

10. Disaster Management



- Disaster
- Types of disaster
- Effect of disaster
- Effect/ Impact of disaster
- Disaster management
- The nature and extent of disaster
- First aid and emergency action
- Mock drill



Can you recall?

1. What is disaster?
2. Which disasters have you experienced in your area?
3. What are the effects of that disaster on local and surrounding conditions?

Disaster

Various dangerous events occur many times in the environment. Those are called as disasters. Some of the main natural disasters are floods, wet and dry famine, cyclones, earthquakes, volcanoes, etc. These are 'all of a sudden' troubles to the mankind. Such events cause sudden changes in the environment and thereby cause the damage to it. Environment is also damaged due to use of natural resources for our development. This leads to sudden disasters, unexpected to human. These can be called as man-made disasters. United Nations has defined the disaster as 'the sudden event that leads to the huge loss of life and property. Words like 'huge' and 'sudden' are important in the definition. As the disaster occurs suddenly, it cannot be predicted. Hence, precautions are not possible. Huge losses to the property occur in the area of disaster. There are long term effects on society due to incidences of life and property loss. Various areas of life like economic, social, cultural, political, law and administration, etc. are affected by it. The life in the area of disaster disturbs totally. There is loss to life and property of the people in distress. Earlier, we have studied various types of disasters and the measures to be taken. None of the different disasters are similar. Period of each disaster is not same. Some disasters are short term where as some are long term. Reasons behind each disaster are also different. Depending upon the nature of disaster, it can be determined that which component of the environment will be affected more.



Can you tell?

Which are two main types of disasters?

Earlier, we have studied the effects of various types of disasters and the precautionary measures to be taken in case any disaster happens. We can classify the disasters in other ways too; like catastrophic disasters. Ex. Cyclones in Odisha, catastrophic earthquakes of Gujarat and Latur, frequently buzzing cyclones in coastal Andhra Pradesh, etc. which lead to total chaos, huge loss of life and property in respective region. However, irrespective of all these, life has always returned to normal within short time. Disasters making the impact for long duration are those whose after-effects are either severe or severity increases with time. Ex. Famine, various problems of crop, strikes of workers, rising levels of oceans, desertification, etc.



Let's Discuss

Observe the following images. Whether the places of disasters are known to you? Discuss the effects of these disasters on public life. How it could have been saved from these disasters? Discuss with your friends in the class-room.



Internet is my friend

Search for the video clips of disasters. Discuss in your class about effects of disasters and remedies over it.

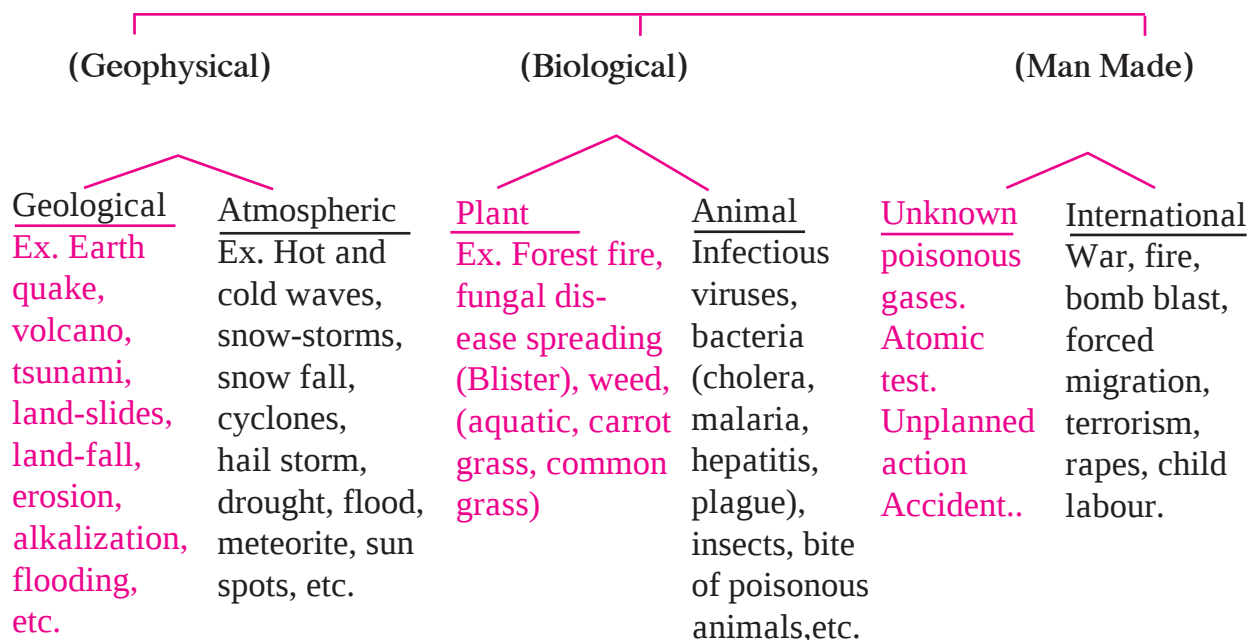


Can you tell?

How can disasters be classified depending upon various criteria?

10.1 Some Disasters (Courtesy: Lokmat Library, Aurangabad)

Types of Disasters



Can you recall?

1. Which are the destructive effects of flood?
2. Which are the effects of dry famine?
3. Which are the destructive effects of earthquake?
4. What is forest fire? What is its effect on environment?

Effects of disaster

We have understood the serious effects of disaster with the help of above-mentioned questions. Collapsing of bridges, flooding of coastal villages, shortage of food are some of the problems of floods. Collapsing of houses, developing cracks in land are some of the effects of earthquake. Disasters like forest fire and drought also adversely affect the environment. However, what is exact nature of these disasters? Whether there are any changes in nature before the occurrence of disasters? For how long the effects occur after the occurrence of disaster? How? It needs to be think over all these aspects. This helps us to understand the nature and gravity of the disaster.

Disasters definitely affect the economy of the nation. That effect is always relative to disaster and economy i.e. if any port is destroyed, there are long lasting effects on economy due to huge expenses on its reconstruction. An effect of disaster on social leadership is that if local leadership is not strong enough, citizen become confused. It affects their participation in rescue and rehabilitation activities. Administrative problems arise during the disaster. If local governing bodies are affected by disasters, related departments cannot answer the problems of disaster efficiently. All the concerned departments are affected by disaster and thereby entire system collapses.



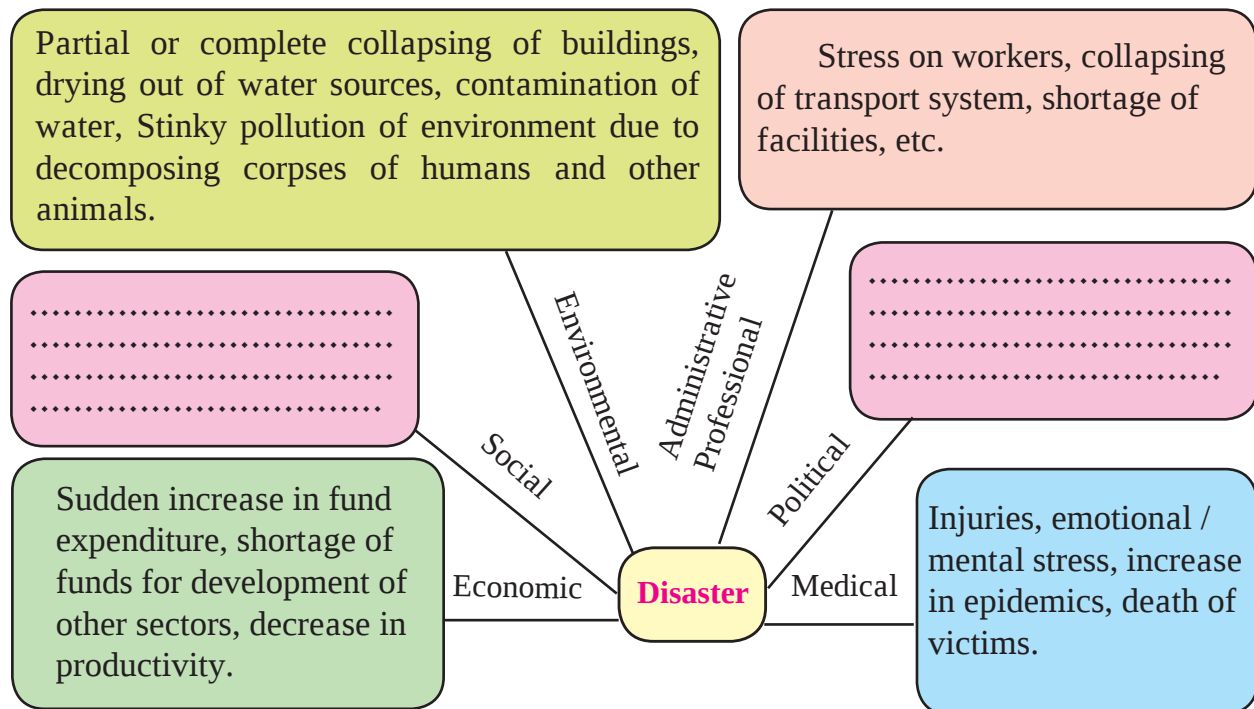
Complete the chart

Different problems occurs with disasters. in the concept map different effects are mentioned. Read it and fill the blank places.



Let's Think

What will be the effect on yourself and surrounding, if any accident-like disaster occurs during the sports on playground or in school?



Use your brain power

Depending upon above information, explain the various effects of the disaster of railway accident.

Nature and scope of disaster

Taking into consideration the scope of disaster, some of the important facts must be thought over, as follows

1. Pre-disaster phase
2. Warning phase
3. Emergency phase
4. Rehabilitation phase
5. Recovery phase
6. Reconstruction phase



Lets Think

Explain the nature and scope of the disaster of flood with the help of six points given beside.

Taking into consideration the nature and scope of disaster, only three aspects of disaster are important for common citizens.

1. Phase of emergency: Important character of this phase is that maximum lives can be saved by quick actions during this phase only. Various actions like search and rescue operations, medical assistance, first aid, restoring communication services, removing the people from affected area are expected in this phase. Gravity of disaster can be estimated in this phase only.

2. Transitional Phase: Rehabilitation work is started in this phase, after the subsidence of any type of disaster. It includes clearing of debris, restoring water supply, repairing roads, etc. so that it will help to bring normalcy in public life. Rehabilitation of the victims is important aspect of this phase. Generally, different institutes offer the monetary and other type of help to such people. It helps to soothe the mental stress at the earliest if these victims are offered with the permanent mean of earning livelihood and this is true rehabilitation.

3. Reconstruction Phase: This is highly complicated phase. This phase begins in transitional phase. People reconstruct their buildings and facilities like roads and water supply are restored. Farming practices are restarted. However, it takes long time for reconstruction.

Planet Earth has experienced many natural disasters. Listening to the description of those disasters brings numbness to the mind. Most of the disasters and related unprecedented situations have been occurred in the Asian continent and region of Pacific Ocean. Huge loss to the life and the planet Earth has been occurred due to such disasters. Generally, such conditions of natural imbalance have been arisen due to greed of economic progress of human being.

In reality, old problems of several years have become fierce. Ex. Increasing population, its increasing needs emerging problems out of it are now at the extreme end. Such disasters have been increased after the world war-II. Condition of instability arises in the country due to various reasons like economic inequality, racial and religious differences, etc. Incidences like terrorism, abduction, social differences have been a routine now.

Production and use of harmful chemicals is under ban in developed countries. However, production of either same or those chemicals which can wipe out the human race is common in developing and poor countries.



Do you know?

In 2014, there had been a huge landslide in the village Malin, Tal. Ambegaon, Dist. Pune. Following is the image of the school reconstructed after the disaster.



Another such threat to human being is from the atomic energy plants. Ex. Radiation leakage occurred after a blast in atomic energy plant at Chernobyl, Russia. Its ill-effects are still experienced in the region. This atomic energy plant was only used for electricity generation. Now a day, many countries are equipped with atomic energy. Out of this, risk of radiation leakage is increasing due to carelessness. Hence, importance of disaster management has become the foremost need of almost all the nations. In fact, it is most necessary for citizens of all countries, because they are the main sufferers in any type of disaster. Hence, direct participation of citizens in disaster management is highly necessary. Similarly, disaster management schemes should be changed with respect to location, time and nature of the disaster. It should not be restricted for a particular period. Overall, there may be any type of disaster, it should be overcome. Concept of disaster management has been arisen out of this only.

Disaster management

Disaster may be minor or major, short-time or long-time, it should be overcome and effective disaster management is necessary for it. There is close relationship between disaster management and public participation. Disaster management is either prevention of disasters or making arrangements to face it or at least achieve the abilities to face it.

Disaster is a very fast process, in fact it is accident. What shall we do in such situation? How can we protect ourselves, our belongings and animals?

In case of disaster management, there should be an attempt to minimize the losses. Disasters are never planned but losses due to it can be prevented in a planned manner.

Objectives of Disaster Management

1. Saving of human life during the calamity and release of the people.
2. Supply of essential commodities of the people to reduce the effect of disaster.
3. To restore the human life in the region by creating reconciliation in disaster.
4. Rehabilitate disaster victims.
5. Considering protective measures in disaster, such disaster will not reach in future and take care to reduce their intensity.

Disaster management is achieving or time to time improving the ability to face the disasters through scientific and careful observations and analysis of data. For example, preparing the action plan through study of various aspects like preventive measures, rehabilitation and reconstruction and executing that plan is nothing but the management of disaster. Disaster management can be divided into two parts.

Pre-disaster management

This includes the complete preparation and planning to face any type of disaster. For that purpose..

- Identifying the pro-disaster areas.
- Collecting the information about intensity of disaster and probable sites of disasters through predictive intensity maps and hazard maps respectively.
- Getting special training for disaster management.
- Increasing awareness about disaster management among the general public through training programmes, mass media, and etc.

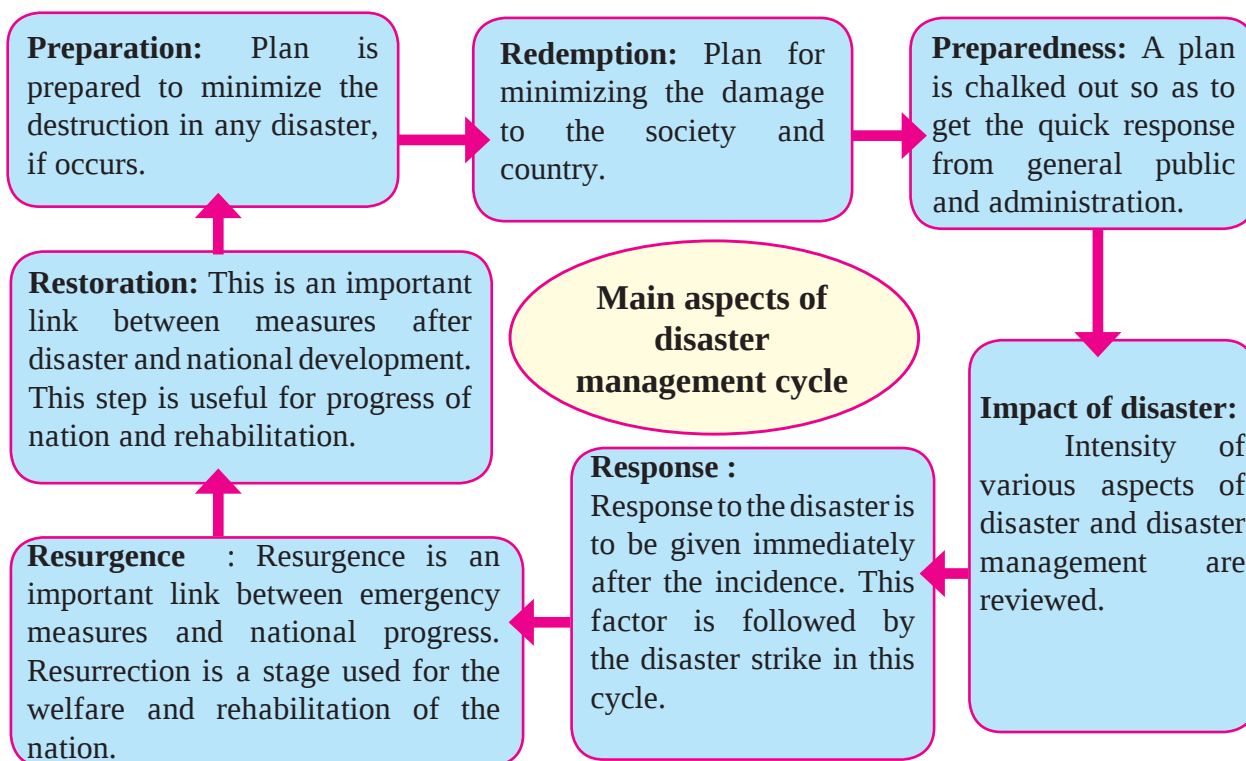
Post-disaster management

- Providing all types of necessary help to victims of disasters.
- Participation of preferably local peoples saved from the disaster in arranging the help to victims.
- Quick establishment of help centre. Different types of disasters need different types of control centres.
- Categorization of the help material received from control centre, delivering the material to victims and continuous review of the help.
- Being always prepared for disaster rescue.



Observe

Observe the disaster cycle given below and explain each aspect of the disaster of earthquake.





Try this

Which factors will you consider while designing the pre-disaster management plan for your school / home?

Prepare a survey report with the help of your teacher.

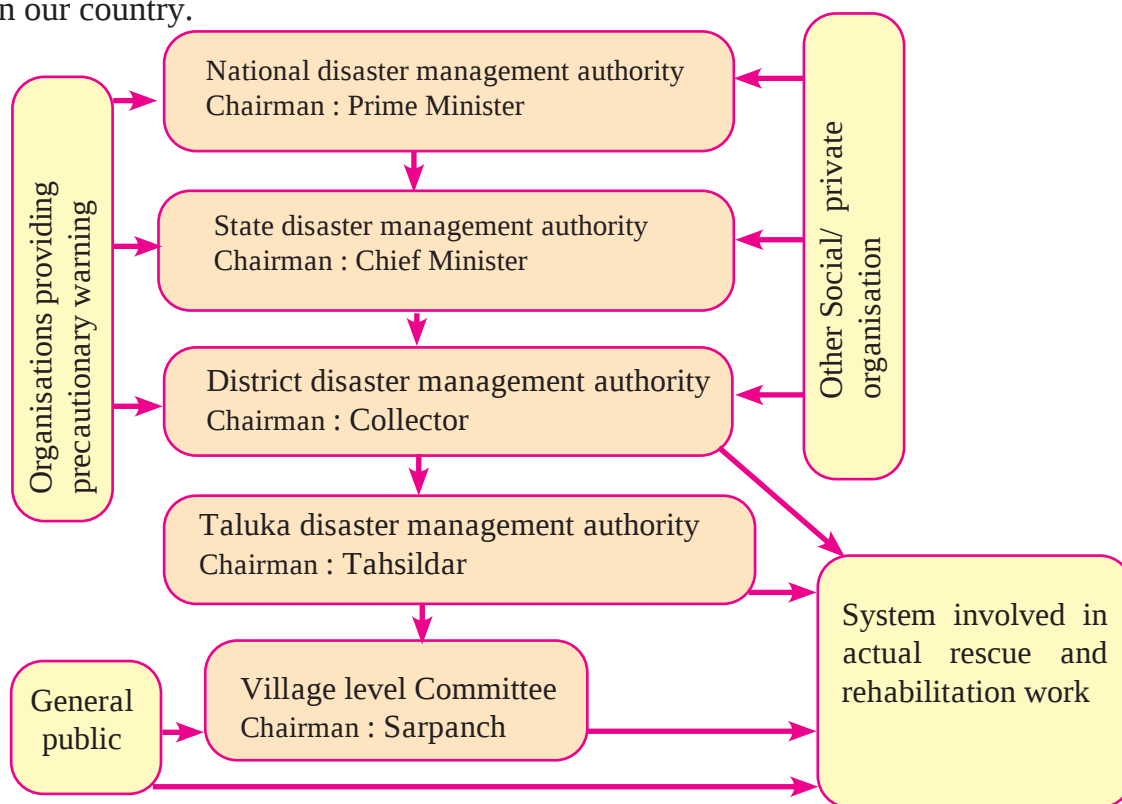


Always remember

Though avoidance of natural disaster is impossible, loss out of it can be minimized. However man-made disasters can be avoided. Helping each other in the crisis of disaster is our ethical responsibility.

Structure of Disaster Management Authority

In case of disaster, an authority has been established at the level of government. Following flow chart indicates the function of control and coordination under the disaster management from national to village level. Disaster Management Act, 2005 has been passed in our country.



Get information

Visit the District Collector or Taluka Tehasildar office and collect the information about disaster management.

District Disaster Management Authority:

At the district level, district collector is responsible for disaster management and implementation of rehabilitation schemes. Collector is planning, coordinating and controlling the implementation of rehabilitation programme, gives out necessary instructions and reviews the entire system. District collector is also responsible for designing the schemes for each district, separately for each type of disaster and getting those sanctioned from state-level authorities.

District-wise Disaster Control Unit:

District control unit is established immediately either after the impact of disaster or getting intimation about it. It reviews about various aspects of disaster, keeps continuous contact with various agencies like army, air force, navy, telecommunication department, paramilitary forces, etc. for getting help. It is also responsible for coordinating with various voluntary organizations for their help in disaster management.



Internet is my friend

Find out more about the activities of international organizations that work for disaster management.

1. United Nations Disaster Relief Organization
2. United Nations Centre for Human Settlements
3. Asian Disaster Reduction Centre.
4. Asian Disaster Preparedness Centre.
5. World Health Organization.
6. United Nations Educational, Scientific and Cultural Organization.

Who Does What?



National Disaster Response Force has been established as per the Disaster management Act, 2005. Divisions of this force are working in army. Overall, 12 divisions are working in the country. Its headquarter is in Delhi and it is in action all over the country with the help of army. In Maharashtra, National Disaster Response Force is in action through State Reserve Police Force. Personnel of this force have substantial contribution in rescue work in disasters like cyclones, cliff-sliding, building collapse, etc. Website: <http://www.ndrf.gov.in>



Can you tell?

1. What is first aid?
2. How can we offer first aid to victims of any disaster?

First Aid and Emergency Action:

You have studied in earlier classes about the types of first aid to be offered to the persons injured in disasters. Use of this knowledge is useful for offering the help to classmates or people around you facing any disaster and injured there in.

Sometimes, we have to face the disaster due to our own unawareness. Some symbols given beside are seen used around us. Those symbols can not be ignored. Such symbols are useful to avoid the mishaps.



10.2 Signs



Let's Think

Following are some pictures of disasters. Which precautions would you take during those disasters?



A



B



C

10.2 Various disasters



Observe

Give the reference of following pictures and explain importance of each of those in disaster management. Which are other such activities?



a



b



c



d



e



f

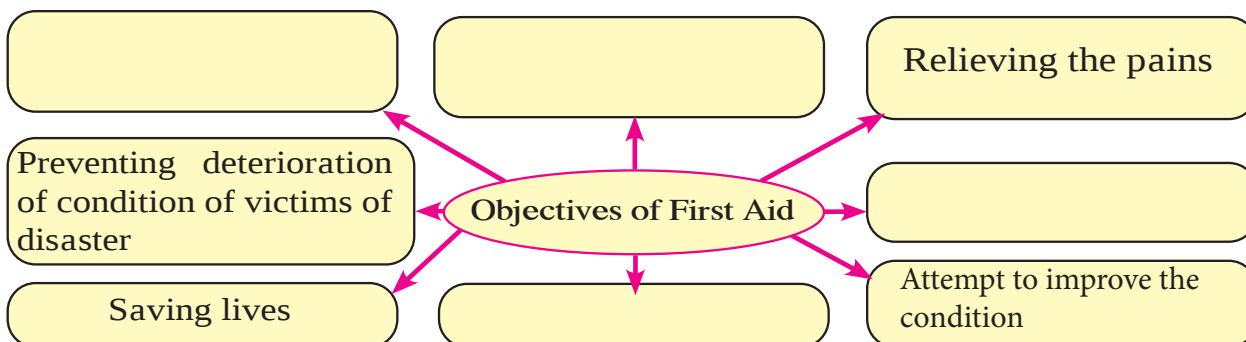
10.4 Various activities

In emergency condition, various transportation methods like cradle method, carrying on back, carrying on two hands are to be followed. Those methods depend upon the condition of victim. We face different types of major or minor disasters in our daily life. Varieties of disasters like accidents, stampede, injuries in fighting, electric shock, burns, heat shock, snake bite, dog bite, fire due to electric short circuit, epidemic of any disease, etc. happen around us. Victims of disaster need to be offered some primary help before actual medical treatment. First aid is useful in such circumstances.



Complete the chart

Complete the chart as per the objectives of First Aid.



First Aid Kit

It is essential to have material necessary for first aid with us. That material is available in the first aid kit. You can also prepare a first aid kit. It is also important to use whatever the material available in the given condition for first aid.



Get information

Meet the medical officer / doctor from your village and collect information about providing the first aid.

The necessary material in first aid box

- | | | |
|-------------------------------------|--------------------------------|---------------------|
| 1. Bandage strips of different size | 8. Antiseptic (Dettol/ Savlon) | 15. Scissor |
| 2. Wound gauze. | 9. Safety pins | 16. Thermometer |
| 3. Triangular and circular bandage. | 10. Blade | 17. Petroleum jelly |
| 4. Medicated cotton | 11. Small pins | |
| 5. Hand gloves | 12. Needle | |
| 6. Clean and dry cloth pieces. | 13. Band aid | |
| 7. Soap | 14. Torch | |



Can you tell?

Whether there had been mock drill by fire fighters under the disaster management scheme in your school? Which techniques did you see during the drill?

Mock Drill

It is a practice to check the preparedness of facing the disaster as early as possible. Virtual / Apparent situation of disaster is created to check the reaction time for any type of disaster. Trained personnel observe their responsibilities to check execution of plan designed for disaster redressal. This helps to check the efficacy of the system prepared for disaster redressal.

Mock drill is arranged on disaster of fire in various schools by the fire fighters. It includes the demonstrations like extinguishing the fire, rescuing the people trapped at higher floors of buildings, rescuing the persons whose clothing have caught the fire, etc. Such activities are also arranged by police force and voluntary organizations.

Objectives of Mock Drill

1. Evaluating the response to the disaster.
2. Improving the coordination between various departments of disaster control.
3. Identification of own abilities.
4. Improving the ability of quick response to disaster.
5. Checking the competency of the planned actions.
6. Identifying the possible errors and risks.



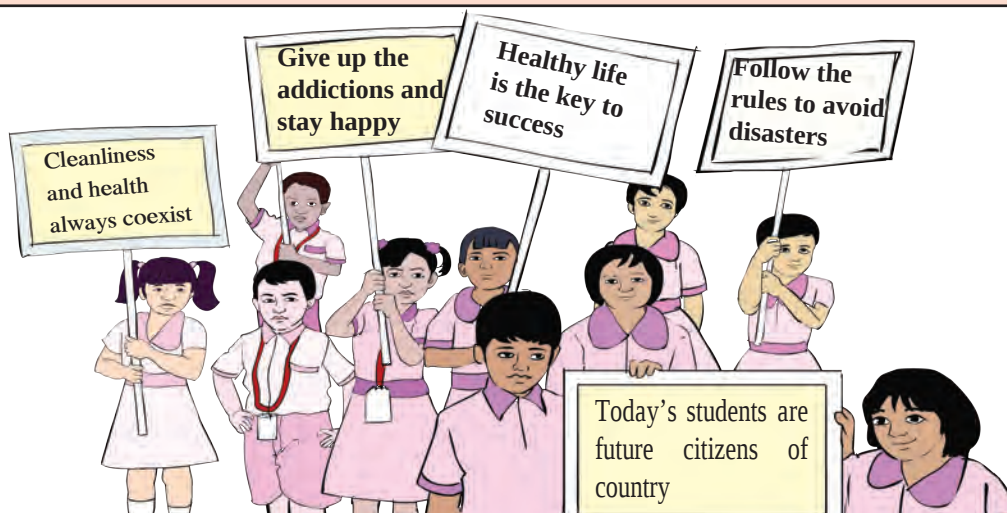
Internet is my friend

Watch the video clip of fire fighting mock drill on you tube and send to your friends and relatives.



Always remember

1. Do not make chaos and push each other while using staircase in the school.
2. Remind important help-lines and use as per need. Ex. Police 100, Fire fighting force 101, Disaster Control Unit 108, Ambulance 102, etc.
3. Follow the traffic rules. Look at left and right sides while crossing the road and ensure that any vehicle is not passing by.
4. Do not touch any unclaimed object. Do not spread rumours.
5. Do not make chaos at the crowded places.



Exercise

1. Complete the table.

(Motor accident, land sliding, forest fire, theft, riot, war, epidemic, drought, locust attack, financial crisis, flood, famine)

Disaster	Symptoms	Effects	Remedy

2. Write notes.

- a. Disaster management Authority
- b. Nature of disaster management
- c. Mock drill
- d. Disaster Management Act, 2005

3. Answer the following questions.

- a. Explain the role of district disaster control unit after occurrence of any disaster.
- b. Give the reasons for increase in human disasters after the World War-II.
- c. Which are the objectives of disaster management?
- d. Why is it essential to get the training of first aid?
- e. Which different methods are used for transportation of patients? Why?

4. On the basis of the structure of disaster-management authority, form the same for your school.

5. Write down the reasons, effects and remedial measures taken for any two disasters experienced by you.

6. Which different aspects of disaster management would you check for your school? Why?

7. Identify the type of disaster.

- | | |
|--------------|-----------------|
| a. Terrorism | b. Soil erosion |
| c. Hepatitis | d. Forest fire |
| e. Famine | f. Theft |

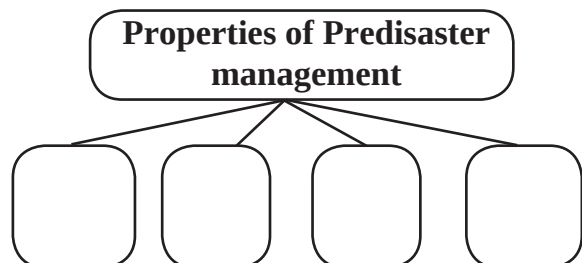
8. Some symbols are given below. Explain those symbols. Which disasters may occur if those symbols are ignored?



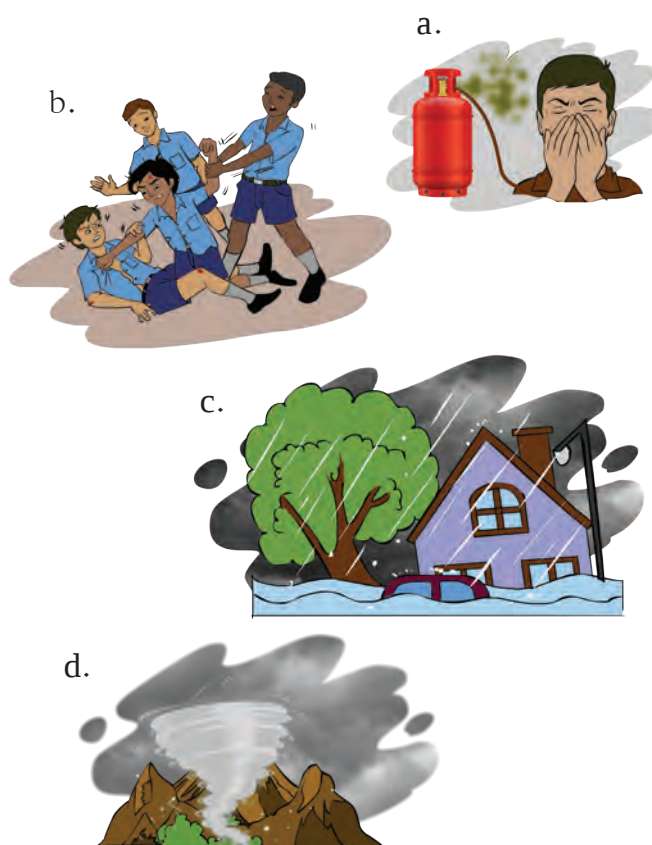
9. Explain that why is it said like that?

- A] Mock drill is useful
B] Effective disaster management makes us well prepared for future.

10. Complete the following chart.



11. Following are the pictures of some disasters. How will be your pre- and post-disaster management in case you face any of those disasters?



Project:

1. Demonstrate the activities shown on page no. 106 of std. IX textbook in front of the students of other classes. Make a video clip and send it to others.
2. Form a group of students from your school to demonstrate the mock drill and demonstrate it in the school.

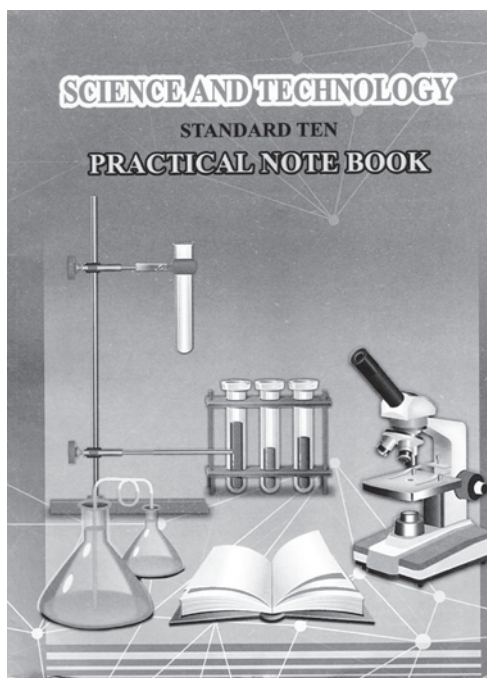


Practical Notebook for Standard Ten

Practical Notebook Cum Journal - Science and Technology

**English
Medium**

**Price
₹ 36.00**



- Based on Government approved syllabus and textbook
- Inclusion of practicals based on all chapters as per Evaluation scheme.
- With full of various activities, pictures, figures/ diagrams, etc.
- Inclusion of objective/multiple choice questions
- Inclusion of useful questions for oral examination
- More questions for practice and separate space for writing answers

Practical notebooks are available for sale in the regional depots of the Textbook Bureau.

(1) Maharashtra State Textbook Stores and Distribution Centre, Senapati Bapat Marg, Pune 411004 ☎ 25659465
 (2) Maharashtra State Textbook Stores and Distribution Centre, P-41, Industrial Estate, Mumbai - Bengaluru Highway, Opposite Sakal Office, Kolhapur 416122 ☎ 2468576 (3) Maharashtra State Textbook Stores and Distribution Centre, 10, Udyognagar, S. V. Road, Goregaon (West), Mumbai 400062 ☎ 28771842
 (4) Maharashtra State Textbook Stores and Distribution Centre, CIDCO, Plot no. 14, W-Sector 12, Wavanja Road, New Panvel, Dist. Rajgad, Panvel 410206 ☎ 274626465 (5) Maharashtra State Textbook Stores and Distribution Centre, Near Lekhanagar, Plot no. 24, 'MAGH' Sector, CIDCO, New Mumbai-Agra Road, Nashik 422009 ☎ 2391511 (6) Maharashtra State Textbook Stores and Distribution Centre, M.I.D.C. Shed no. 2 and 3, Near Railway Station, Aurangabad 431001 ☎ 2332171 (7) Maharashtra State Textbook Stores and Distribution Centre, Opposite Rabindranath Tagore Science College, Maharaj Baug Road, Nagpur 440001 ☎ 2547716/2523078 (8) Maharashtra State Textbook Stores and Distribution Centre, Plot no. F-91, M.I.D.C., Latur 413531 ☎ 220930 (9) Maharashtra State Textbook Stores and Distribution Centre, Shakuntal Colony, Behind V.M.V. College, Amravati 444604 ☎ 2530965



ebalbharati

E-learning material (Audio-Visual) for Standards One to Twelve is available through Textbook Bureau, Balbharati...

- Register your demand by scanning the Q.R. Code given alongside.
- Register your demand for E-learning material by using Google play store and downloading ebalbharati app.

www.ebalbharati.in, www.balbharati.in





MAHARASHTRA STATE BUREAU OF TEXTBOOK PRODUCTION AND CURRICULUM RESEARCH, PUNE.

विज्ञान आणि तंत्रज्ञान इयत्ता दहावी भाग - २ (इंग्रजी माध्यम)

₹ 65.00