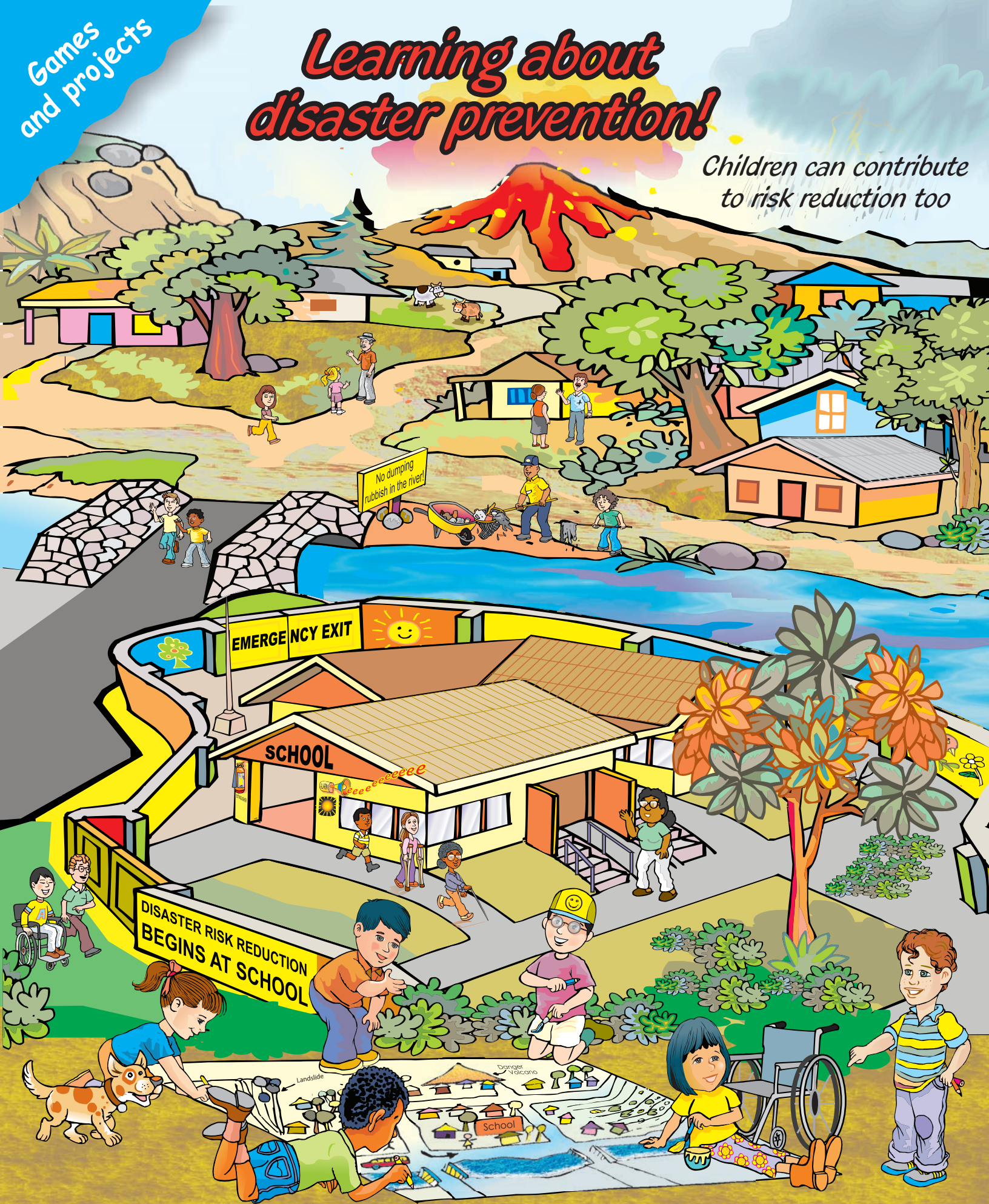


Games and projects

Learning about disaster prevention!

Children can contribute to risk reduction too



Message for the educational community

This pack aims to present an innovative interactive tool for disaster risk reduction for the educational community and the children of Latin America and the Caribbean.

Earthquakes, floods, hurricanes, volcanic eruptions and landslides are natural phenomena which have been present throughout the history of humanity. However, rapid population growth, environmental deterioration and pollution, increasing poverty and other factors have helped turn these physical phenomena into disasters. These events cause massive loss of human life; they damage infrastructure and property and endanger the rights of children.

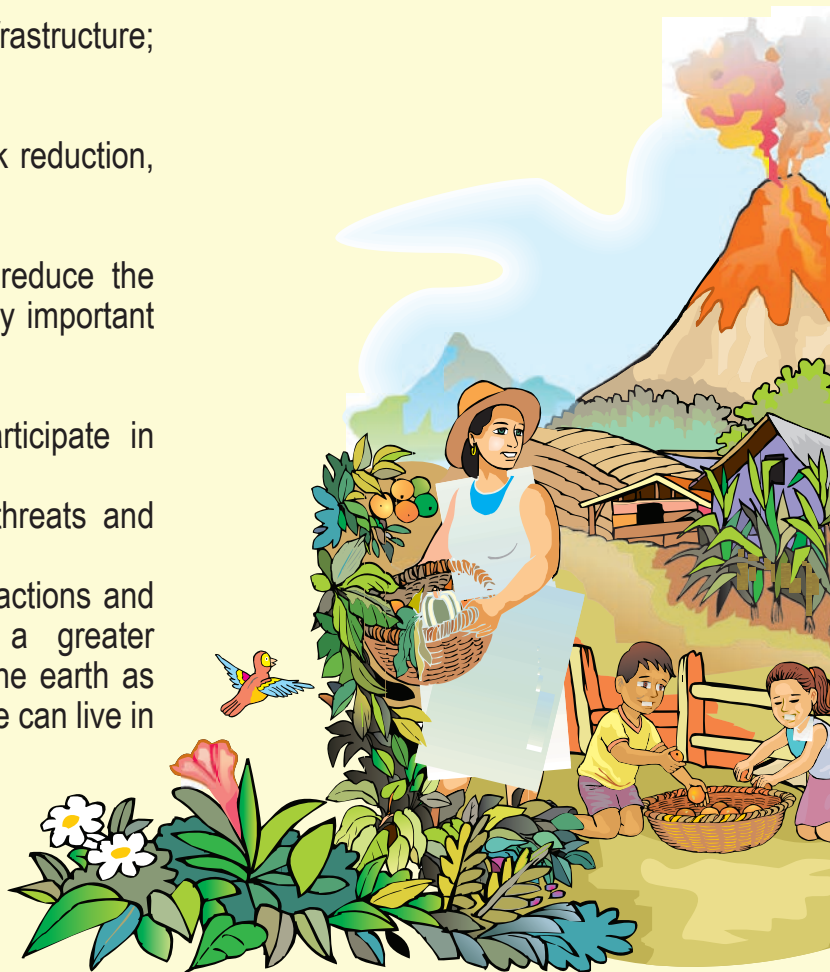
Children, especially infants and the disabled, form one of the most vulnerable social groups when faced with a natural or man-made threat. Many disasters occur while children are in school, exercising their right to education. Children have a right to live in safety - it is the duty of national and local governments, of national and international communities, of institutions, families and schools to provide them with adequate protection. They are the children of today, the youth of tomorrow and the adult population of the future.

We believe that disaster risk reduction begins at school, and to make this a reality we need to integrate disaster risk reduction into the school curriculum. Disaster risk reduction can be ensured through:

- The design and construction of safe schools;
- The reinforcement and maintenance of school infrastructure;
- Adaptations for disabled access;
- The development of school safety plans; and
- Ensuring the right to education in matters of risk reduction, but above all, in actual disaster situations.

Joint and ongoing community work can help reduce the impact of disasters, and children can play a very important role by:

- Bringing the wider community together to participate in school activities;
- Informing families and the community of the threats and encouraging them to take preventive measures
- Developing a “prevention culture” through both actions and attitudes. This will also help to develop a greater understanding of the effects humans have on the earth as well as natural phenomena and ultimately how we can live in balance with nature.



This pack is aimed at children, and is designed to build on materials already available in schools. Its content has been updated to emphasise the role of education and the learning process in developing a risk prevention culture throughout childhood. Issues relating to the importance of the rights of children have also been included - with special attention given to the disabled both in disaster situations and in all disaster risk prevention initiatives. These materials are designed to be used in social studies, the natural sciences, intercultural or environmental studies.

In order to make disaster risk education enjoyable and entertaining, for the children, the pack includes "Riskland" an educational game, where children can learn through play.

The pack was the product of a joint effort between the United Nations Children's Fund (UNICEF) and the International Strategy for Disaster Reduction office (UN/ISDR). We hope you will find the content both useful and enjoyable in the teaching and learning process.

Let's get disaster aware!

Nature is the source of life

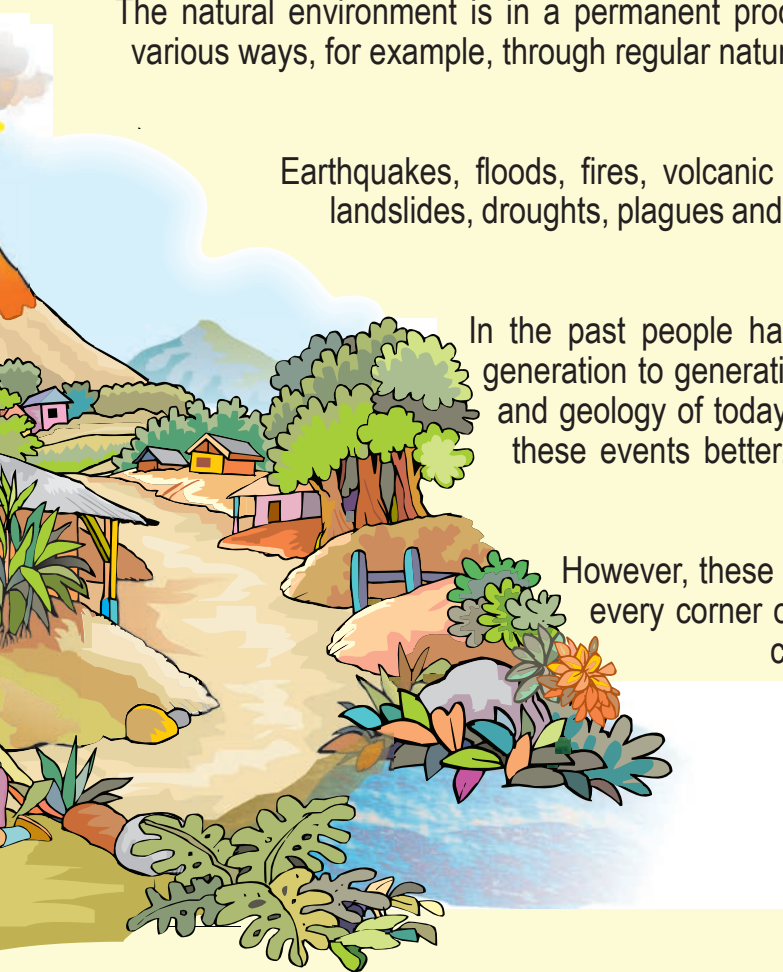
Human beings form part of the natural environment and our quality of life depends on all the life forms that share this planet. We must care for nature because our well-being depends upon it.

The natural environment is in a permanent process of movement and transformation. This is shown in various ways, for example, through regular natural physical phenomena like rain, wind, earth tremors, and natural soil exhaustion that results in erosion.

Earthquakes, floods, fires, volcanic eruptions, tropical storms, tornadoes, electrical storms, landslides, droughts, plagues and the El Niño and La Niña phenomena are all part of nature, just like the sun and the rain.

In the past people had their own explanations that were passed down from generation to generation about these natural phenomena. The science, history and geology of today - enriched by ancestral wisdom - help us to understand these events better. This understanding helps us to take action, instead of simply being afraid and waiting for them to strike.

However, these phenomena still cause more damage than they should in every corner of the world, seriously affecting people in places where a culture of disaster risk prevention has not been developed.





What is a disaster?

Close your eyes and think of a disaster. It could be the old story your grandmother used to tell you, or perhaps something you heard on the radio or television, or it could be the flood that hit your community some time ago.

Perhaps you are thinking of a disaster caused by a storm, a fire, a drought, or by pollution with dangerous substances? Unfortunately, you may also be remembering the damage caused when houses were flooded, the maize field that was destroyed by wind, your grandma's chickens that never came back, the bridge that got washed away by the river, and people who were hurt, frightened and asking for help. No doubt, you are also aware that other people came to help them to safety. But in the end, nothing was quite like it had been before.

We can define a disaster as a crisis situation that occurs when a natural (rain, volcanic eruption, earthquake, drought, frost) or man-made event (explosion, fire, spillage of a toxic substance, environmental degradation) occurs within a community who are unable to confront it. Such an event is dangerous for the population causing small-scale, medium-scale or serious damage to people, their land and their belongings.

This means that rain, earth tremors, snow or tidal waves are not actually disasters in themselves. So, when exactly does a natural or man-made phenomenon, become a disaster?

For a disaster to occur there must be two elements present:

1. A threat, and
2. A fragile population, lacking the necessary capacity to deal with the dangerous phenomenon or event.

This can be called "vulnerability". When threats and vulnerability come together they form "risk" - the main ingredient in a disaster. When risk becomes a reality, a disaster is sure to follow.

Remember Children always have the right to be protected, and the duty to learn about how to protect themselves.

Match the answers to the questions and find the disaster related words in the puzzle below

1. A crisis situation which people are unable to deal with.
2. The power or ability a community has to cope with a disaster.
3. To give support or help to people in their time of need.
4. A fragile population, lacking the capacity to deal with the dangerous phenomenon or event.
5. When threats and vulnerability come together they form.
6. The people who suffer in a disaster.
7. The possibility of a natural or man made danger such as earthquakes or pollution.
8. People who are hurt or wounded.
9. In a disaster these are the things which were destroyed or damaged.
10. If something is broken or you are unable to use it is?

Disaster - capacity - aid - vulnerability - risk - victims - threat - injured - losses - damaged

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



What is a threat?

A “threat” is the possibility of a natural or man-made event that represents a danger to the community.

There are different types of threats. Some are natural like earthquakes, storms, hurricanes, volcanic eruptions, snowfalls, droughts, electrical storms or floods. Others are caused by human beings, like: technological accidents (explosions, fires and spillages of toxic substances), the pollution of seas and rivers with rubbish, deforestation, building houses in the wrong places, air pollution, environmental degradation, and last of all, war and terrorism.

Natural phenomena: resources or threats?

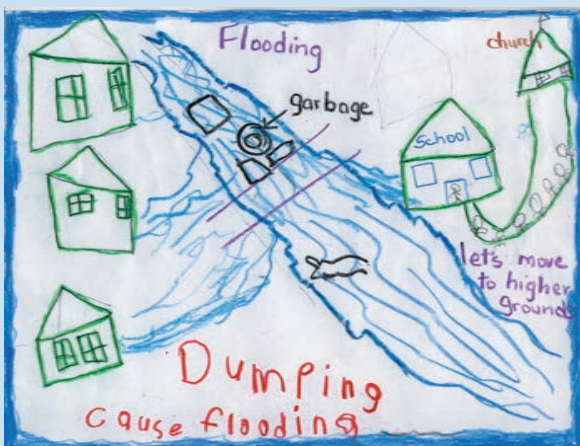
Natural phenomena do not always represent a threat to us; quite the opposite in fact, the sun, the rain, the wind and the earth are some of the natural phenomena and resources that we human beings use to produce food, build houses, and make energy for cooking. What else do you think we use natural resources for?

When a river bursts its banks the waters leave rich nutrients on the river banks and flood plains where people can plant the crops that help their children to grow up to be healthy. Some of the best farmlands were once covered by volcanic ash from an eruption. We need the rain to produce hydroelectric energy, to water the fields with food crops, and also to provide drinking water for people and animals. The wind helps us to generate wind energy, which does not pollute the environment.

However, we humans are responsible for many environmental threats by using our natural resources like water and forests too much.

Children express themselves though art.

Draw a picture showing different disasters. How did it happen? What did people do? Show it to your class and talk about how you could have avoided the disaster.



Make a mural, one drawing, with your friends, divide it into selections and each of you show a way protect the environment, like putting your rubbish in the bin for example.





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

Draw a picture to show how to keep your school safe for you and your classmates and other members of the community if your school has to be used as a shelter in a time of an emergency. Think about the most vulnerable groups, how will you make sure they are safe?















There are many examples. Here are two. Think of others and discuss them in school and with your family:

- When the mangrove is cut, coastal populations are more exposed to danger from natural phenomena like floods, high tides, tidal waves, hurricanes and storms, as the mangrove forest controls the amount of water which comes in and out of the ecosystem.
- The use of chemical substances known as CFCs (chlorofluorocarbons), used in refrigerators or aerosol deodorants have made the ozone layer thinner. As the ozone layer is a sort of protective shield against solar rays (UVB), some diseases in humans – particularly skin cancer and eye problems - have been linked to the lack of protection from the ozone layer.

These examples illustrate what happens when human beings make poor use of the resources provided by nature. It is everyone's responsibility to protect the environmental and help to prevent disasters!

Education should prepare children to respect the environment.

Work together with your classmates, your teachers and your family and tick the natural or man-made phenomena that can represent a danger or threaten your school and community:

Earthquake or tremors 	Plague 	Flood 	Air pollution 
Volcanic eruption 	Drought 	Electrical storm 	
Tidal wave or Tsunami 	Landslide 	Deforestation 	Dangerous substances and materials nearby 
Hurricane 	Tornado 	Forest fire 	

Climate change

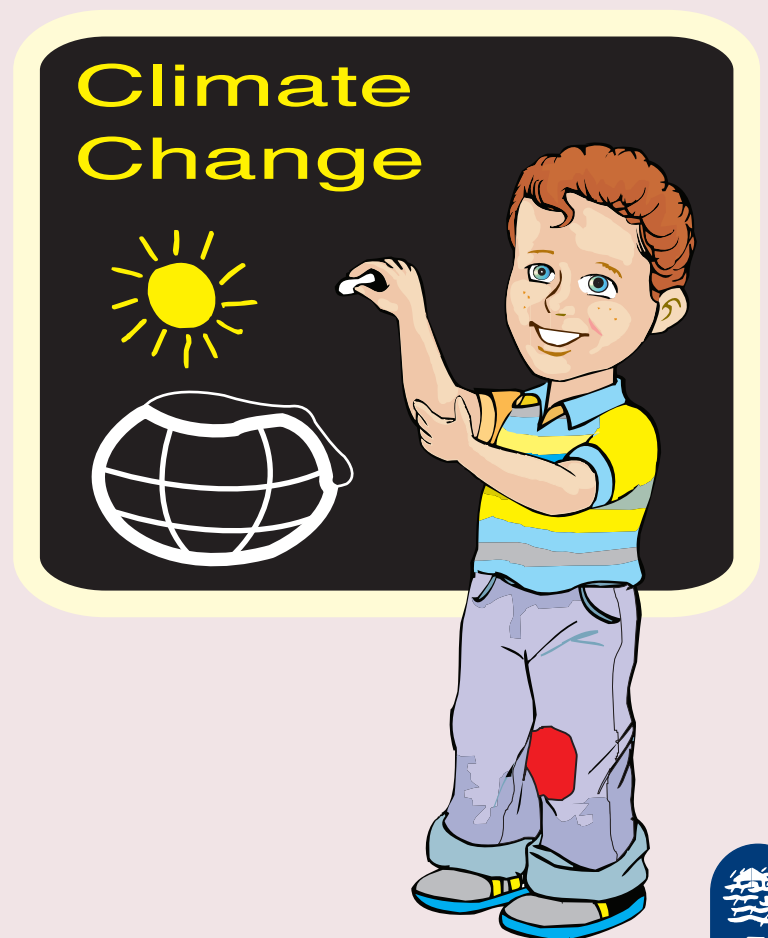
You may have heard of climate change. The average temperature of the earth is increasing. It's just like when you are ill, your body increases its temperature. But what is happening to earth to make the temperature increase?

People who study global warming (global because it's happening all over the planet) say that we human beings are responsible for changing the amount of greenhouse gases (GHG). The greenhouse effect is a natural phenomenon that is necessary for life on Earth. Without it, the temperature would be very low and there would be no life forms at all.

The Earth is warmed up by solar energy that reaches the Earth in the form of rays. The solar energy that reaches the atmosphere and planet Earth is divided, part of it bounces back into space, some is absorbed by the Earth's surface and the rest scatters, making the sky look blue.

Part of the energy that is absorbed by the earth goes back to outer space. The natural phenomenon responsible for **keeping** this energy is known as the greenhouse effect. This keeps the **heat** using some gases known as **greenhouse gases (GHG)** that work like a blanket absorbing the energy. This allows the Earth to maintain an ideal temperature so that we can live and have water here. The same principle is used in a greenhouse to produce crops. The main GHG is called carbon dioxide (CO₂), others include methane (CH₄), water vapour (H₂O) and nitrous oxide (N₂O).

If the effect of greenhouse gases is a natural phenomenon and is necessary for life, then, what's the problem? Well, GHG are in the atmosphere maintaining a balance. The problem occurs when, for example, CO₂ increases and upsets this balance. This increase in CO₂ boost the greenhouse effect and the temperature of the Earth increases more than normal, further upsetting the balance, which leads to **global warming**. Global warming then leads to another environmental problem known as climate change where average temperatures vary.



And who is responsible for the increased carbon dioxide (CO₂) in the atmosphere? It is down to us human beings. We have caused deforestation, but above all, we are burning fossil fuels (fossil, because they are formed underground from plants and animals that have decomposed millions of years ago, and fuels, because they can burn) like bunker or fuel oil, diesel, coal and other products. When fossil fuels burn, they release carbon dioxide. This is precisely the fuel that human beings use in cars and aeroplanes, for energy production or to make factory machines work.

According to researchers, **climate change** causes widespread impacts. Increasing temperatures melt the glaciers, and the heat is expected to make water levels rise. Fewer crops are expected to be produced, rains and droughts will increase in different locations, there will be more intense heat waves, and water shortages. We can also expect increased levels of plagues and contagious illnesses due to the imbalance in different ecosystems.

Take an active part in the change we need:

- Speak to your friends, classmates and family about climate change and its negative impacts.
- Ask your teacher to give you some lessons on the issue.
- Save energy, then we won't have to produce more than we need.
- Reuse plastic products - they take more than 500 years to decompose.
- Plant a tree - they absorb carbon dioxide.
- If you have a bicycle, use it more often. It will make you fit and healthy and you won't have to use transport that releases large amounts of carbon dioxide.
- Water is a limited and vulnerable resource. Use water responsibly - some countries already have a problem with water shortages.

Taken and adapted from: Asociación Equipo de Maíz. El Cambio Climático. El Salvador. 2004
Ecopibes.com. El efecto invernadero. At: <http://www.ecopibes.com/problemas/invernadero/hacer.htm>
Revised by: Juan Carlos Fallas. General Director: Instituto Meteorológico Nacional, Costa Rica.



What is vulnerability?

Vulnerability happens when a community is in danger of being affected by one of the man-made or natural phenomena we have called a risk.

To know whether we are vulnerable or not, we must think about what kinds of things we might be vulnerable to? Landslide, fire, flood, a tidal wave or tsunami?

- Coastal settlements are more vulnerable to tidal waves (tsunamis) and high tides; this is not the case for those who live in mountainous areas, as they are higher up and further from the coast.
- People who live in the mountains are more vulnerable to landslides than those on the plains where there are no hills.

And what vulnerabilities are there in your community?

Being vulnerable is like saying we are weak when we face specific threats - such as fires, earthquakes or hurricanes, our houses and schools could also be vulnerable if we have built them on weak or fragile land that is not very resistant to earthquakes, rains or high winds.

How would you build a less vulnerable house - one that can withstand and resist strong winds like in a hurricane?

(Clue: in some places they nail the roofs down well and also anchor them to the ground!)

Vulnerability is also related to the capacity people and communities have to protect themselves and their environment in order to avoid disaster. Capacity is the combination of all the strengths and resources available to a community in order to reduce the risk or effects of a disaster.

Several situations can increase our vulnerability to threats, for example:



Environmental degradation: When trees are cut down and not replaced, deforestation gets worse and communities become more vulnerable to the rains.



Lack of preparation: Schools can work with their community and families to identify the threats they may be vulnerable to. They can get organised and make a risk prevention plan, preparing themselves to respond in the event of a disaster. Students and local communities that are not organised become vulnerable, as they are not informed and are not ready to respond to a disaster.

Some people have special conditions: Old people, the sick and children - especially infants and the disabled - are more vulnerable, therefore they need greater protection and care.

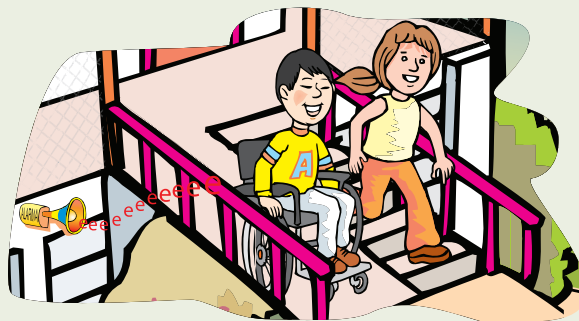
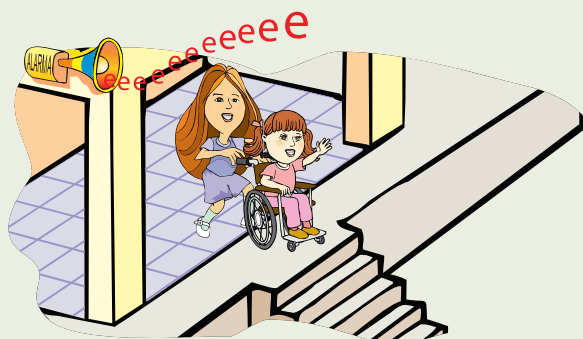
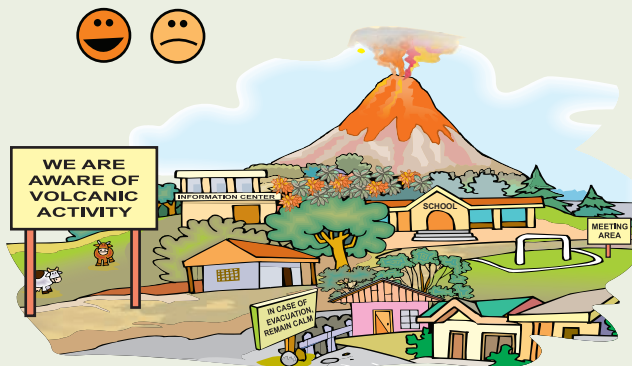


How can we reduce our vulnerability?

- ▶ **Reinforcing buildings:** Every school should be safe. If the school was not built to be earthquake resistant the infrastructure must be reinforced to reduce the chances of collapse.
- ▶ **Disaster risk reduction education:** Schools that teach disaster risk reduction as part of the curriculum, educate children to live in harmony with nature, to avoid major risks, and to protect themselves, their family and their community in the event of a disaster.
- ▶ **Children who are aware of their rights:** Children who know their rights are less vulnerable because they will ask local, national and international authorities to protect and fulfil their rights to prevent risk and reduce disasters.

Regardless of location, sex, skin colour, disability, religion or language, children still have their rights, even in a disaster situation.

Instructions: Indicate which situation is safe and which is not.



What is disaster risk?

Risk is the probability of a disaster taking place. This probability takes place when threat and vulnerability combine. When threat and vulnerability are separate they do not represent any risk, but when they combine, a risk is formed.

When we are aware that there is a risk of “something” happening, we also know how much damage and loss a disaster can cause, and nobody wants that to happen.

The good news is that we can help manage the link between threat and vulnerability to prevent a situation resulting in disaster. We can do this by controlling the number of risks that already exist and preventing the number of potential risks increasing.

How can we avoid or reduce risk and disaster?

We already know nature causes physical phenomena but not disasters, and that people are partly responsible for increasing the risks and chances of a disaster happening. So now it is time to prevent risk, or to reduce the impact of these physical phenomena on towns, communities and the environment.

Even though we cannot stop physical phenomena from occurring, we can take action to make ourselves less vulnerable to the threat, and to reduce the risk. Even if we cannot avoid disaster completely, the good news is that we can make sure there is less damage by improving our ability to deal with the events and to recover from them.



All hands on deck!

Children can play an active and important role. Here are some examples of what you can do to prevent risks and avoid disaster in your school and local communities.



Organise campaigns to improve, conserve and protect the environment:

What happens if we dump rubbish in unsuitable places like a river bed? The rivers, seas and oceans become very polluted.



Animals and plants, both on the land and in the water can die. In cities, sweet papers or plastic bottles thrown on the ground end up blocking the drainage systems. The increase of rubbish ends up flooding streets and avenues. You could bring together your school friends, teacher, family, the local council and community leaders to organise a campaign to keep your local rivers clean. This would be a good project for risk prevention and disaster reduction. If you have a camera handy, you could

take photographs to show everyone working together and the amount of rubbish you have collected.

Ask the adults to help you put on a photographic exhibition. This could be held in your school, town square, local council buildings or the public library. You could use this to make everyone aware of the amount of rubbish you collected from the river. It would also show that it is everyone's responsibility - big and small - to keep the river clean. Clean rivers prevent floods and environmental degradation.

Promote nature conservation.

An increase in the number of trees being cut down increases the vulnerability to heavy rains and landslides. Work with local authorities in your school and community to organise a tree planting project. Make sure the tree species are native to your country or region. This way, you will help protect nature and avoid landslides and soil erosion. When the trees grow, their fruits will attract more birds, butterflies and maybe even some animals.



Be part of the change and get others involved too

Encourage your family, friends and classmates to use resources differently. Help them to save energy, use water sensibly and to reduce the amount of rubbish they throw away.

If you show them how to save energy, your family will follow you:

- Turn off lights when they're not being used.
- Turn off the television if no one is watching.
- Sunlight is healthy and free. Be organised and do your homework by daylight.



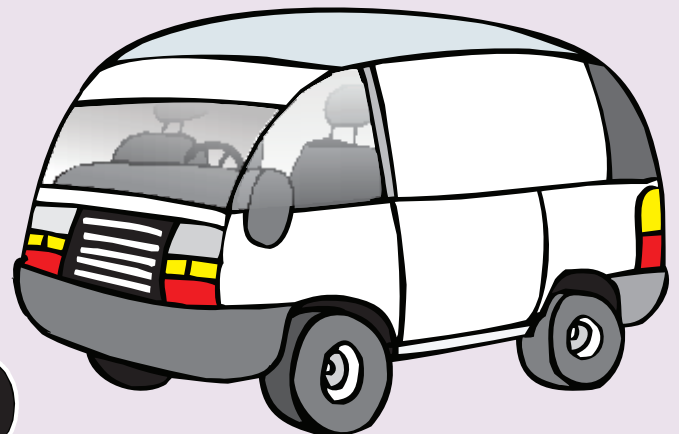
Reduce the amount of rubbish you throw away. Remember: rubbish disposal uses a lot of energy which pollutes the environment:

- Reuse packaging (plastic or glass).
- Avoid buying products with a lot of packaging - they produce more rubbish.
- Reuse paper whenever you can.



Save water:

- If you see a dripping tap, turn it off immediately.
- If you see a leak in your town, reported it to the local council or water authority.
- When you brush your teeth, turn the water off; do the same when you wash yourself and your hair in the shower and Shower as quickly as you can.



Did you know...?

TSUNAMI is a Japanese word: "**TSU**" means bay and "**NAMI**" means wave. In English, this is known as a tidal wave.

Experiment: Make your own vortex

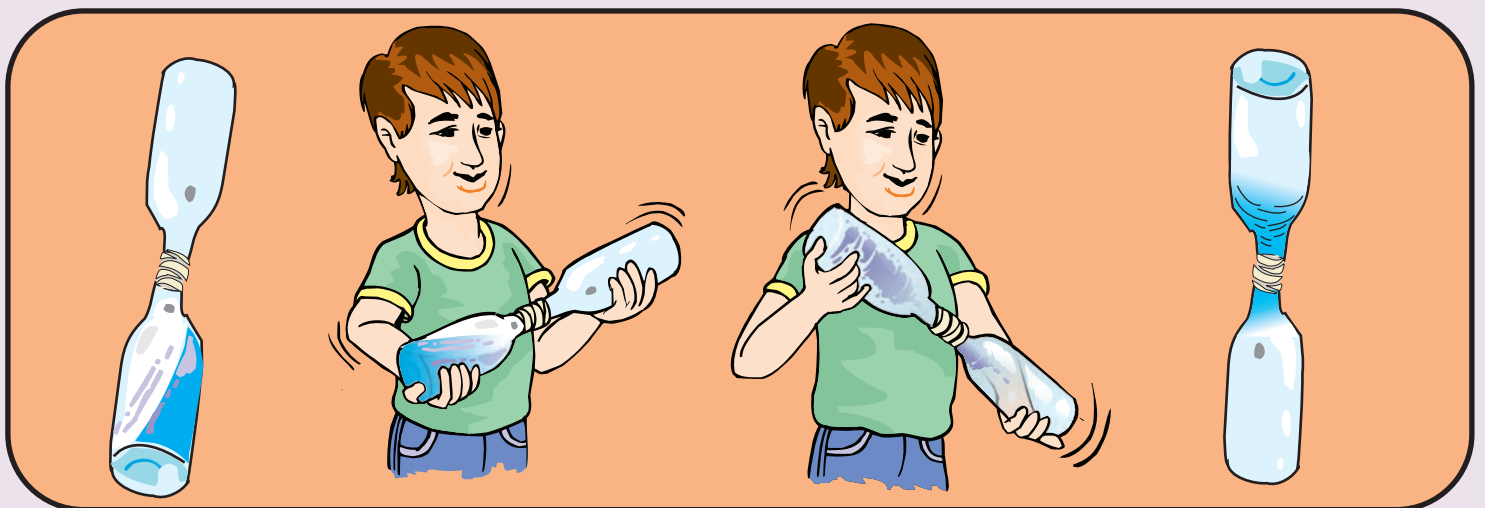
You will need:

- ★ Two plastic bottles which are the same size - the bigger the better.
- ★ Sticky tape
- ★ Optional: Food colouring, paint or ink to colour the water to make it more attractive



Instructions:

1. Take one of the bottles and fill it with water at least halfway up. Add the colour now if you want to.
2. Stick the two bottles together with the tape end to end. Make sure you put enough tape around the openings for the bottles to be securely attached as the water must flow from one bottle into the other. Check that no water can escape.
3. When the bottles are firmly fixed together begin to move the water around with a rolling motion to make it spin. When the water is moving fast, place the empty bottle on the flat surface for example, a table, the floor, or on a chair.
4. Now watch the water as gravity pulls it down into the other bottle. The movement of the water as it passes from one bottle to the other is similar to the vortex of a hurricane or tornado, although the substance here is not water, but air, full of water vapour.



Disaster reduction begins at school

Building safe schools

School is a space for the community. A safe school is built in a safe place using good quality materials and built to proper regulation codes. That way specific features of the local area and the people who live there, can be included.



If disaster risk reduction is to begin at school; education centres must be resistant to earthquakes, hurricanes and storms in order to protect those who are exercising their right to education – this includes children and the rest of the educational community.

Schools that provide shelter for people during a disaster can become an example to the community. Local government bodies and people will want to build houses, offices, factories, health centres and shops that are as safe as the school.

Maintaining a school that protects you

A well-maintained safe school is a school which will protect its students and allow education to continue even after a disaster.

Buildings become damaged over time. Daily use of the school also damages the infrastructure: The electrical equipment starts to fail, roofs develop leaks and windows get broken. Similarly, a small earth tremor can cause slight damage, cracking walls and floors or a strong wind can even lift some parts of the roof.

Maintaining the school building is as important as building it in a safe place to start with. If we allow the infrastructure of our school to deteriorate, it will soon be an unsafe school for the whole community.

Is your school a safe place? Would you feel safe there if there were an earth tremor, heavy rain or a fire? Are there any threats that make you feel your school is not safe?

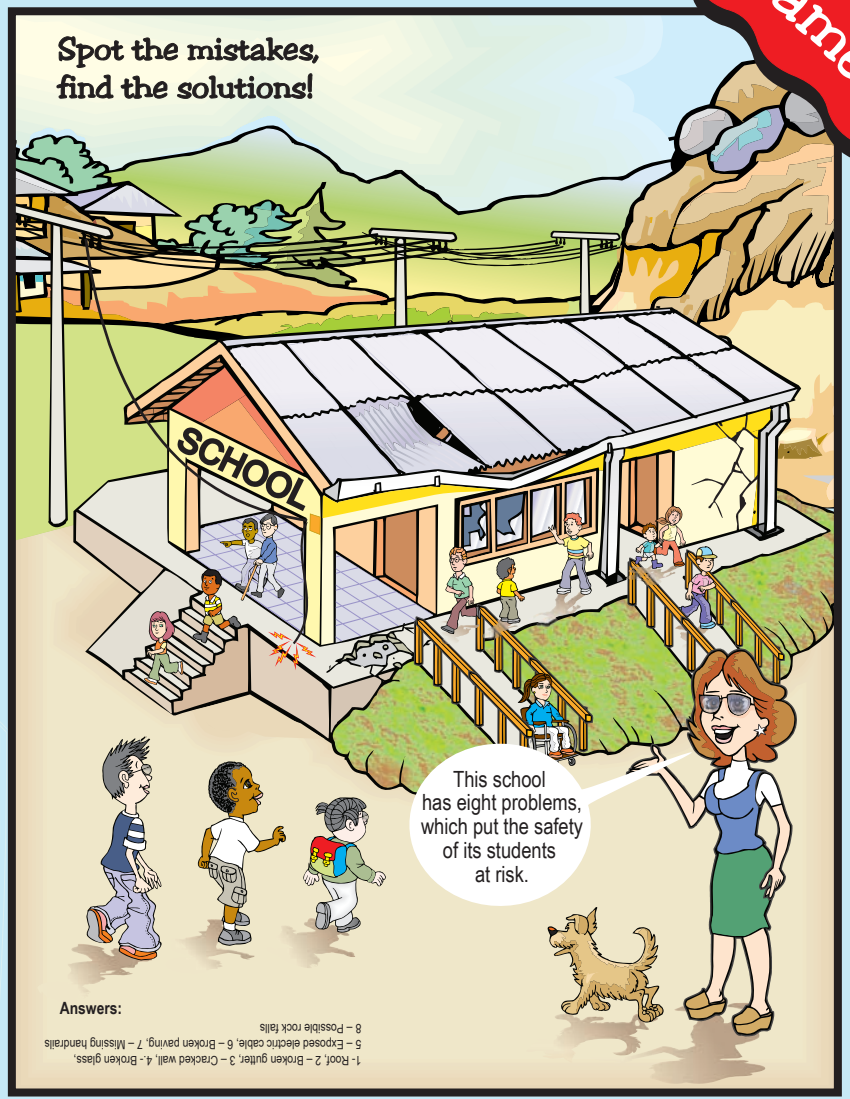
We will help you to find the eight problems with the school shown below. The mayor's office and local ironmonger will help students organise a campaign to repair the school and make it safe for everyone.



Working together for disaster risk reduction through learning

Making the school building safe is only one aspect of disaster risk reduction. When disaster risk reduction begins at school, children also learn that they have the right to live in a safe environment, and that they have the duty to protect their environment and nature through small daily actions that will help prevent risks and reduce disasters.

All children have the right to create their own organisations and to decide together how they want to contribute to risk prevention and disaster reduction.



Decipher the hidden message

Instructions: Decipher the hidden message using the clues and substituting each picture for a letter of the alphabet

Clues

A	E	I	O	C	H	L	N	P	R	S	T	V

School safety plan

Community, school and family safety plans are a good starting point for risk prevention and disaster reduction.

What sort of a plan would that be?

When we plan our day, things generally work out better. Once we have decided where to go, we make a list of what we are going to eat and what activities we want to do. Then, we share out the tasks and responsibilities: Julia will bring the bread because the bread shop is just near her house, Maria will bring the cheese and lettuce, Arthur will bring the drinks and fruit because he's got a fruit shop, and the rest of us will take the picnic things and games, so we can have fun in the fresh air. Not forgetting that we will travel by bus.

When we want to prevent risks and reduce disasters, we also need to be organised and make a plan. This will identify the risks we face, the resources and capacities we can rely on, and it can also allocate responsibilities for when we have to put our plan into action.

How to draw up a School safety plan



Getting organised

Disaster reduction requires the unity, participation and organisation of everybody in the community: the carpenter, the teacher, the mayor or mayoress, the young students, families, engineers, environmentalists and children. This is because everybody has the right to participate in decisions that will improve their living conditions while caring for the environment and reducing disasters.



Children have the right to express an opinion, and for their opinion to be taken into account when adults make a decision that affects them.



Identifying threat, vulnerability and risk

Before you take action, you must be clear what you are up against in order to decide what to do:

- Firstly, you have to know whether the threat is natural or man-made;
- You must identify how and when you will be vulnerable to these threats;
- You must also identify the capacities and resources available to help you deal with the possible threat, that is, assess your vulnerability.

On page 23 we will explain how you can make a Risk Map. You can use this tool to identify the threats, vulnerabilities, capacities and risks relevant to your community, school or family.



Defining actions for risk prevention

Once you have identified the threats, vulnerabilities and capacities, it is time to decide what risk prevention actions you will take. Prevention means anything you do to avoid risks and, if they already exist, what you will do to control them, thus preventing any disaster from causing a large amount of damage.



Defining preparation and response actions

A disaster cannot always be avoided, but you can reduce the impact. Your family and the community could be exposed to man-made or natural threats because of where you live. Preparation means any action you take to deal with the disaster, thus avoiding greater loss of life and other damage.

Your own family and school is the best starting point for preparations to deal with any disaster, as you form part of a larger community. Children's participation and opinions are very important in implementing preparations. So go ahead, get started!



Putting the plan into practice

Don't forget, you have to practice the plan and actions in simulations. This step allows you, your school, community and family to know whether what you have planned works and where improvements need to be made so that people can really be safe in the event of a disaster.



Keeping the plan up to date

The plan must be revised and brought up to date at least once a year.

Children have the right to receive information via the television, Internet or radio informing them about the threats facing them, why they are vulnerable, their capacities and how they can participate in risk prevention and disaster reduction.

Protect yourself: Evacuate!

Evacuation means the ordered movement of people from unsafe areas to safe areas in the shortest amount of time possible.

Where to evacuate to?

Every preparation plan must include the escape route for an evacuation. Make sure you have a plan or drawing of your house. Mark the safest and quickest exit routes. Tell your family, which routes you have chosen. Include the ideas of other family members. It is important to keep this route clear of obstacles (tables, chairs, wardrobes, toys), which could obstruct a quick exit from your house, classroom or school. Practice your evacuation route using your plan.

Escape routes and safety areas must be set up at school just as you did at home, taking everybody into account, especially older people, children and anyone with special needs or conditions.

Volunteer for the evacuation brigade in your school and contribute your ideas on how to protect children's rights in emergency situations!

For example, you could arrange for any child with a disability to have a partner or a guide responsible for supporting them throughout the evacuation process. Whenever the alarm sounds, both of you would know you would be together from then on, supporting each other and following instructions until the danger has passed.

Families are not always together when a disaster occurs. The family and school security plans could include a list of meeting places for families after the disaster. Here are two ideas, you might like to use:

- ★ Agree on a meeting point with your family. Always remember it. You could even write it down.
- ★ Memorise or carry with you telephone numbers or e-mail address you could use to tell your family where to find you.

Meeting point: _____

Telephone: _____

E-mail: _____

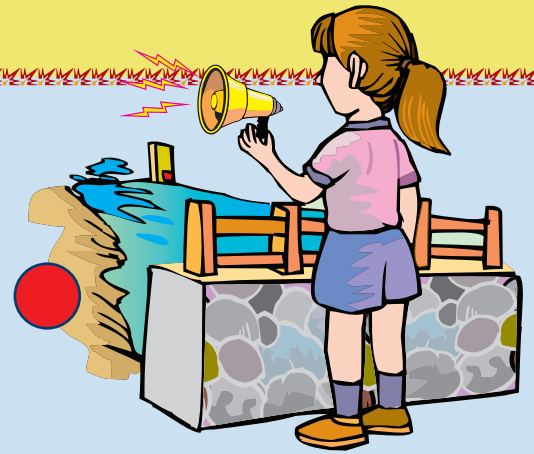
Ask for help! The authorities have a duty to protect you and offer you support in finding your family if you have been separated in a disaster.



It is important for the town to be organised, prepared, and to have the resources needed to support evacuation actions like: megaphones, vehicles, previously identified shelters, supplies for sleeping, eating and personal hygiene, medical chests, and hospitals should also be ready to deal with a greater number of casualties.

Early warning systems are very important resources which are already in place in many communities threatened by floods. This is how they work:

Neighbours living alongside the river volunteer to monitor the water level. They all receive training from various institutions so that they can monitor how the river behaves when it rains. These neighbours keep an eye on the water level, whenever it starts to rain. People living further up the river tell the residents lower down how much rain is falling and what is happening to the water level. They continue to watch the river. When the river rises beyond a certain point, the person in charge of the warning system sets off an alarm whistle, siren, light, or door to door announcements. The people must then move to safety, taking their disaster supplies and moving up to the safest areas. These locations were identified when the neighbourhood participated in putting together the flood operation and response plan. Early warning systems also exist for other threats including landslides and tidal waves.



Help this group of students to identify the 10 obstacles that are blocking their escape routes

Prepare emergency supplies:

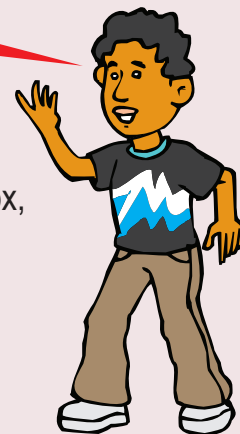
It is important for each school and family to have emergency supplies. In some forms of disaster there can be power cuts and water can become contaminated. You could also be cut off for several days in your house or school following a storm or flood. Emergency supplies could help you survive those days better.

Don't forget to check the expiry date of the food in your store.

Children do not lose their rights, even in disaster situations

Help your school and family to prepare emergency supplies. These should be kept in a box, plastic bag or strong rucksack, which is easy to carry.

Very important! There must be enough supplies for everyone for at least three days.



Your supplies should include:

First aid box: don't forget the instruction manual!

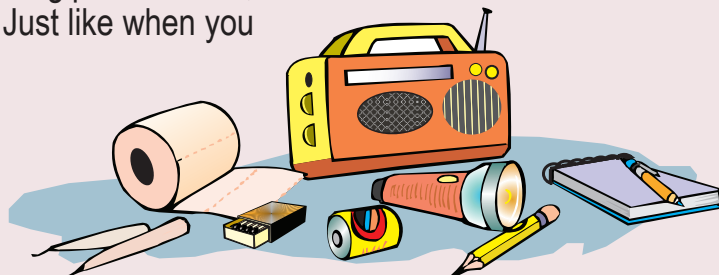
Food: It is best to include products that don't need to be kept in a refrigerator or to be cooked - tins like soup and fish. Add products that are high in energy (and high in protein), like peanuts, chocolate or cereal bars. Don't forget your manual tin opener!



Water: Work on the basis that each person can drink a gallon of water a day.

Clothing: Each member of the family should have an extra set of clothes they can change into. Don't forget to take a strong pair of shoes, a raincoat and a cover suitable for sleeping outside. Just like when you go camping!

Other supplies: A torch and portable radio; both with replacement batteries. Candles, matches, hygiene products such as toilet paper, sanitary towels and bleach. A list of contacts with up to date telephone numbers, addresses and e-mails of friends, authorities and family members.



Don't forget to tell your parents or guardians to pack your ID and health documents.

Risk Maps

What are risk maps for?

The risk map is a tool, just like a hammer or saw for a carpenter. It is like holding up a mirror to show the risks facing the community or school at the time when it was made. That is why it is important to keep it up to date.

The “risk map” is a tool for those who want to avoid risk and reduce disasters, showing them where the threats come from and who and what is vulnerable to damage. The risk map allows the community to define a risk prevention plan and to prepare their response in the event of a disaster.



Identify the risk and take action!

You can use everything you have learned in social studies, history, geography and science to help identify the threats facing your community and school. This will help you analyse and prevent risk.

Map making is a very useful resource in risk analysis. A map can include a great deal of information in a single plan, you can show how threats relate to vulnerability and form risks in the event of a physical phenomenon.

A risk map is like a photograph - it refers to one particular time and place. You can make one in the form of a picture or a model. Do this for your school and community. Work together with your school friends, teachers and your family and neighbours. This is a good opportunity for your teacher to organise a walk around the community so that you can take your time to spot the threats, vulnerabilities, capacities, resources, risks and to use what you have learnt.

How to get started:



Step one: Ask your grandma, your father and older neighbours about disasters that occurred in the past. Newspapers in public or school libraries can also be a good source of information about historical events like disasters.

Step two: Draw on the map all the natural phenomena (landslides, floods, hurricanes, volcanic eruptions, earthquakes) affecting your community and school. Use your geographical knowledge to draw the coasts, mountains, plains, volcanoes and bodies of water (rivers, sea, streams) of your community. Also, add all those threats involved in disasters that occurred in the past. Then, draw in threats from human actions, such as environmental degradation, factories, toxic substances or fuel dispensaries.

Step three: Now, you need to draw in all the most important buildings in the community: the schools, council offices, health centres, hospitals, and response institutions like the fire service and the police, or the main sources of communal drinking water. Don't forget to add areas where crops are growing, the streets and the bridges.

Step four: The risks! The time has come to identify how much damage could be caused by a physical phenomenon to the school classrooms and library; or the buildings, services and productive zones in your community, in the event of a flood, an earthquake, strong winds or a fire in the factory. Perhaps there would be little impact, or some buildings might be totally destroyed? Use colours or symbols for each level of risk.

Step five: Show the groups of the community who need most support in time of a disaster on your map: children in nurseries, old people in retirement homes or sick people in hospitals. Also mark houses near to rivers or unstable hillsides.

Step six: Don't forget to show where to find resources. These should include the people and organisations who can support your school and the community in risk prevention and mitigation, as well as those who will help you respond to a disaster.

You can use symbols to show all of this on your map. Colouring pencils will be a great help. You could even invent your own symbols, as long as everyone else can understand them. What symbol could you use for a hospital, or a volcano?



The shelter in disaster situations:

A shelter is a SAFE place where people can be housed when they are forced to leave their communities and homes when they become unsafe or they have been damaged by an event.

The shelter offers food, living space and sleeping space, medical care and safety. People will be offered shelter for a short time (not very long), until they can return to their own home.

There are safe places in most communities that can be used as shelters: churches, the community room or gymnasium, or education centres for example. People can also be given shelter in tents and a temporary camp can be set up. You could also stay at your grandparents' house, with your cousins or some friends for a few days.

If you and your family have to go to a shelter, it is important to be aware of the following:

- Your rights: children have the right to shelter with their family, never alone.
- Remember, you will be sharing with other people: be friendly and co-operate as much as you can.
- Obey the rules of the shelter.
- Do not tolerate any form of mistreatment, exploitation, aggression or abuse. If someone wants to hurt you, report them immediately!
- Enjoy yourself! There will probably be other children to play with.
- To avoid illness or accident: keep yourself clean, wash your hands often and keep away from dangerous areas.
- And what about your pet? It might be a good idea to decide where to shelter your pet as part of your family plan.

Right now, you might be asking what's going to happen to your education if your school is being used as a shelter. Perhaps you think the local authorities should let the children stop school until the families go home. But this is definitely not the best answer!

Safe schools will always be used as shelters in emergency situations. Students and the local community must decide whether the school has the resources and capacity to shelter the population and how it can operate as a school as well as a shelter.

Here is a list of things you need to decide or do in order for your school to operate as a shelter. Your opinions, ideas and support is important:

- A map or sketch of the school.
- Rules for living together.
- Rules on how to take care of the school building and the furniture inside.
- A maximum number of people who can shelter there.
- Suggestions on how long the school can operate as a shelter.
- Put signs up around the school so that everyone knows where to find the toilets, dining room, kitchen, library and classrooms.
- Set up support brigades for everyone.
- Organise games, so the children can have some fun.
- Decide on alternative locations where schooling can take place.



AFTERSHOCK: Tremors following an earthquake or larger earth tremor.

CAPACITY: A combination of all the strengths and resources available within a community, society or organisation that can reduce the level of risk or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership or management. (From: Words into Action. A Guide for Implementing the Hyogo Framework. 2007)

CLIMATE CHANGE: A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which in addition to natural climate variability observed during comparable time periods (definition from the United Nations Framework Convention on Climate Change)

DISASTER: A disaster is the outcome of the impact of a threat on the community. The effects of the disaster depend on the degree of vulnerability of a community to a certain threat, or their capacity to cope with it.

DISASTER PREVENTION: The actions taken to prevent a situation from becoming a disaster.

DROUGHT: A period of time (months-years), during which an area of the Earth suffers from a lack of rain, causing serious damage to the soil, crops, animals and even people, sometimes causing death.

EARTHQUAKE: Strong movements from within the Earth's crust. These come from inside the Earth and can cause serious damage.

EL NINO, LA NINA: A climatic phenomenon which occurs every few years. It starts when the surface waters of the equatorial Pacific become hotter (El Niño) or colder (La Nina) than normal along the coast of Peru and Ecuador. This can cause floods, droughts, forest fires and other extreme phenomena in various parts of the world.

EMERGENCY SUPPLIES: Resources prepared by each family that they can carry with them quickly in the event of an emergency. These should include non-perishable food, drinking water, clothes, a torch and batteries, a portable radio, and a first aid box.

EROSION: The continual wearing away of the land due to heavy rainfall, wind and poor soil use.

FIRE: A chemical chain reaction between three factors: oxygen, heat and fuel, or a phenomenon which occurs when one or various materials are consumed in an uncontrolled fire. There must be a chain reaction involving: oxygen, heat and fuel for a fire to occur.

FLOOD: The presence of large amounts of water generally caused by heavy rains that the soil cannot absorb.

FOREST FIRES: Uncontrolled fires that destroy forests, woodlands and vegetation in general, as well as animal species. These fires can get out of control and spread very easily over large areas. Depending on the type of vegetation or material that is burning, these can be called forest fires, tree fires, grassland fires, or peat land fires.

GREENHOUSE EFFECT: Energy from the sun comes to earth but not all of it can escape, certain gasses in the atmosphere such as water vapour and carbon dioxide trap energy from the sun, trapping some energy or green house gasses is necessary but too many gasses makes the temperature rise too much which can be dangerous for the environment.

HURRICANE: Strong winds that begin out at sea and that spin in large circles like a whirlwind, and are accompanied by rains. They are also known as cyclones and typhoons. There are between 80 and 100 such storms in the equatorial region each year. The Atlantic hurricane season begins on the 1st of June and ends on the 30th of November. In the Northeast Pacific, it starts on the 15th of May and ends on the 30th of November.

LANDSLIDE: Rocks, land and vegetation which slide quickly or slowly downhill because the soil is not firm enough. A landslide can occur when there is heavy rainfall, or when there are earthquakes or volcanic eruptions. The risk is greater if people build their houses in the wrong places, or cut down too many trees so the soil moves easily when it rains heavily.



MITIGATION: Measures taken to reduce vulnerability to threats.

PLAGUE: A great catastrophe that affects people or a community, for example, a large number of insects or animals that destroy a crop.

RESILIENCE: The capacity of the system, community or society potentially exposed to threats to adapt, through resistance or change, in order to achieve or maintain an acceptable level of functioning and structure. (United Nations International Strategy for Disaster Reduction. 2004)

RISK: The probability that a threat (earthquake, hurricane, etc) will become a disaster with serious economic, social and environmental consequences.

RISK MANAGEMENT: The ability a community has to manage any threat and to prevent risk from resulting in disaster.

RISK MAP: The risk map is a drawing or model which indicates the important elements for the community, such as schools, hospitals, council offices and other important buildings, as well as crop zones and parks. It also shows potential danger zones, such as rivers and other potential sources of flood, landslide zones, and dangerous volcanoes, etc. The map also shows to what extent the features on the map could be threatened (a little, a lot, total destruction).

SUSTAINABLE DEVELOPMENT: A form of development that is suitable for today's needs without endangering future generations. This means ensuring that nature does not become a hazard to human beings, and human beings do not become a threat to nature.

THREAT: A natural or man-made phenomenon or process which can endanger a group of people, their property and their environment, when they are not prepared. For example, if you live near to a volcano, eruptions are a threat, even though they may not happen for many years.

TORNADO: Violent gusts of wind that spin across the land.

TSUNAMI or TIDAL WAVE: A series of giant waves caused by an undersea earthquake, volcanic eruption or landslide.

VOLCANIC ERUPTION: Explosions or emissions of lava, ash and toxic gases from the interior of the Earth through volcanoes.

VULNERABILITY: The lack of resistance people and communities have when presented with a threat, or the lack of capacity to recover after a disaster has occurred.

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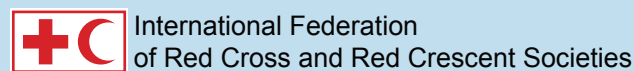




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