

# What you should discuss with your family

Simulate earthquake conditions. Discuss each family members role, evacuation methods and communication methods.

Earthquake countermeasures  
Preparation



## ① Decide upon the roles of each individual

Assign roles for protective measures as well as roles for individuals at the time of an earthquake occurrence.

## ② Check for dangerous areas

Look inside and outside of the house thoroughly for possible dangerous areas.

## ③ Secure a safe space in the house

Create a safe space in the house by moving furniture.

## ④ Check the emergency carryout items

Check and make sure all the essential emergency carryout items are assembled together.

## ⑤ Check the disaster prevention equipment

Learn how to use a fire extinguisher. Learn first-aid.

## ⑥ Confirm communication methods and evacuation sites

Confirm communication methods and evacuation sites in case of separation from your family.

## Emergency Messaging Service

### Remember "171" !

In the time of a disaster, regular phone lines may be out of service or overloaded. Use the NTT Emergency Messaging Service.

How to use the Emergency Messaging Service:

**To record your messages** ..... **171+1 +(000) 000-0000**  
Record the message (in less than 30 seconds)

**To listen to messages** ..... **171+2 +(000) 000-0000**  
Listen to the message (for less than 30 seconds)

The phone service is only in Japanese, please get help from others.  
\* Cell phone companies provide message board services in emergencies, where you can register your condition or check on others' condition.

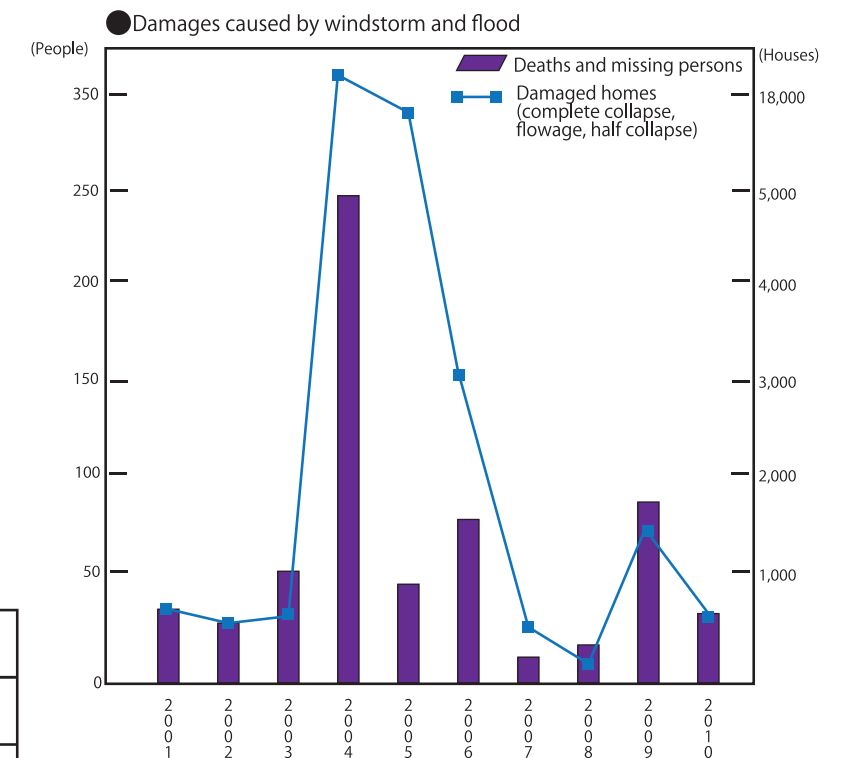
If you are in an earthquake-affected area, enter your home phone number. If you are outside of the earthquake-affected area, enter the phone number of the person in the affected area (start with the area code).

# Windstorms and floods are natural disasters. Be cautious of weather changes!

Windstorms and floods countermeasures  
Information Guide



There are an average of twenty-six typhoons around Japan each year, and they cause damage all over Japan. They are created by strong wind and heavy rainfall. Damage such as floods and landslides may follow concentrated, heavy rain. It is a common misunderstanding for people to believe that wind and flood damage only occurs in areas near mountains and rivers. In recent years, there have been cases of concentrated heavy rains causing the lifeline of cities to break, leading to the flooding of basements resulting in deaths.



### ● Wind strengths and the damages

Average wind speed (meter/second)	Terminology	Predicted damages
10 and above ~ less than 15	Slightly strong wind	Difficulty walking against the wind. Loose signs and noticeboards may fly away.
15 and above ~ less than 20	Strong wind	Cannot walk against the wind. Difficulty driving on a highway with decent speed.
20 and above ~ 30 or less	Exceptionally strong wind (storm)	You fall down unless holding onto an object. Glass breaks due to flying objects.
25 and above ~ less than 30		Cannot keep standing. Dangerous to drive cars. Concrete fences will break.
30 and above	Furious wind	Roofs are blown away. Wooden house will start collapsing.

### ● Rain intensity and the damages

Hourly quantity of rain (ml)	Terminology	Predicted damages
10 and above ~ less than 20	Slightly strong rain	Raining sound. Difficulty hearing conversations due to the sound of rain.
20 and above ~ less than 30	Strong rain	Downpour of rain. Sewage and river overflow. A few landslides occur.
30 and above ~ less than 50	Hard rain	Rain as if buckets of water were turned over. Landslides become more prevalent.
Mais do que 50 a abaixo de 80	Exceptionally hard rain	Rain like waterfalls, and water starts to penetrate to underground. Mudslides become more prevalent.
Mais do que 80	Furious rain	There is danger of a large-scale disaster occurrence. Serious precaution is needed.

## Major disaster caused by heavy rain

### River flooding

River flooding occurs due to an increase in the amount of water flowing in a river. The water will overflow and banks will be destroyed.

### Internal water flood

Drainages are blocked by the increased amount of water from rivers or high ocean waves. Water will overflow the drainage ditches or sewers.

### Damage from landslide

#### ● Mountain landslide, cliff landslide:

Mountain slopes suddenly collapse. It happens in a split second.

#### ● Mudslide

Accumulated mud and rocks in the slope or valley are forced to flow suddenly. It has a potentially destructive power.

#### ● Landslide

A landslide on a relatively gentle slope. It occurs on a wider scale

# Danger approaches suddenly!

In wind and flood disaster, you may think you are still safe, but the situation may change very suddenly. Once the danger has approached, it may be too late. Therefore, be prepared to react quickly when you notice any changes.

## When wind is blowing strongly

### On the road...

Be aware of the dangers of road signs flying off or roadside trees falling down. Evacuate to closest secure building. However, if the strong wind is accompanied by rain do not evacuate underground.

### If you are inside a building...

There is a danger of glass fragments, broken due to wind pressure or flying objects, blowing inside. Sticking gummed tape on the windows and closing curtains will help.

### If you are at the seaside...

There is a danger of falling into the ocean or getting caught in big waves. There is also a danger of high tide, so quickly evacuate to a higher plate.

## During heavy rain fall

### If you are at the riverside...

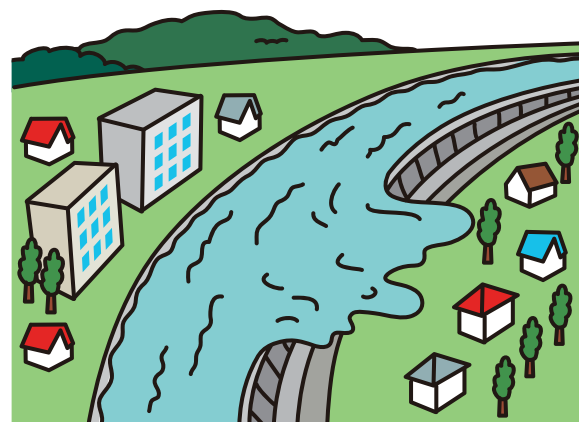
There is a possibility of a sudden increase in water level or a sudden mudslide due to the heavy rain at the upper part of the stream. It is the best you do not go near rivers during the rain.

### If you are driving...

In the pouring rain, visibility will be reduced, and your car may not function well. Try to drive close to the center of the road where there is less water, and slowly head towards the nearest high area.

### If you are experiencing flood on the road...

Evacuate to a tall building. There is a possibility of getting trapped in the elevator so use the stairs to reach the higher levels of the building.



## When you are concerned about the damage

### Keep an eye on the environmental changes around you

Pay attention to the warning and advisory announcements from the Meteorological Agency on TVs or radios.



### Do not go outside unless it is necessary

When a typhoon is approaching or there is a risk of rainstorm do not go outside unless it is necessary.

### Move furniture

If there is a risk of flood, move all the furniture, household goods, valuables, daily necessities and food to a higher location in the house.

### Reinforce windows

Reinforce all windows by covering the window with wooden boards from outside, or applying duct tape in an X shape.

### Evacuate to a safe place

If there is the possibility of danger, make sure to evacuate the children, elderly, and sick people to a safer location in the house in advance.

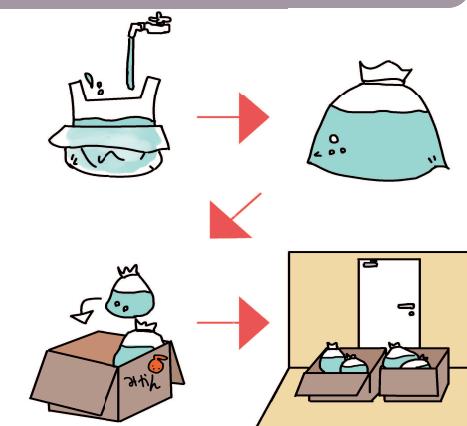
## How to make homemade water or soil blockages

### To keep your house from being flooded.....

In the early stage of a flood, when the water is still at a shallow depth, you can use household materials to block the water and keep it from entering the house.

#### ■Using trash bags

Double the approximately 40L trash bags and fill them up half way with water. Place the bags in a line without leaving any gaps. If you place them in cardboard boxes, and line up the cardboard boxes, the strength will increase, and they can be stacked on top of one another.



# Learn correct information, and respond accordingly

Nuclear power counter measurement

Information Guide



Nuclear disaster measures

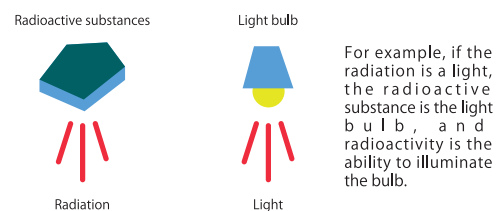
The Great Eastern Japan Earthquake caused the Tokyo Electric Company's Fukushima Daiichi Nuclear Power plant accident, and this resulted in serious radioactive pollution. There are many nuclear power plants in Japan, therefore, nuclear disaster is not something foreign to the people of Japan. Let's prepare ourselves to respond accordingly with the correct knowledge so that we will not be lost when a disaster strikes.

## What is radiation?

Let's learn the basics about radiation. The relationship between "radiation", "radioactivity" and "radioactive substances" is often confused. They all mean something different. Materials that radiate radiation are called radioactive substances. The ability to radiate radiation is radioactivity. Radiation has existed since the creation of the universe, and radiation, called cosmic ray, is released onto the earth. On the earth, there are radioactive substances such as radium, granite, and potassium. Potassium is one of the minerals contained in food, and it contains radioactive substance.

We are exposed to radiation every day in normal, daily life. The average radiation dosage of the world is 2.4mSv (millisievert) per year.

### The difference between radiation and radioactive substances



### The difference relating to the unit used for radioactive substances

**Sieverts (Sv):** It represents the degree of affect the human body receives from radiation. 1Sv=1,000mSv (millisievert)=1million μSv (microsievert).

**Becquerel(Bq):** It represents the strength of radiation.

## What is the difference between external exposure and internal exposure?

Being exposed to radiation through a source outside your body is called "external exposure". Being exposed to radiation through a source that is inside your body is called "internal exposure".

## There is a newly establish standard value of radioactive substances found in food

After the Fukushima Daiichi nuclear accident, the Ministry of Health, Labour and Welfare set a temporary standard value on the radioactive substances contained in food. Food that has less than the temporary standard value is considered safe, having no negative impact on our health. However, to assure the safety and reliability of food, a new standard value was set in April 2012.

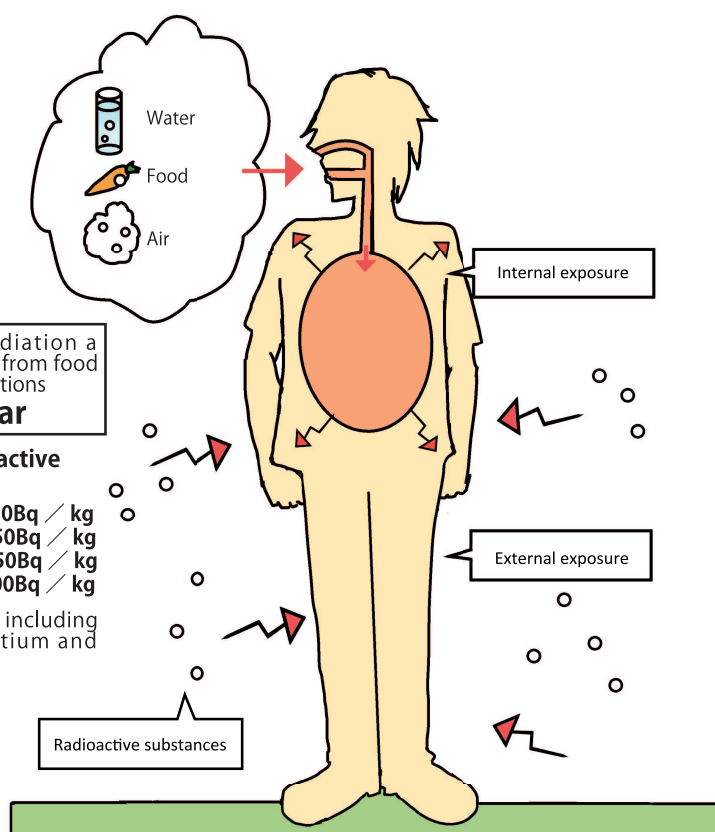
In the new standard value, the highest maximum exposed dosage was dropped from 5mSv to 1mSv per year. On the standard value of radioactive cesium in food (\*), food was divided into four groups, considering that children can be more sensitive to radioactive substances.

Upper limit of radiation a person can receive from food under normal conditions  
**1mSv/year**

### Baseline of radioactive cesium (\*)

Drinking water	10Bq / kg
Milk	50Bq / kg
Baby food	50Bq / kg
General food	100Bq / kg

\* Baselines are set including radioactive strontium and plutonium.



Nuclear power counter measurement

Information Guide

Three principles to help you protect yourself from radiation

Use appropriate objects to make a shield (evacuate inside buildings, evacuate inside concrete buildings)

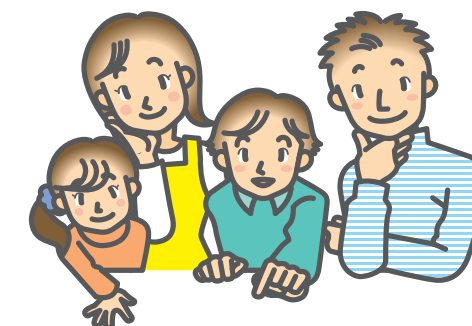
Keep as great a distance as possible from the radiation source (evacuate).

Minimize the radiation exposure time.

# When you are instructed to shelter indoors

## The effectiveness of sheltering indoors

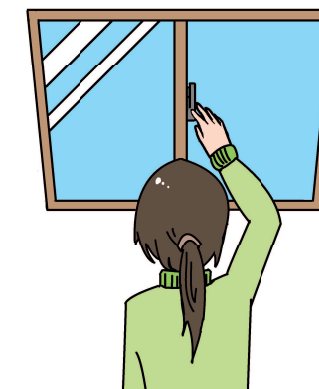
When you evacuate inside the building, the roof and walls can block the radiation. There are two types of indoor evacuations: the first is to take shelter inside your home, the second is to take shelter in a bigger building such as a school, where the roof and walls are made of concrete. When the predicted radiation level is low, evacuating to basic wooden houses will lessen the impact from the radiation.



## Actions you must take for indoor evacuation

When you are instructed to shelter indoors, calmly enter a building such as your home, close the doors and windows and consider your next move.

- Turn off the fans or air conditioning.
- Close all doors and windows
- After entering your home from outside, wash your hands and face.
- It is important not to let any radiation that is floating in the outside air enter your home.
- Bring your pets inside.
- Avoid contacting people by phone.
- Listen carefully to individual receivers, outdoor announcing towers, loudspeaker vans, TV, and radios.
- Put a lid or wrap on the food in the house.
- Change your clothes (place the clothes you were wearing previously in a bag and separate them from the rest of your clothes).



# When instructed to shelter in a concrete building or to evacuate

Nuclear power counter measurement

Action guide

## Effectiveness of evacuating

Concrete buildings have higher ability to block radiation than wooden houses.



## Actions you should take when evacuating

When you hear instructions to shelter inside concrete buildings or evacuate, confirm the instructions and calmly comply.

- Heed the correct information from TV, radio, individual receivers, and outdoor announcing towers.
- Gather your valuables but be sure to keep your belongings to a minimum. Be sure to wear a hat, jacket, and long pants (the point is to keep skin exposure to a minimum).
- Turn off the main gas valve and unplug all electric outlets.
- Do not forget to close and lock your doors
- Leave a note at home that includes your evacuation site and your condition.
- Talk to your neighbors and go by foot to gather at the evacuation site.



## Easy internal exposure defense when you are outdoors

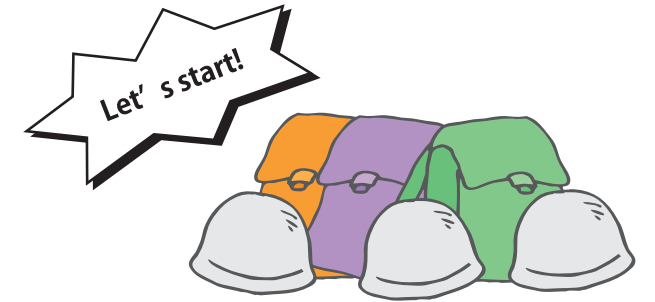
**Kusatsu City is located within 60km of a nuclear power plant, so it is important not to inhale the radioactive substances that are blown by the wind.** Covering your mouth and nose with masks or handkerchiefs can prevent internal exposure caused by inhaling radioactive substances.



# Daily preparation to prevent damage from escalating!

Disaster prevention preparations

Preparation



When disaster strikes suddenly, no one can predict what is going to happen. To always be prepared, it is helpful to have knowledge of first-aid and have emergency evacuation materials set aside.

Preparation for disaster prevention

### ●Great Hanshin Awaji Earthquake Data

Human damage figures	Lifeline damage figures (at peak)
Deaths: 6.434 pessoas	Cut off from water supply: approximately 1.3 million homes *Ministry of Health and Welfare
Missing: 3 pessoas	Interruption of gas supply: approximately 860,000 homes *Agency for Natural Resources and Energy
Serious injuries: 10.683 pessoas	Black outs: approximately 2.6 million homes *Agency for Natural Resources and Energy
Minor injuries: 33.109 pessoas	Cut off phone lines: 300,000 lines *Ministry of Posts and Tele Communications

\*The values given of cut off water supply, black out, and cut off phone lines are the values at peak.

## Helpful first-aid knowledge

### Bleeding

1. Place gauze or towel on the bleeding spot, then compress the spot with your hand.
2. Position the wounded area above the heart if possible. To avoid infection, use plastic gloves or plastic bags if available.

### Burns

1. Cool down the affected area with running water (Be careful not to apply direct water pressure to the burned area).
2. If the burned area is covered with clothes, cool down the area without removing the clothes.
3. Do not pop any blisters.
4. After cooling down the wound, cover with sterilized gauze or clean cloth and go to a medical facility.

### Bone fracture

1. Stabilize the fractured part with a splint, and go to a medical facility.
2. If you cannot find an appropriate splint, use available items such as a board, a magazine, an umbrella, or a cardboard box.

### Sprain

1. Cool down the injured area.
2. Without removing shoes, immobilize with a triangular bandage or a rug.

