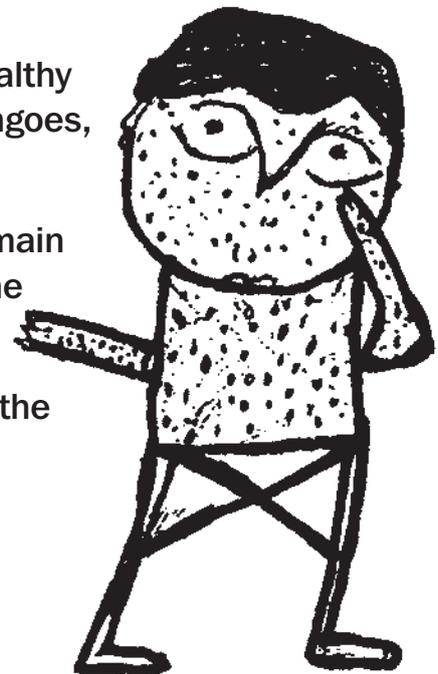


Health Messages

Measles is usually a sickness of children. It passes from one child to another. Children who have this sickness have a fever, rashes on the skin, painful eyes when they look at light and they do not want to eat.

What you can do to prevent blindness from measles

- Parents should take their babies for immunisation against measles.
- If a child has measles, do not put local medicines in the eyes.
- Do not put any medicines in the eyes unless a health worker gives them to you.
- Children who have measles should drink a lot of fluids (water, juice, liquid porridge, soups, milk).
- When a baby has measles, the mother should continue to breastfeed as often as possible.
- When a child has measles, you should give her healthy foods that are easy to eat, like pumpkin, fish, mangoes, milk, eggs, bananas.
- If the child cannot open the eyes or if the eyes remain sore after the rash has gone, take him or her to the health centre as soon as possible.
- A child with measles should be given vitamin A by the doctor as part of the treatment.



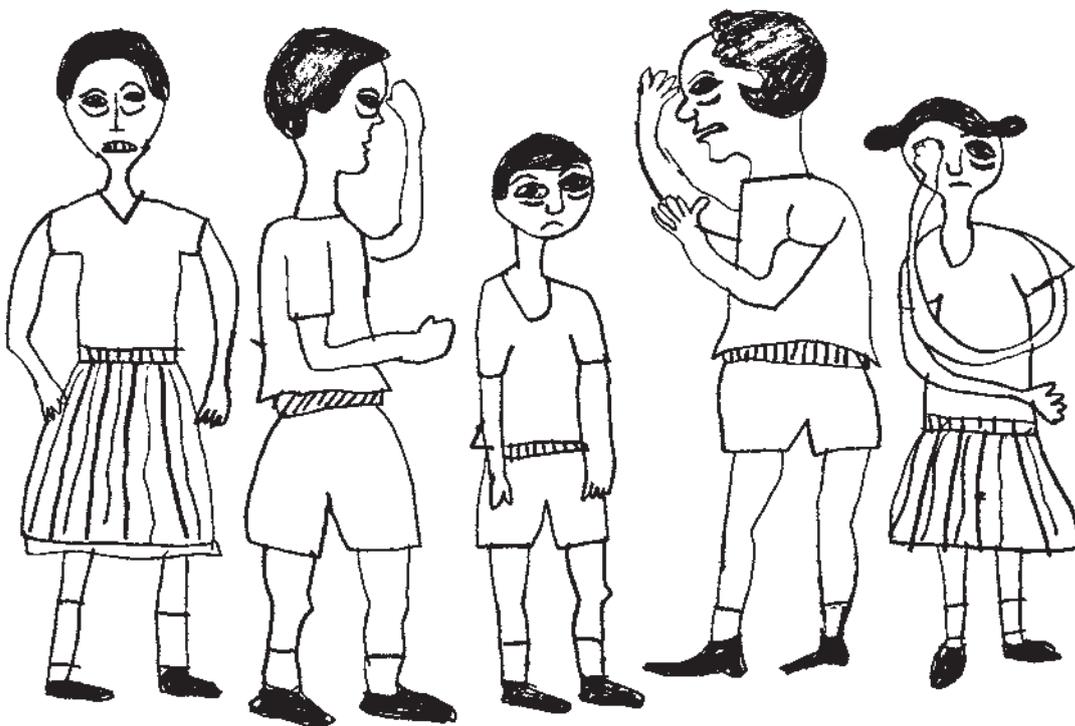
Home Activity

Is there a baby in your house? Has he or she been immunised against measles?

Prevent blindness from red and painful eyes



Children who have red sore eyes might have an infection in the eyes. Painful eyes that are not treated properly can make a person become blind.



There was a time when many children in our school had red eyes. Their eyes were running and the children were rubbing them all the time. Some had their eyelashes stuck together in the morning. The teachers told our parents that all the children should stay at home. Before we went home, the health worker came to speak to the whole school. She explained that many of us had an eye disease called conjunctivitis. She said that we should not put anything into the eyes unless a health worker advises us. She also told us that we should wash our hands and faces with clean water and try to keep very clean.



Class Discussion

Does it ever happen in your community that many children suffer from painful red eyes at the same time? Is there a name for this disease?

Write it here

What do people do when this happens?

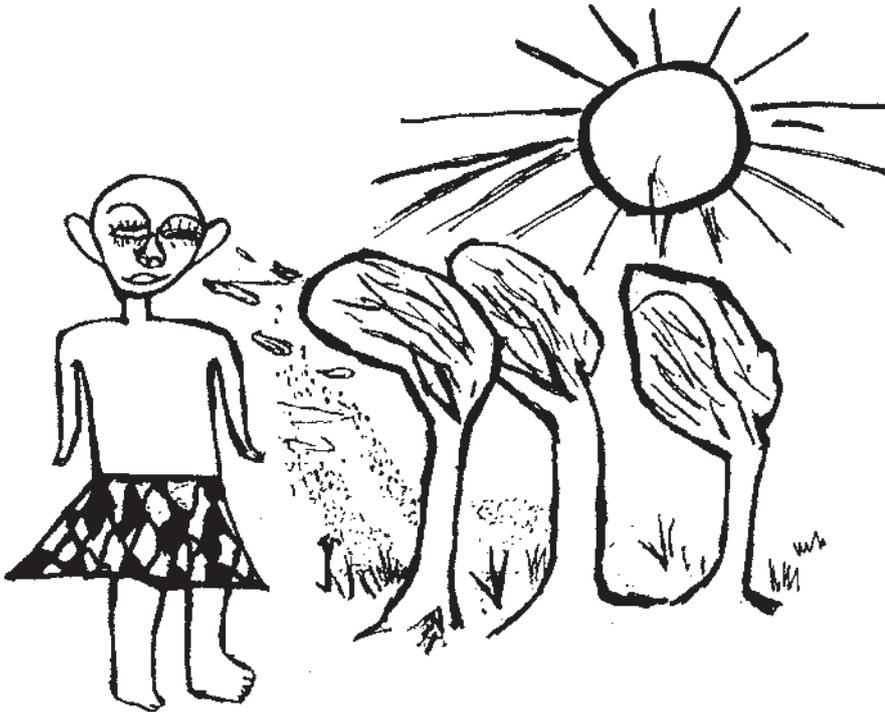


Health Messages

How to take care of red or painful eyes

- Only put ointment in the eyes if a health worker gives it to you.
- Never put traditional treatments in sore, red eyes.
- Never use old medicines or medicines which are meant for another person to treat eyes.
- Eye problems spread easily from person to person. You should keep your face and hands clean to prevent the infection from spreading.
- Keep your eyes clean.
- If the eyes are not better after one day, go to the nearest clinic.

Prevent blindness from trachoma



This is a story about Lemekeza. She stayed in a dry and dusty place. It was very hot. There were many flies at that place. Her eyes were often paining her. They were itching and the tears came out.

The health worker told her that she had a disease called trachoma. The health worker gave her mother eye ointment to put in the eyes of Lemekeza and her brothers and sisters. She was told to repeat this for many weeks to make sure that the infection went away. She was also told to wash her face often and to keep her eyes very clean.



Class Discussion

Have you ever heard about a disease called trachoma?

Do you know another word for this disease?

Write it here

Have you ever seen people in your community who have eyelashes that turn in and scratch the eye? Is there name for this?

Write it here



Health Messages

Prevent blindness from trachoma

The disease called trachoma has made many people blind. People with the trachoma infection have very painful and itchy eyes, especially inside the eyelids. Flies and dirty hands can carry the disease from one person's eyes to another person's eyes.

When a person suffers from trachoma infection many times, the inside of the eyelid becomes scarred. This makes the skin tight. The eyelashes turn inwards and scratch the cornea (remember the picture on page 4. The cornea is the window of the eye). This is what causes blindness. There is a small operation that can cure this.

There are four things that can prevent blindness from trachoma. You can remember them by remembering the word **SAFE**.



S

Surgery. A simple operation can prevent blindness from inturned eyelashes scratching the cornea.



A

Antibiotic medicine can treat the infection. The antibiotic can be given as a medicine to swallow, or as an eye medicine to put in the eyes.



F

Keep your **face** clean and you will be less likely to get the infection. Trachoma is most common in places where water is not plentiful.



E

Keep your **environment** clean. Toilets and clean surroundings will prevent flies from spreading diseases. A clean water supply will help people to wash their hands and faces often.

Can AIDS make a person blind?



AIDS can affect the eyes too. It can even make the person blind. This can lead to greater hardship and depression for the person suffering from AIDS.



Uncle Ali became quite ill and then slim suddenly. There was rumour in the village that he was suffering from AIDS. One day we saw Uncle Ali walking slowly and not sure of where he was going. He could not recognise people he knew from afar. My father advised him to go to the eye clinic. He was examined but was told that he will not be able to see again. I have been wondering: can AIDS make one blind?

Can diabetes make a person blind?

The mother of Tonga went to the optician to get her vision tested. She was surprised when the eye doctor suggested tests for diabetes and then told her that she was suffering from diabetes. The doctor explained that diabetes can cause eye problems. When her sugar level was controlled her sight improved.



Health Messages

- Anyone with diabetes should have his or her eyes checked once a year.
- People with diabetes should not smoke.
- People with diabetes should reduce their weight.
- People with diabetes should follow the recommended diet and should not drink alcohol.
- If a person is often thirsty, hungry and needs to urinate often, they should go to the clinic to be checked for diabetes.

5 Healthy food for healthy eyes

This is a story about Atibilla Rockson. For some time he could not see well at night. His mother took him to the health centre. They said it was because he was not eating food that is healthy for the eyes. After that his mother prepared food that is good for the eyes. She cooked fish soup and spinach. He also ate many mangoes. Now he is well and can see and play even when the sun has gone down.



Class Discussion

Have you ever heard of night blindness?

Is there a word in your language for night blindness or not being able to see well in the evening?

Write it here

Healthy food for every age



Healthy mothers, healthy babies



Breast milk is best for babies



A balanced diet for healthy toddlers



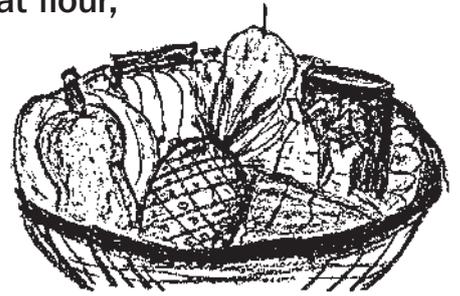
Healthy food for growing children



Our elders need healthy food too

Everyday, we should eat a mixture of different types of food to make sure that we get enough of all the important nutrients. Different types of food are:

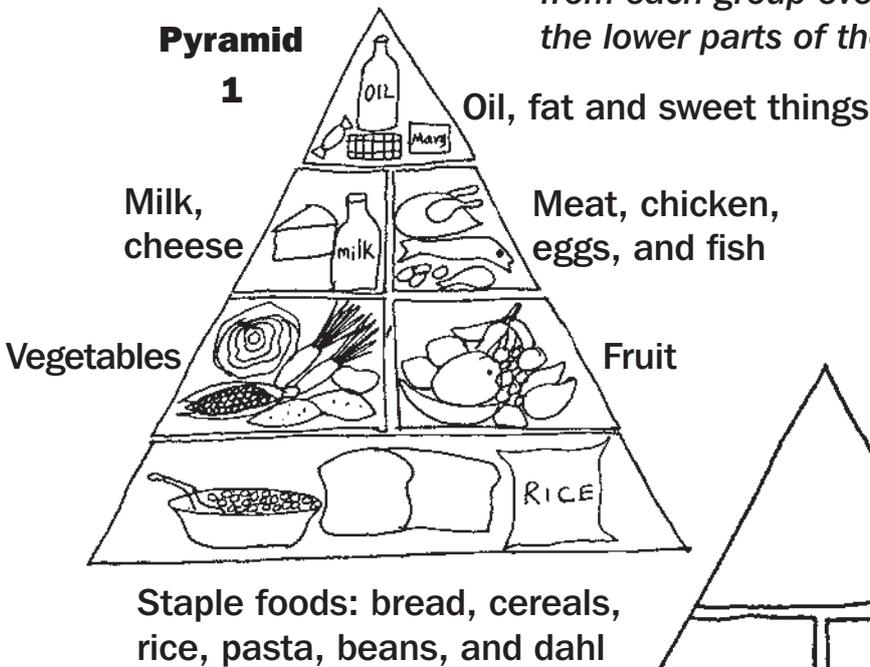
- staple foods, such as bread, cereals, pasta, rice, wheat flour, maize meal, beans, and dahl
- vegetable and fruits
- milk, yoghurt and cheese
- meats and fish
- oils, fats and sweet things.



Class Activity

Different types of food

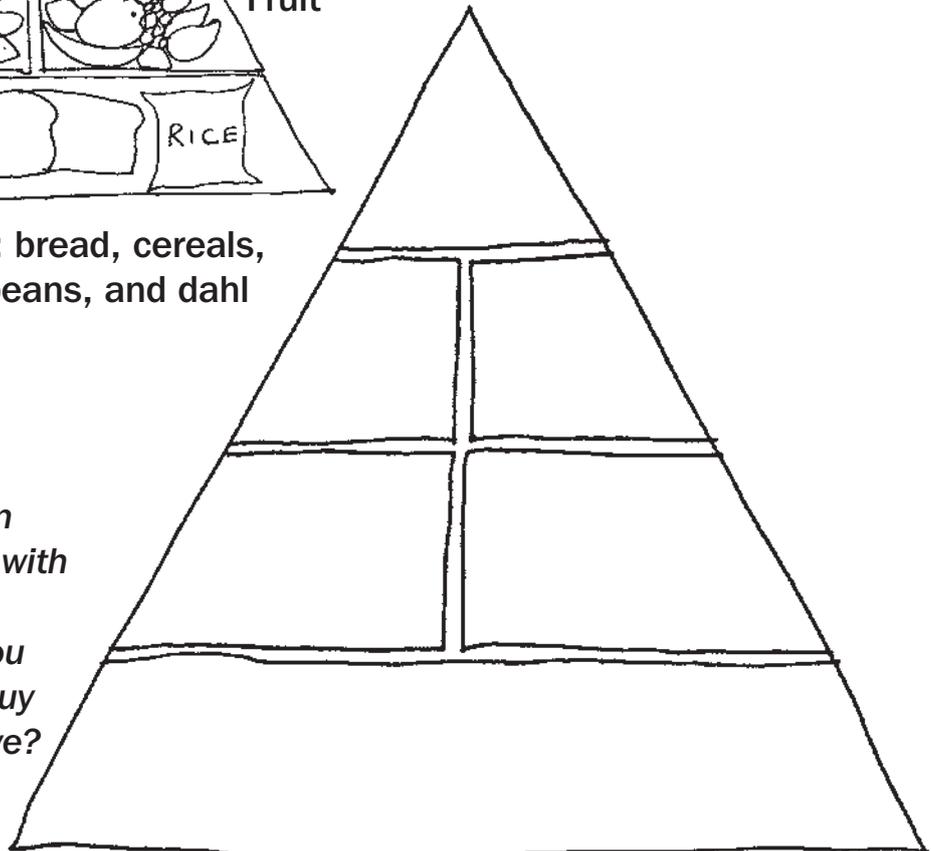
Pyramid 1 gives examples of the different food groups. You should try to eat something from each group every day. Eat more from the lower parts of the pyramid.



Pyramid 2

2

Can you fill in this pyramid with examples of foods that you can find or buy where you live?



What foods are good for eyes?

Vitamin A helps the body to fight diseases, and it is also important for healthy eyes.

As with other vitamins, there are different forms of vitamin A, retinol and beta-carotene. Retinol is readily used by the body and can be found in liver, eggs, and milk. Beta-carotene is commonly found in plants and the body converts it to the active form, retinol. It is found in orange-coloured fruits and vegetables and green leafy vegetables, such as spinach and kale. Cooking vegetables for a short time with some oil helps the body to make retinol.



Class Activity

Draw foods in your area which provide sources of vitamin A.



Class Activity

Some foods have vitamin A added, for example, cooking oil, breakfast cereals, instant noodles, and flour. Have a look at the labels to find out. Make a list of available foods which have vitamin A added.

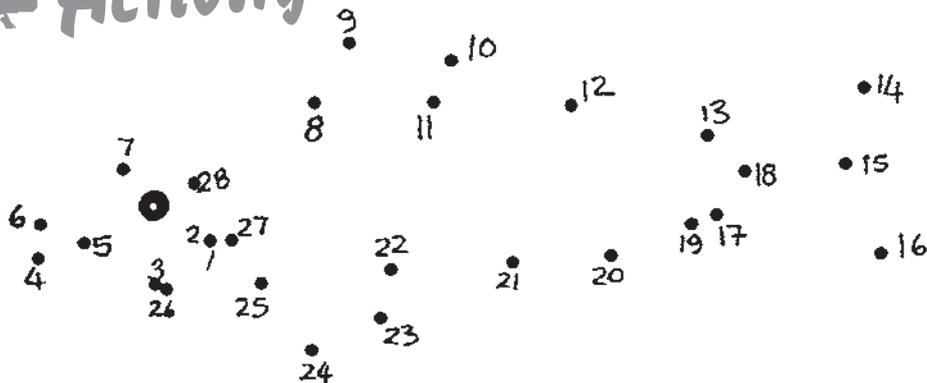
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Class Activity

Join the numbers and you will see one kind of food that is healthy for eyes.



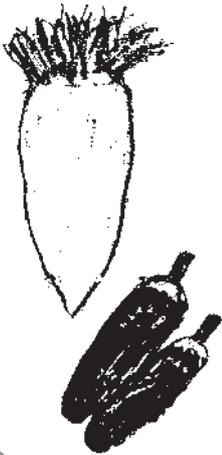
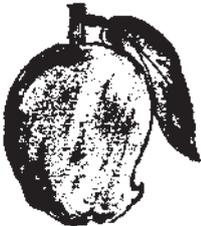


Class Activity

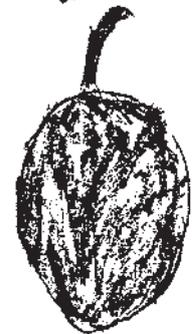
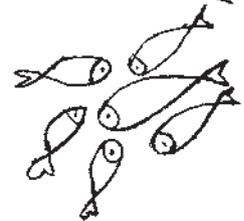
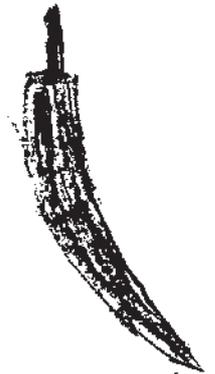
Word search

Can you find these words? All of these foods provide a source of vitamin A.

- | | | | |
|------------------|------------------|---------|--------------|
| apricot | cantaloupe melon | milk | red palm oil |
| breast milk | carrot | fish | red pepper |
| broccoli | cheese | orange | spinach |
| butternut squash | eggs | papaya | sweet potato |
| cabbage | liver | pumpkin | tomato |
| | | | yoghurt |



Z	B	E	G	G	P	L	I	A	P	R	I	C	O	T	M	R
F	A	T	B	I	G	X	R	E	D	P	E	P	P	E	R	E
B	N	M	L	Y	Q	K	H	P	O	I	L	K	W	S	B	D
I	I	O	K	S	S	B	R	O	C	O	L	L	I	A	A	P
B	R	E	A	S	T	M	I	L	K	B	B	T	U	Z	C	A
C	A	N	T	A	L	O	U	P	E	M	E	L	O	N	O	L
D	D	C	V	M	A	N	G	O	W	U	P	E	E	Z	T	M
V	H	O	O	P	U	M	P	K	I	N	G	T	S	C	L	O
Q	Q	B	V	C	O	I	M	C	H	E	E	S	E	R	I	I
U	C	A	B	B	A	G	E	N	E	Y	W	E	I	O	V	L
D	O	E	L	O	P	H	G	C	R	I	V	N	C	C	E	O
S	W	E	E	T	P	O	T	A	T	O	E	K	H	C	R	I
T	L	N	G	E	C	C	M	R	Y	O	G	H	U	R	T	P
O	Y	M	G	A	M	I	I	R	W	E	E	G	H	Q	O	R
M	F	I	S	H	J	I	J	O	Z	X	E	E	Y	A	Q	T
A	I	W	V	Z	P	O	L	T	B	P	A	P	A	Y	A	Y
T	H	C	B	P	L	S	J	K	S	E	I	O	N	M	P	U
O	S	P	I	N	A	C	H	L	A	K	K	O	P	L	W	K
E	R	W	S	W	E	E	T	P	O	T	A	T	O	P	E	J
L	R	D	P	A	K	F	I	G	E	E	O	R	A	N	G	E
B	U	T	T	E	R	N	U	T	S	Q	U	A	S	H	K	K



Village Activity

- Are there any children or mothers who cannot see well at night?
- Count how many kitchen gardens there are in your village
- Count how many paw paw trees there are in your village
- Count how many mango trees there are in your village
- Are there any wild fruits commonly eaten that you think might provide a source of vitamin A?
- What are they?.....

Timetable of a balanced diet

Look at pyramid 1 on page 31. With your family, make a menu timetable for a week. Every day you should try to eat some food from each of the food groups. Make sure you include foods which are good for the eyes.

	Bread, cereals, rice, pasta, beans, dahl	Vegetables, fruit	Milk, yoghurt, cheese, meat, poultry, fish	Oils, fats, sweet things
Mon				
Tues				
Wed				
Thur				
Fri				
Sat				
Sun				



Health Messages

If children do not have enough of the right food to eat, they may not grow properly and they will become very thin and are more likely to get sick.

Good food is important throughout our lives.

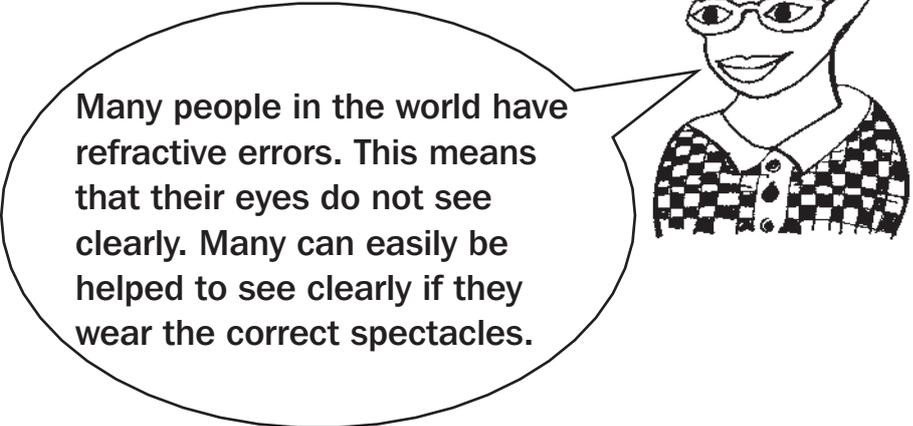
Sickness caused by not eating enough of the right food can cause blindness. If a child cannot see properly at night this means that he or she has not been eating enough of the right food to keep his or her eyes healthy. If children never get enough of this food, they can become completely blind.

How can we be sure to get enough vitamin A?

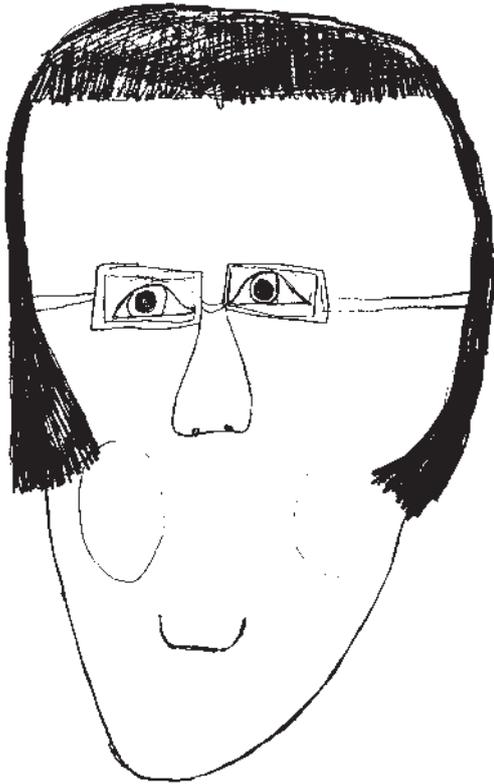
- **Diet:** Eat plenty of foods with sources of vitamin A.
- **Supplementation:** In some countries, children aged between six months and five years are given a vitamin A capsule or syrup at least twice a year. Mothers who have had a baby are given vitamin A within six to eight weeks after delivery.
- **Fortification:** In many countries, food is fortified with vitamin A, for example, sugar, cooking oil, margarine, breakfast cereals, flour etc.
- **Cooking:** Cooking vegetables for a short time with some oil helps the body to make retinol.

See pages 51 and 52 for ideas about making a garden.

6 Spectacles for those who need them



Many people in the world have refractive errors. This means that their eyes do not see clearly. Many can easily be helped to see clearly if they wear the correct spectacles.



My name is Jamilla. My best friend since I was a child is Simrah. Soon we will be going to university to study to become teachers. I remember when we were about seven years old, Simrah was always failing the tests. She seemed unhappy at school. When she read a book she held it very close to her face, the book almost touching her nose. When there was something to copy from the blackboard, she copied it from my book. One day, some nurses from the eye clinic visited the school. They tested all of our eyes. They told Simrah that she had a problem with her vision and that it could easily be treated with spectacles. She cried. She said "my father will not allow me to wear spectacles, it will bring shame on the family, no one will agree to marry a girl with glasses!". The eye nurse was very kind. She spoke to Simrah's parents. When Simrah had her spectacles, everything improved for her. She started to do well at school and the teacher said kindly "Smart Simrah in her spectacles!" At home she could help her mother with preparing the rice because now she could see if there were any small stones.



Class Discussion

How many children in the class have had their eyes tested?

Are there any children in the class who have headaches, or difficulty seeing the blackboard?

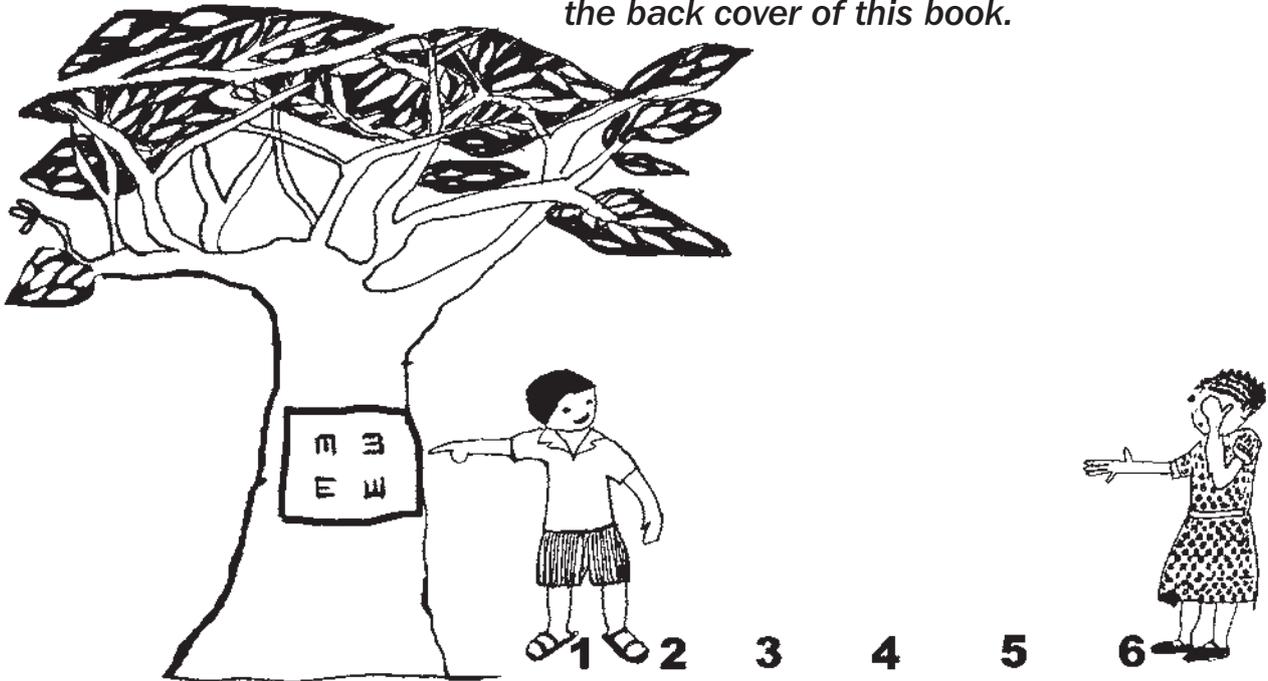
Where can you get spectacles if you need them in this community?



Class Activity

How to test vision

You can find out if someone can see well or not by testing their eyesight. For this activity, use the vision testing E chart on the back cover of this book.



- Attach the card to a wall or a tree.
- Measure the distance. Take six steps from the tree or wall. Mark the spot.
- Ask the person to be tested to stand on the mark and cover the left eye.
- Point to the E. Ask the person to point in the direction of the E. Repeat with the other Es.
- Repeat for the other eye. The person should now cover their right eye.

Write down the names of the children who did not get all the directions of the E right. This means that they do not see well and they need to be checked by an eye nurse or doctor.

Names of children who cannot see the E (i.e. better than 6/12)		
Name	Right eye	Left eye



My father makes shoes. Last year he stopped making and mending shoes because he could not see to thread the needle or do the small stitches. We were unhappy because daddy was not earning enough money to buy the things we needed like school books and clothes. At last his friend Mr Kuma said, "Old man, you should go to the eye clinic to get spectacles". My father did not agree. "I am not so old and I have always seen perfectly. Spectacles will only make my eyes weaker", he said. But from that day he started noticing that many people about his age had spectacles. Mr Zuma in the post office. Mrs Kumalo who made clothes. He decided to have his eyes checked at the eye clinic. He returned with a pair of spectacles, looking very proud and happy. We are now happy too.



Home Activity

Survey

Each person in the class should find out from six people at home if they have difficulty seeing.

1 Find out if there are any blind people in your community. Do the counting fingers test.

The counting fingers test to find out if someone is blind

- Stand 3 meters away from the person (about five to ten steps away from the person).
- Hold up two or three of your fingers.
- Ask the person to tell you how many fingers he can see.
- Try again with one or four fingers.
- Write the names of people who cannot count fingers at 3 meters.



People who cannot count fingers at 3 meters

2 Find out if there are any older people who need spectacles for seeing things close-up. Use the chart on the inside of the back cover.

People who cannot see the E close-up while holding the chart at a comfortable distance



Health Messages



- All children should have their eyesight checked.
- Children who hold the book too close to their face, or who need to sit very close to the blackboard, should have their eyes checked immediately.
- As we get older, our eyesight begins to change. It becomes harder to see small things close to us. This problem can easily be helped by wearing spectacles or reading glasses. Adults who are over 40 years should have their eyesight checked.
- Poor eyesight is not an illness.
- Spectacles do not weaken the eyes.
- No one is too young to wear spectacles.
- Do not tease children who wear spectacles.

7 Do not treat eye problems yourself

Eyes are very precious. If there is something wrong with them, ask the right person for help. The wrong treatment can lead to blindness.





When Atinga was about five years old his mother was preparing supper and she told him to fan the fire. When the boy was fanning the fire, a piece of charcoal jumped into his eye. He rubbed his eye with his hand. The mother was worried and sent for his father. The father took him to a man who used herbs on his eyes. This made Atinga's eyes become swollen and finally he became blind.

Hamuka's mother is now blind. Hamuka told us that her mother had been blind ever since Hamuka was a child. It started when she had sore eyes. Her grandmother suggested using a baby's urine as eye drops. She did this. One night, Hamuka's mother felt a sharp pain in her eyes. She went to the hospital the next day. When she saw the nurse, she was told that the eyes will not be able to see again. Hamuka's mother said, "But it was only the urine of a baby!" From that time she has to be led to any place she wants to go because she cannot see anymore.



Class Discussion

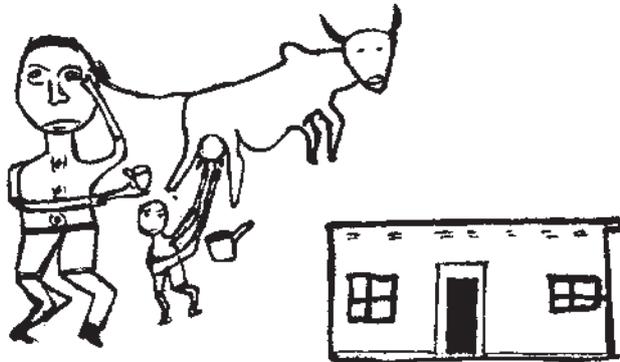
Why did Atinga become blind?

Why did Hamuka's mother become blind?



Class Activity

Read these stories. Is it good or bad? put a tick beside the right answer.



This boy got paraffin in his eye. There was no water so he used cow's milk to wash his eyes.

GOOD

BAD



This girl burnt her eyes while playing with lime from the construction site. Her friends helped her wash her eyes with clean water for 20 minutes.

GOOD

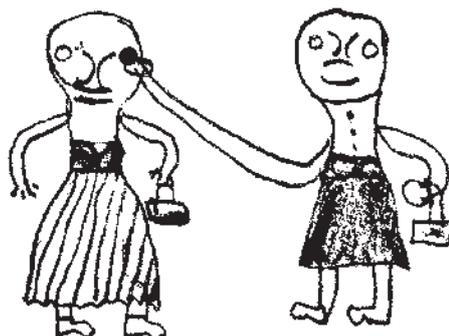
BAD



This man was hit in the eye with a beer bottle. They used tomato leaves to treat him.

GOOD

BAD



This girl was punched in the eye. They put in old eye medicine from the hospital which they had at home already.

GOOD

BAD



Health Messages



Do not use any medicines unless prescribed by a health worker. Putting concoctions or the wrong medicine in the eye can damage the cornea and cause blindness.



- Never put medicines made from plants or animals or any other traditional treatment in eyes.
- Never use left over eye ointment.
- Never use anybody else's eye medicine.
- Do not treat yourself with chloroquin tablets because if used a lot it can damage your eyes.
- If your eyes are burnt, wash them with clean water only, do not use other medicine.

8 Blindness from cataract can be cured



Cataract happens mostly to older people. A person who is blind from cataract can be helped to see with an operation.



Some nurses came to our place to talk about cataract. They told us that some of our grandparents would be able to see again if they had an eye operation. Our parents were not sure about this. People were asking a lot of questions: is it true? how much

does it cost? Eventually my grandmother agreed because she had never seen any of us grandchildren. Aka Dlamini's grandfather agreed because he wanted to be able to read the newspaper. Grace Ndo's grandmother agreed because she used to make pots and wanted to work again. They all went together to have the operation. All of them were very excited because their dreams came true and they can see again.



Class Activity

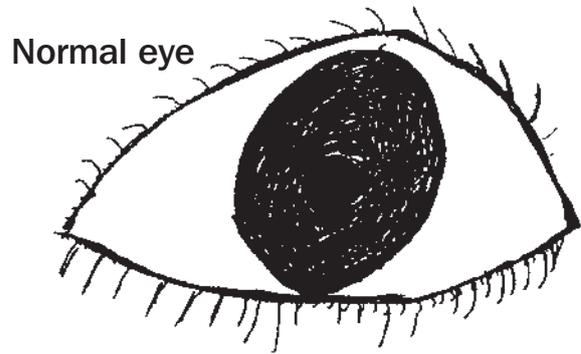
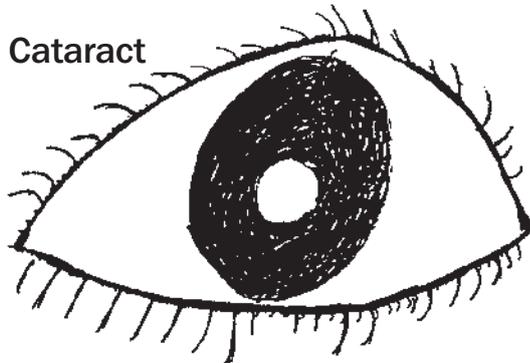
What is it like to have a cataract?

Cover your face with a sheet of tracing paper or thin white paper and look at the light. What can you see? This is what the world looks like for a person who has cataract.

This is because the black part (pupil) becomes cloudy and does not allow enough light to come into the eye. An operation can help to clean the cloudiness so that the person can see clearly again. It is like removing the paper from in front of your eyes. The cloudy lens is removed from the eye. In some operations, a new lens is put in the eye. If a lens is not put into the eye, the person is given spectacles to wear.

The difference between cataract and glaucoma

	Cataract	Glaucoma
Pupil	White	Black
Results after treatment	The vision is improved	The vision will be the same



Cataract can also happen to younger people. A baby can be born with cataract.

One day, when Abu was four years old, he was playing in the courtyard. It was a sunny day. His mother noticed that he was bumping into things. When she threw a ball to him, he could not catch it. Abu was unhappy. His mother embraced him closer to wipe the tears off her son's face. While Abu was gazing at his mother's eyes,



his mother noticed a small whitish thing in both the eyes of Abu. Abu's mother thought it was due to crying and flushed water to remove them. The white things did not go away.

Without waiting for her husband to return from the market, she took her son to the Thana Health Complex. The doctor explained that Abu was suffering from cataract and that an operation would cure him. But they must take him to the hospital without delay. When she told her husband, he could not believe it, "I thought that only old people suffer from cataract!". They were very afraid, but they agreed with the doctor that Abu would have the operation. It was this operation that gave Abu his sight. He can now catch a ball and is attending school with his friends.



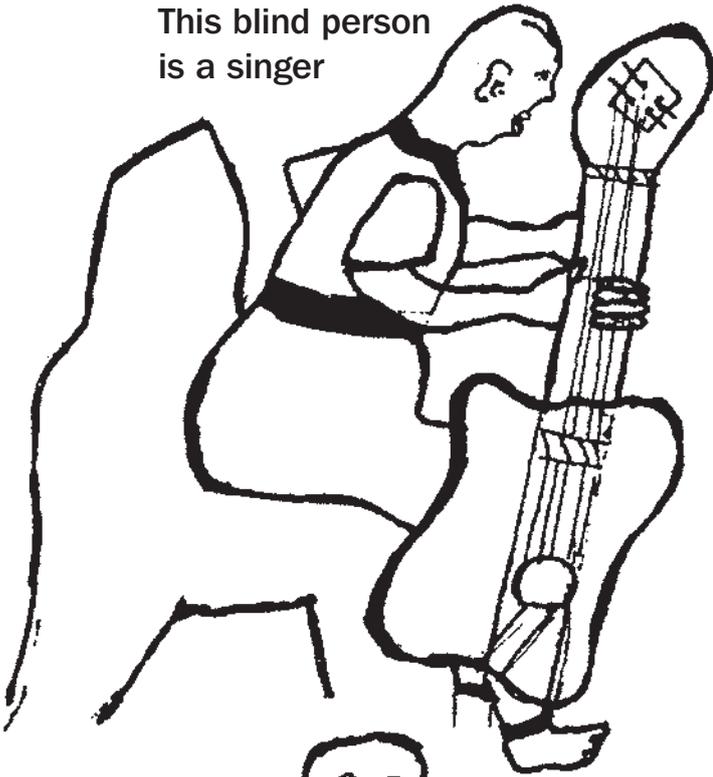
Health Messages

Tell your friends and family that cataract is a problem that can be treated.

If anyone at home has got a cataract, they should go to the clinic or health centre.

9 What can we do to help blind people?

This blind person is a singer



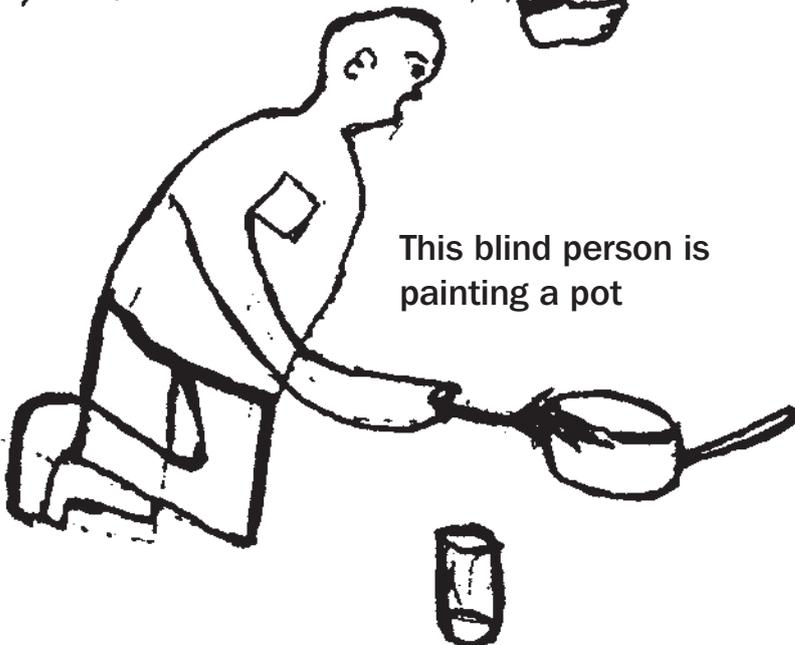
Blind people can do many things



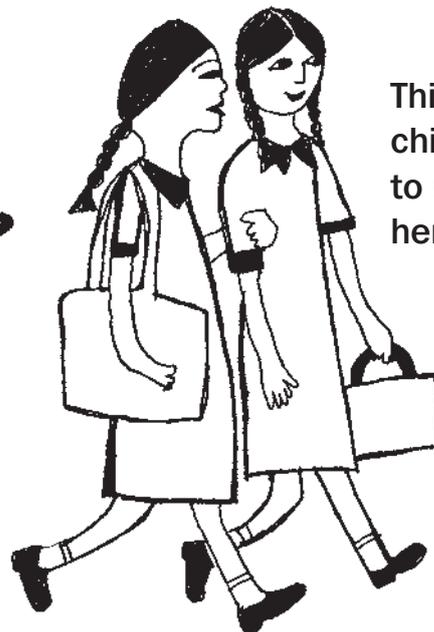
This blind person is making a house



This blind person is painting a pot



This blind child is going to school with her friend





Class Activity

Do you know anyone who is blind? What can that person do? Make a list in class.

	Name	What they do
1	Stevie Wonder	Singer and musician
2	Mr Piri	Teacher
3		
4		
5		
6		
7		
8		
9		
10		

How can we help those who are blind?



If you want to help a blind person, first take the person to an eye doctor. The eye doctor will be able to tell you if the blindness can be cured or not.

Think well of blind people

If the blindness cannot be cured, does it mean that the person is useless? No. Blind people can do many things. Think of their ability, not their disability!



Talk well to blind people

When meeting a blind person, say who you are.



During conversations, address a blind person by name. If you are leaving the room, tell him or her so that he or she doesn't talk to himself or herself.

How can we help those with low vision?

Some children are not completely blind, but they cannot see very well. They suffer from low vision. There are many things that can help someone with low vision live independently.

- Mobility (having ways to move about with low vision)
- **Magnification** (increasing the size of objects or text)
- Lighting (people see better where there is good light)



Class Activity

Learning about braille

Braille is a system of reading and writing by touch. It was invented by a blind Frenchman, Louis Braille, in 1829. When he was only four years old, he was hurt in his eye when he was playing with one of his father's tools. He later became a teacher of blind children. The system of braille continues to be used by people who are blind.

A braille cell consists of six raised dots. Braille is read by moving the hand from left to right along each line.

The braille alphabet

●○	●○	●●	●●	●○	●●	●●	●○	○●	○●	●○	●○	●●
○○	●○	○○	○○	○○	●○	●●	●●	●○	●●	○○	○○	○○
○○	○○	○○	○○	○○	○○	○○	○○	○○	○○	●○	●○	●○
a	b	c	d	e	f	g	h	i	j	k	l	m

●●	●○	●●	●●	●○	○●	○●	●○	●○	○●	●●	●●	●○
○○	○○	●○	●●	●●	●○	●●	○○	●○	●●	○○	○○	○○
●○	●○	●○	●○	●○	●○	●○	●●	●●	○○	●●	●●	●●
n	o	p	q	r	s	t	u	v	w	x	y	z

Can you write your first name here in braille by arranging the dots?

10 Prevent blindness in your community

Examples of activities you can do in groups

- Make a demonstration garden at school
- Cooking clubs
- First aid club
- Health education club using drama and puppets
- Sanitation club
- Eye detectives – finding eye problems in your communities
- Club to help people who are blind.

Now that you have read this book and done these activities, you can prevent blindness in your community. This section gives some ideas on what you can do if you join together with your friends.



Class Activity

Make a school garden



The school can make a kitchen garden. Each class in the school can grow different plants to provide sources of vitamin A that is good for the eyes. For example: papaya, mango, spinach, carrots, pumpkin.

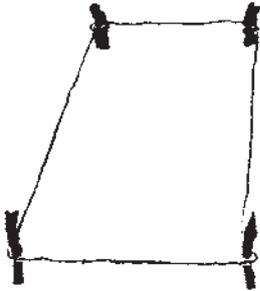


Class Activity

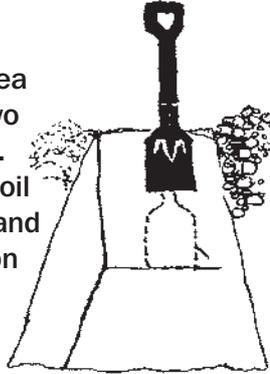
How to grow vegetables where there is little water

If you are in a place with little water, you could use the 'trench method' of growing vegetables.

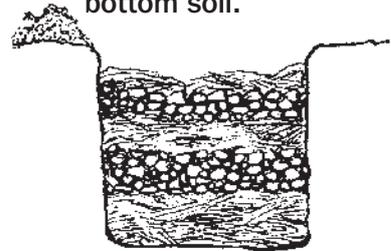
1 Measure the bed out.
1 metre x 2 metres.



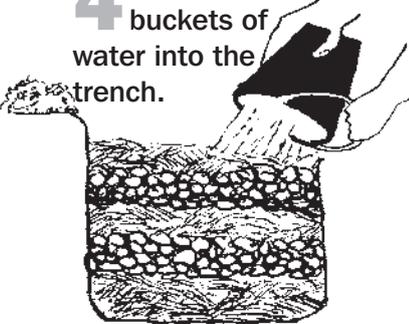
2 Dig the whole area of the bed two spades deep. Put the top soil on one side and bottom soil on the other.



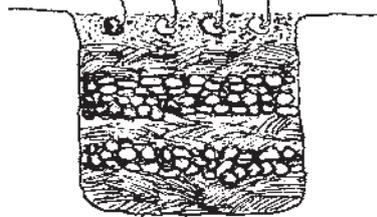
3 Fill the trench with layers of grass and bottom soil.



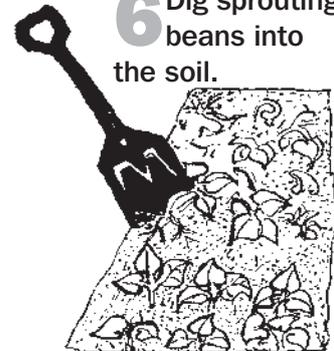
4 Pour a few buckets of water into the trench.



5 Put top soil on top. Sow bean seeds.



6 Dig sprouting beans into the soil.



Class Activity

How to grow vegetables where there is little space

Even people who live in crowded cities can grow nutritious vegetables. Vegetables can be grown in containers on windowsills, verandas, balconies, doorsteps and rooftops. Can you think of any other places?



Containers for growing vegetables should:

- be large enough to support fully grown plants
- have adequate drainage (make sure to drill holes in the bottom and to add rough gravel or stones)
- never have contained products that are poisonous to plants or people.

Make a list of all the different types of containers that you could use to plant vegetables.

For example:

- clay pots
- drums
- wooden barrels
- drain pipes.

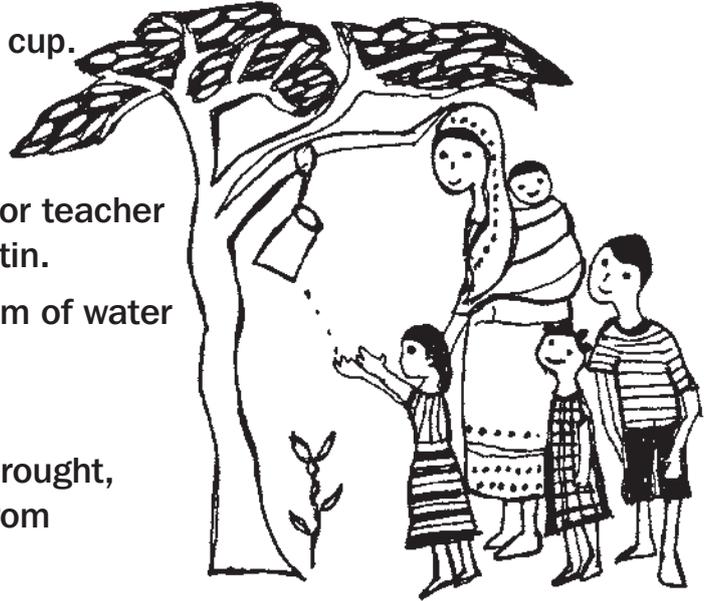


Class Activity

Make a leaky tin

If you live in a place that has little water, make a leaky tin for washing many children's faces.

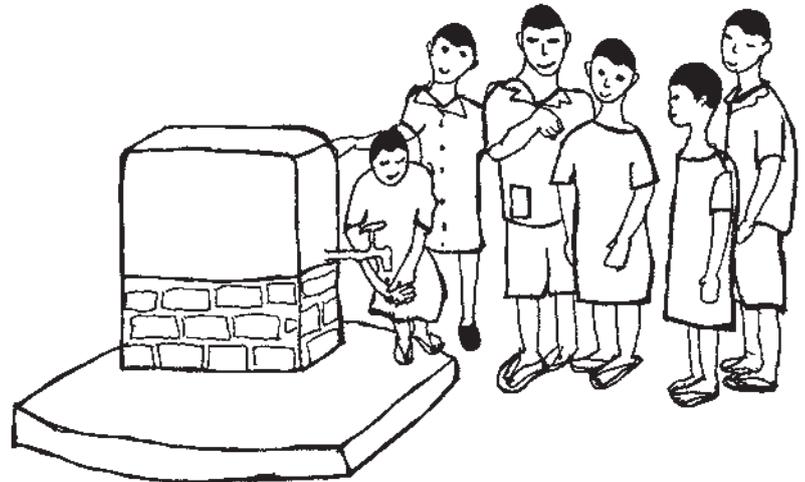
- 1 Find a small empty tin or plastic cup.
- 2 Make a hole near the bottom.
- 3 Hang it from a branch or a nail.
- 4 Once or twice a day the mother or teacher pours one cup of water into the tin.
- 5 Children wash faces in the stream of water leaking through the hole.
- 6 Plant a tree below the tin.
- 7 If the young plant suffers from drought, the children's eyes may suffer from trachoma or other eye infections.



Case study

Hauma School in the Gwembe district of southern Zambia

School children at Hauma school in Zambia designed a locally made water tank to ensure that everyone washes their hands. This tank is along the path to the toilets of the school. It is made of burnt bricks and plastered with cement, and at the bottom of the tank is a tap. Each morning the children fetch water from the well and fill the tank so each child coming from the toilet is reminded to wash his or her hands.



This was made possible by the introduction of boreholes. In the year 2001, this school almost closed down because no teacher was willing to go there to teach because it was so remote. It happened to be in the area where a SAFE strategy for trachoma control was being implemented. Two boreholes were given to the school. This has transformed the school. Now the 6th grade is in session. This school, which almost closed, is now looking like an oasis in the desert with a fruit garden and shade-giving trees.

Remember:



Do not play carelessly with stones, sticks, knives and other things which can hurt the eyes



Eat good food like green vegetables and fruits



Breast milk can protect babies from blindness



Never put anything in your eyes unless it has been given by the doctor



Never try to remove something from your eye – always ask for help



Keep your faces clean so that flies do not carry germs from eye to eye



Never let anybody else put traditional medicines in your eyes



In case of an accident go to the clinic as soon as possible



If there is someone you know who is blind, encourage them to go for help

Glossary for the teacher

Amblyopia

Reduced vision in an eye that appears to be normal. This is due to insufficient stimulation of the eye during visual development (from about 0-7 years). It is usually called the 'lazy eye'.

Aphakia

Absence of the lens in the pupil.

Astigmatism

An irregular curvature of the cornea, resulting in the condition in which a point of light cannot be brought to focus.

Bitot's spot

A whitish foamy material which appears on the conjunctiva. This is a sign of vitamin A deficiency.

Blind spot

A gap in the visual field occurring when an image is focused on the space occupied by the optic disc.

Cataract

Opacity of the lens.

Diplopia

Double vision.

Enucleation

Removal of the eye.

Glaucoma

A disease of the optic nerve caused by ocular pressure that is too high for the eye to support.

Hypermetropia

Long sightedness.

Keratitis

Inflammation of the cornea.

LASER

Acronym for Light Amplification by Stimulation Emission of Radiation.

Leukoma

Opacity of the cornea.

Madarosis

Loss of eyebrow and eyelashes. This is a common complication of leprosy.

Miosis

Constriction of the pupil.

Mydriasis

Dilation of the pupil.

Myopia

Short sightedness.

Onchocerciasis (River Blindness)

An infestation of the human body by a filarial parasite known as *onchocerca volvulus*. This thread-like worm, microfilaria, is transmitted into the human body through the bite of a species of fly called the Black fly (*simulium damnosum*). These flies breed around rapidly-flowing streams in many tropical countries of Africa, the Americas and Yemen.

Ophthalmia neonatorum

A sticky eye which occurs in babies during the first 28 days of life. It can lead to blindness unless treated quickly.

Optometrist

A person trained to perform eyesight tests and examinations and to prescribe corrective lenses or spectacles to those who need them.

Ophthalmologist

A physician specialised in the management of all eye conditions.

Photophobia

Dislike of light.

Presbyopia

When a person is unable to focus on near objects because of insufficient accommodation ability. This occurs with ageing.

Ptosis

Drooping of the upper eyelid.

Strabismus

Squint, the upset in the balance of the co-ordination of the six pairs of the extra ocular muscles.

Stye

Inflammation of the glands in the eyelid.

Trachoma

An infectious disease of the eye caused by *chlamydia trachomatis*. The infection causes redness and discharge and swelling of the inner lining of the eyelids. After repeated infection, the inflammation causes scarring of the inner lining of the eyelid. Over time this causes the eyelashes to turn in (trichiasis). The inturned eyelashes rub on the cornea causing loss of vision and blindness.

Tonometer

An instrument for measuring the intra ocular pressure.

Xerophthalmia

Dryness of the conjunctival epithelium due to vitamin A deficiency. It is a major cause of preventable blindness in children.

Acknowledgements

We thank all the children who contributed stories and drawings about common eye problems in their areas.

The following schools participated in the Draw and Write Study:

Bawku Region, Ghana: Tempane Junior Secondary School, Presby Junior Secondary School.

Kajiado District, Kenya: Enkeremation School.

Eastern Province, Zambia: ECF Primary School, Bwanunka Primary School, Tamanda Primary School, Lumezi Primary School, Sindemisali Primary School, Mwami Basic School.

Collaborators, assistants and translators

Special acknowledgements go to Mr Joseph Akudibillah of the Bawku Rural Eye Programme, Ghana, along with the late George Anyande, Peter Abugri, and Edmond Bawa. Samson Ntore (Kenya), Sekani Masina and Charles Zulu (Zambia) participated in the study in their respective countries. We are also grateful for the support offered by the education and health personnel in these areas.

Pretesting of the 1st edition

The following schools in Zambia participated in field-testing this book:

ECF Primary School, Katambo Primary School, Lunyike Primary School,

Tombimbi Primary School, Lutembwa Primary School, Chipikula Primary School.

Contributions to the 2nd edition

Mr Johurul Islam Jewel of the Child Sight Foundation (Bangladesh) and Mr Hasnain Sabih Nayak, International Relations & Culture Editor of Toitomboor (Bangladesh) facilitated a workshop with children from the Underprivileged Children Education Programme (UCEP) in Dhaka, Bangladesh. The children contributed many drawings, especially about nutrition and refractive errors. Children in London and Brighton (UK) contributed drawings for the section on refractive errors.

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Cover illustration adapted from drawings by Anita Rashiid, Tahmina Akter, Joe Banda, and Masud Rana.

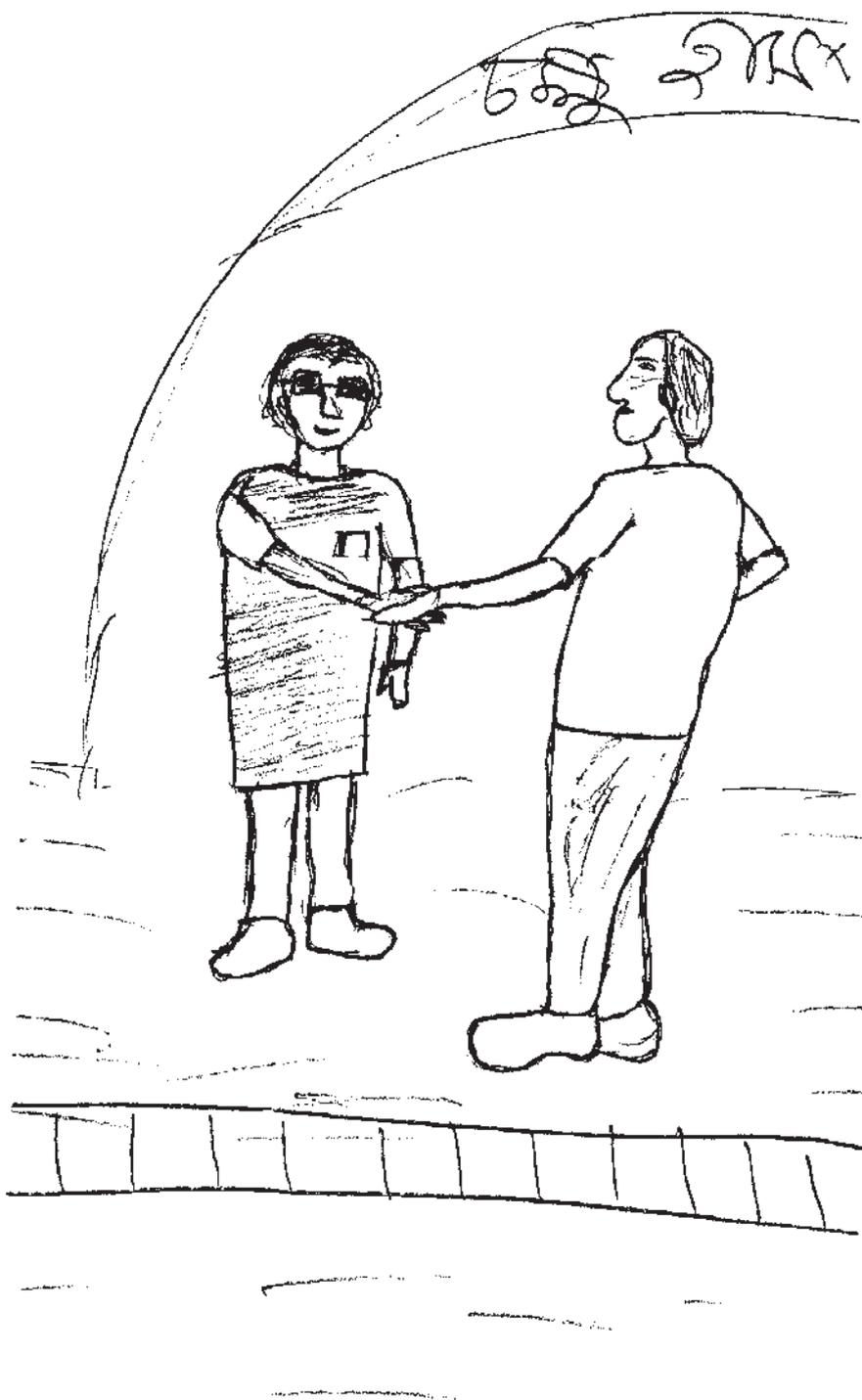
Story and drawings on page 46 adapted from materials developed by Dr Muhit, Dr Mizan, and colleagues of the Childhood Cataract Health Communication Project team, Child Sight Foundation (Bangladesh) and ICEH.

Illustration on page 52 (How to grow vegetables where there is little water) is from *Hanyane, a village struggles for eye health* by Sutter E, Foster A and Francis V. (1989) London: Macmillan.
www.iceh.org.uk/files/hanyane/resources/Hanyane.pdf

Illustration on page 53 is adapted from *Achieving Community Support for Trachoma Control* by Francis V and Turner V. WHO/PBU93.36

All other illustrations are by schoolchildren or by Victoria Francis.

The development of this book was originally supported by Sightsavers. In addition, a grant from Mr Hunter Thompson facilitated the early work in Zambia. Preparatory work in Ghana was supported by Christian Blind Mission International and Sightsavers. The 2nd edition is supported by SIGHT AND LIFE.



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© Victoria Francis, 2007
1st edition published in 1996
Second reprint 2001

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Acknowledgements should be made
to the authors and this publication.

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ISBN 1-90-2541-21-9

Additional notes

Near vision chart

N24 **Ш М Э Ш** Line 1

N14 **Э М Е Ш Э** Line 2

N10 **М Е М Э М Ш** Line 3

N8 **Э Ш М Е М Ш М** Line 4

N6 **Ш Е М Ш Э М Э** Line 5

N24 **5689 3985 9865** Line 1

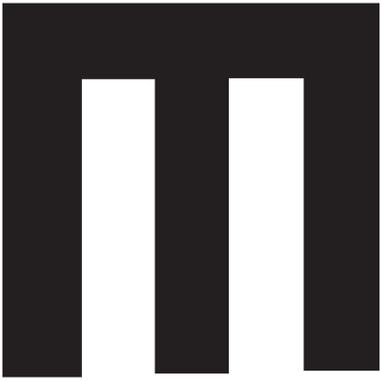
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N6 **3869 5386 9658 8369 8635 9363 5983** Line 5

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Use at 6 metres (see page 37)