

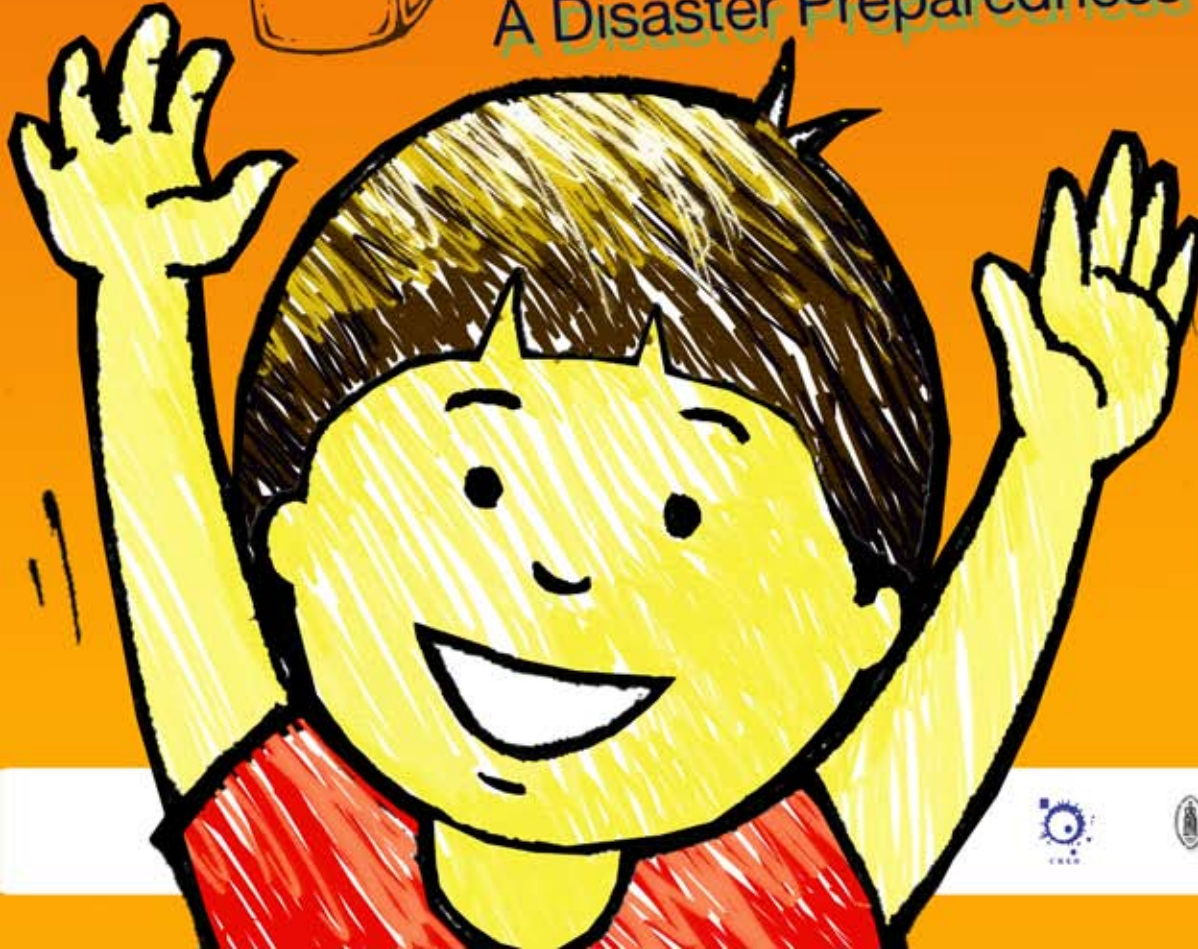


# DISASTER

# BUSTERS!



A Disaster Preparedness Activity Book



# Foreword

Disasters are on the rise. In the past two decades, more than 200 million people have been affected, on average, every year by disasters. Storms, floods and earthquakes are the top three disaster events worldwide which have claimed considerable amount of lives and properties.

This book aims to educate children about disasters, particularly storms, floods and earthquakes, and what they can do about it.

This is aimed at children between the ages of 6 and 10. This book features different activities to make learning a lot more fun for them.

We advise parents, guardians and teachers to assist the children using this activity book.

This book is produced by the Citizens' Disaster Response Center for the MICRODIS Project under the Sixth Framework Program of the European Commission.



Disaster Busters! A Disaster Preparedness Activity Book  
Published by: Citizens' Disaster Response Center

Copyright 2010

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Illustrators and Layout Artists: Jennifer Padilla and Rowena Bayon

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MICRODIS is funded by the European Community's Sixth Framework Programme.*



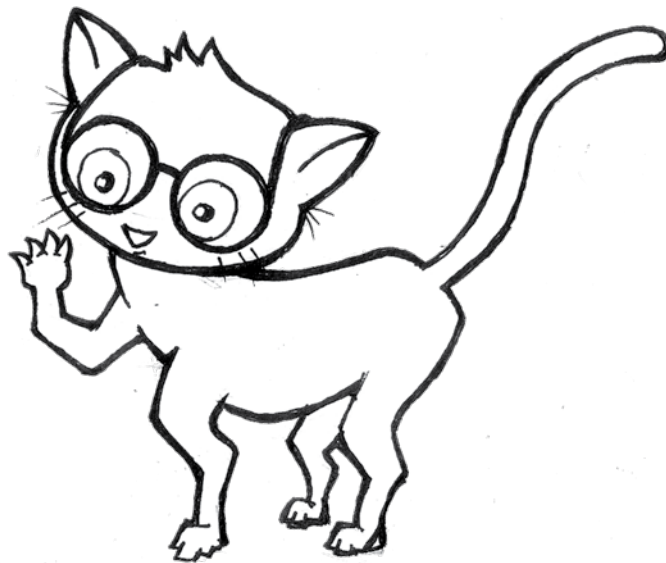
## INTRODUCTION

“Hi, kids! Our every day activity is always challenged by the unexpected. And sometimes, without proper preparations, the unexpected might turn into disasters. But do not worry! I’ve known how good you are at planning! I’ve seen how you get to school on time, get your assignments done, and still be able to meet up and play with your friends. That ability will help you and your family prepare for the unexpected.

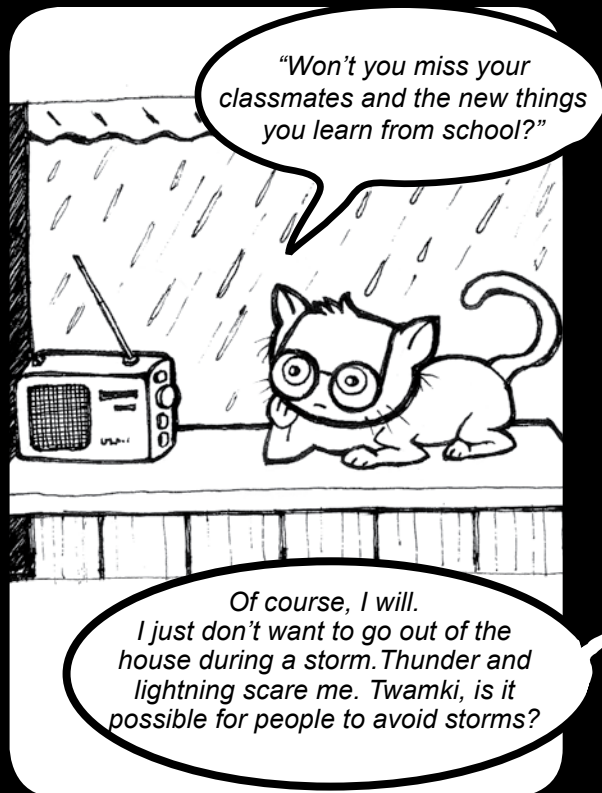
“I am Disaster Buster Twamki and through the activities from this book, I will guide you on how to become a Disaster Buster yourself!”

This activity book belongs to:

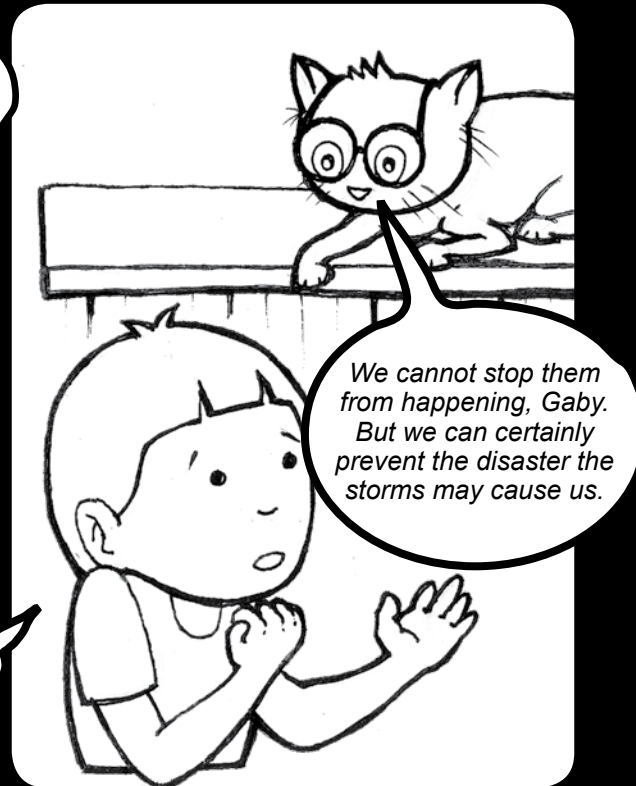
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# STORM



Of course, I will.  
I just don't want to go out of the house during a storm. Thunder and lightning scare me. Twamki, is it possible for people to avoid storms?



## What is a storm?

A storm is a violent weather condition frequently accompanied by strong winds, thunder and lightning. It can be in the form of rain, hail or snow.



*"Swirling winds and warm and cold air make storms. In some places, the air is warm. In other places, the air is cold. Cold air and warm air running into each other make storms. Weather forecasters call moving cold air a cold front. They call moving warm air a warm front."*

*Storm clouds can form when fronts meet. Tall clouds make thunderstorms. Rain pours down from the cloud. Sometimes balls of ice called hail come down from the cloud. Lightning flashes across the sky. The spark of lightning going through the air makes the crack of thunder."*

- Microsoft ® Encarta ® 2007. © 1993-2006



It is believed that the word typhoon was derived from the name Tuphon/Typhaon/Typhoeus/Typhus, the Greek mythology monster responsible for creating hot winds.

Another story tells that it may have come from the Chinese word “dafeng” (“daifung” in Cantonese) which literally means big winds.

While the word hurricane is derived from the name of a Mayan storm god, Huracan the Spanish term for hurricane.

Did you know that



There are 3 commonly-used terms that also refer to Storm?

1. **Hurricane** usually occurs in the Atlantic basin or in the Northeast (NE) Pacific which include countries like the United States of America, Haiti, Mexico, Cuba, Bahamas, etc.
2. **Typhoon** is how they call this violent weather in the Northwest Pacific Basin where countries like Hongkong, Japan, Korea, Philippines, Taiwan, etc. can be found
3. **Tropical cyclone** is the synonym of storm in Bangladesh, India, Pakistan and Australia

# STAYSAFE

- 1 It is always important for you and your family to keep a disaster supply kit at home should natural disturbances such as storms occur. Keep the kit in a safe place accessible to all family members. It should be ready at all times in case you have to leave your home quickly.

- 2 Make sure all family members know where the kit is kept.



# Activity 1

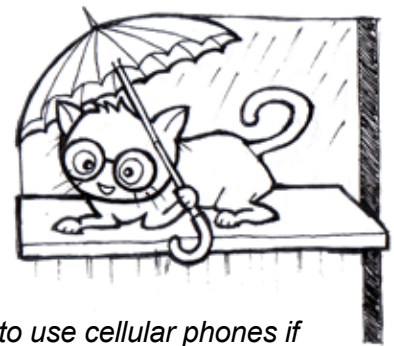
Using your crayon, color the items that belong to the disaster supply kit as listed below:

- food that won't spoil (ready-to-eat canned meats, fruits, and vegetables with manual can opener)
- 3-day supply of water (enough for the whole family)
- Clothes (one change of clothing and footwear for each member of the family)
- first aid kit & prescription medicines with instructions
- battery-powered flashlight & extra batteries
- portable radio & extra batteries
- List of phone numbers and addresses of family, friends, emergency services, shelters & doctors
- Whistle



## During a storm

- *Don't go out unless there's a strong need or the authorities in your community instruct your family to evacuate. If living near a creek or a river, your family should immediately evacuate to higher ground to avoid being hit by flash floods.*
- *Have your safety kit ready ALL THE TIME.*
- *Unplug all your appliances. Avoid using landline phones or any electrical appliance. Telephone lines can conduct electricity. It's safer to use cellular phones if available. Use landline phones only during an emergency.*
- *Use flashlights instead of candles. Using candles during a storm is a big fire hazard.*



## If you are accidentally stranded outdoors during a storm...

- *Go to a safe shelter immediately. Move to a sturdy building or car.*
- *Stay away from trees, posts and metal gates, fences or sheds to avoid being struck by lightning.*
- *If you are boating or swimming, go to a dry place quickly and look for a safe shelter.*

# WHAT'S IN A NAME?

According to meteorologists, storm naming is an effective way of warning people therefore allowing them to prepare for possible hazards. Making people aware about the approaching storm via its name helps avoid confusion and panic.

## Activity 2

### STORM, STORM GO AWAY

It's always important to know how to stay safe during a storm. Help Gaby remember the safety tips she and her family should do during stormy weather.

Match the instructions with the correct pictures.

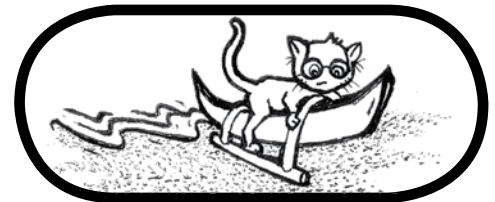
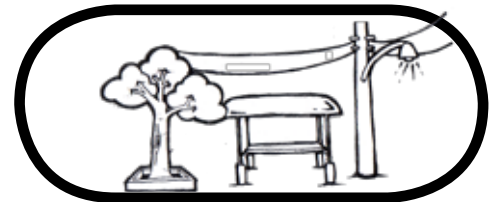
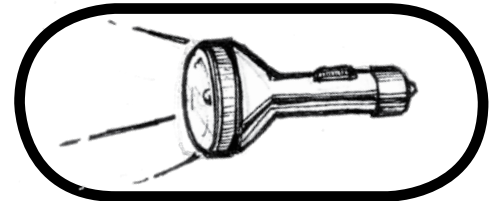
**Stay** away from trees, posts and metal gates, fences or sheds to avoid being struck by lightning.

**If** you are boating or swimming, go to a dry place quickly and look for a safe shelter.

**Unplug** all your appliances.

**Have** your safety kit ready ALL THE TIME.

**Use** flashlights instead of candles.



# Activity 3

## STORM, STORM GO AWAY

Circle the hidden words that are usually associated with storm.

HURRICANE

UMBRELLA

CYCLONE

LIGHTNING

RADIO

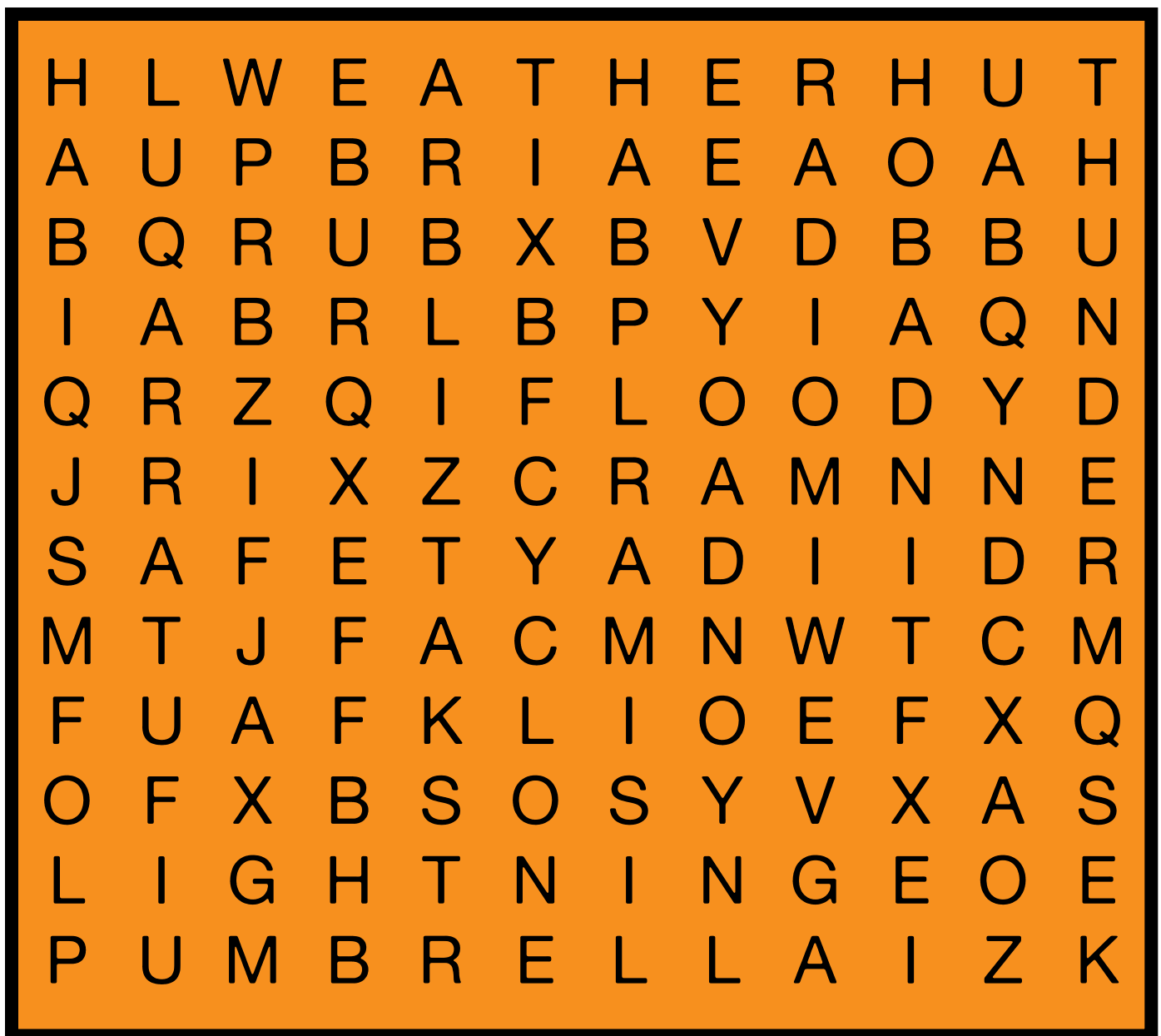
WIND

THUNDER

FLOOD

WEATHER

SAFETY





# FLOOD

The word “flood” comes from Old English and means “an overflowing of water, river, or sea”

Floods usually occur when a land or an area can no longer absorb the excess water caused by heavy rains/ rainstorm, a dam breaking or an overflowing creek and river.

Floods can strike anywhere, most especially in flat and low-lying areas. Like storm, earthquake and other natural calamities, it can damage lives and properties.

Flood waters can make large and heavy objects (like cars, furnitures and even houses and buildings) float and move to great distances. Floods also causes the soil to erode which can eventually result to a mudslide.



## What is a flash flood?

A flash flood is a gush of excess water that comes unexpectedly or without warning.

## When does a mudslide occur?

Mudslides occur when huge amounts of mud loosens and flows rapidly down a hill. Heavy rainfall and lack of trees to soak in the water may cause dangerous mudslide and flooding.



# STAYSAFE

Since we can not always predict natural calamities, it's always best to get equipped with tips on how to mitigate disasters and how to stay safe during and after a calamity.

## Before a Flood

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- 1 Stay tuned for radio or television news about any approaching storm or flood. Make sure that your bag of disaster supply kit is all set in case you need to evacuate. Remember to add in needed medications. If needed, pet food and other things necessary for your pet(s).
- 2 Together with your family and community, it's best to prepare an evacuation plan and learn the safest route from your area to high, safe shelter should you need to leave your house.
- 3 Plan what to do with your pet(s).

## When a Flood is Approaching

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- 1 Stay alert and prepared! Always keep your disaster supply kit ready in case you and your family are advised to evacuate.
- 2 Remind older family members to disconnect electrical appliances, turn off main switches and gas.
- 3 Help your family move important items to an upper level of your house if possible.
- 4 If your area is prone to flooding or flash floods, move to a safe shelter immediately.

## During a Flood

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- 1 Stay out of flood water as much as possible. Walking through moving flood water can make you lose your balance and fall. Flood water contains hazardous elements that can cause you infection.
- 2 If you have to walk in water, do not go near an electrical post and walk where the water is not moving. Move to higher ground if you can do so safely.
- 3 To avoid injuries, never touch any electrical equipment if you are wet or standing in water.

## After a Flood

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- 1 If you and your family are still in the evacuation center, consult the authorities if it's already safe to return home.
- 2 Help your elders clean the items that got wet by floodwater.
- 3 Make sure that the water in your area is safe to drink. Drinking contaminated water may cause serious health hazards.

# Activity 1

Unscramble the words to reveal a safety message:

AYST

— — — —

UTO

— — — —

FO

— —

ODLOF ARWET

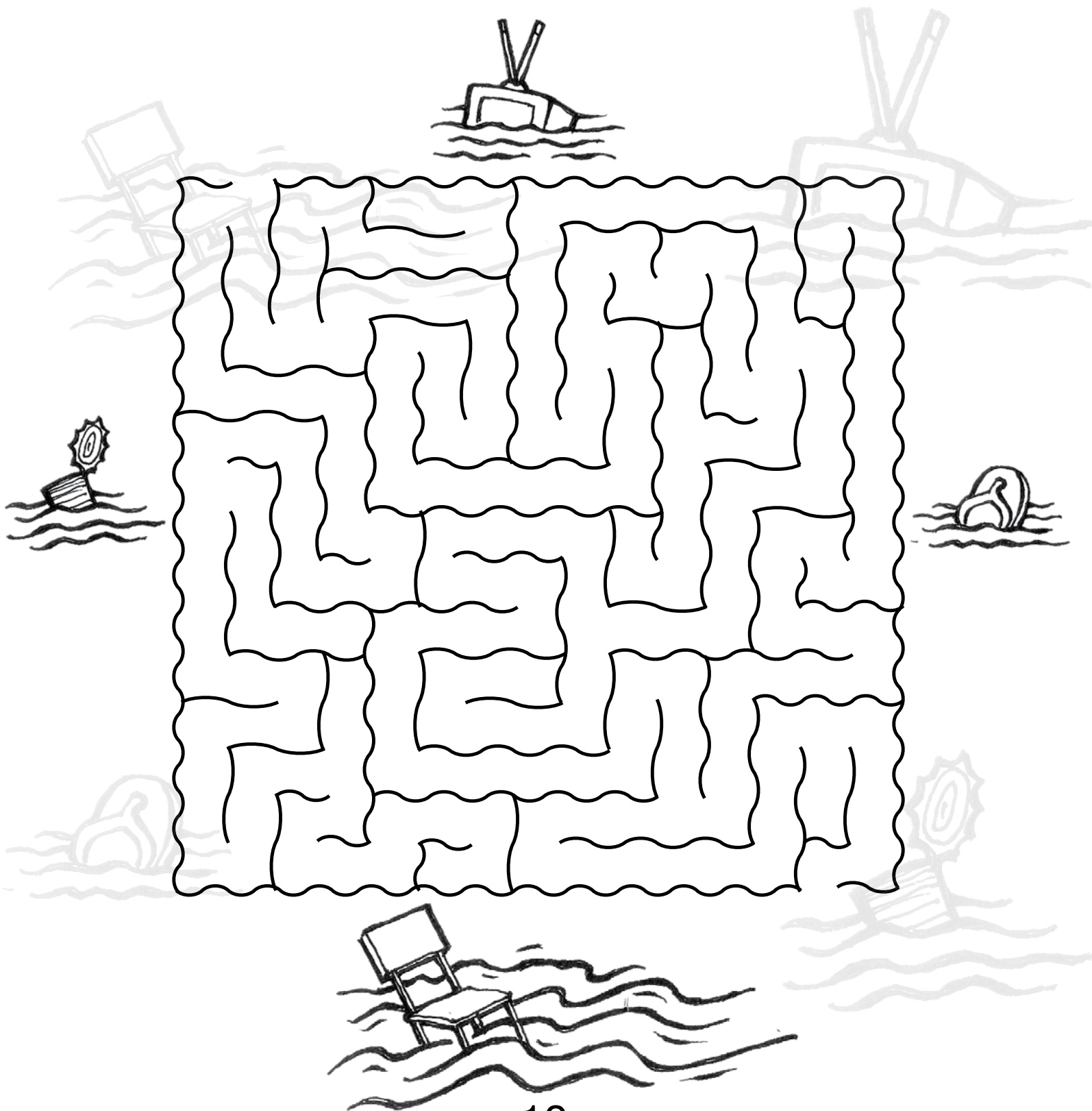
— — — — — — — — — —



# Activity 2

## Flood Maze

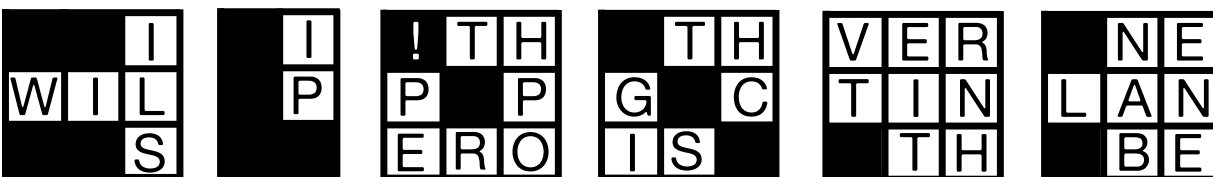
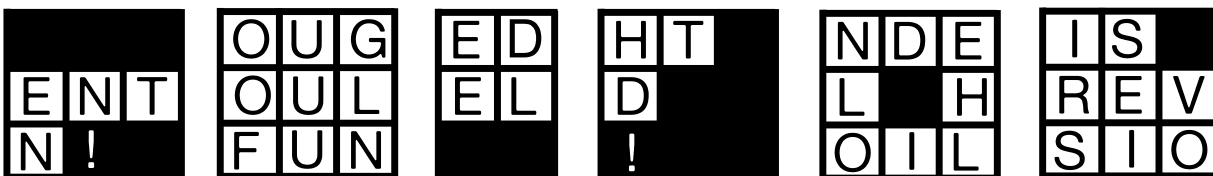
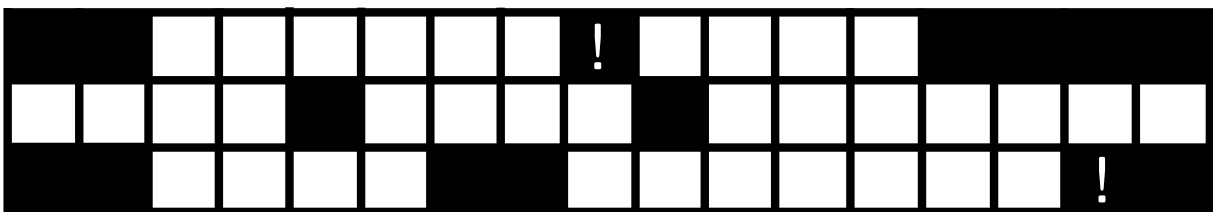
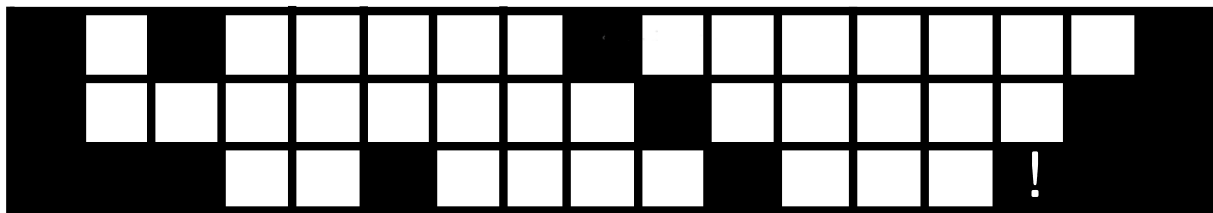
Use your pen to find your way out of the flood water.





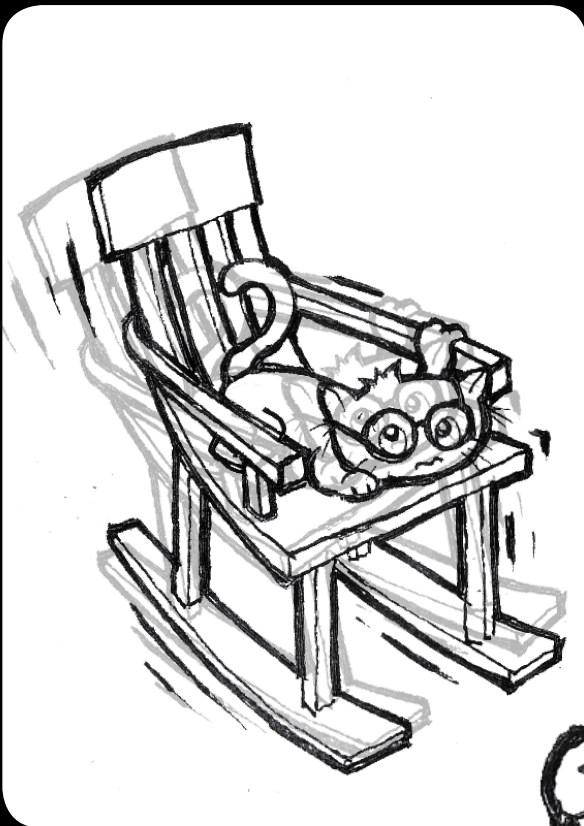
# Activity 3

"Trees play a very important role in preventing floods. Trees absorb extra water during heavy rains while its roots hold on to the ground to keep the soil from eroding. Join me as I help my friend Gaby plant a tree. To see what we are saying to each other, figure out where each puzzle piece goes in the empty grids. Write the letters in their proper places. Good luck!"



# EARTHQUAKE

I feel the earth move



*Sitting on my Granma's rocking chair makes me dizzy. It takes a while for me to get used to the rocking.*

*However, that rocking experience reminds me of another hazard we are to chat over. Yes, you're right! It's the Earthquake!*



*So what is an earthquake anyway?*

Earthquake is the shaking of the Earth's crust caused by brisk movements on its surface or below. It is also known as earth tremor or temblor.



# Two Main Causes of Earthquake

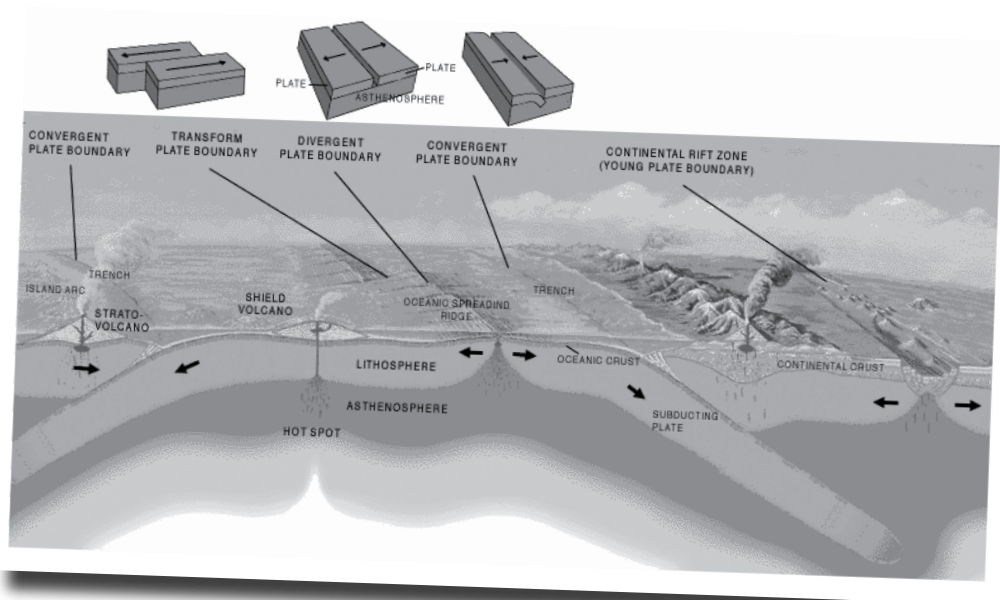


## 1. VOLCANIC ERUPTIONS.

Temblors are very usual in areas of volcanic activity. They either happen before or during the eruptions. These are due to the upward movement of molten rock called magma under the volcano. As magma climbs to the surface, it moves rock masses and causes continuous tremors.

## 2. PLATE TECTONIC ACTIVITY

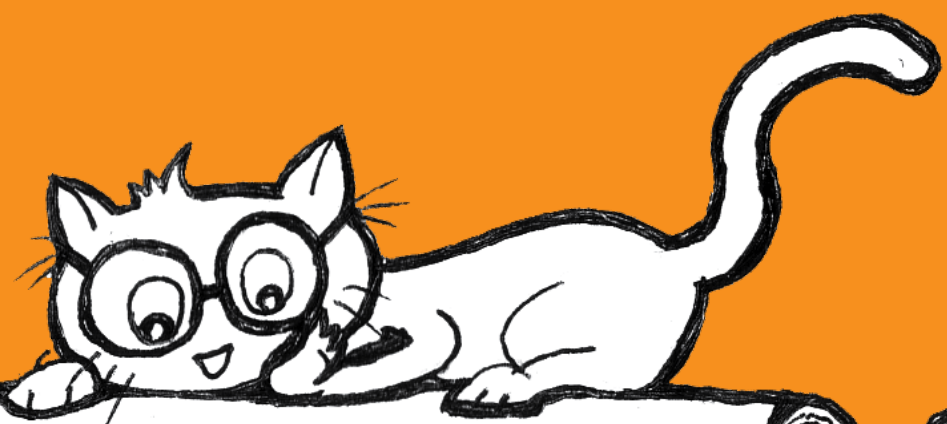
This theory says that the outermost layer of the Earth is made up of plates. Earthquakes occur when tectonic plates push away, smash or slide past each other.



## Did you know that


Several hundreds of earthquakes happen around the world every day. That amounts to around 1 million small earthquakes a year.





*"According to an ancient Indian tale, beings on Earth should live peacefully with one another and in harmony with nature.*

*Wars and environmental abuses cause noises that might awaken the six slumbering supernatural beings that carry the world.*



*"You see, the myth says that there are four elephants standing on the back of a gigantic turtle that is balanced in turn on a cobra. These beings were put to sleep to prevent them from moving because the elephants on top carry the Earth with their trunks.*

*Their slightest movement causes the Earth to tremble and shake."*



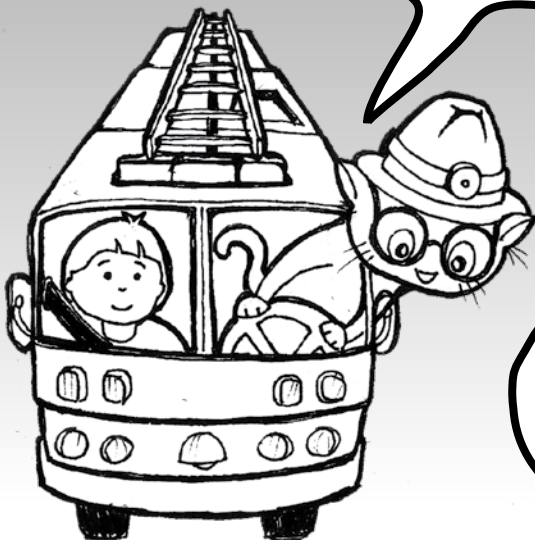




"Earthquake may lead to landslide and other soil movement that could damage buildings, roads and bridges, and cause tsunamis on coastal regions."



"Fire is a post-earthquake danger like the fire that took place in Tokyo after the devastating earthquake in 1923 where thousands of lives were lost. Fires can be avoided with pre-earthquake planning, fire-resistant building materials, enforced fire codes, and public fire drills."



Giant oceanic waves called tsunami happens after large earthquakes under the sea. These waves move from the vicinity of the earthquake across the ocean until they reach the coastline. Tsunamis often have dreadful effects such as flash flooding, death due to drowning, and damage to property.



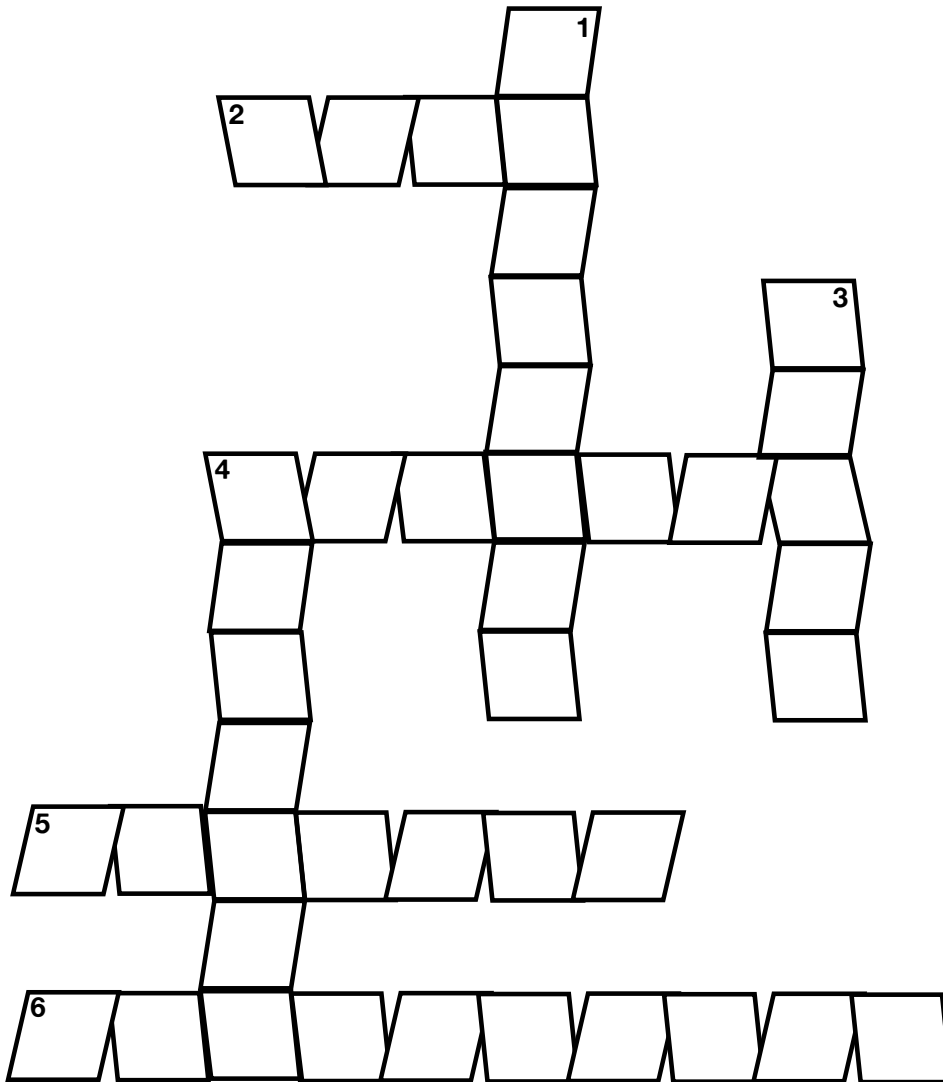
# Activity 1

## Down

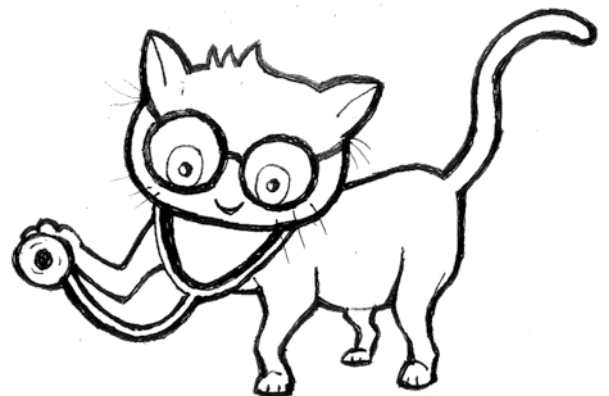
1. Plate \_\_\_\_\_ activity is one of the two main causes of earthquakes.
3. Earthquakes may lead to land\_\_\_\_\_.
4. Another term for earthquake

## Across

2. A possible after earthquake effect
4. Giant oceanic wave
5. Land formation that erupts
6. Shaking of the Earth's crust



*Disease outbreaks could also result from disastrous earthquakes. The absence of proper shelter and the lack of food and clean water supplies in the community or evacuation areas could create serious health problems. People are likely to get vulnerable to contagious diseases such as influenza and other viral infections.*



# Activity 2

## Shake that Code

Crack the riddle by matching the symbols. Can you solve the puzzle and figure out one cause of earthquake?



i e p r t o a u n c

## STAYSAFE

Some earthquakes are actually foreshocks. It means that a larger earthquake called aftershock might occur. Here are some tips on how to stay safe during earthquakes.

### What to do if indoors...

- Be calm.
- Take cover by getting under a strong table or other furniture until the shaking stops.
- Move away from glass and other objects that could break or fall.
- Stay inside until shaking stops and it is safe to go outside.
- Do not use the elevators.

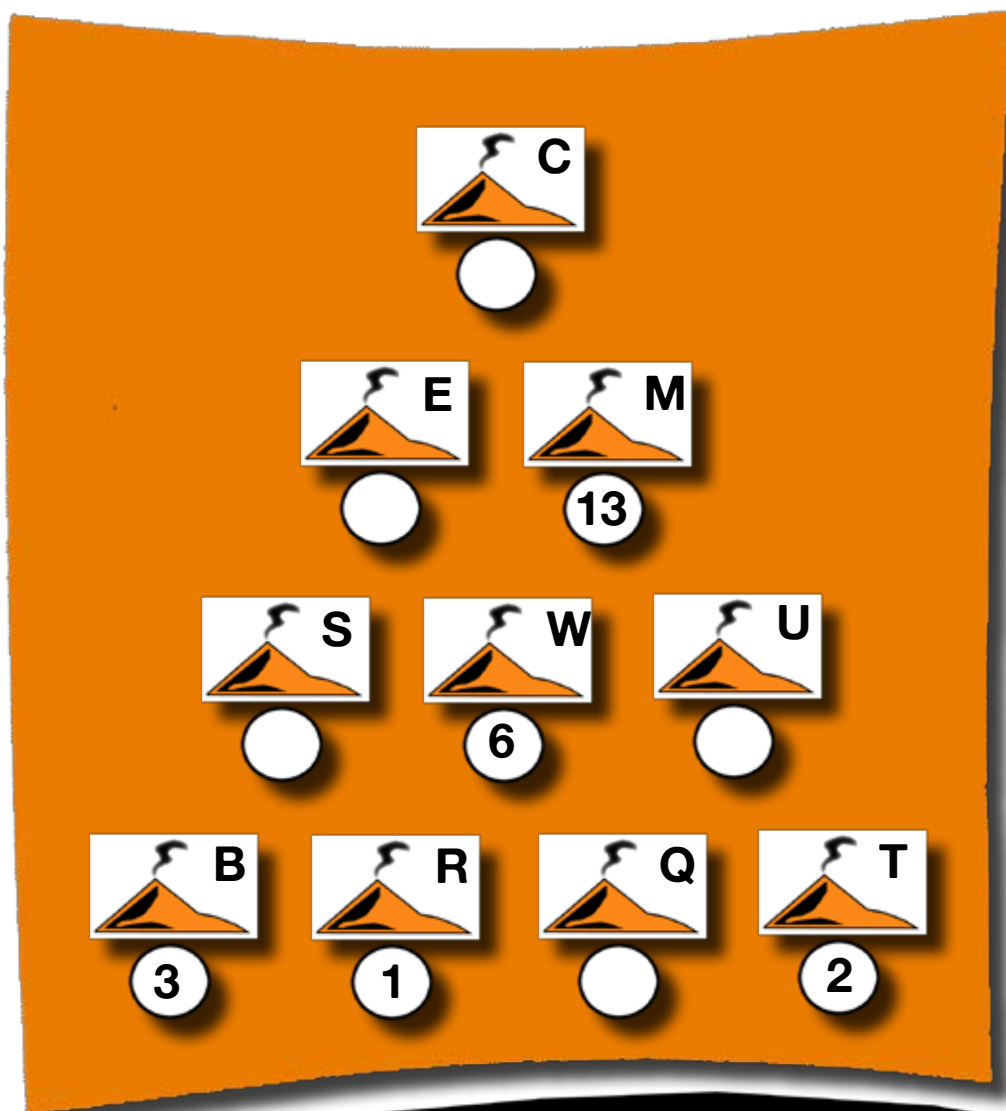
### What to do if outdoors

- Stay there.
- Move away from buildings, streetlights, and utility wires. Most earthquake-related casualties/injuries result from collapsing walls, flying glass, and falling objects.
- Once in the open, stay there until the shaking stops.

# Activity 3

## E-QUAKE-TION

The number on each volcano is the sum of the two numbers beneath it. Work out the sums then use the code to solve the riddle below.



Which layer  
of the Earth  
moves during  
earthquake?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
23	1	7	4	2



**CONGRATULATIONS!**  
YOU ARE NOW A CERTIFIED

# DISASTER BUSTER!

PHOTO

MY FULL NAME: \_\_\_\_\_

MY HOME ADDRESS: \_\_\_\_\_

MY PHONE NUMBER: \_\_\_\_\_

## EMERGENCY PHONE NUMBERS

MOTHER: \_\_\_\_\_

FATHER: \_\_\_\_\_

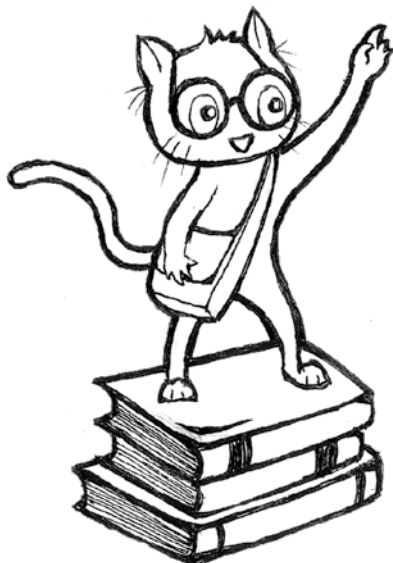
RELATIVE(S): \_\_\_\_\_

AMBULANCE: \_\_\_\_\_

POLICE: \_\_\_\_\_

FIRE: \_\_\_\_\_

OTHER: \_\_\_\_\_



# ANSWER KEY

4. Color all

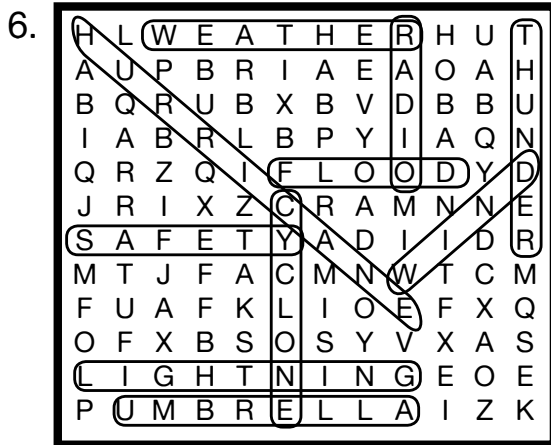
5. Stay away from trees, posts and metal gates, fences or sheds to avoid being struck by lightning.

If you are boating or swimming, go to a dry place quickly and look for a safe shelter.

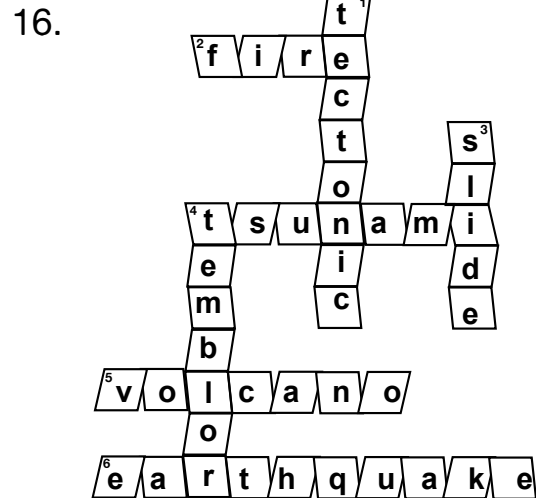
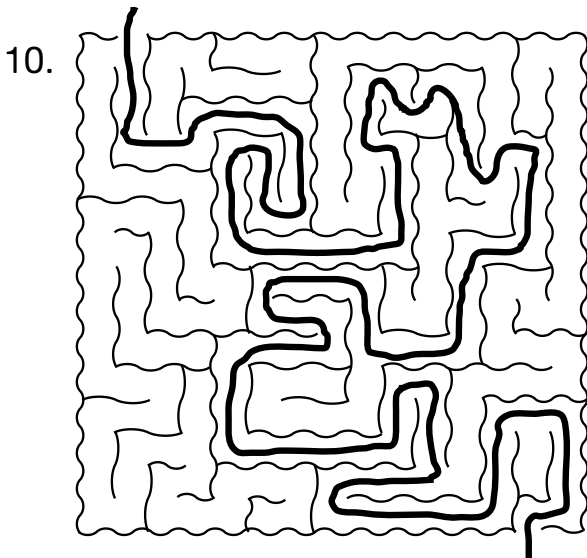
Unplug all your appliances.

Have your safety kit ready ALL THE TIME.

Use flashlights instead of candles.



9. Stay out of flood water



17. Eruption

18.

C				
23				
E	M			
10	13			
S	W	U		
4	6	7		
B	R	Q	T	
3	1	5	2	
<hr/>				
C	R	U	S	T
23	1	7	4	2

**Sources:**

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## About CDRC

The **CITIZENS' DISASTER RESPONSE CENTER** is a non-government organization that pioneered and continues to promote community-based disaster management in the Philippines. CDRC operates nationwide through a network of regional centers affiliated with the Citizens' Disaster Response Network and through people's organizations. Organized in 1984, CDRC focuses its assistance to the most affected, least served and most vulnerable sectors of the population through preparedness and mitigation, emergency relief, and rehabilitation programs. CDRC produced this book, and is one of the partner organizations in the MICRODIS project.

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## About MICRODIS

MICRODIS is a project with the overall goal to strengthen preparedness, mitigation and prevention strategies in order to reduce the health, social and economic impacts of extreme events on communities:

- to strengthen the scientific and empirical foundation on the relationship between extreme events and their health, social and economic impacts,
- to develop and integrate concepts, methods, tools and databases towards a common global approach,
- to improve human resources and coping capacity in Asia and Europe through training and knowledge sharing

The MICRODIS consortium consists of leading academic and policy expert institutions from across Europe and Asia who are specialized in key areas of disaster-related health and social science disciplines.

Université catholique de Louvain (UCL)

Xavier University (XU) Research Institute for Mindanao Culture Inc. (RIMCU)

International Strategy for Disaster Reduction (ISDR)

Northumbria University (UoN)

University of Heidelberg - University Hospital Heidelberg (UKL-HD)

Finnish Institute of Occupational Health (FIOH)

Sweco Groner (SWECO)

Jadavpur University (JU)

Voluntary Health Association of India (VHAI)

University of Delhi (UoD)

Citizens' Disaster Response Center (CDRC)

Hanoi School of Public Health (HSPH)

HealthnetTPO (HNI) University of Indonesia (Uoi)

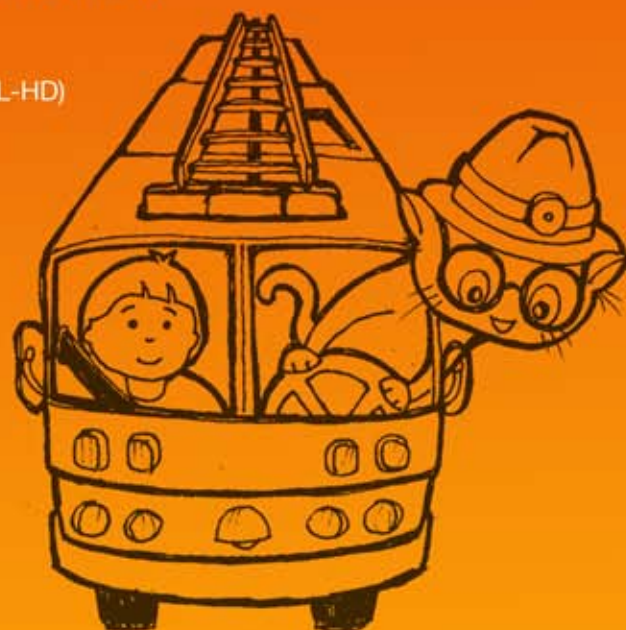
University of Paris Sorbonne (UPS)

Hue College of Economics (HCE)

University of Greenwich (UoG)

Evaplan (EVAP)

University of Florence



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