

ACTIVITY BOOK ON DISASTER MANAGEMENT FOR SCHOOL STUDENTS



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**National Institute of
Disaster Management**

Ministry of Home Affairs, Government of India

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Vigyan Prasar (VP) is an autonomous organization under Department of Science and Technology. Objectives of VP are to take up large-scale science popularization tasks/activities, to promote and propagate scientific and rational outlook, to act as a resource-cum-facility centre for S&T communication.

VP was established in 1989.

Objectives:

- To promote and propagate scientific and rational outlook.
- To act as a resource-cum-facility centre for S&T communication.
- To take up large-scale science popularization tasks/activities.
- To develop, disseminate and market a variety of software on S&T popularization in different Indian languages (Audio, Video, Radio, TV, Print, Learning packages, Kits, Toys).
- Using different media for S&T Communication.
- Use of new/emerging technologies for S&T Communication.

Vigyan Prasar - A Resource-Cum-Facility Centre

- VP is a national resource-cum-facility centre for S&T communication
- VP strives to adapt, utilize and employ new and emerging technologies for S&T communication/ popularization.
- VP's emphasis is on development, production, dissemination and marketing of S&T software.
- VP's emphasis is on development of a countrywide network for S&T popularization / communication.
- VP organizes training programmes on use and dissemination of software produced.

National Institute of Disaster Management (NIDM)

The National Institute of Disaster Management constituted under the Disaster Management Act 2005 has been entrusted with the nodal national responsibility for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

Vision:

- To be a premier Institute of Excellence for training and research on disaster risk mitigation and management in India and to be recognized as one of the leading Institutions at the international level in this field.
- To strive relentlessly towards making a disaster free India by developing and promoting a culture of prevention and preparedness at all levels.

Mission:

- To work as a think tank for the Government by providing assistance in policy formulation and To facilitate in reducing the impact of disasters through Planning and promoting training and capacity building services including strategic learning. Research, documentation and development of national level information base. System development and expertise promotion for effective disaster preparedness and mitigation. Promoting awareness and enhancing knowledge and skills of all stakeholders. Strengthening institutional mechanisms for training and capacity building of all stakeholders at all levels. Networking and facilitating exchange of information, experience and expertise.

Functions:

Under the Disaster Management Act 2005, the Institute inter alia, has been entrusted with the following functions: develop training modules, undertake research and documentation in disaster management and organize training programme, formulate and implement a comprehensive human resource development plan covering all aspects of disaster management; provide assistance in national level policy formulation; provide required assistance to the training and research institutes for development of training and research programmes for various stakeholders; provide assistance to the State Governments and State training institutes in the formulation of State level policies, strategies, disaster management framework and any other assistance as may be required for capacity-building; develop educational materials for disaster management including academic and professional courses; promote awareness among stakeholders including college/ school teachers and students, technical personnel and others associated with multi-hazard mitigation, preparedness and response measures; undertake, organize and facilitate study courses, conferences, lectures, seminars within and outside the country to promote disaster management; undertake and provide support for publication of journals, research papers and books and establish and maintain libraries etc.

Disaster

Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area (definition according to Disaster Management Act 2005, Government of India)

Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

Natural hazard

Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Natural hazards are a sub-set of all hazards. The term is used to describe actual hazard events as well as the latent hazard conditions that may give rise to future events. Natural hazard events can be characterized by their magnitude or intensity, speed of onset, duration, and area of extent. For example, earthquakes have short durations and usually affect a relatively small region, whereas droughts are slow to develop and fade away and often affect large regions. In some cases hazards may be coupled, as in the flood caused by a hurricane or the tsunami that is created by an earthquake.

Technological hazards

A hazard originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.

Vulnerability

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.

Coping capacity

The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters. The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during crises or adverse conditions. Thus, the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals is termed as its capacity. It may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management.

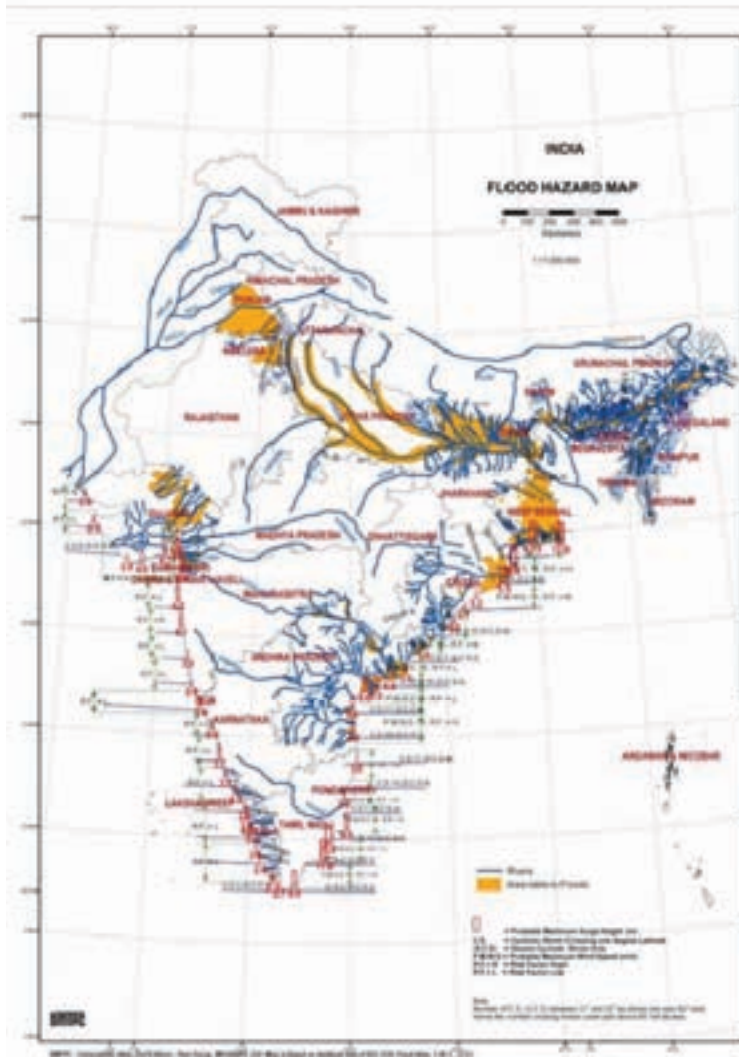
Risk

The combination of the probability of an event and its negative consequences. The word “risk” has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in “the risk of an accident”; whereas in technical settings the emphasis is usually placed on the consequences, in terms of “potential losses” for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.

Risk management

The systematic approach and practice of managing uncertainty to minimize potential harm and loss. Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. Risk management is a core issue for sectors such as water supply, energy and agriculture whose production is directly affected by extremes of weather and climate.

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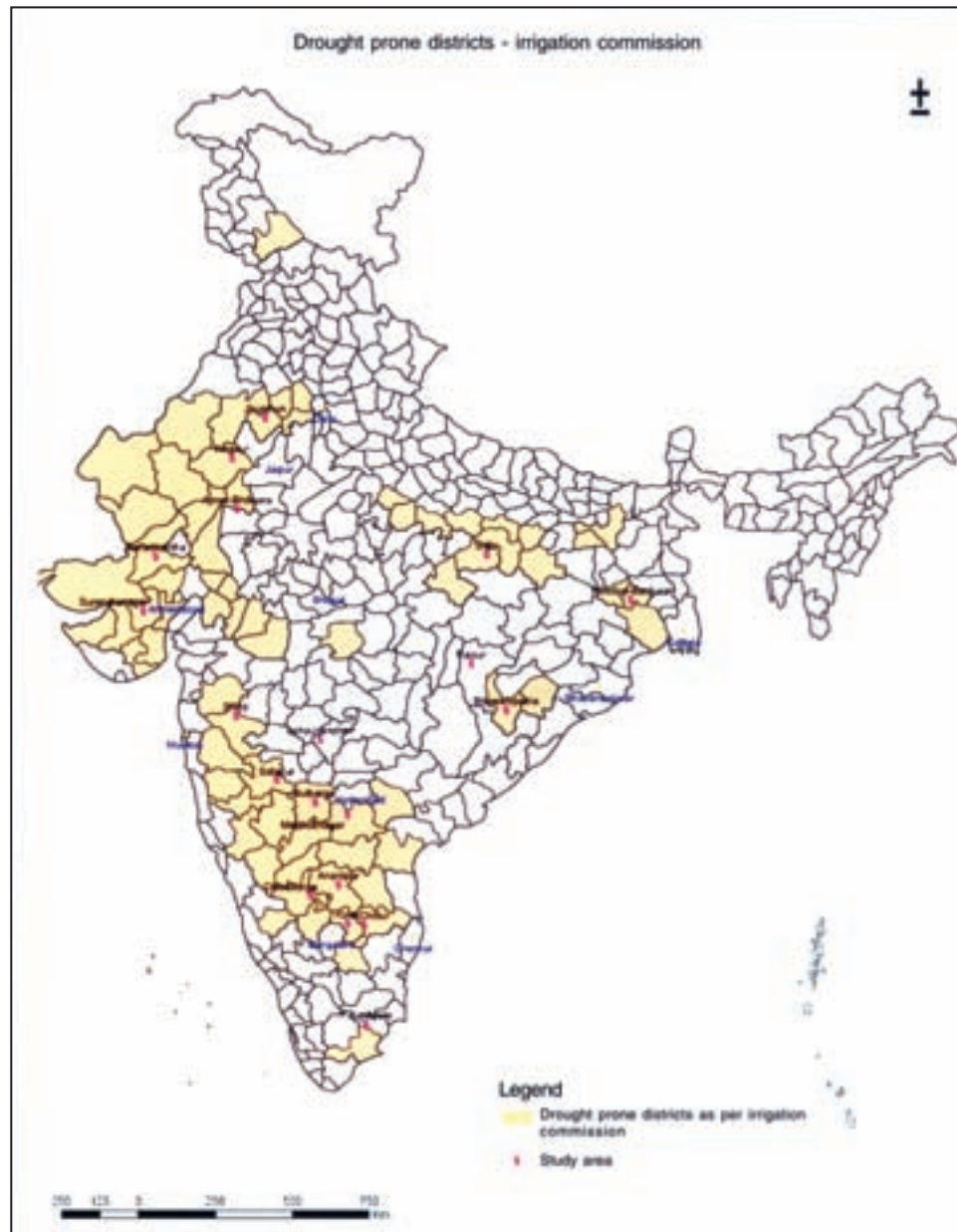
VULNERABILITY ATLAS- FLOOD

- 40 million hectares are prone to flood
- 8 million hectares affected by flood every year
- Brahmaputra and Gangetic Basins are most flood prone areas
- North-west region of west flowing rivers – Krishna, Cavery and Mahanadi – are other flood prone areas

VULNERABILITY ATLAS – CYCLONES

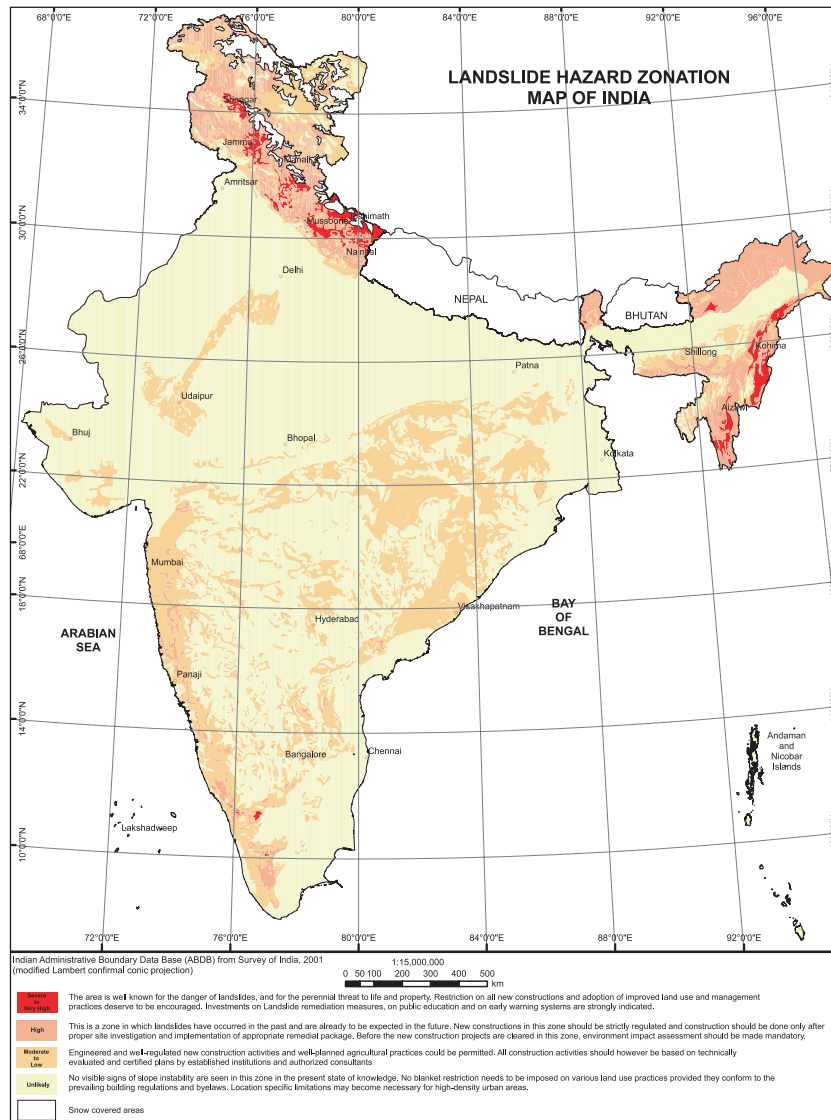


- India has 7,516kms long coastline, of which 5,700 kms are prone to cyclones
- ~8% of the country's area and one-third of its population live in 13 coastal states and UTs, encompassing 84 coastal districts, are vulnerable to cyclones
- Tamil Nadu, Andhra Pradesh, Orissa, West Bengal and Puducherry on east coast and Gujarat on the west coast are more prone to cyclones
- Cyclones occur in the months of May – June and October – November with their primary peaks in November and secondary peaks in May



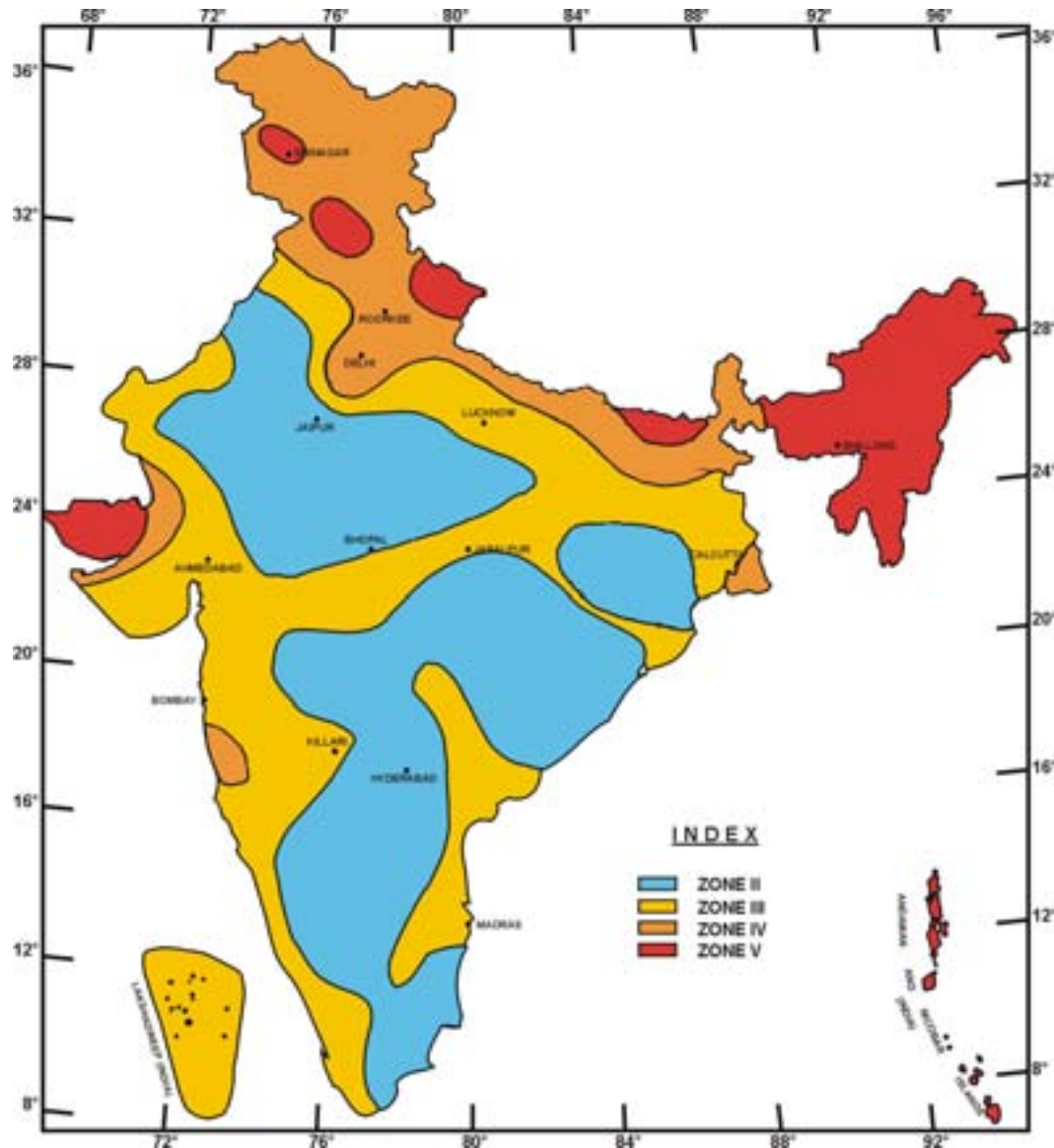
DROUGHT VULNERABILITY

- 68% of the net area sown in the country is prone to drought
- Out of this 33% is chronically drought prone, receiving rainfall less than 750mm per annum
- 35% drought prone that receive rainfall between 750-1125 mm per annum



LANDSLIDE

- About 25% of the total geographical area of India is prone to landslides.
- Entire Himalayas, North eastern region, western ghats are perennially affected by landslides



Seismic Zonation Map of India

Seismic Zone	Percentage Area under different seismic zones
V	12
IV	18
III	27
II	43

*Fill the colour to identify the seismic risk
zone of your state*



**IDENTIFY THE
HAZARDS OF YOUR
AREA — WHICH ZONE
IS VULNERABLE FOR
MULTIPLE TYPES OF
HAZARDS**



FLOOD

A flood is an overflow of an expanse of water that submerges land. Flood is defined as a covering by water of land which is not normally covered by water. In the sense of "flowing water", the word may also be applied to the inflow of the tide. Flooding may result from the volume of water within a body of water, such as a river or lake, which overflows or breaks levees, with the result that some of the water escapes its usual boundaries.

While the size of a lake or other body of water will vary with seasonal changes in precipitation and snow melt, it is not a significant flood unless such escapes of water endanger land areas used by man like a village, city or other inhabited area.

Floods can also occur in rivers, when flow exceeds the capacity of the river channel, particularly at bends or meanders. Floods often cause damage to homes and businesses if they are placed in natural flood plains of rivers. While flood damage can be virtually eliminated by moving away from rivers and other bodies of water, since time out of mind, people have lived and worked by the water to seek sustenance and capitalize on the gains of cheap and easy travel and commerce by being near water. That humans continue to inhabit areas threatened by flood damage is evidence that the perceived value of living near the water exceeds the cost of repeated periodic flooding.

THE FUNCTION OF FLOODPLAINS

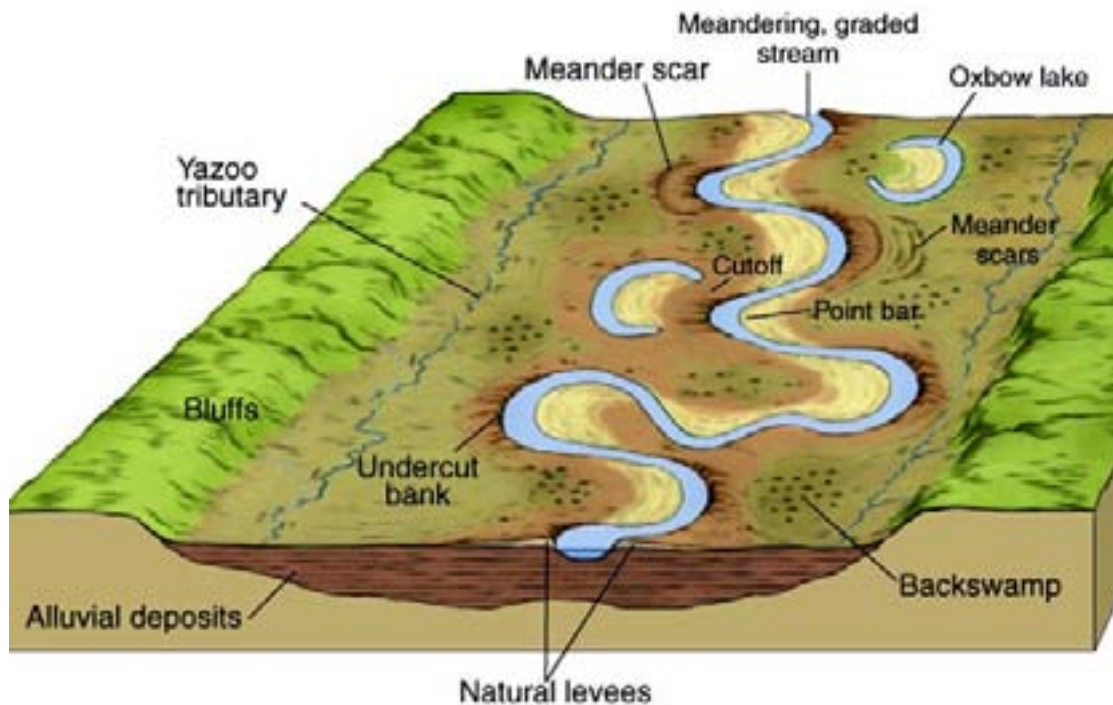
Floodplains are a natural feature of rivers. They are the mostly flat land adjacent to the river and form due to the actions of the river. Rivers erode their own banks and redeposit the eroded material downstream. Material is added to the floodplain during floods, a process called overbank deposition. The material that underlies floodplains is a mixture of thick layers of sand and thin layers of mud.

Floodplains in their natural form are beneficial for a number of reasons: a) reducing the number and severity of floods, b) minimizing non-point source water pollution, c) filtering storm water, d) providing habitat for plants and animals, and e) aesthetic beauty and outdoor recreation benefits.

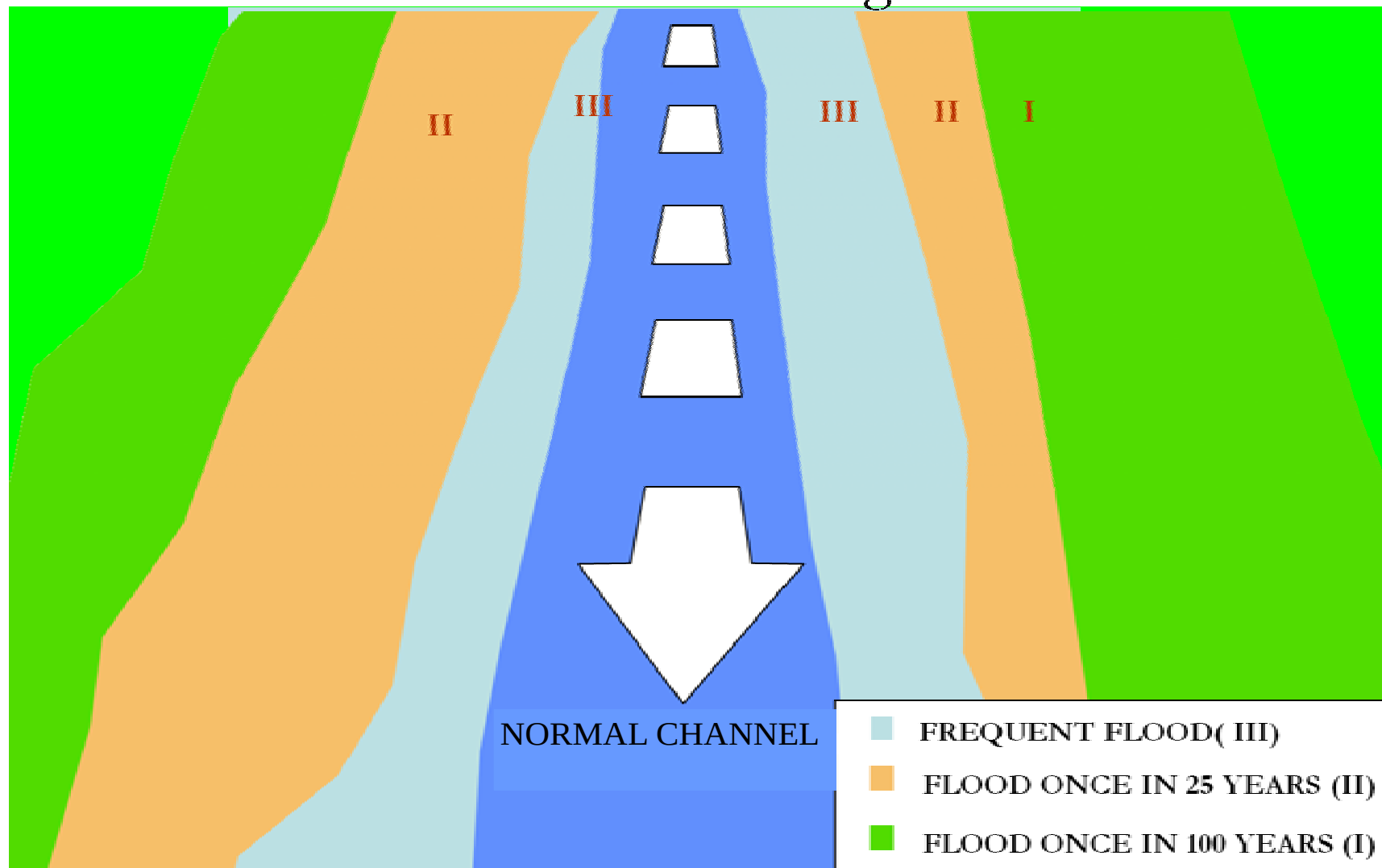
During high water events, some of the water is absorbed by the floodplain, helping to keep the river from overflowing. The absorbed water can then be returned to the stream during times of low water. If a high water event is large enough, water will overflow the channel of the river and flow onto and spread over the floodplain, which slows the flow of the water. Reduced water flow can help prevent severe erosion and flooding downstream.

Floodplains are also home to many types of plants and animals and may also have forests and wetlands on or adjacent to them. These river edges provide habitat for insects, birds, reptiles, amphibians, and mammals. The vegetation also helps filter contaminants out of the water flowing into the river. Additionally, vegetated floodplains provide shade

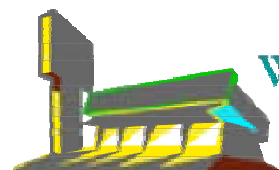
for the adjacent rivers and streams, increasing dissolved oxygen levels and consequently improving habitat for aquatic plants and animals



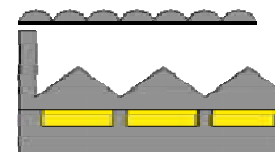
Flood Plain Zoning



CUT THESE IMAGES AND PASTE THEM TO ARRANGE FLOOD PLAIN ZONING



WATER SUPPLY



FACTORY



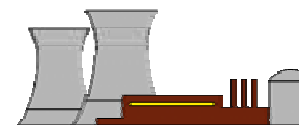
HOSPITAL



GOVT. OFFICE



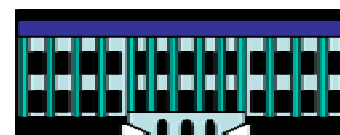
PARK



POWER HOUSE



RESIDENTIAL AREA



UNIVERSITY



ROOF

The uppermost part of a constructed structure is called roof, provided to protect the building from rain, wind, snow, sun etc. It protects human beings, animals and also materials kept inside building. The roof should **be** strong, stable, weather proof and safe against fire and disaster.

Roofing According to Shape

- Flat Roofs
- Pitched Roofs

Shell Roofs

Flat Roofs

Flat roofs have a slope from 1 degree to 5 degrees. These roofs are constructed in the same way as floor is. The roof acts much in the same way as a level plate form to support the load. This roof differs from intermediate floor in view of top finish called as 'Terracing'. This terracing protects roof from adverse effects of rain, snow, heat etc.

Advantages of Flat Roof

- It can be used for living purposes.
- It is comparatively safer than other types of roofs.
- Its construction and maintenance is simpler and more economical.
- It provides better light, ventilation and architectural appearance.
- The construction of upper floor can be taken up when desired in minimum time.



It is economical than Pitched roof for normal residential and official buildings because false ceiling is required for thermal comfort.

Disadvantages of Flat Roof

- It cannot be used for industrial sheds without using intermediate columns. These roofs are not suitable where rainfall or snowfall is heavy.

Pitched Roofs

Pitched roofs have a slope of more than 10 degrees to the horizontal Surface. The most common shape of roof is symmetrical pitched roof. The slope of roof varies according to the span, climatic conditions, types of roof covering etc. In areas of heavy snowfall, steeper slopes of 1: 1.5 or 1: 1 are provided to reduce incidence of

snow load of roof. Pitched roofs are generally constructed of wood or steel. Steel trusses (frames) and rolled steel sections are used in construction of pitched roofs.

Advantages of Pitched Roof

- It is constructed in a very short time.
- It does not require weather covering and water proofing treatment.
- This roof has no problem of drainage, rainy water and snow.
- It is useful for making for long span industrial sheds without intermediate columns, walls etc.

Pitched roof is economical than flat roof in case of industrial shed.

Disadvantages of Pitched Roof

- It has more weather effects
- It is not so durable.
- It can not be used for upper floor.
- The roof has leakage problem.
- When the roof is constructed with iron sheets, rusting problem may arise.

The roof for offices etc. is costly as false ceiling is required for thermal comfort.

Shell Roofs

Shell roofs are made to meet functional and architectural requirements. The roofs are provided in public buildings like libraries, theatres, recreation centers, factories or workshops etc. These roofs are used where large floor areas are required to be covered without obstruction from columns.

Advantages of Shell Roof

- More area is covered without any intermediate columns etc.
- There is no leakage problem in this type of roof.
- It gives architectural view to add beauty nearby area.

The area covered under this roof is used for conferences and big gathering.

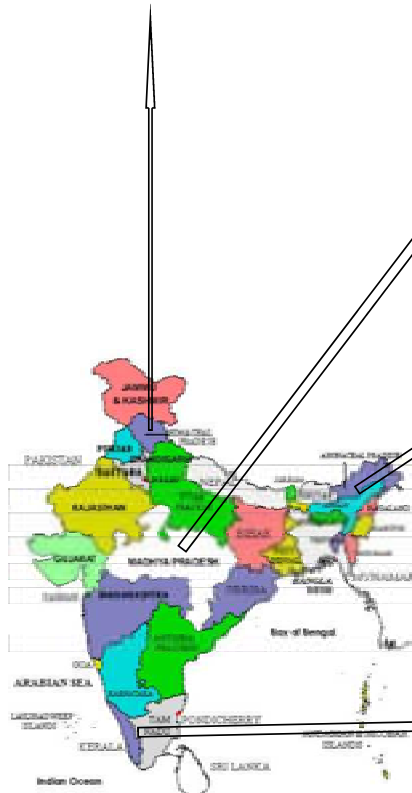
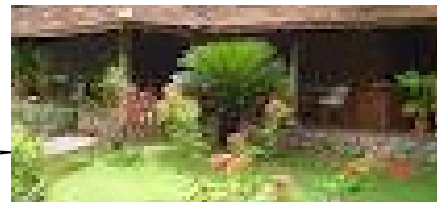
Disadvantages of Shell Roof

- It cannot be used to construct upper floor.
- It has problems of natural light and ventilation.

It is costly for construction.



Match the roofs with geographical areas



IDENTIFY THE ROOF ACCORDING TO STATE



**CUT THE
SQUARE AND
MAKE A
PUZZLE**

EARTHQUAKE

don't use open water for drinking

3

Do not touch any open electric wire

FIRE

***Do's
and
don'ts***

Do not panic

FLOOD

Immediately contact on Emergency no. 1070,
1077

LANDSLIDE





DISASTER EMERGENCY KIT

When a natural disaster occurs, we can't always rely on police or governments to provide help. The grocery store might be so badly damaged that you can't go into it. The supplies in the store might be quickly depleted or you may not be able to get to the store.

the six basic supplies you need in a disaster kit are:

Water

Clothing, bedding and sanitation supplies

Food

Tools

First aid supplies

Special items

Water

You should have a three-day supply of water on hand, or about one gallon per day per person. If your water is not already treated with chlorine, add some household bleach to the bottles. It should be stored in a cool, dark place for no longer than six months

Food

Put aside at least three-days worth of food in your disaster kit that is non-perishable and don't need refrigeration. Also, choose foods that don't need heating. Avoid foods with a high salt content as they will make you thirsty. Foods that are recommended are:

Candy, chocolate, tea, coffee Sugar, salt, pepper Canned juice, milk, soup Canned fruits, meat, vegetables Peanut butter, jelly, crackers Baby food if necessary Vitamins Pet food for those of us who have pets

Assemble a first aid kit for your home and one for each car. A first aid kit should include:



Sterile adhesive bandages in assorted sizes
4-inch sterile gauze pads (4-6)
Triangular bandages (3)
3-inch sterile roller bandages (3 rolls)
Needle
Thermometer
Tube of petroleum jelly or other lubricant
Latex gloves (2 pair) Sunscreen
Antacid (for stomach upset)

2-inch sterile gauze pads (4-6)
Hypoallergenic adhesive tape
2-inch sterile roller bandages (3 rolls)
Scissors
Moistened towelettes
Tongue blades (2)
Assorted sizes of safety pins
Non-prescription drugs
Clothing, Bedding and Sanitation Supplies

Tweezers
Antiseptic
Cleansing agent/soap
pain killer

Make sure your disaster kit contains clothes that will protect you from cold and from heat. You should include at least one change of clothing per person, including footwear. Make sure you bring soap, detergent, toilet paper, feminine supplies, garbage bags (to dispose of personal waste), a plastic bucket with lid, disinfectant and household bleach.

Tools

Mess kits, or paper cups, plates and plastic utensils
Portable, battery-operated radio or television and extra batteries
Cash or traveler's checks, change
Fire extinguisher: small canister, ABC type
Tape
Paper, pencil
Whistle
Map of the area (for locating shelters)

Emergency preparedness manual
Flashlight and extra batteries
Nonelectric can opener, utility knife
Tube tent
Plastic storage containers
Needles, thread
Plastic sheeting
Special Items

Special items include family documents such as birth certificates, passports, wills, photo id, bank account numbers, credit card numbers, household inventory, cash, books and other entertainment, batteries, extra glasses and prescription drugs.

Cut and paste all the items on a paper and make your own emergency kit









MAKE A CHART OF EMERGENCY KIT

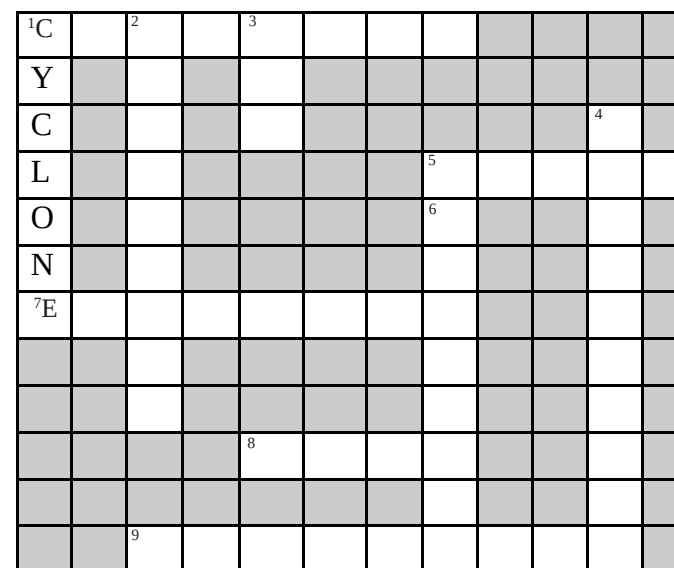
CROSS WORD

LEFT TO RIGHT

1. is a weather phenomenon that is distinguished by a cooling of the air (8)
5. is an overflow of an expanse of water that submerges land (5)
7. occurs when new cases of a certain disease, in a given human population, and during a given period, substantially exceed what is expected based on recent experience(8)
8. Its most common form can result in conflagration, which has the potential to cause physical damage through burning (4)
9. is the introduction of contaminants into a natural environment that causes instability, disorder of brain, harm or discomfort to the ecosystem(9)

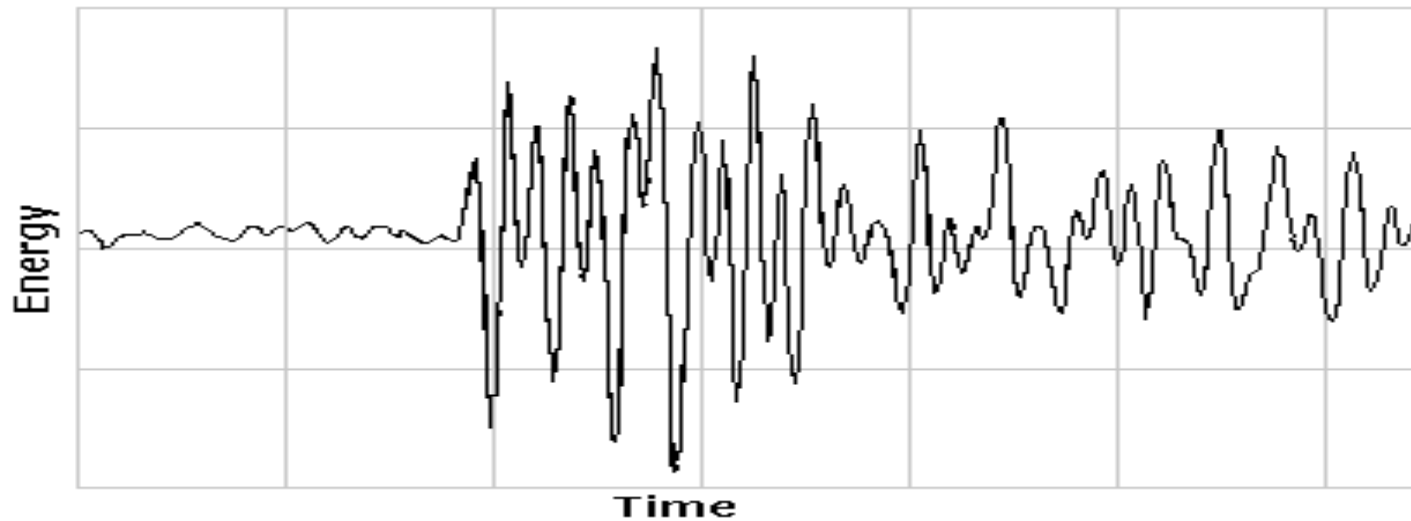
TOP TO BOTTOM

1. is a storm accompanied by high speed whistling and howling winds rotating around low pressure in anti-clock wise direction It brings torrential rains (7)
2. is a geological phenomenon which includes a wide range of ground movement, such as rockfalls, deep failure of slopes and shallow debris flows, which can occur on hills, in offshore, coastal and onshore environments(9)
3. is an organized, armed, and often a prolonged conflict that is carried on between states, nations, or other parties typified by



extreme aggression, social disruption, and usually high mortality (3)

4. is a general term for health problems arising from eating contaminated food (10)
6. is an unforeseen and unplanned event or circumstance, often with lack of intention or necessity (8)

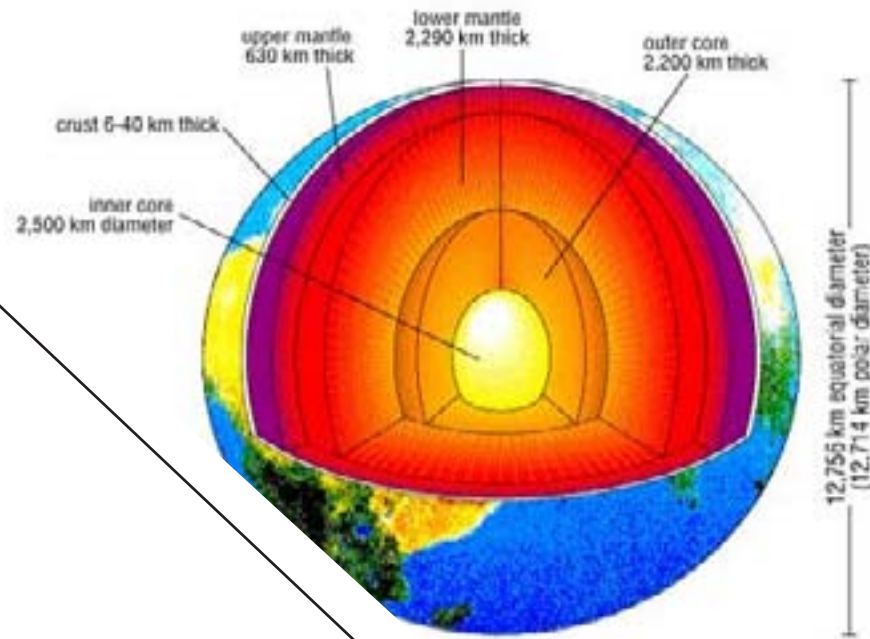


Seismometers are instruments that measure motions of the ground, including those of seismic waves generated by earthquakes, volcanic eruptions, and other seismic sources. Records of seismic waves allow seismologists to map the interior of the Earth, and locate and measure the size of these different sources.

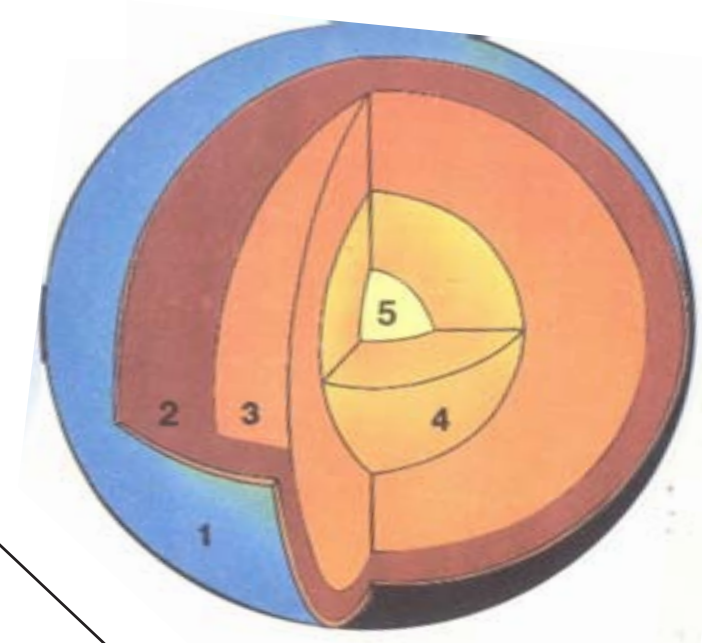
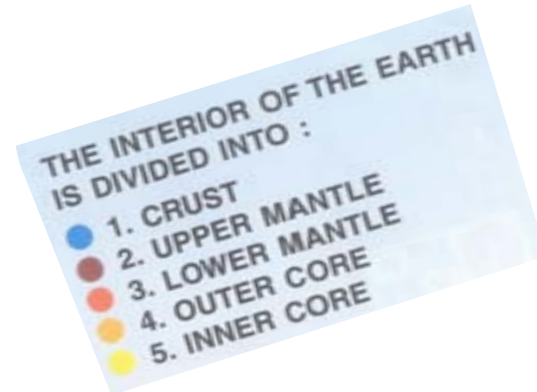
Seismograph: The seismograph records ground movements caused by earthquakes, explosions, or other Earth-shaking phenomena. It measures ground oscillations by recording the relative motion between a pendulum and the ground.

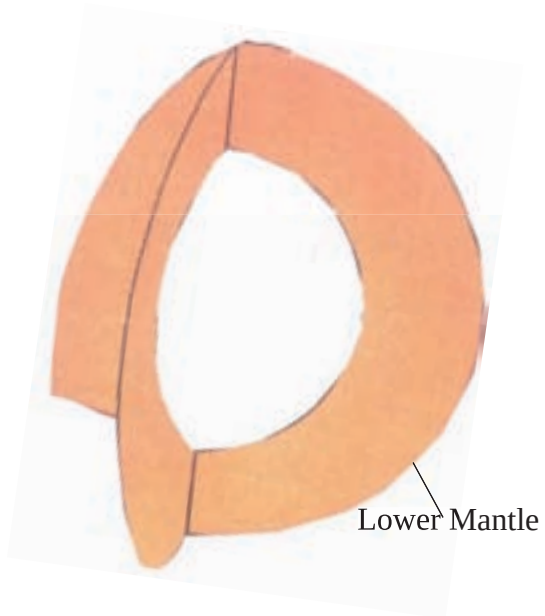
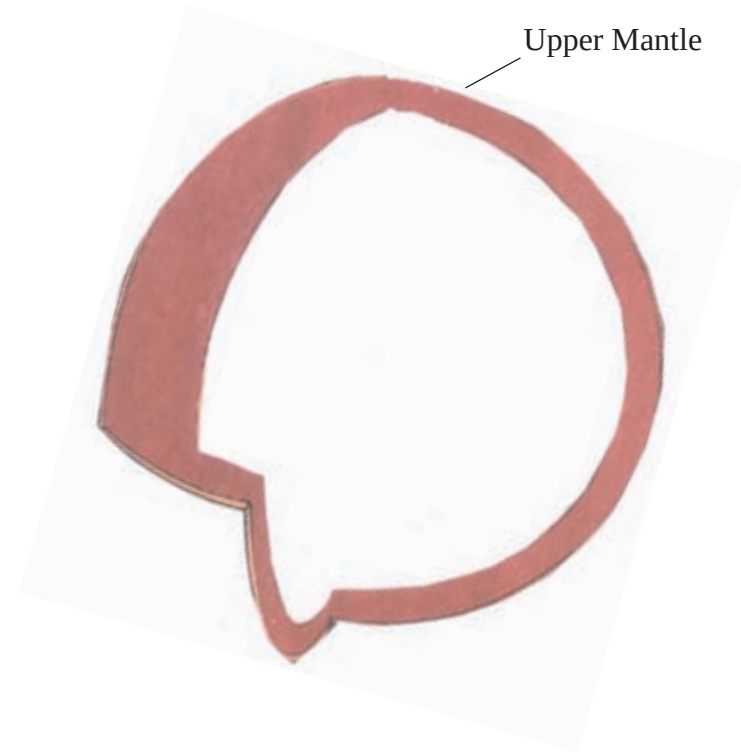
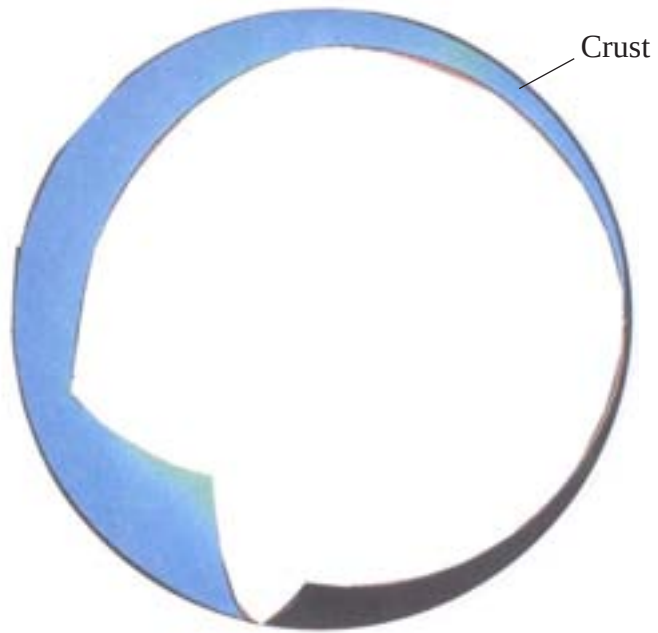
Seismogram: record /chart obtained from a seismograph.

HOW WE CAN MAKE
SISMOGRAPH



Inner structure of Earth





**FLIP AND SHOW
EARTH'S STRUCTURE**



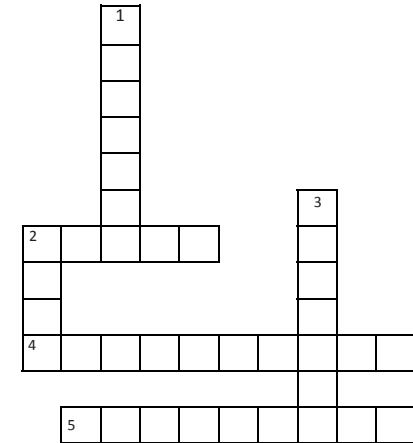
IDENTIFY THE NAME OF DISASTER (JIGSAW PUZZLE)

Down

1. is an opening, or rupture, in a planet's surface or crust, which allows hot magma, volcanic ash and gases to escape from below the surface (7)
2. is the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light, and various reaction products (4)
3. is a series of water waves caused by the displacement of a large volume of a body of water, typically an ocean or a large lake due to an earthquake, volcano

Left to right

2. an overflow or inundation of water over land surfaces, which are usually not covered with water (5)
4. A sudden shake of earth (10)
5. is a geological phenomenon which includes a wide range of ground movement, such as rock falls, deep failure of slopes (9)



EARTHQUAKE: Do's and Don'ts for Protection

EARTHQUAKE DAMAGE

Most human lives in earthquakes are lost due to collapse of houses. Styles of making houses depend on local climate, construction material available and on local traditions.

WHAT IS AN EARTHQUAKE

An earthquake is a sudden shake of the earth, which lasts for a short time, within a very limited region. Most earthquakes last for less than a minute, but sometimes shock may last, for as long as 3 to 4 minutes. The place where an earthquake originates inside the earth is called the focus of the earthquake. The point vertically above this, on the surface of the earth, is called its epicenter.

WHY DO EARTHQUAKES HAPPEN

The entire surface of the earth is made up of several wide, thin and rigid plate like blocks. These are in constant motion with respect to each other. This causes most earthquakes at edges of plates and a few earthquakes within the plate. The movement is very slow but in some places it is as much as about 5 cm per year. Earthquakes occur almost everywhere in the world. Some regions have more earthquakes than other parts of the globe. Earthquakes can be caused by other reasons too. Volcanic activity can shake the ground. Blasting, quarrying and mining can cause small earthquakes. Underground nuclear explosions are also man made earthquakes.

Tremendous amount of energy is released during an earthquake. This can cause widespread damage. Human dwellings have to be protected from earthquakes. Collapse of buildings in an earthquake, specially in congested areas, can cause havoc.

If you are caught indoors at the time of an earthquake,

- Keep calm.
- Stay away from glass windows, doors, almirahs, mirrors etc.
- Stay away from falling plaster, bricks or stones.
- Get under a table or a sturdy cot so that you are not hurt by falling objects.
- Do not rush towards the doors or staircase. They may be broken or jammed.

If you are outdoors at the time of earthquake,

- If open space is available nearby, go there.
- Keep away from tall chimneys, buildings, balconies and other projections.
- Do not run through streets; hoardings or lamps may fall on you.

After an earthquake

- Check if you or anyone else is hurt. Use first aid at least on the cuts and bruises.
- Keep the streets clear for emergency services.
- Switch off all appliances like the refrigerator, TV or radio Turn off the gas.
- Wear shoes to protect your feet from debris.
- A battery operated radio will help you to get important messages.
- Be prepared for more shocks. These aftershocks always follow an earthquake.

Avoid the following in an earthquake

- Do not crowd around damaged areas or buildings.
- Do not waste water. It will be needed for fire fighting.
- Do not move the seriously hurt people.
- Wait for medical help to arrive.
- Do not spread rumors. They lead to panic and worsen the situation.

Identify EARTHQUAKE Do's and Don'ts

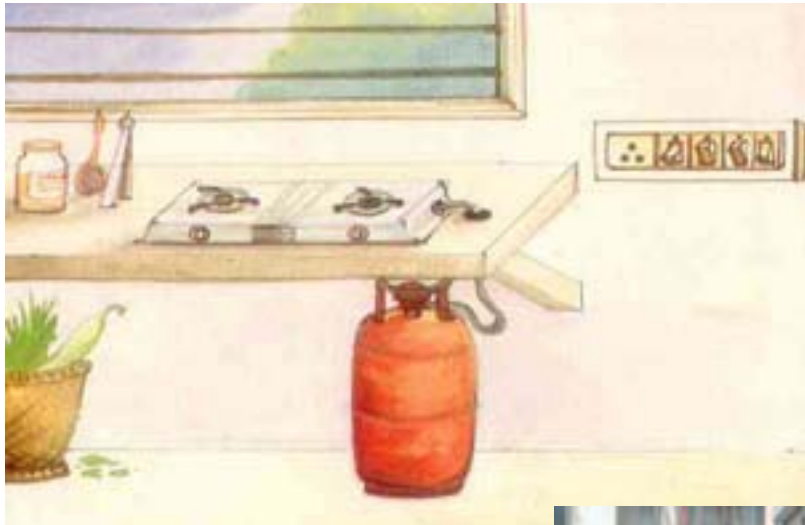




FLOOD: Do's and Don'ts for Protection

Do's	Don'ts
Switch off all electrical and gas appliances, and turn services off at the mains.	Don't walk through flowing water - currents can be deceptive, and shallow, fast moving water can knock you off your feet.
Take your emergency kit and try to let your friends and family where you are going.	Don't swim through fast flowing water - you may get swept away or struck by an object in the water.
Avoid contact with flood water - it may be contaminated with sewage, oil, chemicals or other substances.	Don't drive through a flooded area - You may not be able to see abrupt drop-offs and only half a metre of flood water can carry a car away. Driving through flood water can also cause additional damage to nearby property.
If you have to walk in standing water, use a pole or stick to ensure that you do not step into deep water, open manholes or ditches.	Don't return to your property until the "All Clear" has been given.
Stay away from power lines - electrical current can travel through water. Report power lines that are down to the power company.	Don't reconnect your power supply until a qualified engineer has checked it. Be alert for gas leaks - do not smoke or use candles, lanterns, or open flames.
Look before you step - after a flood, the ground and floors are covered with debris, which may include broken bottles, sharp objects, nails etc. Floors and stairs covered with mud and debris can be slippery.	Don't eat any food that has come into contact with flood water.

Identify FLOOD Do's and Don'ts





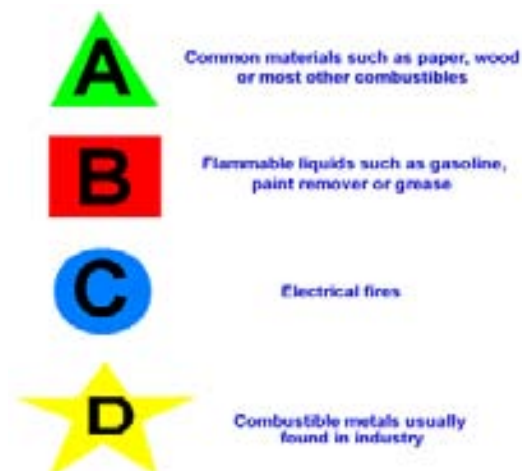
A fire extinguisher,, flame extinguisher, or an extinguisher, is an active fire protection device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fire, such as one which has reached the ceiling, endangers the user (i.e., no escape route, smoke, explosion hazard, etc.), or otherwise requires the expertise of a fire department. Typically, a fire extinguisher consists of a hand-held cylindrical pressure vessel containing an agent which can be discharged to extinguish a fire.

Fire Extinguisher Chart

Extinguisher		Type of Fire				
Colour	Type	Solids (wood, paper, cloth, etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	✓ Yes	✗ No	✗ No	✗ No	✗ No
	Foam	✓ Yes	✓ Yes	✗ No	✗ No	✓ Yes
	Dry Powder	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✗ No
	Carbon Dioxide (CO2)	✗ No	✓ Yes	✗ No	✓ Yes	✓ Yes

CLASSES OF FIRES	TYPES OF FIRES	PICTURE SYMBOL
A	Wood, paper, cloth, trash & other ordinary materials.	
B	Gasoline, oil, paint and other flammable liquids.	
C	May be used on fires involving live electrical equipment without danger to the operator.	
D	Combustible metals and combustible metal alloys.	
K	Cooking media (Vegetable or Animal Oils and Fats)	

- **Class A fire extinguishers**, for example, have the green triangle on them and also the special numerical rating, showing the amount of water this extinguisher holds and the amount of fire it is able to extinguish.
- **Class B fire extinguishers** are marked with the red square and have the numerical rating indicating the approximate area of fire (in square feet) it is able to extinguish.
- **Class C fire extinguishers** are marked with the blue circle, but they don't have any numerical rating. As a rule they contain the non-conductive extinguishing agent, because they are often used for electrical fire fighting.
- **Class D fire extinguishers** have the yellow decagon on them and are mostly regarded as the part of chemical laboratory firefighting equipment. They also don't have any numerical rating on them. There are also class K fire extinguishers, marked with the black hexagon. They are intended for the fighting the fire, caused by any cooking oils, fats or trans-fats combustion and are highly recommended for restaurant or cafeteria kitchens.



symbols and colour for extinguishers

Identify the fire extinguisher & Write about the use



FIRE: do's and don'ts

BEFORE :

- The schools to be given license only after checking up its safety.
- The schools must have sufficient exit routes.
- Identify the fire hazards and where fires might start.
- Teachers/school staff to have training in fire safety.
- Students to be made aware about the do's & don'ts.
- School to have an emergency plan and put up fire notices.
- Keep electrical inspection and testing up to date and carry out repairs.
- Kitchen has to be in secured and safe location only.
- Check the adequacy of fire fighting apparatus and its maintenance.
- Ensure fire escape routes and fire exit doors/ passageways are unobstructed and doors open correctly.
- Have first aid kits.
- **Conduct fire drills.**
- Consult with and implement recommendations of the local fire brigade.

DURING :

- Exit from the school to an open area.
- Contain the fire if possible. If not , get outdoors immediately.



- Execute evacuation plan and practiced fire drills.
- Call the Fire Brigade.
- Do not allow children and teachers to panic.
- Do not let anyone hide. Teachers to ensure that nobody is trapped in toilet/indoors.
- If the room is filled with smoke, ask children to stay low to the ground during exit.
- Feel any closed door to see if they are hot before they are opened.
- If the door is hot, use the nearest window or another exit.
- Children and teachers should go to pre – arranged locations, teacher to take roll call.
- Teachers should comfort distressed children.
- Nearest hospital/authority to be alerted.
- Do not allow children to leave on their own , or to be taken home by strangers.

AFTER :

- DON'T Re- enter or permit anyone to enter the school building , unless the fire officials have given permission to enter.
- Teachers to confirm that all students have reached their homes safely.
- Review the fire risk management plan and evacuation plan.
- Implement / execute recommendations by Fire Department and /or building professional before reopening school for classes.

Draw a map of your area

Instruction for land marks:

1. School
2. Well
3. Dispensary
4. Pond
5. Any religious place



Fig 1 AIGA Symbol of high information load



Fig 2 AIGA Symbol of low information load

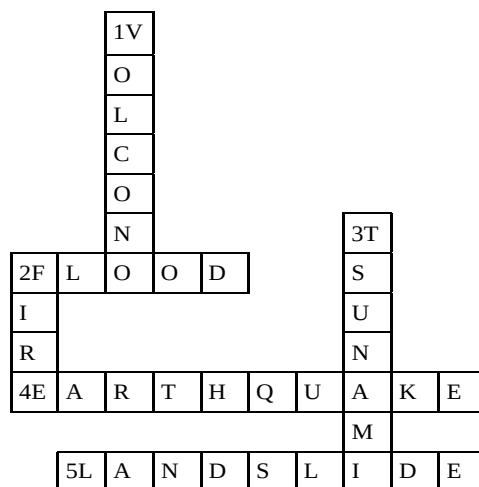


IDENTIFY THE SYMBOLS

MAKE A CHART OF HAZARD SIGN

IDENTIFY THE NAME OF DISASTERS (JIGSAW PUZZLE)

SOLUTION



CROSS WORD

1 C	O	2 L	D	3 W	A	V	E				
Y		A		A							
C		N		R						4 F	
L		D					5 F	L	O	O	D
O		S					6 A			O	
N		L					C			D	
7 E	P	I	D	E	M	I	C			P	
		D					I			O	
		E					D			S	
				8F	I	R	E			I	
							N			O	
		9 P	O	L	L	U	T	I	O	N	

Emergency contact Numbers

Police

100

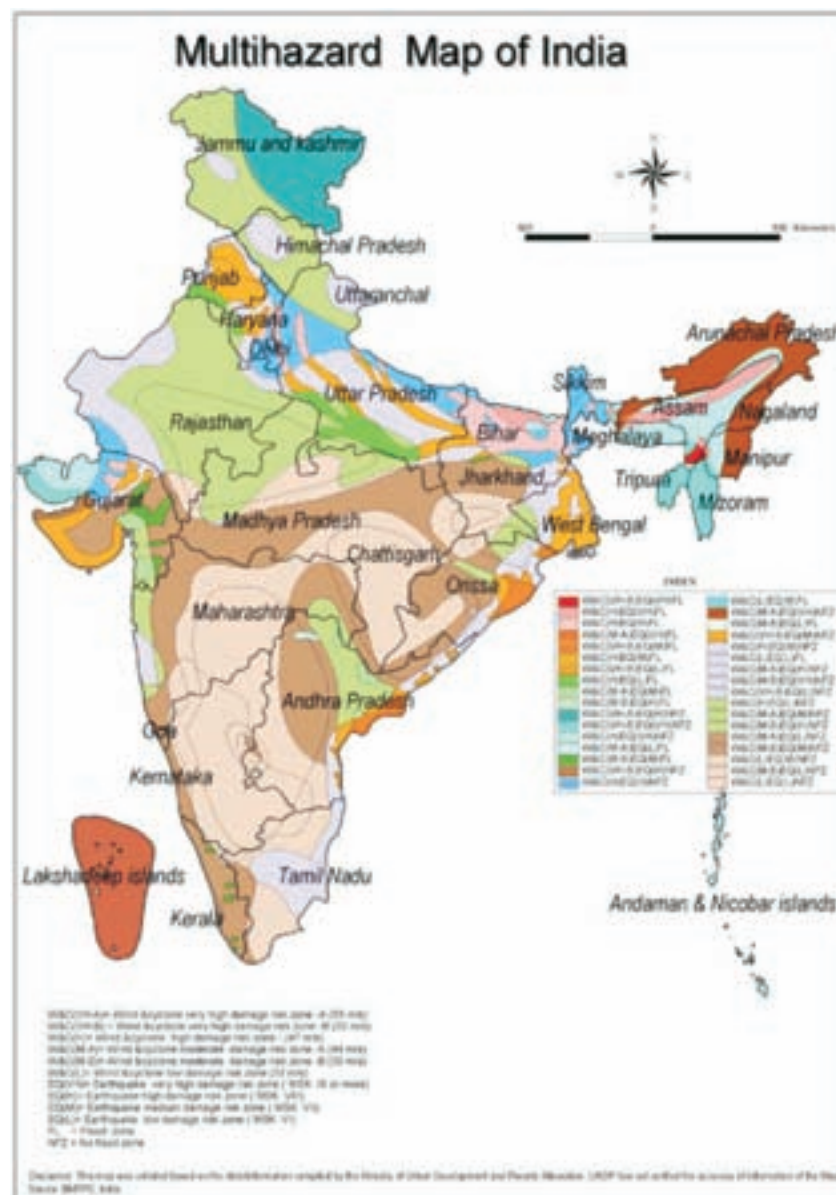
ambulance

102

fire

101

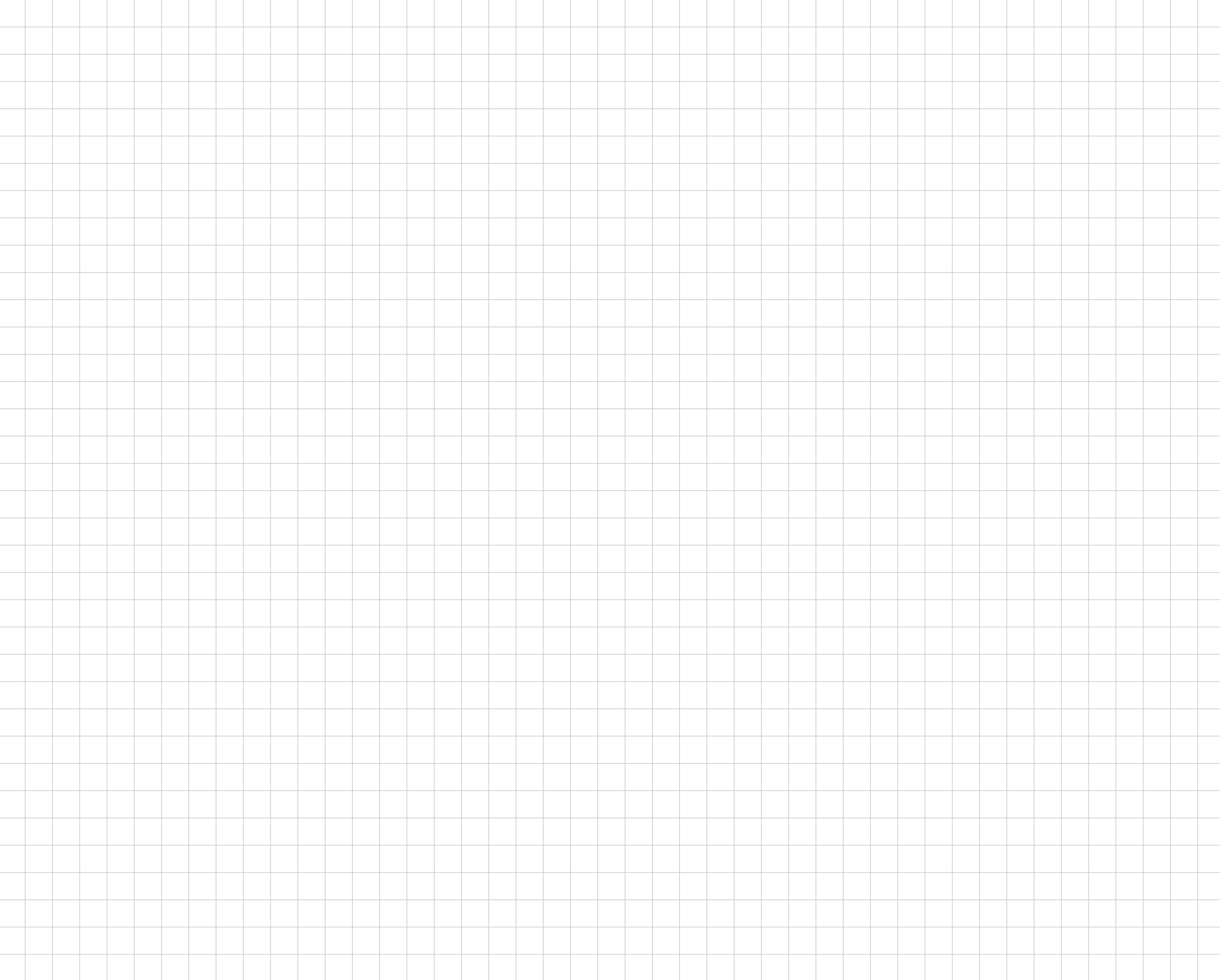
(Authors acknowledge to all the resource centers to provide data and images on their websites.)





Useful Weblinks

- <http://www.ndmindia.nic.in>
- <http://www.ndma.gov.in>
- <http://www.nidm.gov.in>
- <http://www.ddma.delhigovt.nic.in>
- <http://www.undp.org.in>
- <http://www.bmtpc.org>
- <http://www.imd.ernet.in>
- <http://www.cwc.nic.in>
- <http://www.gsi.gov.in>





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