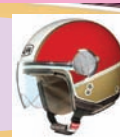


# 11



## SAFETY AND FIRST AID



### 11.1. Observe the following pictures and discuss



- What do we see in the picture? What are they doing ?
- Where are the children sitting in the first picture? What can happen if they sit like that?
- Where are the children sitting in the second picture? What accident is likely to happen ?
- Where are the children playing in the third picture? What will happen to them?
- What do you understand from the above pictures? What should be done? What should be avoided ?

Sometimes, accidents occur by the activities we do. Sitting on the railings, playing on the roads or on bunds of tanks, getting down from a moving bus, many people travelling in one vehicle etc. The measures taken to avoid such accidents are called 'Safety Measures'. Safety measures are essential not only while playing or travelling but also at all places and all times.

## 11.2. When is safety needed?

Rishi and his father Murali got ready to go to the Jatar. They planned to go to the Jatar 50 km away on a two wheeler. They prepared food items for lunch and filled water in bottles. They switched off the electrical appliances, the gas cylinder, and closed all the doors and windows before locking the house. Murali wore helmet and started off. They followed the rules while travelling. He stopped at all red light signals and moved when the green light was on. He parked his vehicle in the parking zone and purchased some items in the market.

### Think and say

- ◆ What did Murali do before he locked the house?
- ◆ Why did he do so? What could have happened if he had not done so ?
- ◆ What are the other precautions to be taken before you start to travel?
- ◆ When and where should the precautionary measures be taken?

We should take precautionary measures at all the places like factories, jataras, cinema halls, offices, in a journey as well as at home. Offices have arrangements to prevent fire accidents. More safety measures should be taken up at places where the risk of accidents is high.

We should follow safety measures even at home. Usually very small children, put whatever things they see, in their mouth. Parents take care that dangerous things are not within the reach of small children. Children get injured if they play with knives, screwdrivers, nails, pins, alpins etc. Similarly, children are prone to fire and water accidents. Electrical appliances and gas cylinders are dangerous to both elders as well as children, so, they should be handled carefully. Some times we hear in the news that children were killed as they fell in the sumps / tanks. What are the other ways in which the accidents occur at home? Think about the safety measures to be taken?

### Group work



- ◆ What accidents are likely to happen at home? What safety measures can be taken up?
- ◆ What are the safety measures to be followed at school?
- ◆ What are the safety measures to be followed on the road?
- ◆ What accidents can happen when children are alone? What safety measures are to be taken?

There was a fire accident in a school in Tamilnadu. Many children were injured. Some of them died, then the Government thought of several precautions to be taken to prevent fire accidents or any other accidents. 1) Children should go to school in groups or must be accompanied by the elders. 2) They should not talk or go with strangers. 3) Some-times people who kidnap children give drugged biscuits or chocolates to the children. So, they should not take any food item from the strangers. 4) Children should never be left alone. 5) They should always have details of the house address, phone number etc. 6) In case they are alone, they should inform the parents, teachers or persons known to them. 7) If they do not have phone numbers they should take the help of the policeman or can ask the nearby shopkeeper to inform their parents.

In cities, children meet with accidents while crossing the road. See the adjacent picture. Think of what may happen. We should not cross the roads at such places. We must cross the road only at the Zebra Crossing or at traffic signals. While going in the city buses, we should get in or get down only when the bus stops completely.





### 11.3. Prevention of Accidents

Observe the pictures and discuss



Open borewell



Manhole kept open on a road



Talking on cellphone while driving



More people than the capacity of an auto



Travelling on a bus



Fire accidents in an apartment



Road accident

#### Group work



- ◆ You have seen the pictures. What kind of accidents might occur in the first five pictures? Why? What type of safety measures must be followed to avoid them
- ◆ Why do fire accidents occur? What care should be taken to prevent them?
- ◆ Why do road accidents occur? What care should be taken to prevent them?

Electrical appliances, blasting of gas cylinders cause fire accidents. Throwing burning cigarette or matchstick near petrol / diesel bunks, in grass lands or in forests cause fire accidents. We should not use lift in case of a fire accident. Fire engines control fire in case of a fire accident. But, we should take proper measures to prevent fire accidents.



A pipe must be fixed and closed with a lid after a borwell is dug. A danger sign must be placed there. There is a danger of children and elders falling into the open manholes. There are people who have lost their lives falling into the manholes, because, they could not see the open manholes when the roads were flooded with water during the rainy season. You should inform the Municipal Corporation Personnel if you find open manholes in the city. Sufficient care must be taken while travelling in autos, buses trains etc. we should neither travel more than the capacity nor sit on the top of the vehicles. Cellphones must not be used while driving. Road rules must be followed. People riding motorcycles must wear helmets. People travelling in the front seat of a car must wear seat belt. Overspeeding is one of the reasons for accidents. So, we should drive within the speed limit. We should not drive fast and try to over take other vehicles.

#### 11.4. What type of safety measures are needed in a crowded place?

Crowded places need more safety measures. There is a possibility of accidents in the places where thousands of people gather for jataras, pushkaras, meetings and other celebrations. Hence, precautionary measures are to be taken up.

##### Group work



- ◆ What type of accidents can occur in crowded places?
- ◆ What precautionary measures should be taken up?
- ◆ Usually fire accidents occur in villages during summer. Why?

##### Safety measures in Jataras

- Safe drinking water, parking place, hygienic food materials, health camp, toilets, fire engines, police help centre and arrangements to avoid drowning, barricades and announcements regarding the above facilities/precautions.



### Do you know?

#### Fire extinguisher in Cinema Halls :

In cinemahalls, offices and multistoried buildings, fire extinguishers are fixed to avoid fire accidents. The personnel are trained in using them.



## 11.5. Water Accidents

Some students went on a picnic to a sea shore. They played in the sand for a long time. Then they wanted to bathe in the water. They got into the water. Four students drowned. Many students and youngsters met with accidents due to their negligence.

### Think and say

- ♦ Why do water accidents happen?
- ♦ Where and how do water accidents happen?
- ♦ What measures are to be taken to prevent the accidents?

Water and water resources have much importance in our life. We need to go to water resources very often. It is dangerous to get into the water without knowing how to swim. We should not get into the water without the knowledge of swimming. Even if we know swimming, we should not try to swim or cross rivers, lakes and seas without knowing their depth. Villages have big wells, where people bathe. It is dangerous for non swimmers to bathe in these wells. In some places, rivers and canals are crossed with the help of boats. Accidents may occur if more people get in to a boat. We must learn swimming to save our lives in such situations.

When we go for picnics to seashores, rivers, pushkaras etc., we should strictly follow the instructions given in those places.



## 11.6. Earthquake

Observe the picture and discuss



- What do you see in the picture? Why did the buildings collapse?
- Why has the earth cracked? Why did this happen?
- Do you know about such things? What loss do the people incur due to this?

When the earth shakes violently we call it earthquake. The tremors or vibrations of the earth are noted on a Richter scale. When the intensity of the vibrations crosses seven points on the scale, then earthquake occurs. The most severe earthquakes in India occurred, in Lathur district of Maharashtra in 1993 and in Bhuj near Kutch in Gujarat in 2001. Thousands were killed and many more lost their shelters due to these earthquakes. There was a huge loss of property. Government took up many welfare activities to help the victims. People of the country extended their cooperation through donations.

### Things to be done during earth quakes.

- Do not move here and there, sit under the objects that do not move easily keeping your hands on your head and bending towards the floor.
- Be away from breakable things like mirrors, windows etc.
- People who live in multistoreyed buildings shouldn't use lift.
- When you are outside, stand away from the buildings bridges, trees etc.
- While you are travelling, drive your vehicles slowly away from the above said things.
- Try to help the injured.
- Observe whether there is any chances of trees being fallen or buildings and pillars are collapsed to be then do not go near them.
- Power or electric supply should be disconnected.

## 11.7. Floods

Observe the picture, think and say.



- What do you see in the picture? When do such things happen?
- Do you know about such happenings? What sort of problems do people face?
- What precautionary measures does the government take during those times?
- What safety measures should be taken during such events? How can we help

Sometimes, due to heavy rains water accumulates in rivers and canals and they begin to overflow. Houses, roads, trees and electric polls in the floods drowned or get carried away. Such a situation is called flood. People become shelterless because of floods. Things in the houses get drowned in the water. There will be no water to drink or food to eat. Children, old people and animals drown in water. Contagious diseases like cholera, malaria etc. spread. Neither clothes are available nor any shelter for protection. Severe losses were incurred due to the floods in in Diviseema in 1977, Mahabubnagar and Kurnool in 2009.



### Things to be done at the time of Floods

- Follow the news bulletins or government warnings on radio and T.V.
- If you have to walk in the flooded areas, do so by checking the way with the help of a long stick.
- Stop power supply.
- Move to the camps arranged by the government as a part of relief measures. Important things like clothes, bedsheets must be taken along with you.
- Keep other essential things on attics or high and dry places in the houses.
- Take care of food and drinking water. Drink only chlorinated water.
- Do not ignore the flood warnings from the government from time to time.

### Think and say

- ◆ How can we extend our co-operation to the people living in flood affected areas?

### 11.8. First Aid

Some time accidents may occur even after taking several precautionary measures. First aid must be provided in such a situation. Only those who know how to give first aid, must do it. The aid / help given to the patient or the victim before taking him/her to the doctor is called first aid. Apart from providing proper medical care it is essential to remove their fear and instill confidence in victims.

#### Do you know?

Medical personnel in 104 vehicle visit a village daily and conduct medical tests on the



villagers. They provide the required medicines free of cost and explain the care to be taken to protect our health. There is a doctor and other staff in the vehicle. They explain the precautionary measures to be taken for good health. If you dial 104, free medical suggestions are given. They are available at any time.

### Group work



- ◆ Have you ever administered first aid? When and Where? How did you do it?
- ◆ Usually what sort of first aid is given in the event of any injuries in your school or at home.
- ◆ Have you seen a first aid box? Where? What does it contain?

## First aid box

Every school must have a first aid box. What should be there in that box? First aid must be given immediately after the accidents. Care must be taken to see that all the necessary things are there in the box. Buses also have first aid boxes.



Have you ever observed?

People who give first aid must wash their hands and if possible, wear gloves before cleaning

the wounds. We should never directly apply antiseptic lotions like dettol on the wound.

They should be diluted with water and then used to clean the wounds. In case of sprains, ice must be applied wrapping it up in polythene cover. Do not apply ice directly.

## Life saving principles

We should follow three life saving principles in first aid.

### □ Life saving principle-1

Make the patient lie on the back. Loosen the clothes, and remove blocks in the air passage. Bend the head aside as per the situation.

### □ Life saving principle-2

Check whether the person is breathing. Try to provide artificial respiration, except in case of poisoning, acid attack and vomitings.

### □ Life saving principle-3

Observe the heart beat. If there is no response, press the chest with your palms.

## Do you know?

The first hour after the accident is known as the golden hour because life can be saved by giving proper treatment in the first hour.

## Do you know?

1. Flash flood of half a feet depth also can make a person fall.
2. One feet deepth flood can make the vehicles like car fall.
3. Flash flood of 2 feet depth can sweep away vehicles like cars.

## Think and answer

- ◆ What should be done in the case of sprains?
- ◆ What should be done in the case of fractures?
- ◆ What should be done in the case of burns?
- ◆ What should be done in the case of consuming poison?
- ◆ What should be done in the case of heart attack?



### **In case of sprains**

Do not rub the ointment on the sprain. Let the sprained part rest. Apply ice wrapped in a thick cloth or polythene cover instead of applying directly on the sprained part. Bandage the wound with a crepe cloth which is available in medical shops. Remove the bandage at bed time. Keep the sprained part raised.

### **In case of burns**

Keep the burnt part under the running cold water for 15-20 minutes. If the burns are too severe, ointment must be applied. Remember, never pinch the blisters. Never bandage it. Never rub. Never apply ice. Do not run when you catch fire. The air can increase the fire. It may be risky. Follow the SDR principle, STOP-DROP-ROLL.

### **In case of consumption of poison**

Give plenty of water to the person to decrease the intensity / severity of the poison while taking him to the hospital. The essential thing is, the person should neither vomit nor fall unconscious.

### **In case of unconsciousness**

The unconscious person should be made to lie on one side keeping the chin up while taking to the hospital. You should not take him / her lying down on his / her back as there is a the risk of the tongue blocking the respiration.

### **In case of heart attack**

A pain in the chest is thought to be a heart attack. If a person feels pinpricking sensation in the chest and pain in any other part of the body, then we can consider it as heart attack. Intense sweating, nausea and chest pain indicate heart attack.

When there are no medicines available we should make the person sit, ask him to cough and take him to the hospital. Do not let him sleep, walk or stand.

### **In case of a fracture**

See that the fractured part is not moved while taking the patient to the hospital.

### Group work



- ◆ How do you recognise a person affected by paralysis ? What are the symptoms of paralysis ?
- ◆ What should be done in case of a dog bite?
- ◆ What first - aid should be given to the victim of a snake bite?
- ◆ What do you do in case of a sun stroke?
- ◆ What should be done when a chemical falls in eyes?

### How to recognise paralysis?

If anyone is suffering with B.P. in your house and they complain of nausea or senselessness, ask that person to laugh. If the shape of the mouth appears odd and if it is crooked and he is unable to speak properly and is unable to raise his hand, then it can be considered as paralysis. We should take him to the hospital in the first hour (Golden hour).

### In case of dog bite

Wash the bitten area (monkey's bite, dog's bite, cat's bite, etc) with soap. But do not cover the wound with cloth or bandage.

### In case of snake bite

Most of the snakes are not poisonous. A person bitten by snake can collapse due to fear. We should take steps to reduce the person's fear. We should not move the bitten parts. We should see that the person does not become unconscious.

### In case of sun stroke

Not everyone who moves in the sun will suffer from sun stroke. The symptoms of sunstroke are high temperature, nausea, vomitings and severe headache. A person with these symptoms should not be allowed to drink water. Wipe the person's body with a cloth dipped in the cold water (till the body regains normal temperature). Then we should give ORS solution or electral water.

### In case of chemical falling in eyes:

If any chemical falls into our eyes while experimenting in the lab or in the house, we should keep the eyes under the running cool water for 15-20 minutes. But we should not rub the eyes even if there is severe burning sensation. We should bend our head to a side so that the affected eye is cleaned without causing any trouble to the unaffected eye.



### **In case of nausea (vomiting)**

When we stand in assembly for a long time without having food sufficiently there are chances of us becoming unconscious due to exhaustion. In such a case, instead of slapping him, if you lift the legs up and bend the head sideways there is a possibility of that person gaining consciousness. Usually a person becomes unconscious because of less blood supply to the brain. By keeping the legs in a position higher than the head, the brain receives blood and the person may become normal.

### **In case of heart failure**

Let us now learn about the most important aspect of first Aid. The CPR

There is a possibility of heart failure when a person suffers a severe heart attack, electric shock or any other reason. The first aid given in such case is called CPR. CPR means C- Cardio P- pulmonary R- Resuscitation and restart.

CPR is done by pressing (neither gently nor too heavily) with your palms at the spot 2-3 inches away from the place where the ribs end (chest bones). You should press 30 times taking

care that your hand is straight while pressing. Then try to give oral respiration twice. Thus, we should try thrice in a minute till the heart beats again. Do not forget to close the nostrils and lift the chin during artificial respiration.



### Group work



- ◆ What do you do if anything blocks the throat?
- ◆ When we are injured we bleed, how to stop excessive bleeding?
- ◆ What to do when the nose bleeds?
- ◆ What should we do in case of an electric shock?

### In case of a block in the throat

Do not try to remove the thing blocking the throat with your hand. Ask the person to bend forward and hit 4-5 times on his back. Ask him to cough while hitting. If the thing doesn't come out then try to press the stomach and ask the person to cough. The thing blocking the throat may come out.

### How to stop bleeding

If the bleeding is light, press the part hard and keep it in a position above the heart. In case of heavy bleeding though we follow the same procedure the bleeding may not stop. Hence the person should be taken to the hospital in the golden hour.

### In case of bleeding nose

Never bend the head backwards in case of a bleeding nose. Bend the head forward and press the soft part of the nose for 10 minutes. Do not use cotton to stop the bleeding. Do not try to stop bleeding if the person is suffering from B.P. The bleeding stops itself after 5-10 drops as BP works as a safety valve in them.

### In case of electric shock

In case of electric shock at home, switch off the connection and remove the plug. Then go to the person and lift his chin up so that the respiration begins. If this doesn't work give him artificial respiration. Sometimes there may be heart failure due to severe electric shock. This is called cardiac arrest. Give CPR to such persons.

### Do you Know

As per the guidelines of the WHO we should not tie, cut or suck the blood in case of a snake or a scorpion bite. There is a possibility of blood circulation being blocked if you tie we should not cut the bitten part with a blade or a knife as it may lead to Tetanus. There is danger to the person who is sucking the blood from the bitten area. The poison may enter his body while sucking, if he has injuries in his mouth.



## 11.9. Who helps?

We should dial 108 in case of fire accident, road accident and natural calamities. This is a free service. If you dial 108, they will inform fire engines, the ambulance or the police as per the need or you can contact St. Johnson's ambulance. They help immediately. Everyone should take safety measures within one's reach to prevent accidents



and ill health. Give first aid when necessary. Use the facilities provided by government. Learn about first aid and use this knowledge as the situation demands.

### Think and Say

- 1) What would you do when you come to know about an accident ?
- 2) Imagine that you happened to see an accident on your way to school. Nobody cares about the accident. What would you do?

We should not neglect the road accidents. Call 108 and inform them immediately. Inform the victim's relatives. Thus we may help in saving a life.

### Key words

safety measures

bleeding

CPR

accidents

natural calamities

paralysis

earthquake

fire accidents

108 vehicle

floods

first aid

heart attack

sun stroke

life saving principles

poison



## What we have learnt?



### 1. Conceptual Understanding

- a) Why should we take safety measures?
- b) When is first aid needed?
- c) What precautions should be taken while on a journey?
- d) Whom do you call if a house in your street is on fire? Why?

### 2. Questioning and Hypothesis

- a) What questions will you ask to know more about 108 services?
- b) What questions will you ask an electrician to know more about the care to be taken to avoid electric shocks.
- c) A fire engine arrived at Ramu's house. Guess why?
- d) What are the contents of a first aid box? Guess and confirm with a doctor.

### 3. Experiments - Field Observations

- a) Keep some slates one above the other. Construct a house on it with small card board pieces. Pull out a slate. Observe what happens and write.
- b) Analyse the reasons for any accident which took place in your locality.
- c) Visit an office, a cinema hall or an industry nearby. Observe the safety measures taken. Write about them.

### 4. Information Skills, Projects

- a) Collect the details of recent flood / cyclone / road accident / fire accident from the news papers. Make an album and display. Discuss the reasons and preventions in groups.



b) Collect the following details from health worker/hospital.

Accidents in a month	First aid given	Suggestions given after first aid	Present status of health

c) Collect the names of the officers and their cell numbers concerning emergency services i.e., 108, 104, fire engine, hospital, ambulance, electricity office, police station etc.

### 5. Communication through Mapping Skills, drawing pictures and making models

- ♦ Draw pictures of a fire engine and 108 vehicle.

### 6. Appreciation, Values and Creating Awareness towards Bio-diversity

- Why should we appreciate the services of 108 staff?
- What kind of help would be appreciated in case of natural calamities (floods, cyclone, fire accidents)? How can you help the victims?
- What is the need for first aid? What can you do if you learn it?
- Ramesh's grandfather was bitten by a snake. His father took him to a wizard (manthragadu). What would you do if you were in his place? Why?

#### I can do this

- I can talk about safety measures. I can explain about safety measures at different places. Yes / No
- I can ask questions to know more about the details of 108 and 104 vehicles. Yes / No
- I can observe and record the details of an accident. Yes / No
- I can collect the details from health worker/hospital. I can collect the emergency services phone numbers. Yes / No
- I can help in case of a natural calamity. Yes / No