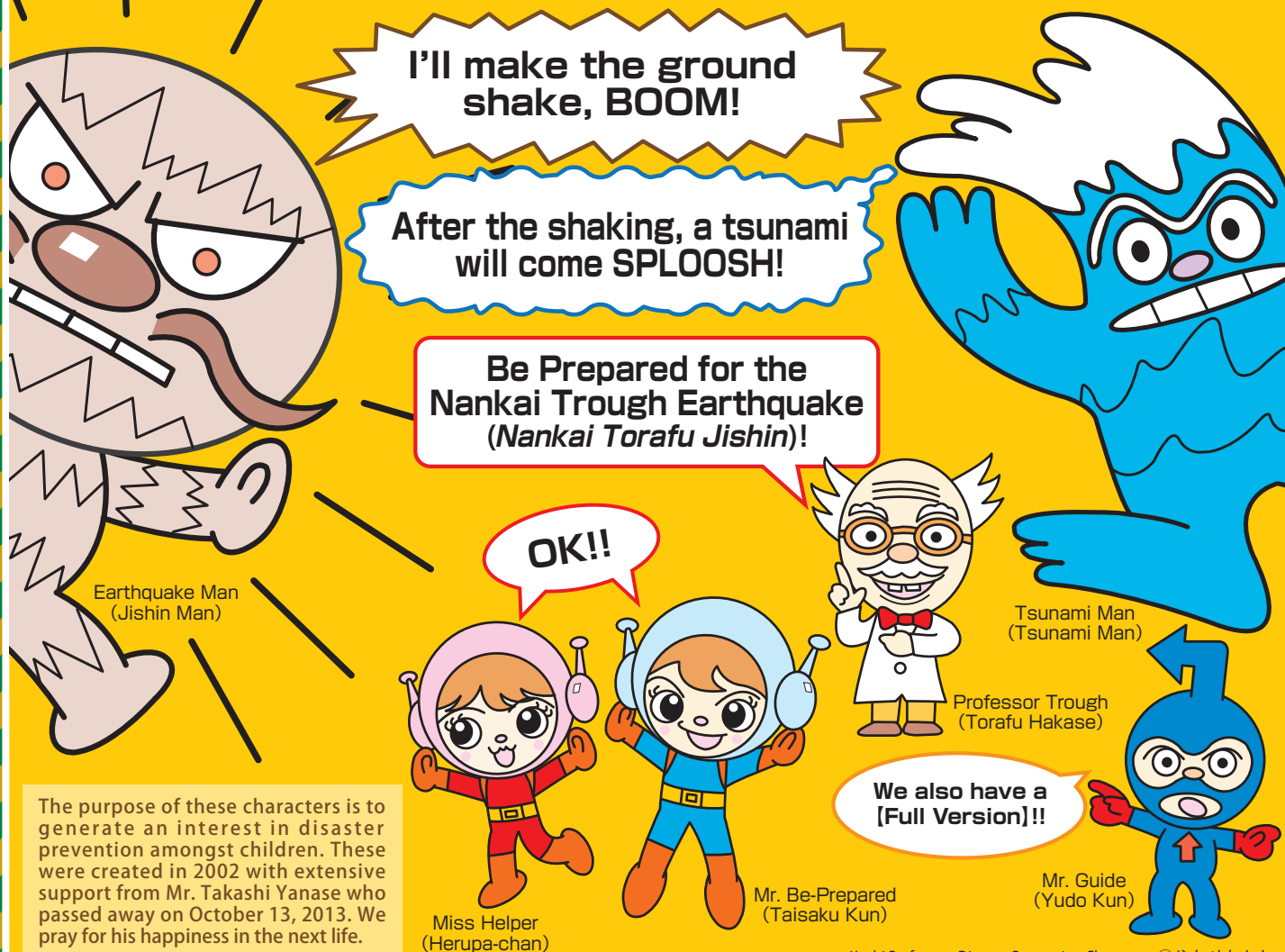


An Information Booklet for the International Residents of Kochi

**Revised
Edition**
Summary

PREPARING FOR THE NANKAI TROUGH EARTHQUAKE (NANKAI TORAFU JISHIN)!



The purpose of these characters is to generate an interest in disaster prevention amongst children. These were created in 2002 with extensive support from Mr. Takashi Yanase who passed away on October 13, 2013. We pray for his happiness in the next life.

Kochi Prefecture Disaster Prevention Characters ©やなせたかし

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Things to note about this booklet

This booklet uses the romanization of Japanese words to teach essential phrases in Japanese. Please try to pick them up as you read through this booklet.

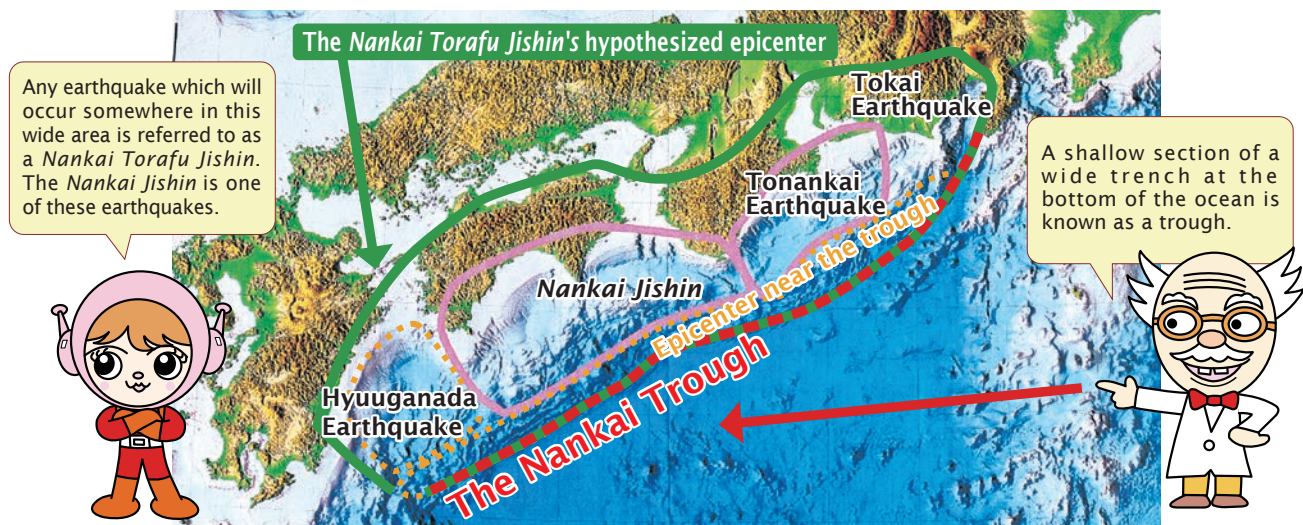
What Kind of Earthquake is the *Nankai Torafu Jishin*?

The Nankai Earthquake (*Nankai Jishin*) and *Nankai Torafu Jishin*

The *Nankai Jishin* has generally occurred every 100 to 150 years near Kochi.

Nankai Torafu Jishin refers to a large-scale earthquake whose epicenter will be located in the earth's crust at the Nankai Trough and/or its surrounding areas. The *Nankai Jishin* is what we call a *Nankai Torafu Jishin* with an epicenter near Kochi.

■ Image of Hypothesized Epicenter



Predicted Casualties of the *Nankai Torafu Jishin*

In a worst-case-scenario earthquake and tsunami, huge casualties and damage are expected with the death toll in Kochi Prefecture to reach 42,000 people, and over 153,000 houses destroyed or burnt down. However, if everyone prepares as outlined in this booklet, the casualties will be greatly reduced.

■ Predicted loss of life and assets (published by Kochi Prefecture, May 2013) Casualties (deaths) are based on the worst case scenario

■ Expected Damage

Buildings Totally Destroyed, Burnt Down	Approx. 153,000
Injured	Approx. 36,000 people (of these, 20,000 seriously)
Deaths	Approx. 42,000 people
Water Supply Disruption	Approx. 575,000 people (82% of water users)
Loss of Power	Approx. 521,000 houses (99% blackout)
Evacuees	Approx. 438,000 people

■ Breakdown of Destroyed Houses and Burnt Buildings

Liquefaction Damage	Approx. 1,100
Shaking	Approx. 80,000
Landslide	Approx. 710
Tsunami	Approx. 66,000
Fire	Approx. 5,500
Total	Approx. 153,000

○ Data Based on the Following Projections
 ・ Shaking : When a large area of land directly underneath Kochi Prefecture shakes strongly
 ・ Tsunami : In the instance of a large tsunami forming in the Shikoku Ocean

■ Breakdown of Casualties

	Injured	Dead
Building Collapse	Approx. 33,000 people	Approx. 5,200 people
Landslide	Approx. 140 people	Approx. 110 people
Tsunami	Approx. 2,900 people	Approx. 36,000 people
Fires	Approx. 300 people	Approx. 500 people
Total	Approx. 36,000 people	Approx. 42,000 people

○ Data Based on the Following Projections
 ・ Time : Midnight in winter
 ・ Houses Earthquake Resistant : 74%
 ・ Tsunami Early Evacuation Percentage : 20%

【概要版】の作成目的 (The Purpose of the [Summarized Edition])

当冊子は、留学生や技能実習生などの短中期日本在留者が南海トラフ地震対策を立てる際に、さしあたり何をしなければならないかについての理解を助け、来日してからの早い時期に必要な最小限の対策を実行することができるように指南することを目的として作成したものです。長期の在留が見込まれる方は【通常版】をご利用ください。

The aim of this pamphlet is to increase awareness of counter-measures for the Nankai Trough Earthquake for short term residents of Japan such as exchange students and technical interns so that they can enact essential measures quickly after their arrival. For long term residents please use the [Full Version].

Preparation ①: What is the largest seismic intensity that will occur where you live and at your office or school? Will a tsunami come?

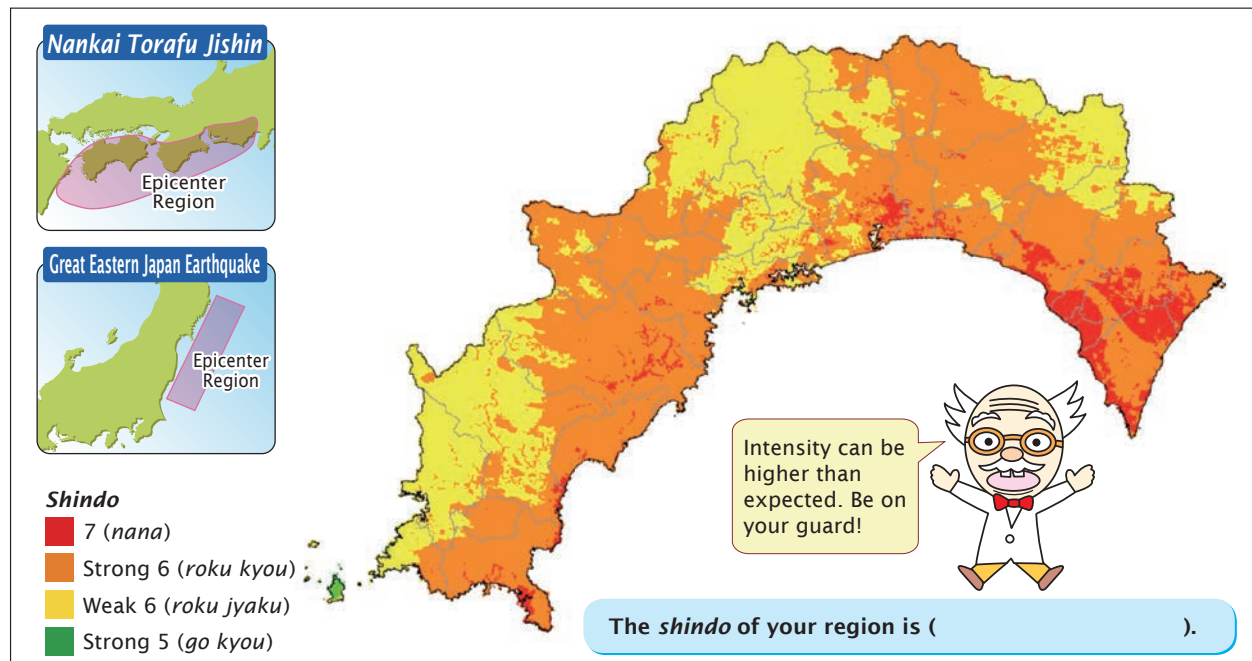
The first step of preparation is to find out how dangerous an earthquake or tsunami will be in the areas where you live, work, and/or go to school.

What is the largest seismic intensity that will occur where you live and at your office or school?

In Japan, seismic intensity (*shindo*) is separated into 10 categories, the larger the number the bigger the damage. (This only shows the top five levels of damage. If you want to know more please look in the **【Full Version】**.)

<i>Shindo</i>	Damage
Weak 5 (<i>go jyaku</i>)	Many people will feel scared and try to take cover. Unstable items may fall over. Some glass windows may crack or break.
Strong 5 (<i>go kyou</i>)	Many people will find it difficult to move normally. Televisions will fall. Weak concrete walls may fall over.
Weak 6 (<i>roku jyaku</i>)	It is difficult to stand. Walls, tiles and glass windows will break and drop from some buildings. Weak wooden houses might collapse.
Strong 6 (<i>roku kyou</i>)	You will be unable to stand. Many walls, tiles and glass will break and fall. Concrete buildings may also collapse. The ground cracks open and landslides occur.
7 (<i>nana</i>)	You will be unable to stand. Even buildings with high earthquake resistance will sway and break. Large ground cracks and landslides will occur, changing the terrain.

Seismic Intensity Distribution Map (Strongest *Shindo* Superimposed) (Published by Kochi Prefecture, December 2012)



Will a tsunami come to your house, office or school?

→ Please find out the height of the tsunami and when it will arrive and write it here.

Tsunami height : _____m Tsunami estimated arrival : _____minutes

How do you find out?

You can find out by going to the division in charge of disaster prevention in your municipality. You can also find out on the prefectural website 「[南海地震に備えて GOOD!!](http://www.pref.kochi.lg.jp/~shoubou/sonaetegood/)」.

Homepage [http : //www.pref.kochi.lg.jp/~shoubou/sonaetegood/](http://www.pref.kochi.lg.jp/~shoubou/sonaetegood/) (Japanese)

Preparation ②: Strengthen Your House (earthquake reinforcement for buildings, securing furniture, furniture placement, etc.)

If you do not own your residence, it can be difficult to make it earthquake resistant on your own. If you are living in a rented place, begin with securing your furniture and determine furniture placement.

For more information about earthquake reinforcement, please see the **【Full Version】**.

Securing Furniture

● **What happens when furniture isn't secured?** (Inside buildings during the Great Hanshin Awaji Earthquake)



Left) A home
(Provided by Kobe City Media Department)

Right) An office
(Provided by Hyogo Prefecture Media Department)

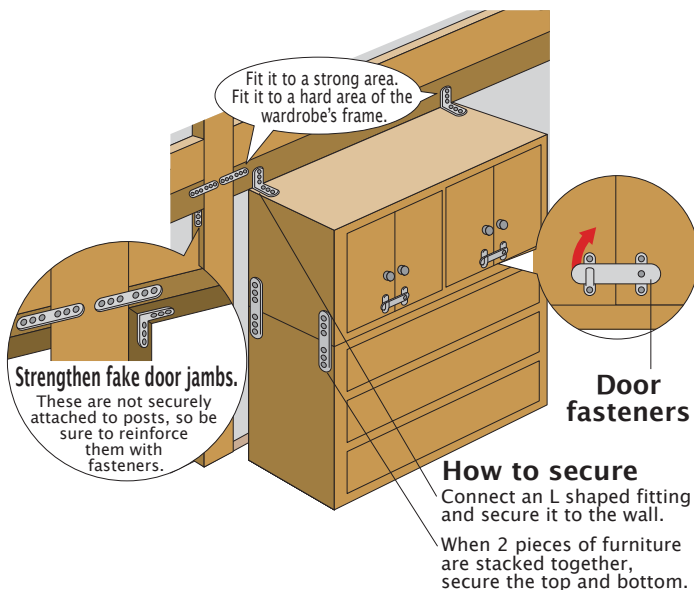
Securing Furniture and Appliances, with Estimated Costs

The costs are an estimate based solely on the item required. Other costs such as labor fees are not included. (If you are renting your place, remember to ask the landlord for permission.)

Items That Must Be Secured

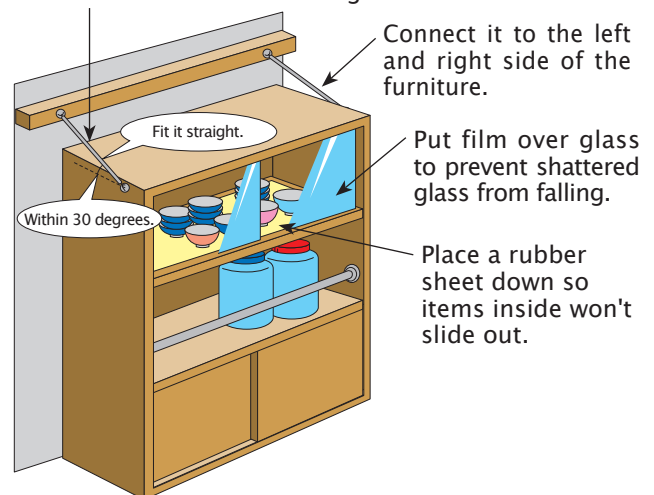
Wardrobes, bookshelves, cupboards, shoe racks, refrigerators, microwaves, televisions, computers, pianos etc.

How to secure a wardrobe with metal fittings (cost : approx. ¥2,500~)



How to strengthen a cupboard using belts, rubber sheet, and shatterproof film (cost : approx. ¥2,500~)

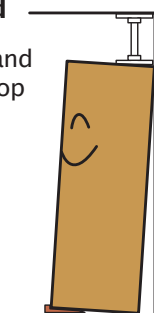
The belt or chain connected to the furniture must be within 30 degrees. It will fall over if it isn't straight.



How to secure a wardrobe using a pole or stopper (cost : approx. ¥2,500~)

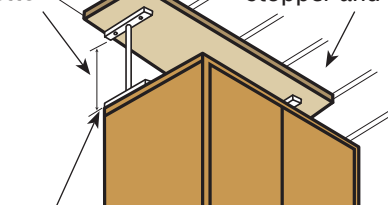
● Pole Method

Using a stopper and a mat, put it on top and underneath furniture.



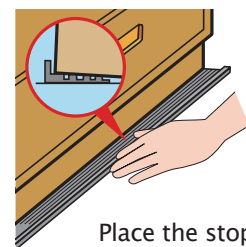
The smaller the gap between the ceiling and the furniture, the better.

When the ceiling isn't strong, put a thick board between the stopper and the ceiling.



Put on both ends of the piece of furniture, against the wall.

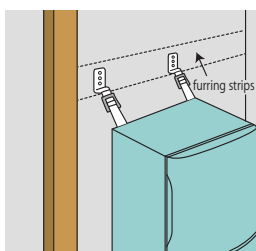
● Stopper Method



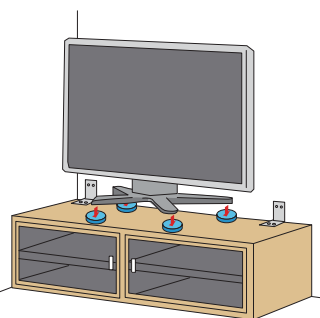
Place the stopper from one end of the furniture to the other.

Securing a refrigerator with belts (cost : approx. ¥2,000~)

Securing a television and stand using fittings and adhesive tape (cost : approx. ¥1,500~)

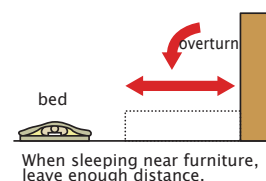
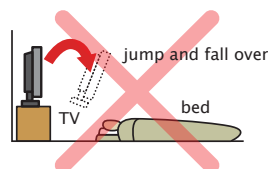
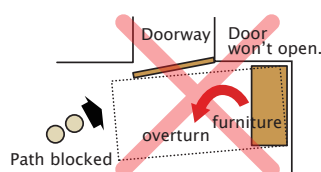


Secure to the furring strips
(the large, wide planks of
wood inside the walls).



Furniture Placement

Don't place furniture in bedrooms or doorways.



Preparation ③: Decide on a Meeting Place for After the Earthquake Occurs

An earthquake may occur at a time when you are not with your family or friends. As such, it is important to decide on where to meet up with your family or friends (e.g. a shelter (Page 7), a friend's house, etc.) when you cannot return home.

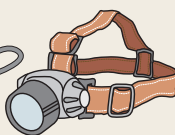
Those living in tsunami inundation areas should decide on a meeting place where a tsunami will not reach. Confirm your route ahead of time, and find out how long it takes to walk there.

Preparation ④: Prepare "Emergency Supplies" and "Emergency Stockpiles"

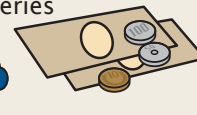
Emergency supplies for when earthquakes occur and emergency stockpiles for life as an evacuee are different!

Emergency Supplies (What to Carry When Evacuating)

- Glasses, Hearing Aid, False Teeth, Daily Medicine
- Helmet, Disaster Hood, Sneakers, Whistle



- Flashlight (Torch), Portable Radio and Spare Batteries
- Cash (include coins), Valuables, Passport, Residence Card, Insurance Cards



- In preparation for an earthquake occurring during the night, place emergency supplies such as a torch, radio, and shoes near your bed.

Emergency Stockpiles (Things to Stockpile for Life in a Shelter) : store enough to last more than 3 days!

- Drinking Water : 3L per person per day



- Food : Water, electricity and gas will not be available for an extended period, so consider the following when stockpiling

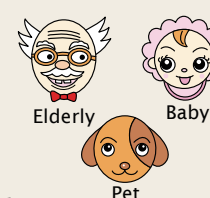
- Hard biscuits and crackers, canned food (items that last a long time without being refrigerated or cooked)
- Boil-in-bag foods
- Knife, can opener
- Milk powder, baby bottle (for families with babies)



- Other items that may be required for your household for religious reasons and so on :

- Soft food which is appropriate for the elderly or small children
- Vegetarian food, Halal food, foods you aren't allergic to
- Internal medicine (if you require medical equipment then please find out how to take it with you prior to a natural disaster)
- Pet products (pet food, cage, litter)

- Keep extra water and food on hand, and replace often, by using the older items first.



Preparation ⑤: Learn Necessary Japanese to Survive

We have gathered the most commonly used Japanese words used during a disaster to survive an earthquake or tsunami. Please learn these words.

Vocabulary

1. 地震 (jishin) : Earthquake	13. 高台 (takadai) : Elevation/High Ground
2. 震源 (shingen) : Epicenter	14. 揺れ (yure) : Sway/Shake
3. 津波 (tsunami) : Tsunami	15. 安否 (anpi) : One's Safety
4. 避難 (hinan) : Evacuate/Escape/Take Shelter	16. 救助 (kyuujou) : Relief/Aid
5. 避難勧告 (hinan kankoku) : Evacuation Advisory	17. 救援物資 (kyuuen busshi) : Emergency Provisions
6. 避難指示 (hinan shiji) : Evacuation Order	18. 消火 (shouka) : Extinguish a Fire
7. 避難所 (hinanjo) : Shelter	19. 断水 (dansui) : Water Supply Disruption
8. 震度 (shindo) : Seismic Intensity	20. 停電 (teiden) : Power Outage
9. 余震 (yoshin) : Aftershocks	21. 警報 (keihou) : Alarm Warning
10. 危険 (kiken) : Danger/Dangerous	22. 注意報 (chuuihou) : Advisory Warning
11. 火事 (kaji) ・ 火災 (kasai) : Fire	23. 行方不明 (yukue fumei) : Missing
12. 逃げる (nigeru) : Escape/Run Away	24. 死者 (shisha) : Deceased

Phrases

- ① ○○に連れて行ってください。(○○ *ni tsurete itte kudasai*.)

Please take me to ○○.

- ② ○○が欲しいです。(○○ *ga hoshii desu*.)

I want ○○.

- ③ ○○が痛いです。(○○ *ga itai desu*.)

My ○○ hurts.

- ④ 家族が家の中にいます。(kazoku ga ie no naka ni imasu.)

My family is in the house.

- ⑤ ○○語を話すことができる人を見つけてください。

(○○ *go o hanasu koto ga dekiru hito o mitsukete kudasai*.)

Can you please find me a person who speaks ○○?

- ⑥ ○○に電話をしてください。(○○ *ni denwa o shite kudasai*.)

Please call ○○.

Actions to Take When Shaking Begins, During Shaking, and Just After Shaking Stops

When a large earthquake occurs, casualties will also be high so it is difficult to save everyone.

The first thing to do is to protect your head from falling items.

It is important to remember that you are responsible for **PROTECTING YOUR LIFE!**

As soon as you feel tremors, you should do the following straight away!

■ Learn that an earthquake is occurring using the Early Earthquake Warning System (Kinkyuu Jishin Sokuhou)

Just before the heavy tremors begin, TV, radio and mobile phones will give a warning that an earthquake will occur (however, places close to the epicenter may not receive this warning in time). When you see or hear this warning, don't rush, remain calm and evacuate (*hinan*) to a safe place.

※Some mobile phones need to be set to receive this warning. Please check at a store of your mobile phone provider to see if it is set to receive this warning.

■ Protect your head

Beware of falling items and protect your head.

■ Stay away from dangerous places

Stay away from concrete walls and cliffs.
They may collapse or fall over.

What should I do if I am in a house or building when an earthquake occurs?

● If you are in a house

Large furniture, bookshelves and picture frames may fall, so you should take cover under a sturdy table or desk.

※If something heavy is capable of crushing the table, please run to somewhere safer.

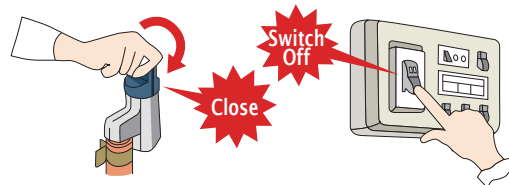


● If you are in a facility with many people

Follow the person in charge.
Remain calm and move accordingly.
Don't rush to the exits.

● When the shaking stops

Turn off all flames from gas appliances and shut the valve. Also flip the breaker for your electricity.

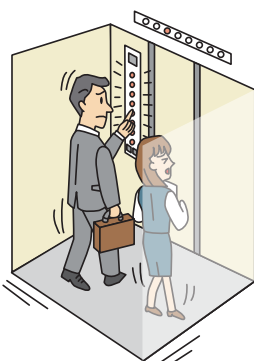


※If a fire (*kasai*) starts, try to extinguish immediately using a fire extinguisher while flames are still small, and to evacuate (*hinan*) to a safe place as soon as you feel any danger to your life.

● If you are in an elevator

If you feel shaking, press the buttons for every floor and get off at the first floor it stops at.

Some elevators may detect the shaking and automatically stop at the nearest floor.



What should I do if I am outside when an earthquake occurs?

● If you are in the street

If you are walking near a building, beware of falling objects like glass and signboards, cover your head with whatever you are carrying, and find a safe place to take refuge.



● If you are near a concrete wall or vending machine

Immediately move away as there is a danger that it will collapse.



● If you are in the mountains

Move away from cliffs as there is the possibility of landslides.



● Be aware of aftershocks (*yoshin*)

After a large earthquake, earthquakes may occur several times so please be cautious.

The Meteorological Agency will advise of aftershocks so please listen to the TV and radio carefully.

Do not enter damaged houses as it is dangerous, and stay away from places where rocks and dirt could fall such as mountains and cliff sides.

● If you are driving

As soon as you feel a tremor, gradually slow down, pull over to the left and turn off your engine. Turn on your hazard lights to make your car easily noticed by other vehicles.

Avoid parking if you are at the base of a wide slope or at the mouth of a tunnel as there is the danger of landslides.

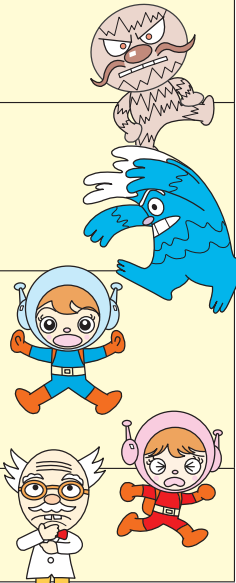
When you leave the car, **leave the doors unlocked and keys in the ignition.**

Take your valuables with you.

Get out of your car and evacuate. Beware of passing vehicles.



How to Escape from a Tsunami

Tremors ↓	When tremors begin, protect yourself. After large tremors, or tremors that continue for a long time, assume that a tsunami will come.	
Get Ready ↓	When the tremors stop collect only what you need and run. (Glasses, medicine, portable radio, flashlight, keep them ready so that you can evacuate any time.) (Please see page 4) Do not wait for a Tsunami Alarm Warning (<i>Tsunami Keihou</i>) or Tsunami Advisory Warning (<i>Tsunami Chuuihou</i>) just take yourself and run.	
Quickly ↓	Evacuate quickly to the meeting place you decided on (→page 4). When you are in an unknown place and are unaware of where you should evacuate, go to elevated ground (<i>takadai</i>) or up a building. Depending on the waves, you may want to move even higher. Generally, move quickly and do not use a car. (You may be caught in traffic or unable to find your car keys and unable to escape in time.)	
Until the <i>tsunami keihou</i> is lifted	Tsunami come several times. Please confirm on a radio etc that the tsunami has finished before you return home. Never return home until the <i>tsunami keihou</i> has been lifted.	

Life at the Shelter (*Hinanjo*)

Many people will be living in the *hinanjo*. As it is not your house, there are many inconveniences. Everyone should work together.

What is a *hinanjo*?

A place where people who have lost their homes can go to after an earthquake to live (such as a school, official building or park). *Hinanjo* have useful information for living, and collect food and water necessary for survival.

Q When should I go to a *hinanjo*?

- A
- When your house is broken and you have nowhere to live.
 - When aftershocks could damage your house, and it is dangerous to live there.
 - When there is the possibility of landslides around your house.
 - When your furniture is strewn about your house and you cannot live there for the time being.
 - When there is nobody else living nearby, or when water surrounding your home doesn't retreat etc.



Q What should I be aware of when living in a *hinanjo*?

- A
- Please make the most of the daily interactions with your neighbors.
 - Please obey the rules of the *hinanjo*.
 - Do not be a guest; help where you can and work with other people in the *hinanjo*.
 - Help the sick, disabled, elderly, pregnant and children.

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