

# AN ADVENTUROUS FACE-OFF

With Thunderstorm & Lightning



## **An Adventurous Face-Off with Thunderstorm & Lightning**

Comic book series about 5 major hazards (Cyclone, Domestic Fire, Earthquake, Heatwave and Thunderstorm & Lightning) for spreading awareness amongst children in the age group of 8-13 years.

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Inside Kinjal's home....

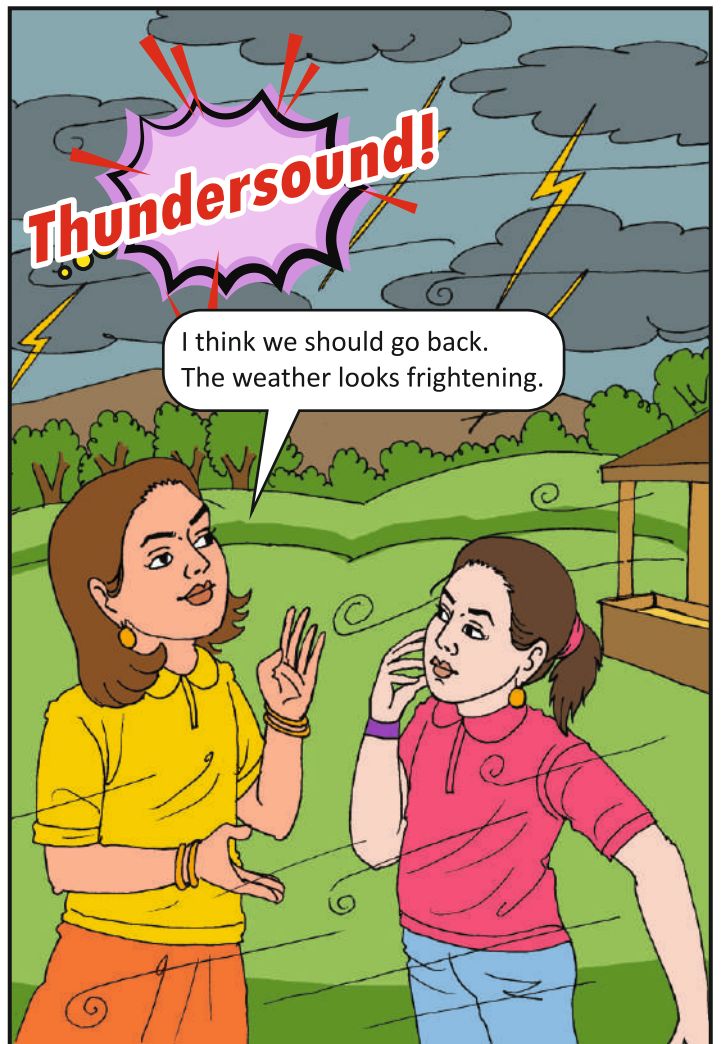
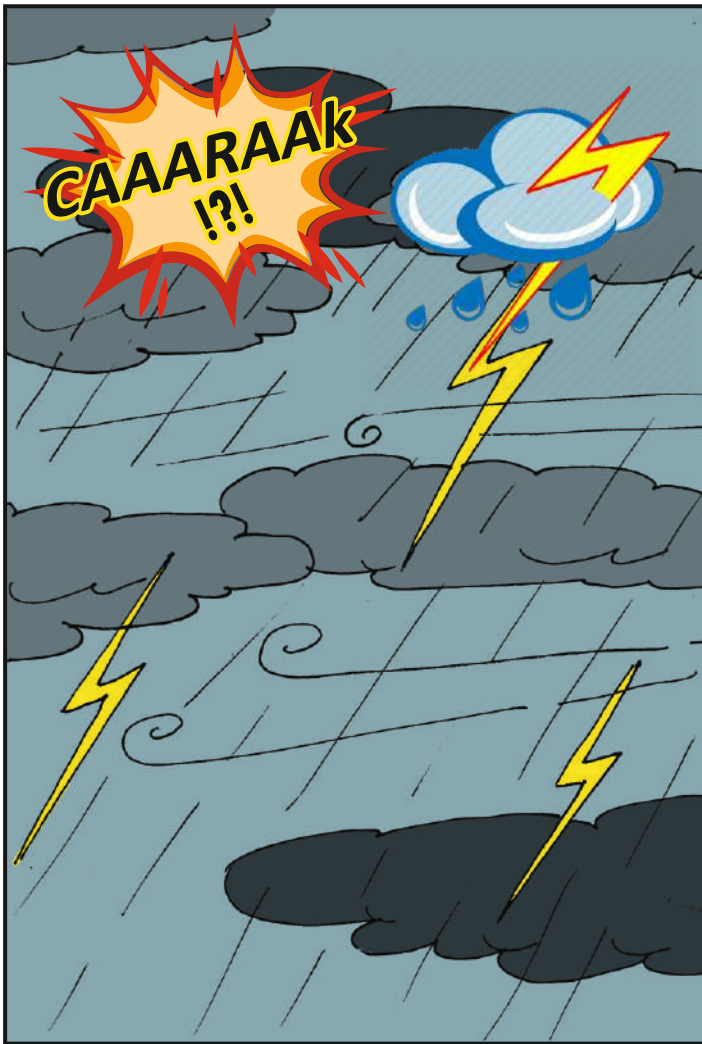




The girls have come a little far away from their house.











When you are in open, you can crouch down by....

Crouch down by putting weight on the toes of feet



Heels together



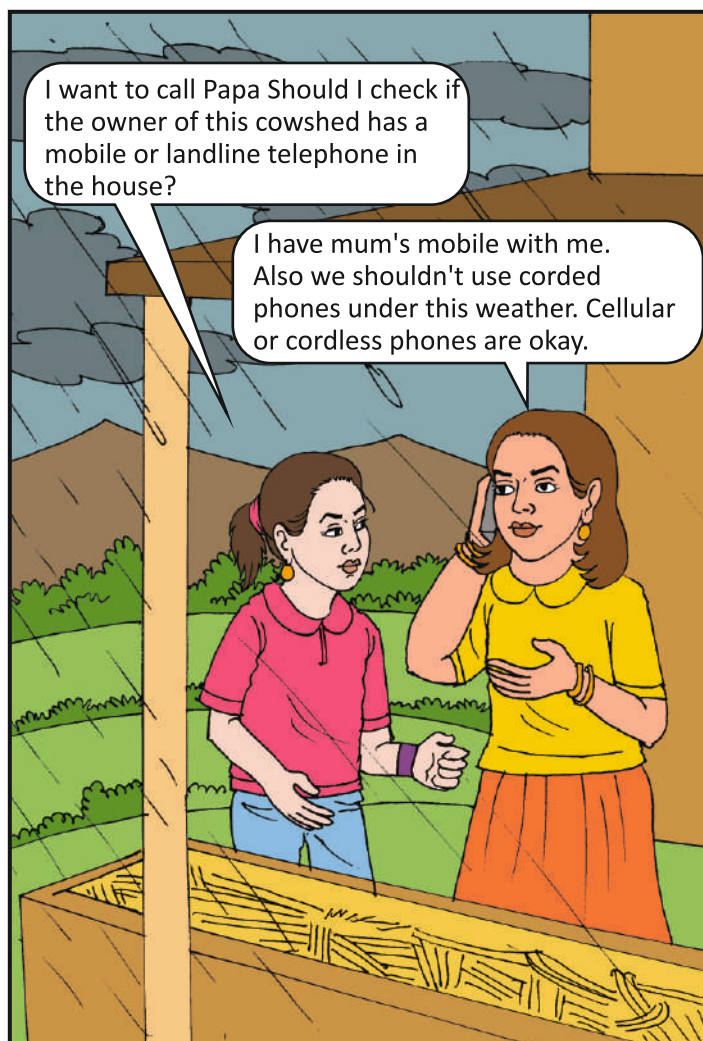
Head lowered, eyes closed and ears covered



And maintain a distance from each other

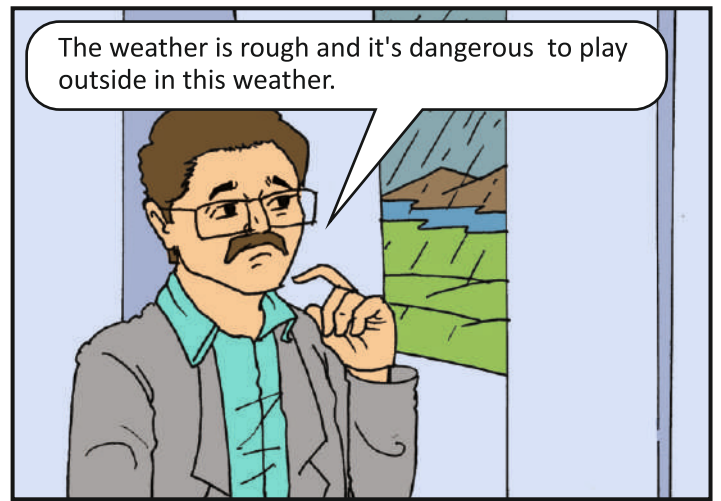




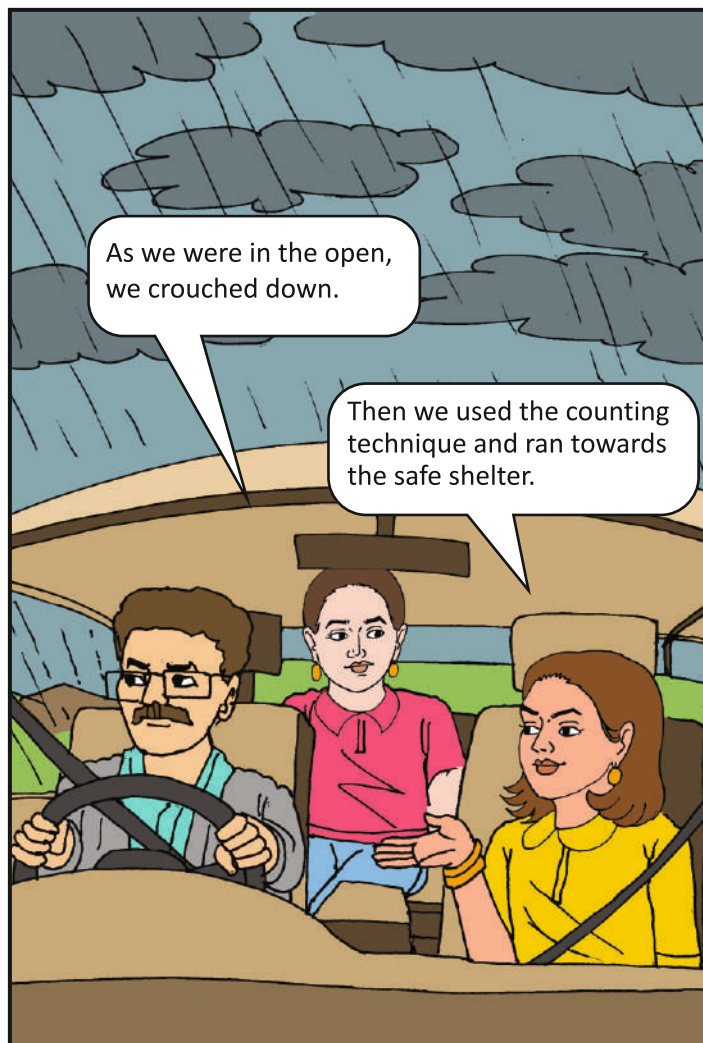




On the other side...at home

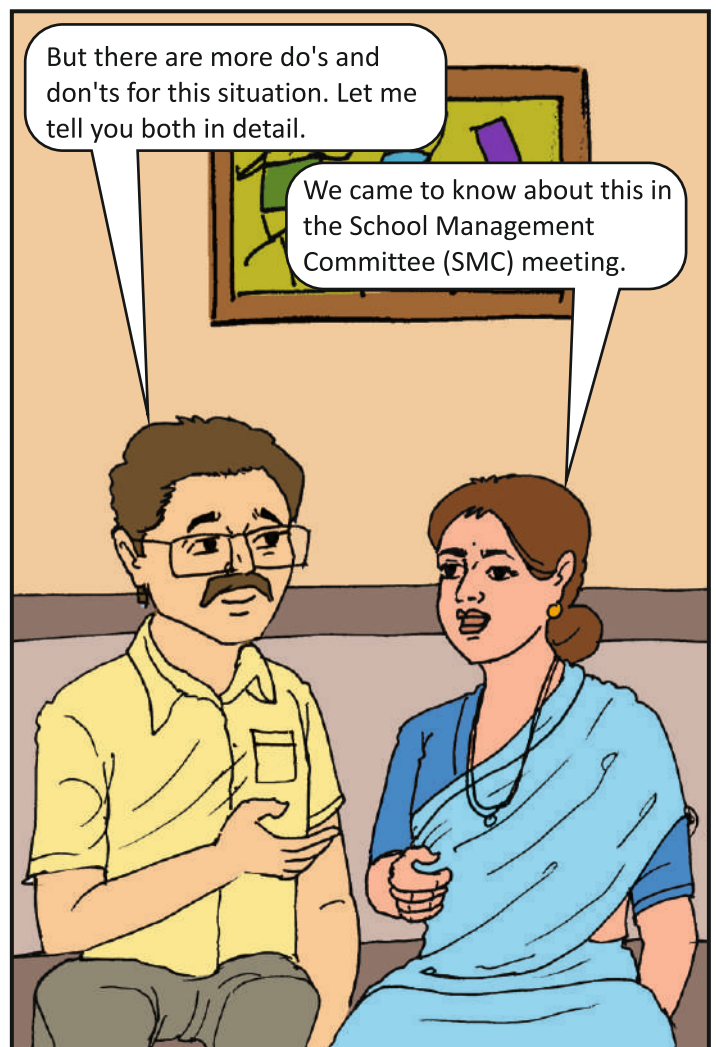




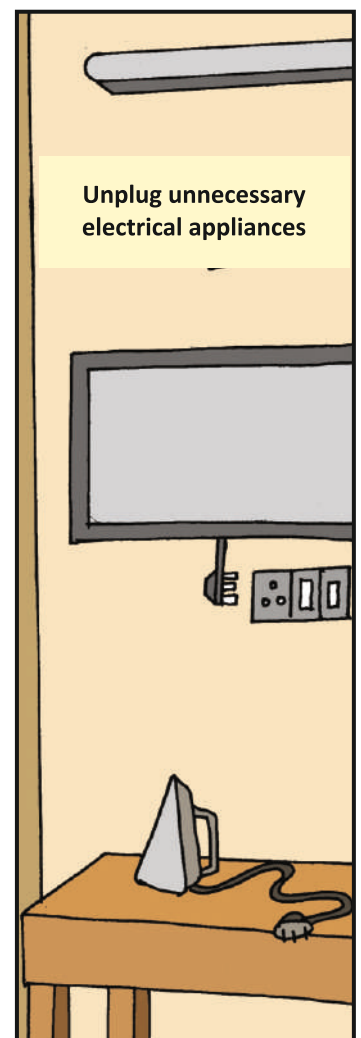
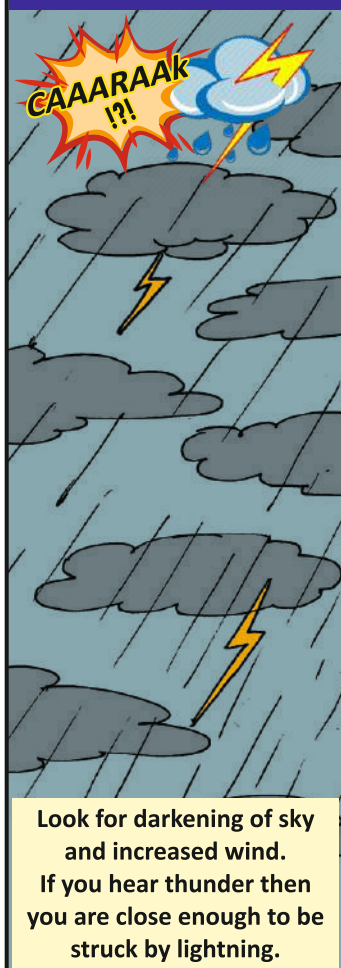




## They reach home....



## If at home or work .... take following precautions....

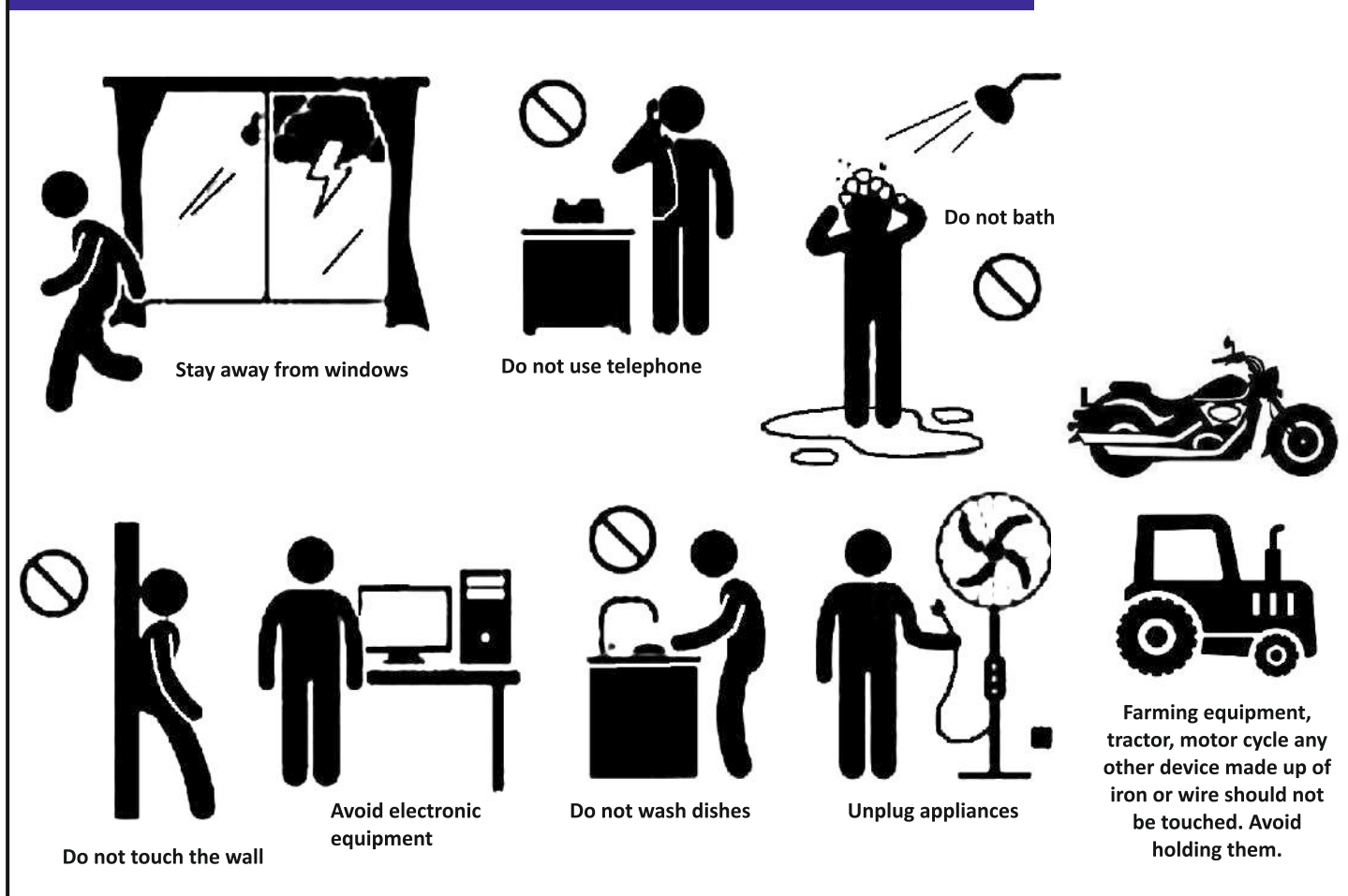


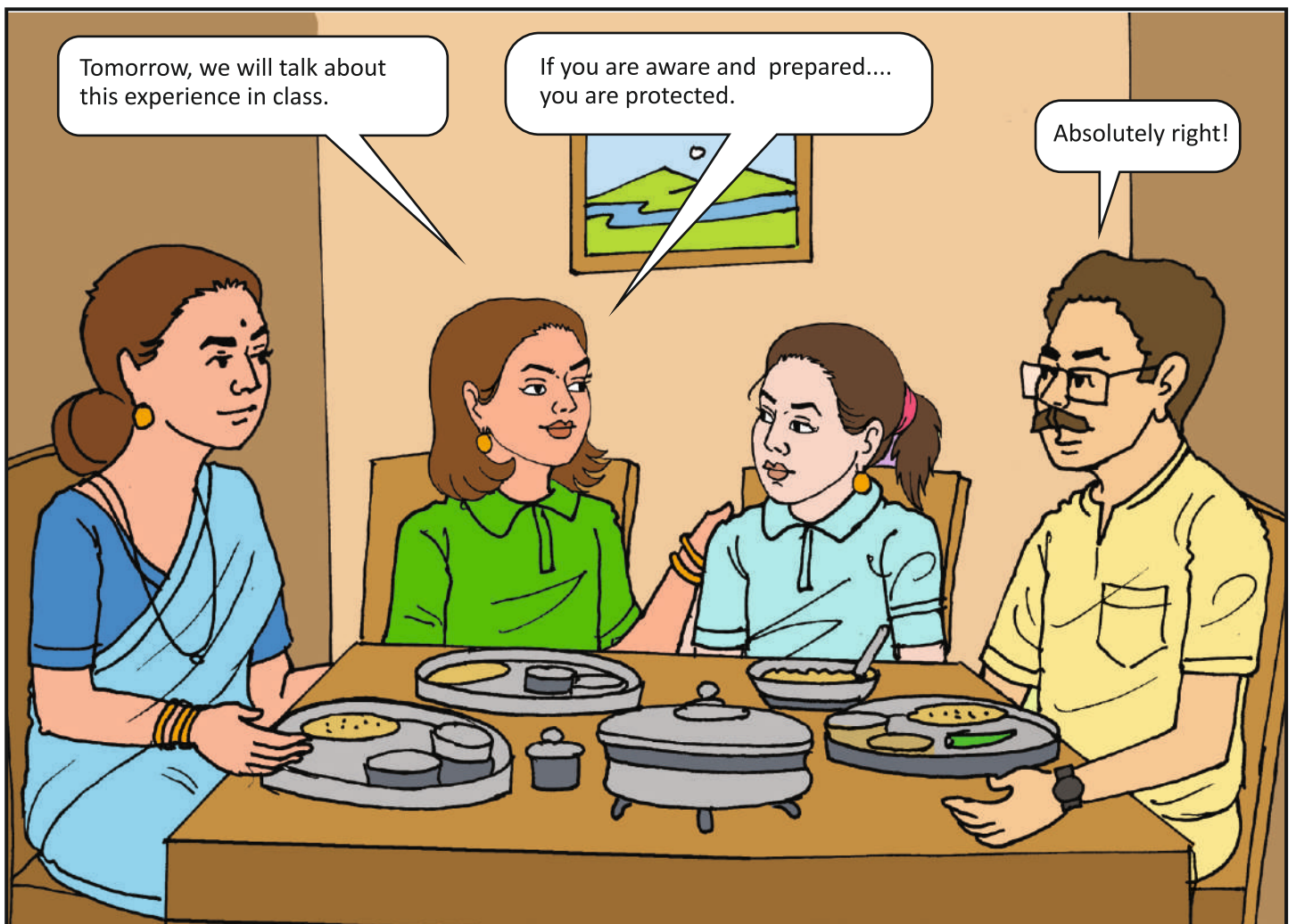
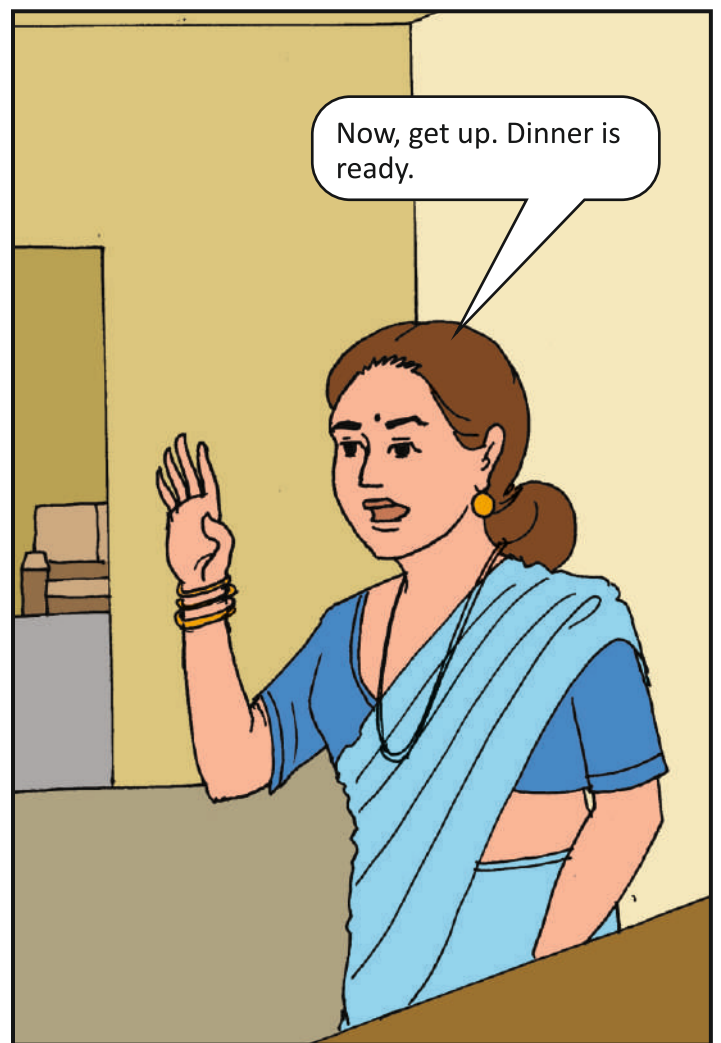


Be careful about the following when thunderstorm and lightning strikes...



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# AN ADVENTUROUS FACE-OFF



## WITH THUNDERSTORM AND LIGHTNING



### Do's

#### Before & During

- ✓ If you hear thunder, you may be close to be struck by lightning.
- ✓ Keep monitoring local media for updates and warning instructions.
- ✓ Keep ready an Emergency/Survival Kit with important medication.
- ✓ Postpone outdoor activities. Stay indoors. Ensure the same for children and animals as well.
- ✓ If outside, do not lie flat on ground, crouch down with feet together and head down to make yourself a smaller target.
- ✓ Remember, rubber-soled shoes and rubber tires provide NO protection from lightning.
- ✓ Unplug any electronic equipment well before the storm arrives. Use your battery- operated Radio for updates from local officials.
- ✓ Avoid contact with electrical equipment or cords. Unplug appliances and other electrical items, metal fences, and turn off air conditioners. Keep away from utility lines.
- ✓ If outdoors, get off bicycles, motorcycles or other vehicles. Look for a safe shelter.
- ✓ During a storm, remain in your vehicle until help arrives or the storm passes. If in a vehicle during a storm, remain inside, without touching metal from inside, keep windows up and park vehicle away from trees and power lines.
- ✓ Live stocks may gather under trees during thunderstorms, which can affect them. Help move animals into a closed shelter.

#### After

- ✓ Continue to listen to local radio and television stations for updated information or instructions, as access to roads or some parts of the community may be blocked.
- ✓ Help people who may require special assistance, such as infants, children and the elderly.
- ✓ Stay away from drowned power lines and report them immediately.
- ✓ If possible, give First-aid to the person struck by lightning, take to nearest hospital.
- ✓ Remember, person struck with lightning carry NO electrical charge and can be handled safely.
- ✓ Victims of lightning strike may suffer varying degrees of burn, look for injury marks and treat accordingly.

### Don'ts

- ✗ Do not lie on concrete floors and do not lean against concrete walls.
- ✗ Do not take shelter under trees, as they conduct electricity.
- ✗ Do not take bath and stay away from running water as lightning can travel along metal pipes.
- ✗ Do not go near forest areas, If, in a forest, seek shelter in low area under a thick growth of small trees.

## About Thunderstorms....

A thunderstorm is said to have occurred if thunder is heard or lightning is seen. Usually, the thunder can be heard up to a distance of 40 km from the source of origin. Thunderstorms fall in the category of Meso-gamma weather systems with a spatial extent of around 2~20 km and temporal scale of a few hours. Considering their intensity, the thunderstorms in India are categorised as follows:

- **Moderate thunderstorm:** Loud peals of thunder with associated lightning flashes, moderate to heavy rain spells and maximum wind speed of 29 to 74 kmph.
- **Severe thunderstorm:** Continuous thunder and occasional hailstorm, and maximum wind speed exceeding 74 kmph.

Thunderstorms occur round the year in different parts of the country. However, their frequency and intensity are maximum during summer months (March to June) as the most important factor for the occurrence of thunderstorms is the intense heating up of the atmosphere at the surface level.

Source : Guidelines for Preparation of Action plan -Prevention and Management of Thunderstorm & Lightning/Squall/Dust/Hailstorm and Strong Winds 2018. National Disaster Management Authority, Government of India

## About Lightning.....

Lightning is a high-energy luminous electrical discharge accompanied by thunder. It is of three types:

- **Thundercloud or Intra-cloud lightning (IC)**
- **Cloud-to-cloud or Inter-cloud lightning (CC)**
- **Cloud-to-ground lightning (CG)**

The third type of lightning takes a toll on lives and property, and therefore, is of more concern to us. Lightning has a total path length of a few kilometers. Its peak power and total energy are very high, with the peak power discharge in the order of a 100 million watts per meter of the channel and the peak channel temperature approaching 30,000 °C.

Source : Guidelines for Preparation of Action plan -Prevention and Management of Thunderstorm & Lightning/Squall/Dust/Hailstorm and Strong Winds 2018. National Disaster Management Authority, Government of India

## Lightning in Gujarat.....

In Gujarat it is mostly cloud to cloud or cloud to ground lightning

- **Coastal lightning**
- **Hills/Jungle area lightning**
- **River basin lightning**
- **Urban/semi urban lightning**

Lightning occurs in the month of June to October during monsoon, especially in initial and terminal phase of monsoon. Number of lightning days are less but deadly and intense.

Lightning is on rise due to global warming, deforestation, depletion of water bodies, environmental degradation and climate change extremities.

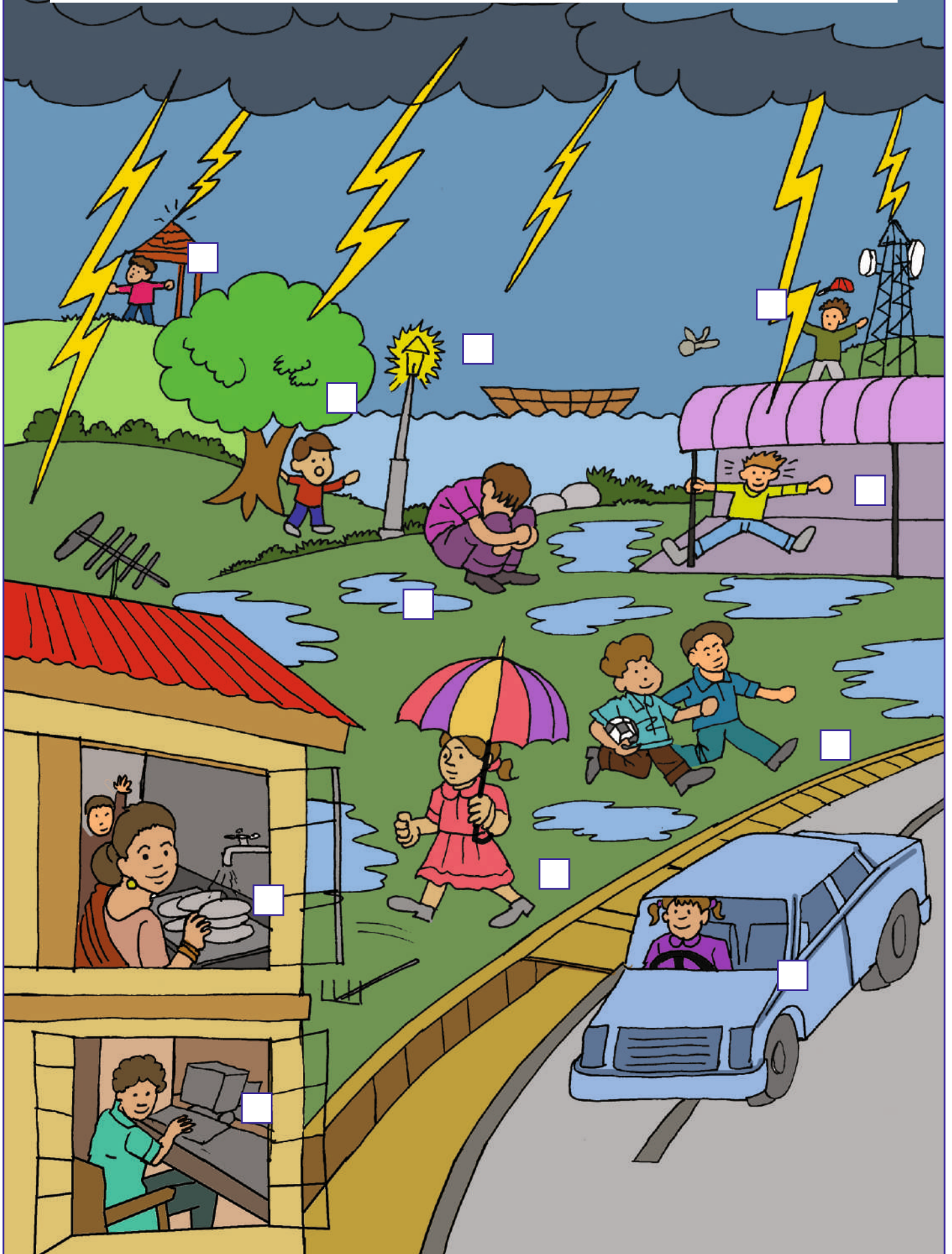
Approximately 60 plus deaths per year due to lightning.

Source : Webinar on Lightning Risk Mitigation and Safety Awareness for School Education Department, Gujarat by Gujarat Institute of Disaster Management (GIDM) and Climate Resilient Observing Systems Promotion Council (CROPC), 20 June 2020



## A picture game on lightning safety

Put ✓ on the right things to do when lightning strikes and ✗ on the Don't's





YOU CAN BE A LEADER. AN AWARE AND SAFER COMMUNITY BEGINS WITH YOU.

YOU CAN MAKE A DIFFERENCE.



START TALKING TO YOUR FAMILY, FRIENDS AND TEACHERS ABOUT HOW TO MAKE YOUR COMMUNITY BETTER PREPARED FOR DISASTER RISKS.

BE A PART OF DISASTER MANAGEMENT COMMITTEE IN YOUR SCHOOL.



GET FIRST AID TRAINING.



YOU CAN HELP YOUR SELF AND OTHERS TOO.