

When Disaster Strikes



Tanya Majmudar

What is a disaster?

A “disaster” is an event that causes damage on a massive scale. It can occur naturally or be caused by human activities. Some examples of disasters are floods, forest fires, thunderstorms and tsunamis. Disasters cause loss of life, damage property and environment. It is important to be prepared and know what to do in these difficult situations.

Can you say which of these disasters are natural and which are caused by humans?

earthquake _____

cyclone _____

oil spill _____

drought _____

explosion _____

volcano _____

Which disasters do you think these symbols represent?

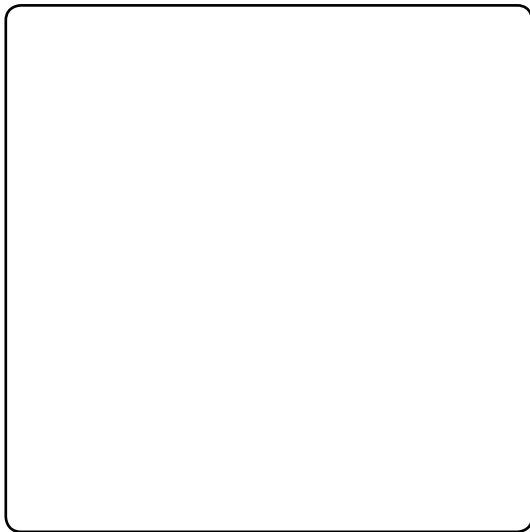




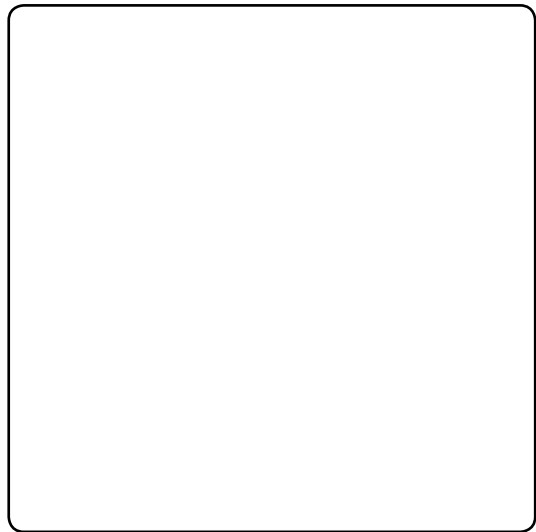




Draw symbols to represent these disasters.



earthquake



thunderstorm

Have you ever experienced a disaster? What was it like? How did you feel? Describe your experience here.

Have you ever faced a situation where you were really scared? What was it? How did you deal with it?

What would you do in case of a disaster? Whom would you call? Here are some important numbers to remember. Memorize them!

100 Police

101 Fire

102 Ambulance

108 Emergency Disaster Management



Earthquake

You might know that an earthquake is a sudden shaking or trembling of the ground. But have you ever wondered what causes it? Why does the earth suddenly start shaking like that?

The earth is not uniform throughout. It is formed of four layers – the inner core, the outer core, the mantle and the crust. The “crust” is what covers the surface of the planet. Now, this crust is not all in one piece. It is like a jigsaw puzzle, with many pieces fitted together. These pieces are called “plates”. It may not appear so, but these plates actually move! They move very slowly, and rub against each other. As you might imagine, they sometimes get stuck at the edges. As a result, there is a build-up of energy. When they slip, this energy is released, causing the ground to shake.

Scientists measure earthquakes on a scale from 0 to 10, called the “Richter scale”. The device used to do this is called a seismograph.

Earthquakes are more likely to occur in places where the earth’s crust is cracked. This means that there are some places which are more prone to earthquakes than others. In India, the places with the highest risk are Kashmir, the western and central Himalayas, North and Middle Bihar, the North-East Indian region and the Rann of Kutch. Earthquakes generally last for a short time, but there can be other smaller earthquakes after the major event. These are called “aftershocks”.

Answer these questions:

1. What is an earthquake?

2. What is an aftershock?

3. Why do earthquakes occur?

4. What is a seismograph?

5. Where do earthquakes occur?

Earthquake Safety

It is very easy to panic while an earthquake is happening. But it is important to be prepared! In the event of an earthquake, stay indoors and take cover under something sturdy. If you go outside, there is a risk of debris falling on you. Stay in one place. Avoid taking elevators, and being near electric fixtures or heavy objects that may fall on you. If you are trapped, cover your mouth so that you don't breathe in any dust. If you are outside, stay in open areas.

What would you do in case of an earthquake? Tick one option for each situation below.

1. You are at home when you suddenly feel the ground moving. What do you do?
 - a) run around the house
 - b) sit under a glass cabinet
 - c) sit under a strong table

2. You experience an earthquake while you are in your classroom. What do you do?
 - a) leave immediately
 - b) sit under a fan
 - c) get under your desk

3. An earthquake occurs while you are walking home from school. What do you do?
 - a) stand under a tree
 - b) move to an open ground or road
 - c) move closer to a building

4. Immediately after an earthquake, you are trapped under some debris. What do you do?
 - a) start screaming
 - b) tap on a pipe or wall so rescuers can find you
 - c) leave your mouth uncovered

Which was the last earthquake you heard or read about? Where was it? How much did it measure? How much damage did it cause?

Flood

Many of us love the rain. The flowers start blooming, the leaves become lush green and the air seems cleaner. But sometimes, the rain gets too much!

A flood is a situation where ground that is normally dry gets covered with water. Flooding can happen in many places. It can happen due to natural causes as well as human activities.

Heavy rainfall can cause floods. This happens when rain falls at a faster rate than what the ground can absorb. Humans sometimes make this situation worse by making buildings and roads in such a way that the absorption rate becomes very, very slow. Heavy rain can also cause rivers to overflow. In some places, rapidly melting snow causes rivers to overflow. Other natural causes such as landslips can block the path of rivers, causing floods. Rivers and canals can also be blocked by human activities. Another factor that causes floods is the release of water from dams.



Answer these questions:

1. What is a flood?

2. In which season/s is a flood likely to occur? Why?

3. Name three natural factors that cause floods.

4. Name three human activities that cause floods.

Do you remember hearing about any major flood in your area? Try to find out what caused it and write about it here.

Flood Safety

Floods can come with warnings. During the rainy season, listen to the radio or TV for any warnings on floods. If a flood is coming up, ensure that you keep an open passage for the water to flow out of your house. Keep in mind that flood water may be dirty as it would have come in contact with garbage and sewage. Identify higher places in your locality, which are likely to remain safe and dry. You may need to find your way there if the floods get too severe. Do not walk in fast flowing or deep water.

What will you do in case of a flood? Put a tick against the things you should do and a cross against the ones you shouldn't.

1. Before a flood, block storm water drains so that water cannot flow.
2. If you live in a house where flood water can enter, keep valuable items and electric items at a safe height.
3. Drink flood water.
4. Before stepping into water, check its depth by using a stick.
5. Plan ahead with your family where you will be in case of sudden floods.

Draw a map of your locality. Identify the potentially safe places during floods.

Cyclone

A cyclone is a circular, rotating storm that forms over warm waters. It is called a hurricane or typhoon in other countries. It causes heavy rains and huge ocean waves. Cyclones occur in India during the pre-monsoon, early monsoon, or post-monsoon periods. Cyclones begin over warm tropical seas in areas of low atmospheric pressure. The warm, moist air begins to spiral and becomes a strong, circling, wind storm. Cyclones are categorized based on their wind speed.

You might have heard the expression, “to be in the eye of the storm.” It means, “a temporary peaceful time during great trouble”. Do you know where this expression comes from? In cyclones, high speed winds spiral around a calm centre. This centre is called the “eye”. It is an area with no wind and clear skies, and is surrounded by a wall of clouds. When the eye passes you, it seems as if the storm has ended. However, the opposite side of the storm brings back the strong winds and heavy rain.

Since cyclones form over water, coastal areas are most at risk of being affected. In India, the states of Andhra Pradesh, Orissa, and West Bengal are especially at risk.

Answer these questions:

1. What is a cyclone?

2. What time of the year do cyclones occur?

3. What is the “eye” of a cyclone?

4. How are cyclones categorized?

5. Where in India are cyclones likely to occur?

6. During a cyclone, if the wind and rain stop suddenly, you shouldn't immediately step outside. Why?

Cyclone Safety

Scientists use satellites and radars to track cyclones. When a cyclone is expected, trees must be trimmed and dead ones must be cut down. Some flooding can be expected during cyclones, so identifying a safe, high area in your locality is essential. Check the condition of your house. Loose or broken things must be repaired. Keep all your belongings indoors. Store a week's food and drinking water. During a cyclone, turn off electricity. Stay indoors and away from glass windows. When you step outside after a cyclone, be aware of hanging electric lines. You could get electrocuted!

Draw five things that you associate with cyclones.

--	--	--	--	--

If you were the leader in your locality, what changes would you make reduce negative impacts of cyclones?



Fire

Fires are caused due to various reasons. There are forest fires which happen due to natural causes, kitchen fires, fires due to electrical short circuits, and many more. Do you know – in most fires, victims don't die of burning. They die much before the flames actually reach them. Smoke contains a large number of carbon particles. Breathing smoke prevents oxygen from reaching people's lungs, causing them to suffocate. Apart from the carbon in smoke, fire fumes also contain toxic gases, emitted from the burning of different objects around the house. These can be highly dangerous.

Answer these questions:

1. Give any three ways in which a fire is caused.

2. How does a fire kill you?

Fire Safety

Since fires are of different types, the methods of controlling or putting them out are different as well. Water, foam, carbon dioxide and dry chemical powder are among the things used to suppress fires. However, all methods are not effective against all fires. For instance, if water is used on an oil fire, it will cause the fuel to spread, making the situation worse! Similarly, it shouldn't be used in an electrical fire either. In order to effectively put out a fire, one must first identify the type of fire. Fires are categorized in different classes.

Class A – ordinary materials such as cloth, paper, and wood. Most methods are effective against a class A fire.

Class B – flammable liquids like oil. Foam or dry chemicals are used on a class B fire.

Class C – flammable gas. Dry chemical is used on a class C fire.

Tick the correct option

1. What will you use to put out an electrical fire?

- a) carbon dioxide b) water c) oil

2. What will you use to put out a petrol fire?

- a) water b) foam c) air

What to do when caught in a fire

If there is a fire in your building, even a small one, leave immediately. Don't wait for it to spread! When you're trapped in a building on fire, keep low and try to crawl out, as smoke and fumes collect towards the ceiling. If your clothes catch fire, do not run. Fire needs oxygen, and running will give it just that. Running might make the fire grow. Instead, drop to the ground and roll on the floor.

In the space below, draw and depict what you would do if your clothes were on fire.

Which number will you call when you see a building on fire?

What is a fire drill?

Imagine that there is a fire in your school building. What would happen if everyone suddenly started running about in all directions, desperate to escape? It would create quite a bit of chaos, wouldn't it? A fire drill is a series of steps to be practised in order to know exactly what to do when a fire occurs. The procedure involves leaving the building in an orderly fashion and meeting outside at a common assembly point. A roll call is then done to ensure that everyone was able to leave the building.

Does your school have fire drills? If not, ask the authorities to organize one.

First Aid

First Aid is emergency assistance or treatment given to a person who is sick or injured. Let's say your friend has had a fall and has suffered many cuts and bruises. You have called for an ambulance. But what do you do while you are waiting for it to arrive? For such events, it is handy to have a box that contains all supplies and equipment necessary for giving first aid. Such a box is called a "first aid kit". A first aid kit may be useful for injuries due to accidents, bleeding wounds, burns, snake bites and many other circumstances. It is a good idea to keep a first aid kit ready, especially when there is a warning of any disaster.

What would you put in your first aid kit? Circle the appropriate items.

Band Aid	Milk	general antibiotic	cotton	pencils
headphones	chocolates	make-up	Dettol	thermometer
pain killers	crepe bandage	books	broom	stapler
cap	cooking oil	gauze roll	screw driver	Iodex
tweezers	Perfume	shampoo	scissors	mobile phone

Interview someone who has experience in giving first aid. Write down three things to do when you come across someone who is unconscious.

References

<http://www.arvindguptatoys.com/arvindgupta/disaster-activities.pdf>
<http://www.fema.gov/media-library/assets/documents/34288>
http://nidm.gov.in/safety_earthquake.asp
http://www.weready.org/earthquake/index.php?option=com_content&view=article&id=60&Itemid=73
<http://earthquake.usgs.gov/learn/kids/eqscience.php>

<http://kids.britannica.com/elementary/article-390127/tropical-cyclone?>
<http://kidcyber.com.au/tag/facts-about-cyclones-for-kids/>
<https://www.oxfordshire.gov.uk/cms/content/fire-drill-routine-schools>
<http://www.redcross.org/prepare/location/home-family/get-kit/anatomy>

Tanya Majmudar is a content developer for environment education and works for Pune-based NGO, Kalpavriksh. She can be reached at <tanyamajmudar@gmail.com>.