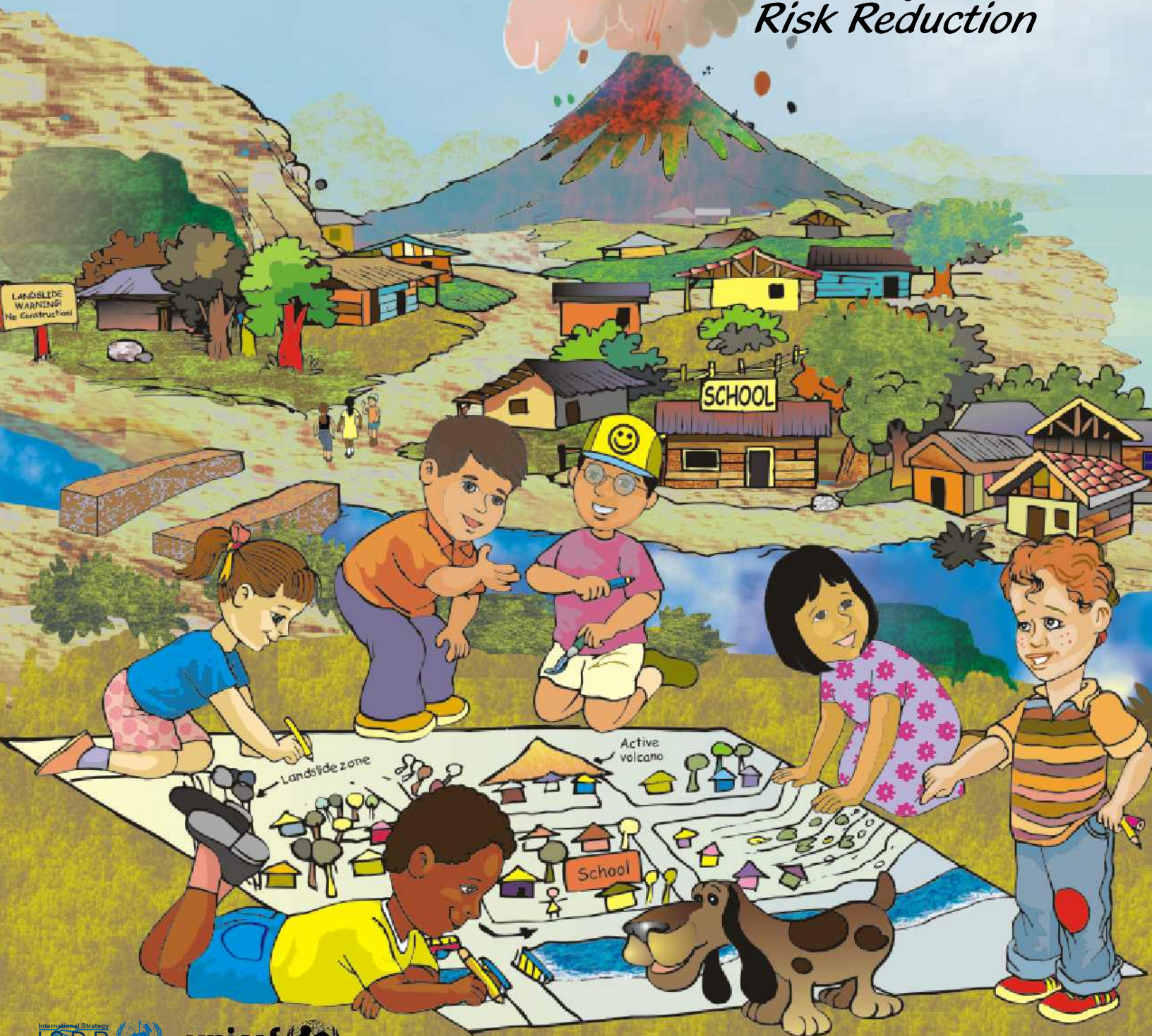


Let's learn to prevent disasters!

Fun ways for kids to join in
Risk Reduction



Message to the educational community

This booklet aims to provide the educational community and children with an innovative and interactive tool for risk management. Earthquakes, floods, hurricanes, volcanic eruptions and landslides all these are natural phenomena that have occurred throughout the history of humankind. However, rapid population growth, environmental pollution and degradation, and increased poverty, have all contributed to turning these natural phenomena into disasters that cause enormous losses in human lives, infrastructure, and material belongings.

Every decade, disasters cause the death of a million people and leave several millions more homeless. Economic losses caused by natural disasters have tripled in the past 30 years.

Working together continually as a community can help reduce the impact of disasters. Children play a very important role in doing this. How?

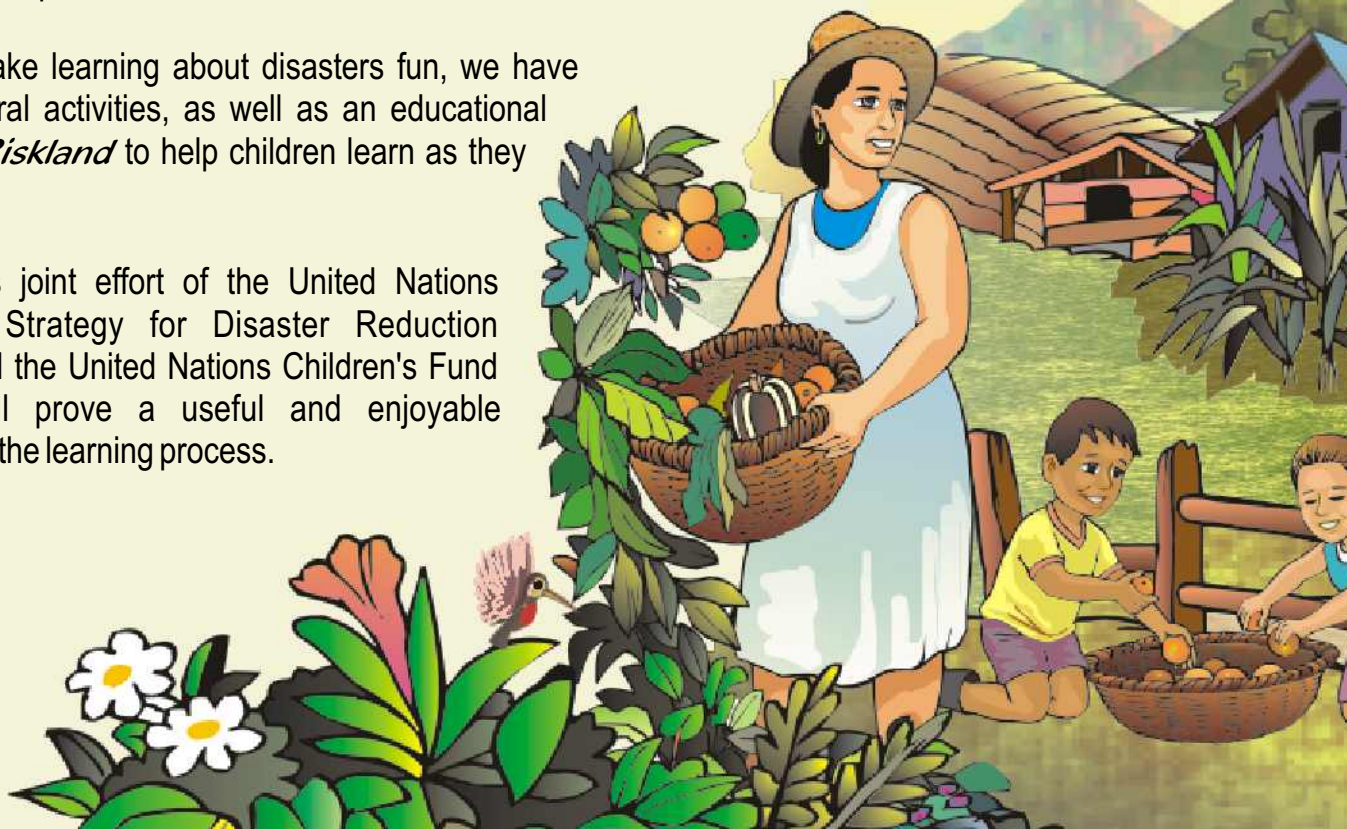
By:

- Carrying out school activities about this issue with the participation of the community.
- Teaching their families and community about natural hazards and encouraging them to take preventive measures.
- Helping to establish a real and long-lasting “culture of prevention”, both through action and new attitudes. This means that when they become adults they will have a greater understanding of natural phenomena, the effects of human actions and the consequences of poor environmental management, as well as the need to promote a new kind of development in greater harmony with nature.

This booklet is aimed at children between the ages of 8 and 12, as a supplement to materials already available in schools. Its contents can be used in the teaching of social studies, science and environmental studies, as well as in any other studies that relate to other human groups or countries.

In order to make learning about disasters fun, we have included several activities, as well as an educational board game *Riskland* to help children learn as they play.

We hope this joint effort of the United Nations International Strategy for Disaster Reduction (UNISDR) and the United Nations Children's Fund (UNICEF) will prove a useful and enjoyable contribution to the learning process.



Let's Learn About Disasters!



Nature is the source of life

We human beings are a part of nature, and our quality of life depends on all the living things that share this planet with us. We must take care of nature, because our well-being depends on it.

Nature is always moving and changing. This happens in different ways, for instance through natural phenomena that occur quite regularly, such as rain, winds, earth tremors or the natural processes of soil erosion.

Earthquakes, floods, fires, volcanic eruptions, tropical storms, tornadoes, electric storms, landslides, droughts, plagues and other phenomena such as “El Niño” and “La Niña” are a part of nature, just like the sun and the rain.

These natural phenomena affect almost the entire Earth. In olden times, people used to come with legends to explain these phenomena. They would say the volcano was angry, or that the gods were demanding a sacrifice. Today, science, technology and history help us to understand these events instead of merely fearing them.

However, such phenomena still turn into disasters, affecting lots of people in every corner of our planet where a culture of prevention has not yet taken root.



What is a hazard?



A hazard is a phenomenon or a process, either natural or human-made, that can endanger a group of people, their belongings and their environment, if they do not take precautions.

There are different types of hazards. Some are natural while others are caused by human beings, such as so-called industrial or technological hazards (explosions, fires, toxic chemical spillages). Wars and terrorism are also hazards caused by human beings.

Among various natural hazards, we can identify:



Earthquakes, earth tremors: Violent shaking or jolt of the earth's surface due to movements originating from deep underground, which can cause a lot of damage.



Plagues: A widespread catastrophe that afflicts a whole town or a community caused, for instance, by huge numbers of insects or animals that destroy crops.



Volcanic eruptions: Explosions or emissions of lava, ashes and toxic gases from deep inside the earth, expelled through volcanoes.



Droughts: A period of time (months or years) during which a part of the land suffers from lack of rain, causing severe damage to the soil, crops, animals, and even people, sometimes causing death.



Landslides, mudslides: Soil, rocks and debris that move suddenly or slowly down a slope. They mainly happen during the rainy season or during times of seismic activity.



Floods: The building up of large quantities of water, generally caused by heavy rains which the soil is unable to absorb.



Tsunamis: Gigantic wave or series of waves that smash into the shore, caused by an earthquake, volcanic eruptions or landslides under the sea.



Wildfires: Destructive fires in forests and other areas covered by vegetation. These fires can get out of control and easily spread over vast areas of land.



Hurricanes: Strong winds that start over the sea, rotating in big whirling circles, and bringing rain with them. They are also known as tropical cyclones.



Tornadoes: Very violent gusts of whirling, funnel-shaped winds which spin along over the ground.

These hazards can turn into disasters, but only under certain conditions. Do you know what these conditions are?

What is a disaster?

A disaster takes place when the following three conditions occur at the same time:

- ▶ When people live in hazardous places like, for example, close to an active volcano, on unstable slopes where landslides are likely to happen, or close to rivers which could flood.
- ▶ When a hazardous phenomenon occurs, be it natural or human-made.
- ▶ When the phenomenon also causes a lot of damage, especially where no preventive measures have been taken.

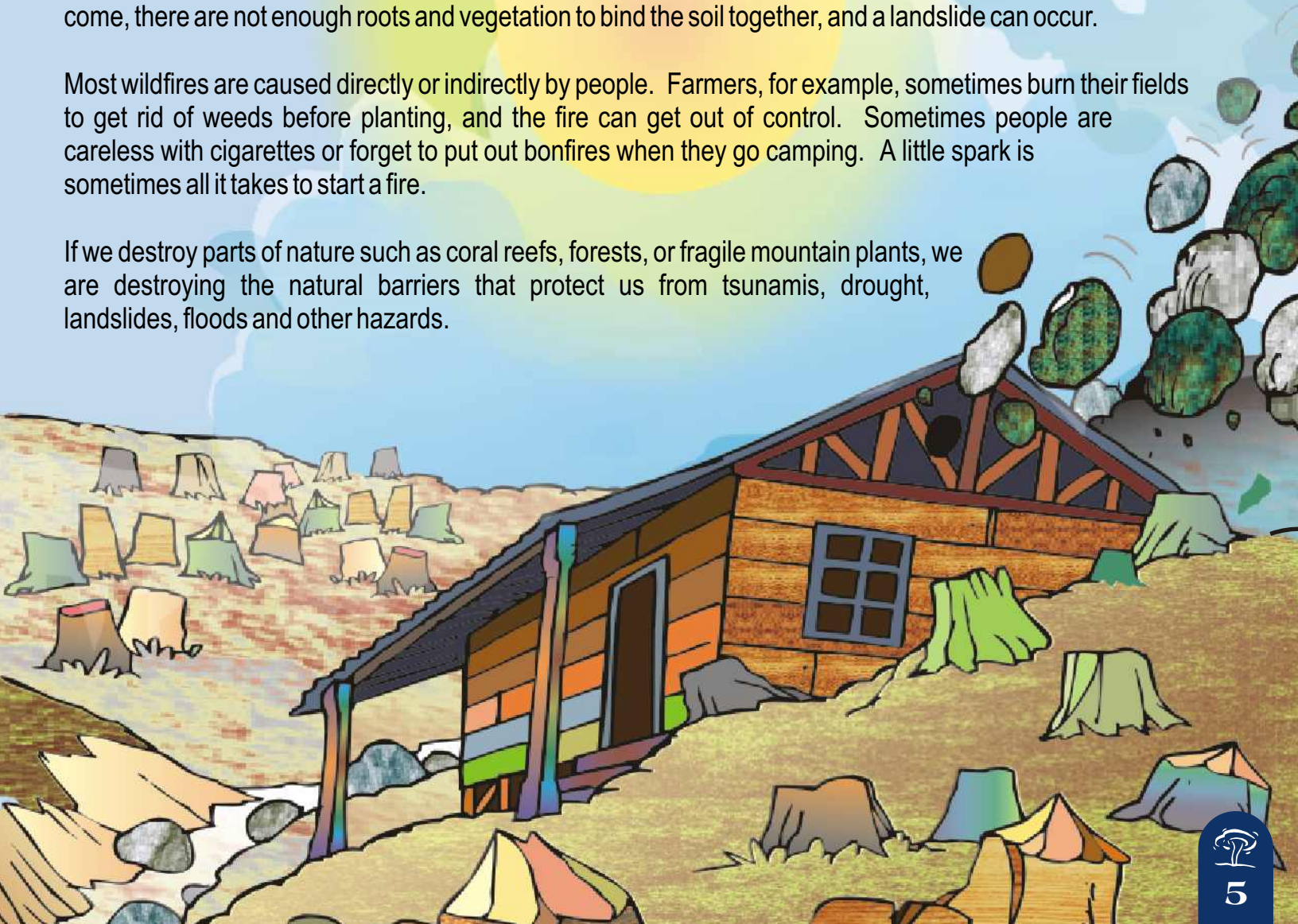
Are disasters caused by people or by nature?

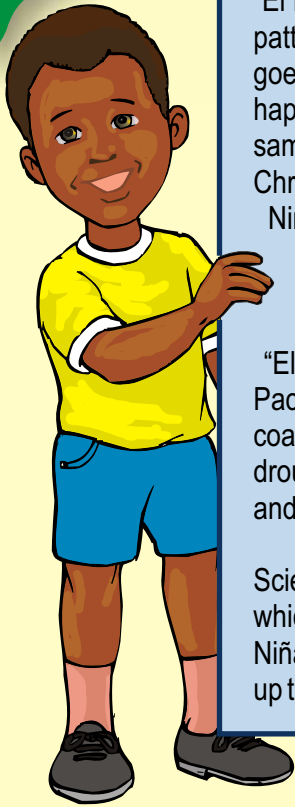
Natural phenomena can sometimes strike very hard and cause disasters if preventive measures have not been taken or if some human activities have harmed the natural environment or upset the balance of the ecosystem.

For instance, too much water that the soil is unable to absorb can cause floods, while too little water in some regions can lead to drought. But people can make the situation worse, for example when trees are chopped down and no new ones are planted. This makes the soil very dry and dusty, which can lead to erosion. When the rains come, there are not enough roots and vegetation to bind the soil together, and a landslide can occur.

Most wildfires are caused directly or indirectly by people. Farmers, for example, sometimes burn their fields to get rid of weeds before planting, and the fire can get out of control. Sometimes people are careless with cigarettes or forget to put out bonfires when they go camping. A little spark is sometimes all it takes to start a fire.

If we destroy parts of nature such as coral reefs, forests, or fragile mountain plants, we are destroying the natural barriers that protect us from tsunamis, drought, landslides, floods and other hazards.





What is "El Niño"?

"El Niño" is the name of a change in normal weather patterns. It is cyclical, which means it comes and it goes regularly, like Christmas, although it does not happen every year and it does not always start on the same date. It is common for it to happen around Christmas, which is why it was called El Niño. "El Niño" means "the Boy Child", referring to Baby Jesus, although it has nothing to do with little boys or girls.

"El Niño" happens when the surface waters of the Pacific Ocean getting warmer than usual, off the coasts of Peru and Ecuador. This can cause floods, drought, wildfires and other hazards in Latin America and other parts of the world.

Scientists later discovered another phenomenon, which is the opposite of "El Niño", so they called it "La Niña", which means "the Girl Child.". "El Niño" warms up the water, "La Niña" makes it colder.

How do we measure the intensity and magnitude of earthquakes, tornadoes and hurricanes?

The Richter Scale is used for measuring the magnitude, or amount, of energy released by an earthquake. To date, the worst recorded quakes have registered 9 on this scale.

The Modified Mercalli Scale is used for measuring the intensity or amount of shaking of an earthquake, in other words, the effects or damage it causes. It goes from I to XII.

The Fujita Scale is used to classify tornadoes: F0, F1, F2, F3, F4 and F5.

The Saffir-Simpson Scale is used to classify hurricanes based on wind speed: Category 1 (119-153 Km/h) Category 2 (154-177 Km/h), Category 3 (178-209 Km/h), Category 4 (210-249 Km/h) and Category 5 (250 Km/h or more).

ALPHABET SOUP

To learn more about erosion, fill in the missing words. Clue: every word has its own colour, and goes from left to right and from top to bottom.

ERNHLGDRE
RAFOUOLU
NRASODTME
CSUVATIOA
NVRTOEIOA
ENONSLNMR

1 The continuous wearing away of the soil by heavy rain, wind, or poor land use can cause

2 Erosion can be the result either of or causes.

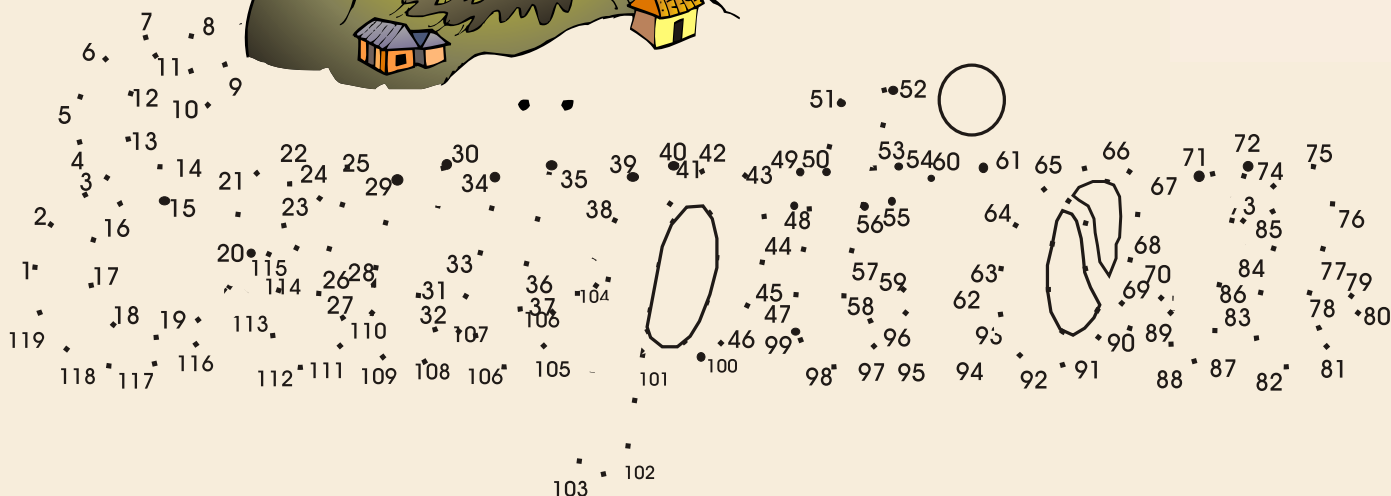
3 Heavy rains wash away the protective and make the land prone to erosion.

4 is an important activity for soil conservation and prevent erosion.

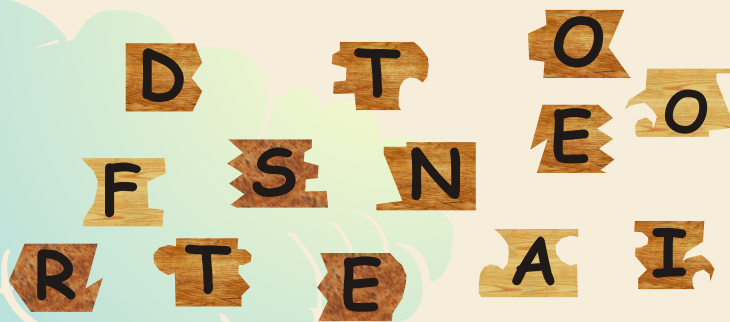




Join the dots from No. 1 to No. 119 and you will see a hazard that has something to do with me.

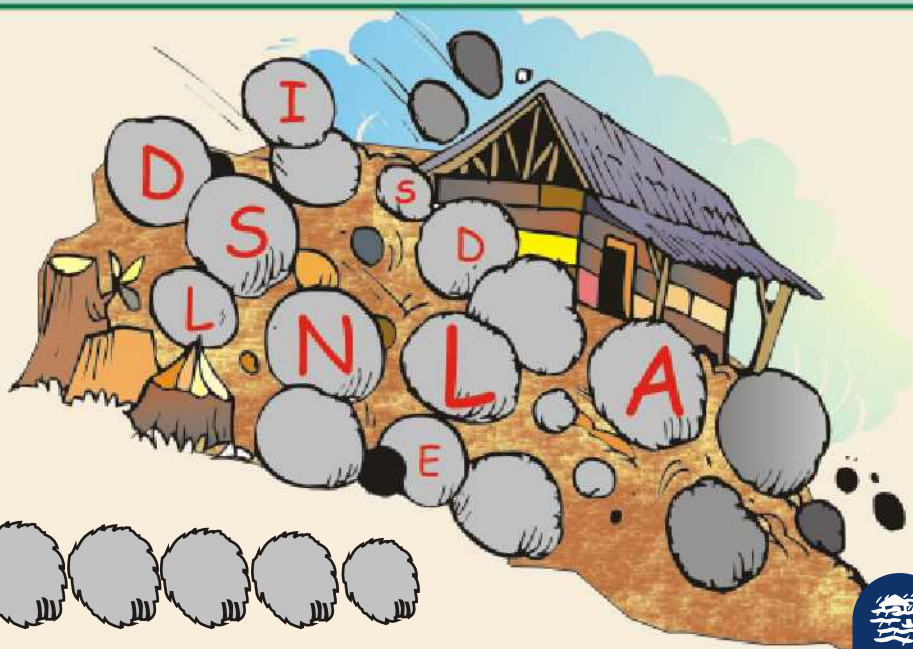


Arrange these letters in the right order and you will discover something that increases the vulnerability of many communities to rain and landslides.



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sort out by size the letters you find in the drawing, from largest to smallest. You will discover the name of a hazard that has destroyed entire communities because they were located in dangerous places.



What does Vulnerability mean?

Vulnerability is the inability to resist a hazard or to respond when a disaster has occurred. For instance, people who live on plains are more vulnerable to floods than people who live higher up.

In actual fact, vulnerability depends on several factors, such as people's age and state of health, local environmental and sanitary conditions, as well as on the quality and state of local buildings and their location with respect to any hazards.

- ▶ Families with low incomes often live in high-risk areas around cities, because they can't afford to live in safer (and more expensive) places. This is what we call **economic vulnerability**.
- ▶ Similarly, a wooden house is sometimes less likely to collapse in an earthquake, but it may be more vulnerable in the event of a fire or a hurricane. This is what we call **physical vulnerability**.

What human actions can increase our vulnerability?

There are several situations that can increase our vulnerability to disasters.

One example is when people cut down too many trees at a faster pace than nature can replace them. This is what we call deforestation. It increases the vulnerability of many communities to rain which, when they fall on unprotected soil, cause mudslides, landslides, floods and avalanches.



Building homes in high-risk places makes us more vulnerable. For instance, if you live too close to a river and people have been throwing garbage into it so that the water cannot flow on through, you will be more vulnerable to floods.

A well-informed and well-organized community, that meets to talk about what they are going to do about the natural hazards, is less vulnerable than a community that is unaware of them.



What is Risk?

Risk is the probability that a hazard will turn into a disaster. Vulnerability and hazards are not dangerous, taken separately. But if they come together, they become a risk or, in other words, the probability that a disaster will happen.

Nevertheless, risks can be reduced or managed. If we are careful about how we treat the environment, and if we are aware of our weaknesses and vulnerabilities to existing hazards, then we can take measures to make sure that hazards do not turn into disasters.

Risk management doesn't just help us prevent disasters. It also helps us to put into practice what is known as sustainable development. Development is sustainable when people can make a good living and be healthy and happy without damaging the environment or other people in the long term. For instance, you can make a living for a while by chopping down trees and selling the wood, but if you don't plant more trees than you cut down, soon there will be no trees and will no longer have the means to make a living. So, it isn't sustainable.

What is Disaster Prevention and Mitigation?

Prevention and mitigation are all those actions we can take to make sure that a disaster doesn't happen or, if it does happen, that it doesn't cause as much harm as it could. We can't stop most natural phenomena happening but we can reduce the damage caused by an earthquake if we build stronger houses and on solid ground.

What is prevention? Taking measures in order to avoid an event turning into a disaster. Planting trees, for example, prevents erosion and landslides. It can also prevent drought.

What is mitigation? Measures that reduce vulnerability to certain hazards. For instance, there are building techniques that ensure that our houses, schools or hospitals will not be knocked down by an earthquake or a hurricane.

Prevention and mitigation begin with:

- Knowing which hazards and risks we are exposed to in our community.
- Getting together with our family and our neighbours and making plans to reduce those hazards and risks and to avoid them harming us.
- Actually doing what we planned to do in order to reduce our vulnerability.
- Taking action, not just talking.



Can We Prevent Disasters?

We can't stop natural phenomena from happening. But we can make them less damaging if we understand better why they happen, and what we can do to prevent or mitigate them.

Since people are partly responsible for disasters happening, we have to change what we are doing wrong, in order to avoid or reduce the impact of natural phenomena.

Every community must get to know its own features and surroundings: the natural environment as well as environment built by human beings. This is the only way for a community to manage the hazards that surround it and to reduce its own vulnerability to these hazards.

Don't be scared, be prepared!

- ▶ Learn about the history of the place where you live. Ask your parents, your grandparents and your friends if they have ever experienced a disaster. What made it happen? What did people do that they shouldn't have? What did they do to make things better?
- ▶ Share and join in. Newspapers, radio and television can help you to learn more about disasters and disaster prevention. School activities can be useful too. Making drawings about what you have learned can help you to understand disasters and disaster prevention better and to explain them to other people. Talk to your family, friends and people you know about the way risks can be reduced in your community.
- ▶ Get ready. Get together with your family to spot safe places, convince your parents that your family should have an Emergency Plan (see page 16), and put together an Emergency Kit with them (see page 17).

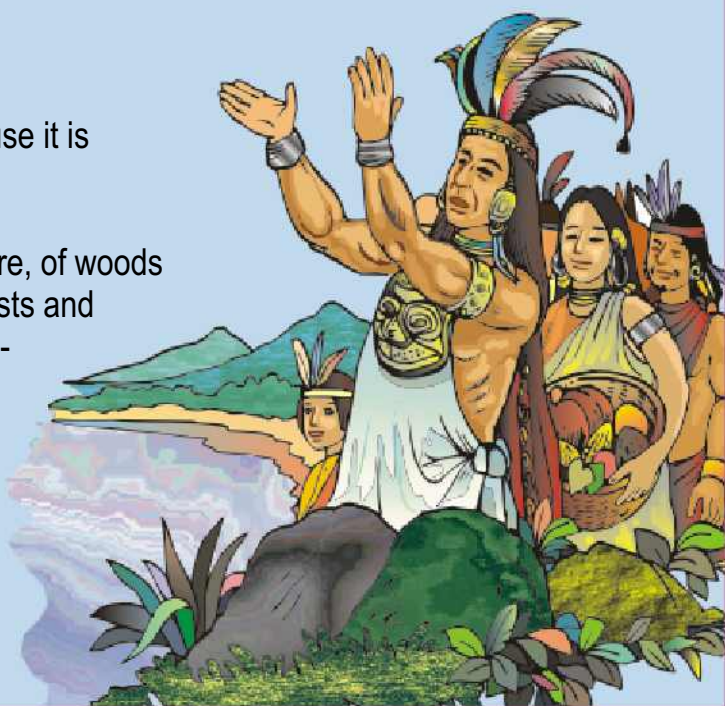
Did you know that...?

For indigenous communities, nature is sacred because it is inhabited by spirits whom they worship.

Indigenous peoples' belief in the sacredness of nature, of woods and lakes, helped to stop people destroying the forests and building in the wrong places. Today, we call this land-use management.

Land-use management is deciding what can and what can't be done, in any part of the territory.

From: Wilches-Chaux Gustavo, Wilches Castro Simón. (2001)



Raise awareness in your community!

You too have an active and important role to play in making your community aware of the need for disaster prevention.

Here are some examples of what you can do to reduce the impact of disasters on your community. Discuss these examples in class with your teacher:

Spot dangerous places...

Do you know which places in your community high-risk, places that are dangerous to live in? Draw a risk map with your classmates, with the help of your teacher. Discuss possible solutions for reducing the risks. (Go to page 14 to learn what a risk map is and how to draw one.)



Organize prevention campaigns...

What happens if we dump garbage in the wrong place, such as a river bottom? The river will be polluted, animals and plants may die, and you might even start a flood! Maybe you and your classmates, together with your teacher, could organize a campaign to clean up the rivers in your community.

Encourage people to protect nature...

As we saw earlier, cutting down trees at a fast rate makes our communities more vulnerable to rain and landslides. You can promote planting trees and other plants in your school or in your community. By doing so, you protect nature and you help prevent landslides, soil erosion, and other negative consequences.



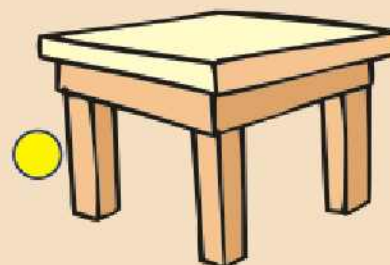
Learn by Association

Choose the picture on the right that comes closest to answering each question on the left.
Draw a line from the question to the drawing that you think is the right answer.

A volcano is erupting!
Which is the most
vulnerable population,
the one most likely
to be affected?



What is one of the
human actions
that can cause
landslides?



Alice has noticed
that the level of
the river is rising
rapidly. What
should the
authorities do?



What would be a
good prevention
project that these
kids could carry
out to get to know
more about the
hazards in their
community?



Uh oh, a tremor!
Where is the least
risky place for
Thomas to go until
it stops shaking?



Crossword

To find the vertical word in the coloured squares , fill in the right words in the horizontal boxes.

1. Large number of insects or animals that destroy crops



2. Strong rain and winds starting over the sea, rotating in big whirling circles

3. Violent shaking of the earth's crust due to movements deep underground and which can cause a lot of damage



4. People who live on the slopes of a volcano are more _____ to possible eruptions than people who live further away.



5. Uncontrolled fire which destroys forest, jungle and vegetation as well as animal species. Such fires can get out of control and spread very easily over vast areas.



6. A series of gigantic waves caused by an earthquake, volcanic eruptions or landslides under the sea.



7. Shortage of water.

8. The continual wearing away of the soil by heavy rain, wind and poor land use may cause _____.



9. The building up of large quantities of water, generally caused by heavy rains that the soil is unable to absorb.



10. Very violent gusts of whirling, funnel-shaped winds that spin along over the ground.

Community Risk Maps:

Know the dangers and get going!

How can you reduce the vulnerability of your family, your friends and your belongings before a disaster happens? You can help your community to realize the risk of a disaster may happen and take preventive action. One of the best ways is to put up a hazard and risk map of your community.

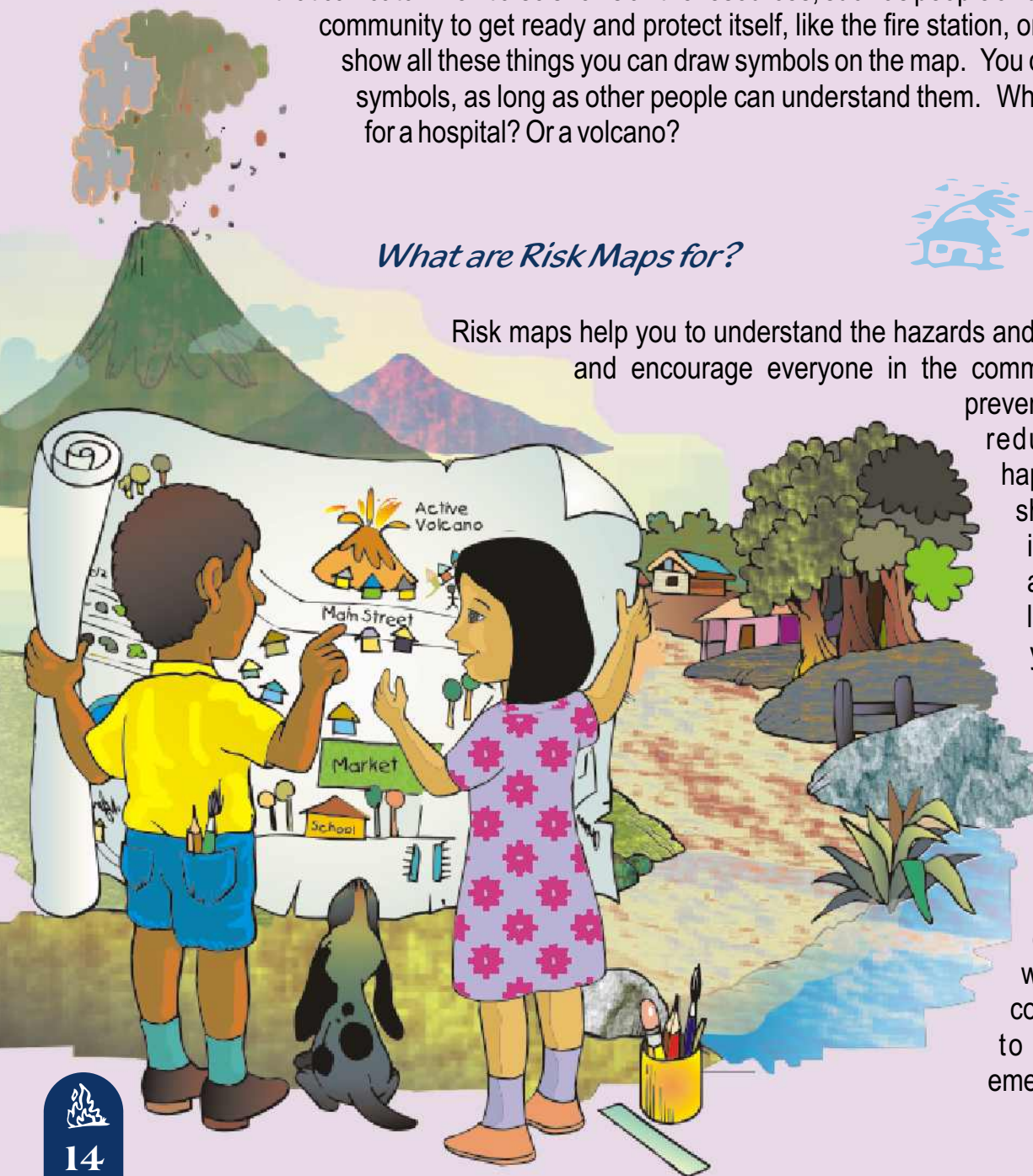
A risk map is a big drawing or model of your community that you can draw or make with your schoolmates and friends, with the help of your teacher, showing all the important buildings such as schools and hospitals, farm land, roads, and any other things that could be affected in the event of a disaster. It also shows potentially hazardous elements or places such as nearby volcanoes, areas that might get flooded, or very dry grasslands that can catch fire. It also shows all the resources, such as people and things that can help your community to get ready and protect itself, like the fire station, or a health care center. To show all these things you can draw symbols on the map. You can even invent your own symbols, as long as other people can understand them. What symbol would you use for a hospital? Or a volcano?

What are Risk Maps for?



Risk maps help you to understand the hazards and risks in your community and encourage everyone in the community to take action to

prevent a possible disaster or reduce its effects if it happens. For example, they show schools or other important buildings that are in high-risk area for landslides. It also helps you be better prepared for a potential emergency. For example, they show you where the safest buildings are, or which are the best routes to follow if you are ordered to evacuate the area. This way, you and your community will know what to do in case of an emergency.



Get going! Draw a Risk Map of your community!

With the help of your teacher, find out what these words mean: disaster, risk, and vulnerability. (Hint: you can find them in the Glossary on page 22 and 23. Even better, try to remember what you have read so far!)

Look up in books or in old papers, or ask elders in your community, what important disasters have occurred in the past. Pinpoint the places that could be affected by floods, earthquakes, storms, landslides or volcanic eruptions. These are some of the questions you could ask:

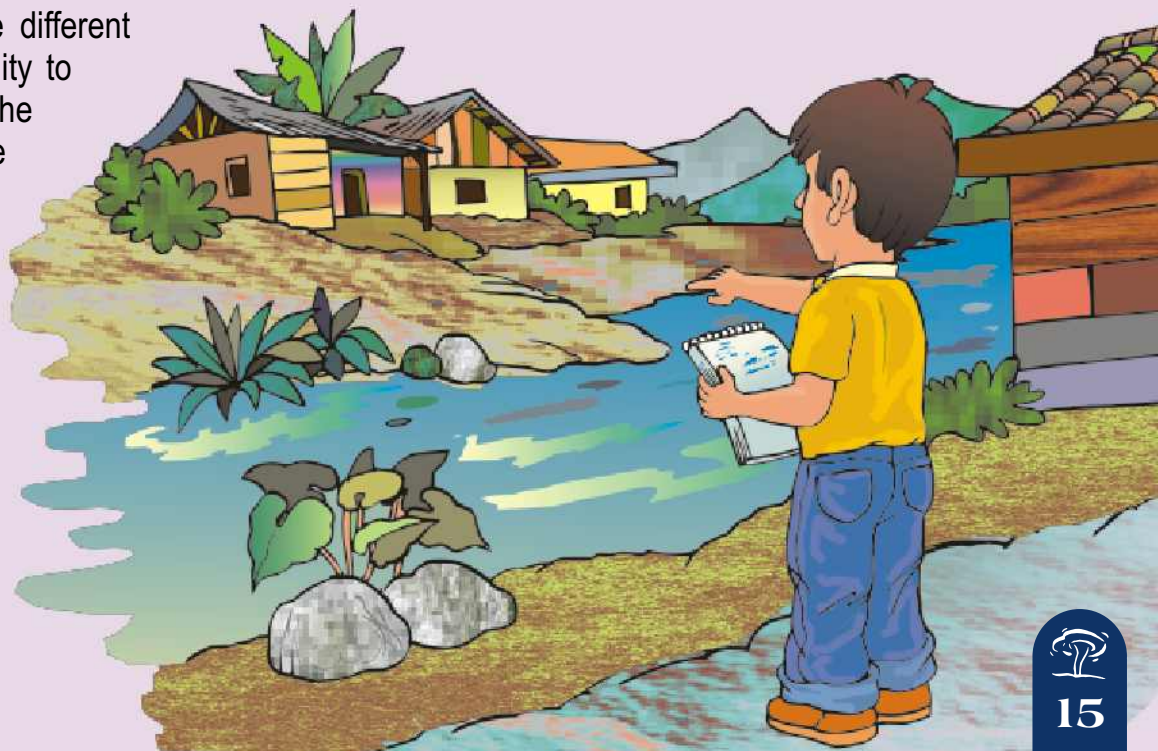
- ▶ What disasters have taken place in this area? What happened? When?
- ▶ What did people do?
- ▶ What should be done to prevent a disaster happening in the future? ¿Which people and institutions in the community can help?

Draw the most important buildings: school, town hall, hospital, fire station, police station and houses. Also draw buildings that could be dangerous, such as factories, dams, or electricity generating plants as well as buildings that are in a weak state of repair. Draw a different symbol for each kind of building. Identify all the roads, rivers, electricity lines, water supply and sewage systems and waste dumps. Use a different color to show each of these areas.

Show how badly the buildings could be affected (a little, quite a lot, totally wiped out) and use a different symbol or color depending on the level of risk and the type of risk, for instance flood areas or landslide areas. Identify where the people who will need the most help in the event of a disaster live: schools, homes for the elderly, hospitals and nursery schools.

Discuss different possible solutions for reducing the risks and preventing disasters in your community. Share with your classmates and teacher what the people in the neighbourhoods you have visited have told you. What measures could your community take to make people safer? Which people in your community could help you?

Ask your teacher to invite different members of your community to your school, such as the mayor, fire fighters, police officers, a leader from the local emergency committee, journalists, doctors, meteorologists and social workers. Talk with them about what you have seen and share with them your ideas about what could be done to prevent a disaster happening in the future.



A family plan for disaster preparedness



Your family, and the community where you live, may be exposed to natural hazards or hazards caused by humans. The best starting point is getting to organize your own family, making sure that everyone takes part. Here are some of the things you might do:

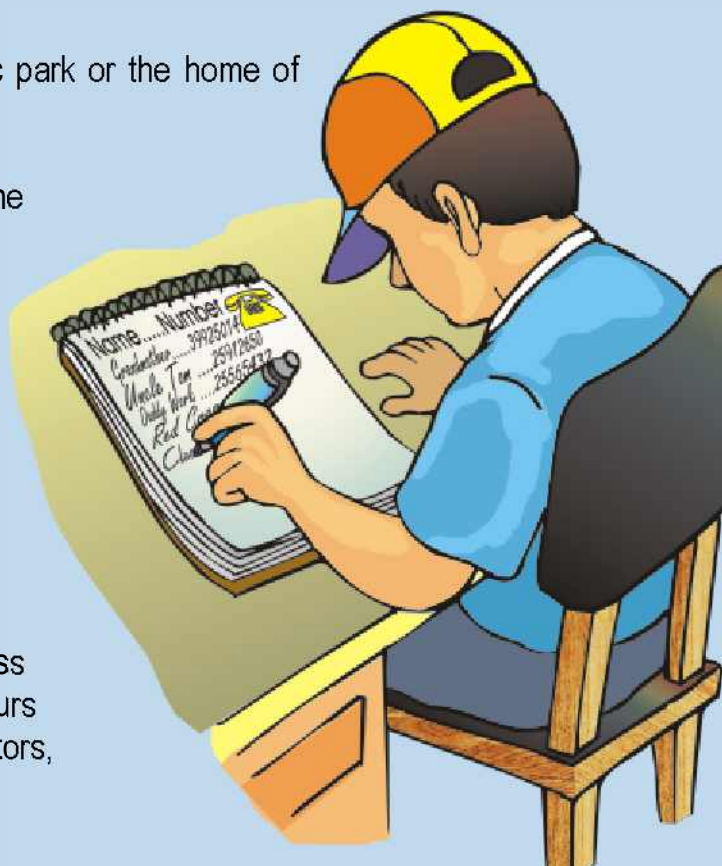
Look around you. What are the hazards nearest your home? Could improvements be made to your house to make it safer? Are there places in your house, or in your community, that might be safer in the event of a hazard? Where are the nearest people and institutions that could help you, such as the fire station, the Red Cross, the hospital or the health centre?

Make sure you have a floor plan of your house. Mark the quickest and safest way out. If there are several ways out of your house, choose and mark the safest ones depending on where you, your parents, your brothers and sisters sleep, play or work.

You should also agree on the following:

- ▶ Where to meet outside your home, like a public park or the home of neighbour that you can trust.
- ▶ Where to meet if you are ordered to leave the neighbourhood: maybe the home of a friend or relative in another neighbourhood or town.
- ▶ A telephone number to call in case you find yourselves separated from your family when a disaster strikes. Learn by heart the phone number of a relative living in some other province, county or district so that your family can find out where you are in the event of a disaster.

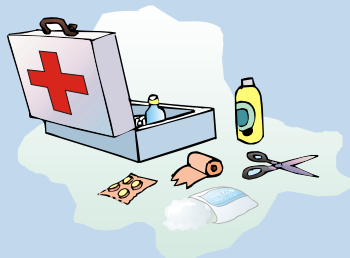
You can also talk to your neighbours about preparedness plans and making risk maps. Find out which neighbours could help you in the event of an emergency: doctors, engineers, firefighters, psychologists.



Get Going! Get emergency kit ready!

Every family should have an emergency kit in their home. If there is an earthquake or a hurricane, for instance, there could be a power cut, or the water could get polluted. You might be stuck at your home for several days because of a storm or a flood. Having an emergency kit ready could help if anything like this happens. Your family will probably never need it, but it's best to be prepared.

With the help of your parents, get your emergency kit ready in a single plastic bag, so that you can find it easily in the case of a disaster. Your emergency kit include the following supplies:



1. A First-Aid Kit

The first-aid kit should contain, among other things, alcohol, cotton wool, bandages, gauze, painkillers, sterilized water and burn ointment. The Red Cross or the your community health centre will be able to advise you about what else to include.



2. Food and Drink

It is advisable to keep non-perishable food supplies. In other words, food that won't spoil out of the fridge, such as canned food. There should be enough food for three days. It is better if the food does not have to be cooked. Don't forget the can opener! And don't forget water and some chlorine to purify it.



3. Clothes

It's a good idea for each family member to have a spare change of clothes, including waterproof boots and a raincoat, as well as some warm blankets in case you have to sleep outdoors, just as if you were camping!

Other things you can put in the kit

Flashlight and spare batteries (because there may be a power cut), paper and pencils, portable radio, matches, candles, a can opener, and hygiene items such as soap and toilet paper.

Don't forget these things need to be checked regularly to be sure that they work well. Check the expiry date on any tinned food.

You can also put in a backpack some of the things that are important to you, such as a toy, pens and paper, or something else that you care about.

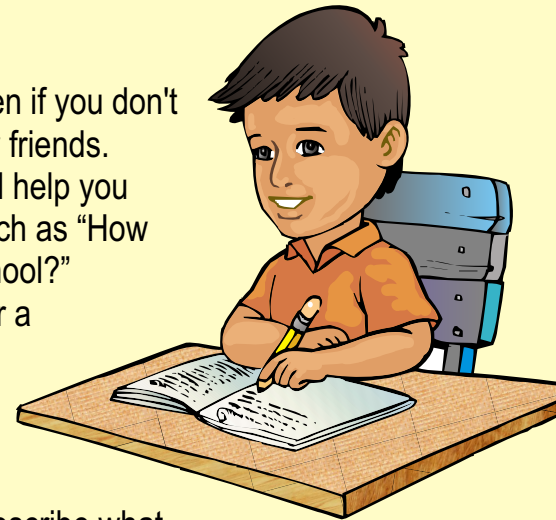
What else would you like to include?





























How does it feel like when there's a disaster?















Remember that:

- Things soon get back to normal after most disasters.
- Disasters are not God's punishment.
- You can find something to do to pass the time and have some fun even if you don't go back home for a while. You'll be in a new place and can make new friends.
- Ask grown-ups for help if you are feeling confused or afraid . They will help you understand what is going on. Don't be afraid to ask any questions such as “How long are we going to be in this shelter?” or “When will I go back to school?”
- It is possible that after a disaster you might have to live in a shelter for a while. To prevent diseases and accidents within the shelter you should remember to keep clean and tidy, wash your hands often, use the latrines, bury the garbage to stop flies, mosquitoes and rodents from breeding, and avoid dangerous areas.
- Sometimes it helps to write or draw about what happened. You can describe what happened and how you feel, so that you can remember it all better when it's all over and you want to tell how brave you were.
- It is fine to cry about what happened, if ever you feel like it. But remember that everything is going to get better.
- You too, can help. Girls and boys of all ages can help in shelters by taking care of other children, playing with them. You can also help at home after a hurricane or an earthquake, picking things up, or cleaning.



Work out the clues to find a piece of advice you should never forget..

T = 
 U = 
 H = 
 O = 
 A = 
 S = 
 V = 
 B = 
 E = 
 P = 
 R = 
 N = 
 I = 
 C = 



Express yourself through art!

You can write poems or songs, or make drawings, to show what you think or feel about disasters. Then you can share the messages in them with your friends in your community, to help make them more aware.

Guarantee the future!

Matilde Velásquez León
Ciudad de Holguín, Holguín, Cuba

*The natural disasters
Which so damage and grieve,
Such "natural" disasters
Are not natural, I believe,*

*Man in his greed
For so-called development,
Does not care to heed
The wellbeing of his
environment.*

*The air of our pure firmament,
His factories contaminate,
But on destruction he is bent
So do not try to remonstrate!*

*While seeking to improve our lot,
Our future will be worse,
If Earth's riches matters not a jot
And our presence is a curse.*

*No longer Earth's the same
We must protect its Nature!
iWe must achieve our aim
and guarantee our future!*

*Adapted from the book: Cuando las
escuelas se preparan, produced by
the Ministry of Education of the Republic
of Cuba and Save the Children.*



When the earth shakes

*The earth is always quaking,
A-trembling and a-shaking,
It never seems to cease!
Sometimes it's just light
But sometimes it's a fright
And you wish for a bit
of peace!*

*Adapted from the refrain
of the Ecuadorian song,
'When the earth shakes'*



In Ecuador in 1993, children
recorded a song about
preparing for earthquakes and
it was played on the radio.

Children around the world express themselves through art



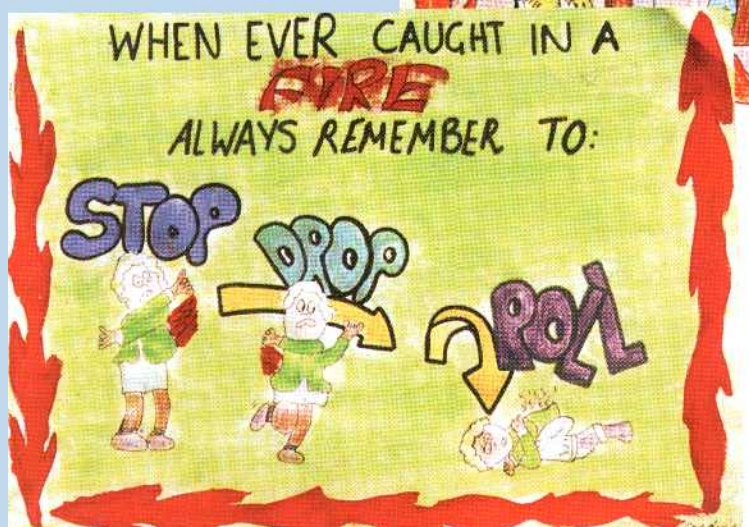
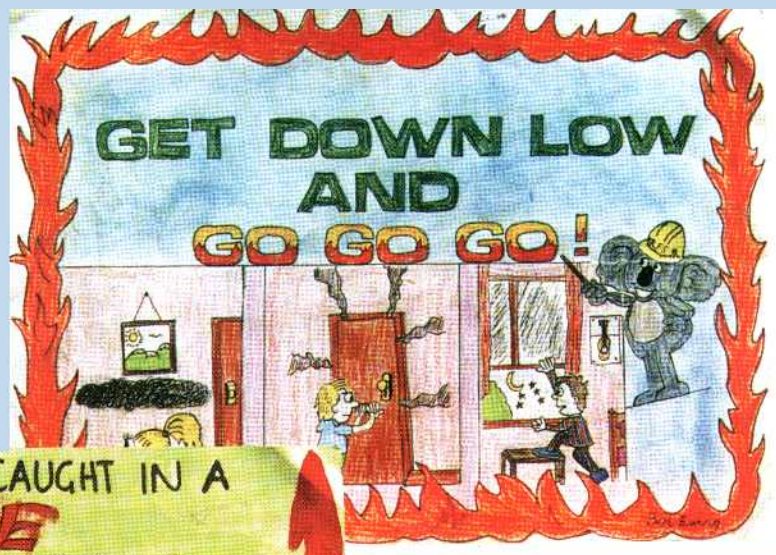
Katherine Mae H. Palles, Age 12, P. Burgos Elementary School, Metro Manila, Philippines.
Shown at the World Conference on Natural Disaster Reduction, a conference organized by the United Nations

Some ways in which you can talk about disasters

1. Draw a story that describes a disaster. How did the disaster happen? What did the people do? What would you have done? Show it to your class.
2. Make a mural one big drawing done by you and your friends. Talk about what to put in it beforehand. Then make sure you hang it in a place where lots of people will see it!
3. Make a picture book together with your classmates about a recent disaster. Make it show what people did before, during, and after the disaster.

Draw how to reduced the risk of disasters in your community.

In Australia, children drew pictures about how to protect themselves in the event of a fire. The pictures were part of a contest for the International Day for Disaster Reduction, organized by the United Nations.

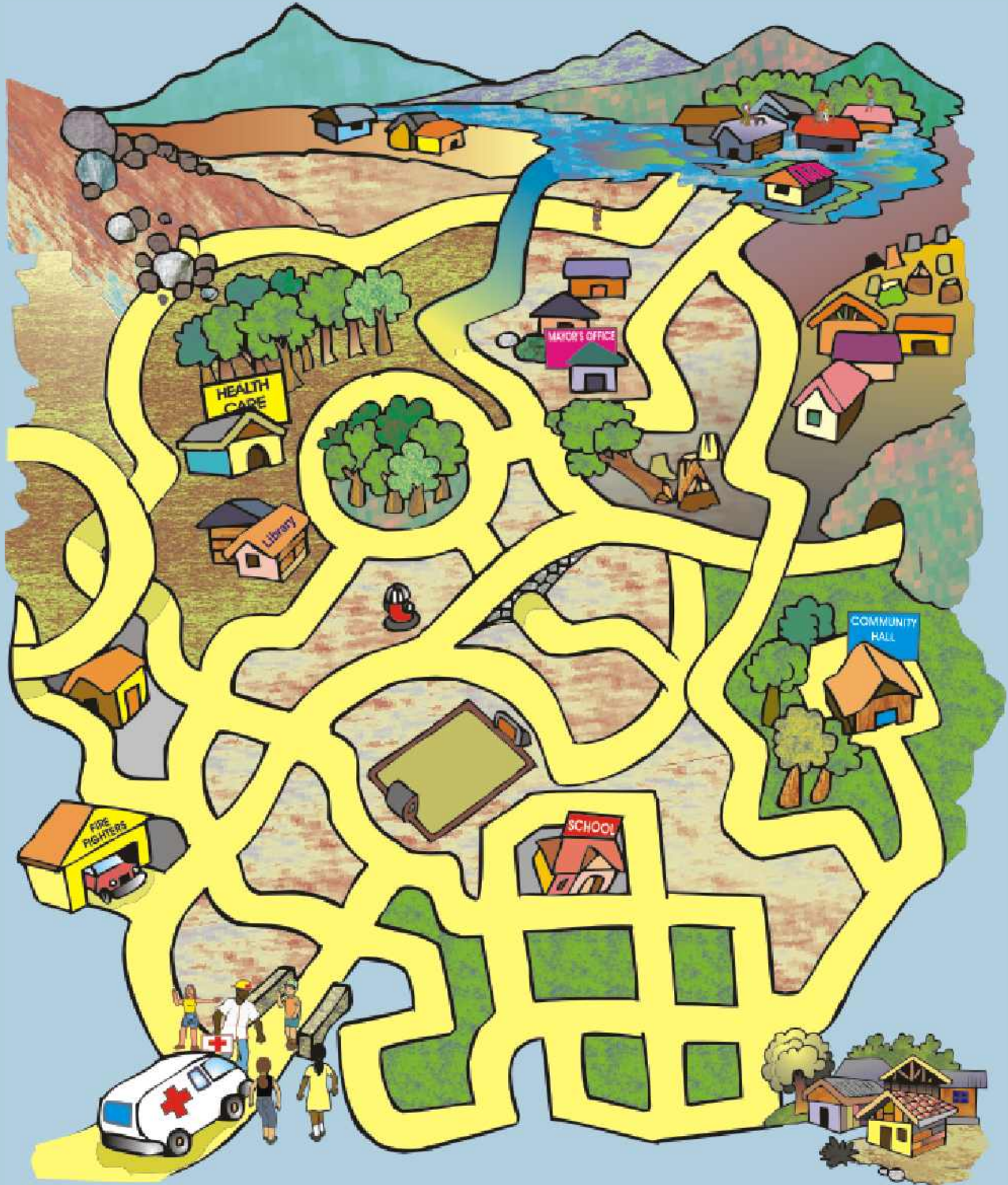


iGet Going!

Now draw a picture of what you could do to make you and your community less vulnerable to hazards.

Find the right route and spot the institutions that should take part in risk management

1. Help the rescue team to find the right route to assist the population affected by the flood.
2. Find at least six institutions that can help before, during and after an emergency. Write down what each institution would do.



1. _____
2. _____
3. _____
4. _____



Aftershock: Earth tremors that occur after a notable earthquake, sharing the same cause.

Disaster: A disaster is the result of a hazard that has struck the community. The effects of a disaster depend on how vulnerable the community is to a particular hazard, or its inability to withstand it or respond to it.

Disaster prevention: Measures taken to prevent a hazard turning into a disaster.

Drought: Period of time (months or years) during which a part of the land suffers from lack of rain, causing severe damage to the soil, crops, animals, and even people, sometimes causing death.

Earthquake: Violent shaking or jolt of the earth's surface due to movements originating from deep underground.

El Niño-La Niña: A change in the weather that happens every few years. It starts when the surface waters of Pacific Ocean near to the Equator become warmer or colder than usual off the coasts of Peru and Ecuador. It can cause floods, drought and other extreme phenomena all over Latin America and in other parts of the world.

Emergency Kit: A bag or a box that every family should have ready prepared to take with them in case

of an emergency. It should contain non-perishable food, drinking water, clothes, flashlight and batteries, a portable radio, and a first-aid kit.

Erosion: The continual wearing away of the soil by heavy rain, wind and poor land use.

Fire: A chemical reaction which combines three elements: oxygen, heat, and a flammable substance.

Flood: The building up of large quantities of water, generally caused by heavy rains which the soil is unable to absorb.

Hazard: A phenomenon caused by natural or human forces which endangers a group of people, their belongings and their environment, when they have not taken precautions. For instance, if you live near a volcano, the eruptions are a hazard even though they may not occur for many years.

Hurricane: Strong winds that start over the sea, rotating in big whirling circles, bringing rain with them. They are also known as tropical cyclones and typhoons. Between 80 and 100 occur every year in the region of the Equator. The Atlantic hurricane season starts on June 1 and ends on November 30. In the Northeastern Pacific, it begins on May 15 and ends on November 30.

Landslides, mudslides: Soil, rocks and vegetal debris that are transported suddenly or slowly down a slope because the soil is not sufficiently stable. Landslides may happen when there is a lot of rain, or during earthquakes or volcanic eruptions. The risk is greater when people build their homes in the wrong place, or cut down trees so that there is nothing left to bind the soil when it rains heavily.

Mitigation: Measures to reduce vulnerability to hazards.

Plague: A widespread catastrophe that afflicts a whole town or a community caused by, for instance, huge numbers of insects or animals that destroy crops.



Risk: The probability of a hazard (earthquake, hurricane, etc) turning into a disaster, with serious economic, social and environmental consequences.

Risk Management: Ability developed by a community to handle hazards properly so that they do not necessarily become disasters.

Risk Map: A drawing or model that shows the key elements of a community, such as schools, hospitals, town hall, and other important buildings, as well as farm land and parks. It also shows potentially dangerous places or areas such as rivers and other sources of floods, landslides, dangerous volcanoes, etc. The map also indicates the degree to which those elements exposed to these hazards could be affected (for example, a little, a lot, totally destroyed).

Sustainable Development: A form of development that allows current needs to be met without endangering future generations. In other words, that does not turn nature into a hazard for human beings, nor human beings into a threat to nature.

Seismic activity: Vibrations in the earth's crust, which may sometimes result in phenomena such as earth tremors, earthquakes or tsunamis.

Tornado: Very violent gusts of whirling, funnel-shaped winds which spin along over the ground.

Tsunami: Gigantic wave, or series of waves, caused by an earthquake, volcanic eruptions or landslides under the sea.

Volcanic eruptions: Explosions or emissions of lava, ashes and toxic gases from deep inside the earth, through volcanoes.

Vulnerability: The inability of people and communities to withstand a hazardous phenomenon, or the inability to respond after a disaster has occurred.

Wildfire: Uncontrolled fire which destroys forest, jungle and vegetation as well as animal species. Such fires can get out of control and spread very easily over vast areas. Depending on the type of vegetation or material that is being burnt, they are called forest fires, bush fires, grass fires or peat fires.

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