

地震から身を守るためのアドバイス 英語

# Advice for Protecting Yourself in an Earthquake





## Let's Learn About Earthquakes

Sendai has been heavily damaged by earthquakes many times. Ask your neighbors what happened at those times and gather information.

The 1978 Miyagi Earthquake (M 7.4) occurred on the evening of June 12th. In Sendai City, many people became victims in the collapse of concrete-block walls and other structures.

On the afternoon of March 11, 2011, a large earthquake (M 9.0) caused the Great East Japan Earthquake Disaster. In Sendai's Miyagino and Wakabayashi wards, many lives were lost in a tsunami.

\* M (magnitude) is a unit of measure of the size of an earthquake.

## What's Dangerous About Earthquakes?

### Fires



After an earthquake, there is a chance that fires will break out. In areas that are crowded with buildings, a fire may spread throughout the entire area.

### Tsunamis



If an earthquake occurs in the ocean, there is a chance of a tsunami. People near oceans and rivers must exercise caution.

### Collapsing buildings



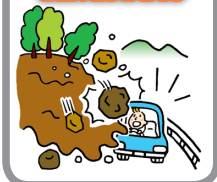
Houses and other buildings may collapse, and people may be caught under them. Newer buildings (those built after the 1981 amendment to the building code) are comparatively safer.

### Falling objects



There is a chance that furniture, computers, and lighting fixtures may come crashing down. You could also be injured by stepping on broken glass. If you are outdoors, there is a chance you could be caught under falling vending machines, walls, signs, or other objects.

### Landslides



People near steep mountain slopes and cliffs must exercise caution.

## Problems Encountered in the Great East Japan Earthquake

### ① Lack of information

For a period of time after the earthquake, it was unusually difficult to obtain a cellular phone or internet connection. The inability to charge cellular phones due to power outages was also a problem.

Many people were troubled by not knowing what was happening, or being unable to contact family and friends.

### ② Power outages

In the best cases, power was restored the next day; excluding heavily-damaged areas, in other areas power was restored within a week. Nights were uneasy without any electric lighting.



### ③ Water outages

Many areas experienced water outages, and it took from a few days to a week before water was restored. People had trouble securing water for drinking and daily activities.



### ④ Inability to flush toilets

With water outages came the problem of being unable to flush toilets. People who had left their bathwater in the tub were able to use that water to flush the toilet.

### ⑤ Gas outages

In most areas, it was over a month before gas was restored. The inability to cook or heat rooms and bathwater was a problem.

### ⑥ Food shortages

It was difficult to secure food, and even after waiting in a long line people could only buy small amounts of food.

### ⑦ Lack of transportation

Trains, subways, and the Shinkansen stopped running for a period of time, and busses were less frequent. Cars and motorcycles could not be used due to gasoline shortages. The number of people using bicycles increased.

# What You Can Do to Prepare for an Earthquake

## ① Imagine what you would do

What would you do if there were an earthquake right now? What if it were nighttime? It's important to imagine a variety of scenarios and discuss them with your family, friends and acquaintances.



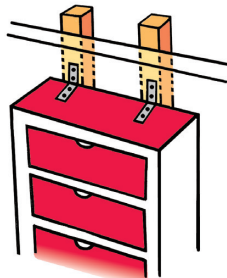
## ② Earthquake-proof your home

### a) Prevent furniture and appliances from falling over

Furniture and appliances may fall over in an earthquake. You can make your home safer by fixing furniture and appliances to the wall with fasteners available at home centers and other stores.

•It's dangerous to store heavy objects in high places.

•Is there any furniture that could fall and block access to an exit?



b) Lighting fixtures suspended from the ceiling are safer if they are lightweight

c) Leave slippers, a radio, and a flashlight by your bedside

What would happen if there were an earthquake while you were sleeping? In order to avoid being injured by stepping on broken glass, leave a pair of heavy slippers by your bed. To prepare for a power outage, leave a radio and flashlight in an easily accessible place.

d) Have a fire extinguisher handy

You can buy a fire extinguisher at home centers and other stores.

## ③ Confirm safe areas and roads around your home

### a) Confirm a safe place near your home

Wide-open areas such as parks where things will not come falling down are safe. If there is a large fire and you have to take refuge in a safer place, it will be easier to escape to a place that is accessible by multiple roads.

b) In coastlands, confirm a high place you can escape to in case of a tsunami

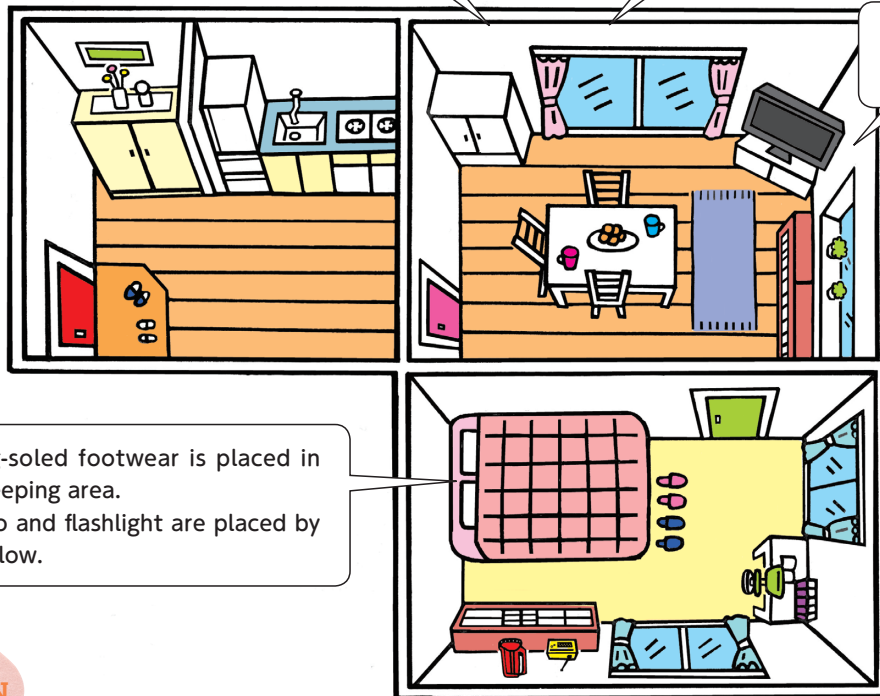
In the event that there is no high land in the area, confirm the location of a tall, strong building, and

Heavy objects are stored in low places

Furniture is securely fastened to the wall  
Furniture is arranged so that even if it falls over, it won't block the door.

The television is fastened down

Strong-soled footwear is placed in the sleeping area.  
A radio and flashlight are placed by the pillow.



## COLUMN

"Because I had confirmed the roads I would use to escape ahead of time, I was able to escape quickly after the earthquake. But it was nighttime, so it was pitch black and I couldn't see anything. I was very scared. I think next time I will try walking the route at night as well." (From a resident's experience of the Great East Japan Earthquake Disaster)



whether it can be entered at night and on weekends and holidays.

**c) Are the roads you might use to escape safe?**

There is a chance that you could be caught under falling concrete-block walls, vending machines, or other objects. Narrow roads could become blocked by falling objects.

**④ Confirm your refuge area**

In Sendai City, public elementary and junior high schools as well as other buildings are designated as refuge areas. Confirm the designated refuge area nearest to your home and safe roads you can use to get there by actually walking the route.

**⑤ Decide on a method of communication with your family and friends**

In the Great East Japan Earthquake Disaster, for a period of time after the earthquake, it was very difficult to obtain a connection on cellular phones and smartphones. Decide with your family and friends now how you will get in contact and where you will meet in case of a disaster.

☞ Try out the emergency message board described on page 7 ahead of time.

**⑥ Gather items to take with you when you escape**

It's convenient to have the items you will need in a bag that you can grab quickly before taking refuge. Make sure you have items like a first aid kit and contact lenses in a place where you can grab them quickly



**Emergency Kit Contents**

- A copy of your Residence Card
- Cash (with plenty of coins and 1,000 yen bills)
- Socks and underwear •Gloves •Rain gear
- Flashlight •Radio •First aid kit •Lighter/matches
- Plastic bags
- Food that does not require preparation
- Other personal items you may require, such as household medicines, contact lens solution, and sanitary napkins

before leaving.

It's also convenient to have food that does not require preparation, such as canned food, and bottled water in your home in case of food shortages or water outages.

**⑦ Meet people in your neighborhood**

In a disaster, cooperation is a major source of strength. Greeting your neighbors on a daily basis can come in handy in a disaster.

Do you know who lives in your neighborhood?

**⑧ Confirm a means of obtaining information**

In a disaster, it is very worrying not to have information. Find out ahead of time how you can get information.

☞ page 8

**Useful Information**

**① The strength of tremors in an earthquake is its “震度 (shindo) : seismic intensity” ; the size of an earthquake is its “magnitude”(M)**

The size of an earthquake is expressed by magnitude (M) all over the world, but the measurement of the strength of the tremors differs by country.

**“Seismic Intensity” as used by the Japan Meteorological Agency**

しん ど よん  
震度 4  
(shindo yon)

Most people will feel tremors while walking. Most people will awake from sleep.

しん ど ご じやく  
震度 5 弱  
(shindo go jaku)

Food and books may fall from shelves.

しん ど ご きやう  
震度 5 強  
(shindo go kyau)

Unsecured furniture may fall over. (Taihaku Ward in the Great East Japan Earthquake Disaster.)

しん ど ろく じやく  
震度 6 弱  
(shindo roku jaku)

It is difficult to stand up. Most unsecured furniture will move, and may fall over. Doors may become unable to be opened. (Aoba Ward, Wakabayashi Ward, and Izumi Ward in the Great East Japan Earthquake Disaster.)

しん ど ろく きやう  
震度 6 強  
(shindo roku kyau)

It is impossible to stand up. Nearly all unsecured furniture will move, and much of it will fall over. (Miyagino Ward in the Great East Japan Earthquake Disaster.)

しん ど なな  
震度 7  
(shindo nana)

Nearly all unsecured furniture will move and fall over, and may go flying.

**② Earthquake Early Warning**

This is a system that will warn of a strong earthquake before tremors begin. A special chime will sound on the television and radio, cellular phones and smartphones. (The system may be incompatible with some cellular phones.)



# When there is an Earthquake



## If You Are at Home

### ① Protect your head

When you feel an earthquake, hide under a strong desk and protect your head. Hold firmly onto the legs of the desk so that you do not fly out from under it. If there is no furniture under which to hide, protect your head with a cushion or other object.



Extraordinarily strong tremors will normally stop within one minute, but in the Great East Japan Earthquake Disaster, they continued for around three minutes.

### ② Don't panic and rush outside

It's dangerous to panic and rush outside. When leaving a building, watch out for objects falling from above.



### ③ Extinguish fires after tremors have weakened

Approaching a fire during strong tremors is dangerous. Extinguish fires after tremors have weakened.



### ④ Secure an exit by opening a door

Buildings may warp, making doors unable to be opened. After tremors have weakened, secure an exit as soon as possible by opening a door. It is especially important to secure an exit in tall buildings such as large apartment buildings.



## If You Are Outside

### ① Stay away from concrete-block walls and vending machines

They may come falling down. Move away from them as soon as possible.



### ② Watch out for falling objects such as signs and window glass

Move away from buildings.



## If You Are at School or in a Shop

### ① Protect your head

Hide under a desk, or, if there is no furniture under which to hide, protect your head with a cushion or other object.

### ② Watch out for falling objects

If you feel tremors when you are in a hall or other area with objects such as lighting fixtures suspended from the ceiling, watch out. There is a possibility they may come crashing down.



### ③ Don't panic and rush outside

Stay calm and follow the instructions of your teacher or store clerk.

## If You Are in an Elevator

Push the buttons for all floors and get off as soon as possible.

## If You Are Driving a Car

Slow down gradually, stop on the left-hand side of the road and turn off the engine. Listen for news on the radio. If you go to a refuge area, leave your car and go on foot.



# After Tremors Have Settled Down



## ① Look around

Is it safe inside your home?  
Have you turned off all gas- and oil-burning appliances?  
Are there any fires?  
During aftershocks, there is a chance that your home may be further damaged or that fires may spread and trap you.

After a large earthquake, there may be a series of smaller earthquakes. These are called aftershocks. Walls and other structures that were weakened in an earthquake may become further damaged in the aftershocks.

## ② Gather information from the television and radio

Within minutes of the occurrence of an earthquake, its size and seismic intensity in each area, and whether there will be a tsunami, will be broadcast on the television and radio. When a Major Tsunami Warning or a Tsunami Warning is issued, NHK TV will broadcast in English, Chinese, Korean, and Portuguese on supplementary sound channels. NHK Radio 2 (Sendai 1089 kHz) will broadcast repeatedly in Japanese, English, Chinese, Korean, and Portuguese.



## ③ Watch out for tsunamis

When an earthquake occurs in the ocean, there is a chance of a tsunami. The Japan Meteorological Agency aims to announce within two to three minutes of the occurrence of an earthquake whether there will be a tsunami, the estimated wave height, and the estimated time of arrival. If you feel an earthquake when you are near the ocean, check the television or radio for this information right away. If a tsunami is coming, get away from the ocean and escape to a safe place immediately.

### Japan Meteorological Agency Tsunami Warnings and Advisories

おおつ なみけいほう  
大津波警報  
(ootsunami keihou)  
Major Tsunami Warning

A large tsunami is approaching that will cause heavy damage

つ なみけいほう  
津波警報  
(tsunami keihou)  
Tsunami Warning

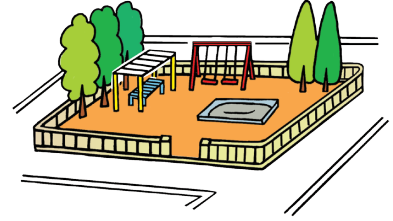
A tsunami that will cause damage

つ なみちいほう  
津波注意報  
(tsunami chuuihou)  
Tsunami Advisory

It is dangerous to be in or near the ocean

## ④ Go somewhere safe

A wide-open area where nothing will come falling down on you, and which has multiple escape routes, is safe. If a large fire breaks out, you will have to escape to a safer place. It is safer to have multiple escape routes.



## ⑤ Call out to the people around you and help each other

If you see someone who needs help, please help them.



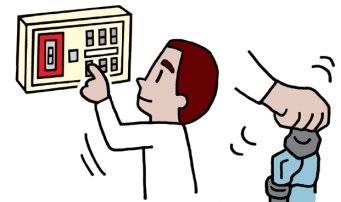
## ⑥ If your home is not safe, go to a refuge area

It is very dangerous to be alone in a damaged home. Take minimal belongings with you and go to a refuge area. In Sendai City, public elementary and junior high schools, as well as other buildings, are designated as refuge areas.



## ⑦ Checklist for leaving your home to go to a refuge area

- Make sure your heater is turned off.
- Flip your breaker switch.
- Turn off your gas at the main.
- Make sure your faucets are turned off.
- Take your valuables (identification, cash, bank card, etc.).
- Take your cellular phone or smartphone and charger.
- Put on warm clothing.
- Take your emergency kit.
- Close and lock your windows and doors.
- If you are unable to contact your family and friends, post a memo stating where you are going on your front door.





## What to Do After Arriving at your Refuge Area

### ① Sign in

Write your name and information on the sign-in sheet at the reception desk. This will allow various people to be informed of your whereabouts.

Even if you stay in your home, if you are unable to cook due to power, gas, or water outages, you can receive food and water at your refuge area. You can also use specially set-up toilets.

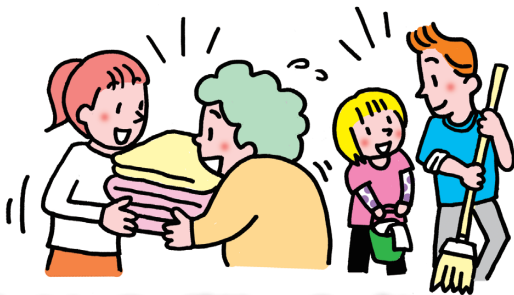
### ② Get water, food, and information

Take only the amount of water and food you need at that time.

Information is collected at refuge areas. If you see someone who having trouble due to not understanding the language and you are able to interpret, please help.

### ③ Help out

Refuge areas are run by those who have come to seek refuge. If you are able-bodied, please help by carrying materials, cleaning, etc.



## What to Do if You Can't Contact Your Family and Friends

In a disaster, it becomes difficult to obtain a connection on cellular phones and smartphones. Try the following methods.

- It's comparatively easier to connect to unaffected areas, so tell someone far away where you are.
- It's easy to get a connection on public telephones.
- If you can't connect by telephone, try e-mail.
- Use an emergency message board for phones and smartphones.

### Emergency message board for cellular phones and smartphones

When there is a large disaster, an "emergency message board" option will appear on the top screen of cellular phones and smartphones.

#### Posting a message

Emergency message board → Post a message → Write message → Post

#### Reading a message

Emergency message board → Read a message → Enter a phone number → Search → Message appears

## Telling People Where You Are

When there is a large disaster, please inform your embassy, school, workplace, etc. of your whereabouts. They can pass your information on to people who are searching for you, and will likely be seeking to confirm your safety.

## Commonly-Used Japanese Phrases in Times of Disaster

ひなん 避難 (hinan)	Escape; go to a safe place.
とほ 徒歩で (toho de)	On foot.
たかだい 高台 (takadai)	High ground.
ゆつどう 誘導 (yuudou)	Give someone directions to a place.
うがい 迂回 (ukai)	Detour.
あんぴ 安否 (anpi)	(Check) whether someone is safe.
おうえいしょち 応急処置 (oukyuu shochi)	First aid.
そな 備える (sonaeru)	Prepare.
ていでん 停電 (teiden)	Power outage.
だんすい 断水 (dansui)	Water outage.
きゅうすいしゃ 給水車 (kyuusuishsha)	Water truck.
ひ 火の始末をする (hi no shimatsu wo suru)	Turn off gas- and oil-burning appliances.
ふつう 不通 (futsuu)	Not running; impassible.
うんでん 運転を見合わせる (unten wo miawaseru)	(Trains are) not running.
きけん 危険 (kiken)	Dangerous.
きゅうじょ 救助 (kyuujo)	Help.
けいかい 警戒 (keikai)	Caution.
さまた 妨げ (samatage)	Obstruction.

すみやかに、ただちに (sumiyaka ni , tadachi ni)	Soon.
立ち入り禁止 (tachiiri kinshi)	Do Not Enter
通過禁止 (tsuukou kinshi)	Do Not Pass
付近 (fukin)	Near.
ひか 控える (hikaeru)	Avoid.
身の安全を確保 (mi no anzen wo kakuho)	Protect yourself.

FM Taihaku	78.9MHz
FM Izumi	79.7MHz

### ③ Sendai Disaster Multilingual Support Center

When there is a large disaster, the Sendai Disaster Multilingual Support Center is set up inside Sendai International Center and provides information in English, Chinese, and Korean.

You can also contact Sendai International Center for advice in foreign languages.

Address: Inside Sendai International Center  
Aobayama, Aoba Ward, Sendai City  
TEL: 022-224-1919 / 022-265-2471  
FAX: 022-265-2472  
<http://int.sentia-sendai.jp/saigai/>

#### SenTIA MAIL

The Sendai Tourism, Convention and International Association (SenTIA) provides a variety of information by e-mail in English, Japanese, Chinese, and Korean. We also provide information by e-mail in times of disaster.

☞ Register at <http://int.sentia-sendai.jp/e/activity/mailmagazine.html>

#### SenTIA's Facebook • Twitter

“Like” us to automatically receive our updates.

☞ Search for Sendai Tourism, Convention and International Association on Facebook

You can get the latest information if you follow us on Twitter

☞ Follow @SENTIA\_info on Twitter

## How to Obtain Information

### ① Refuge areas

You can see information from City Hall and other sources. Important information may be posted in English and other languages.

### ② Radio

The Sendai Tourism, Convention and International Association (SenTIA) cooperates with radio stations in Sendai to provide useful information in English, Chinese and other languages over the radio.

Radio stations that broadcast in foreign languages with the cooperation of with the cooperation of SenTIA

Date FM (FM Sendai)	77.1MHz
Radio 3	76.2MHz

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