

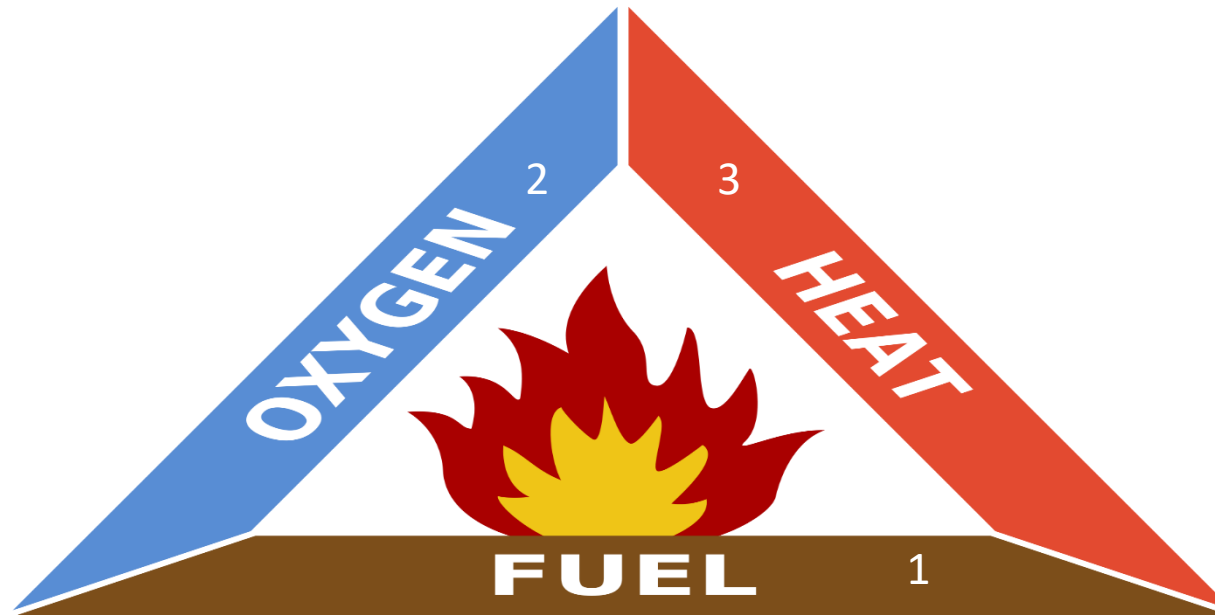
***Fire Safety Training & Awareness***  
***For Students***

# Content

- Definition of Fire
- Fire Triangle
- Reasons of Out break
- Fire Prevention
- Types of fire Control Devices
- Class of Fire And Extinguisher use
- Fire Extinguisher Anatomy
- How to use fire Extinguisher
- How to hold the fire extinguisher
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- Smoke Detectors
- Sprinkler System

# Definition of Fire

It is a chemical reaction of combustible substances (burning material) with oxygen in presence of heat, which further produces heat, smoke, flame, light & explosion with sound.



# Fire Triangle

- As we know fire triangle include 3 type of material i.e. fuel, oxygen & heat. So, if we remove any one of the above material, then we can control on fire.

Steps:

- **STARVATION:** Removal of fuel.
  - **BLANKETING:** Remove the supply of oxygen ( by covering with fire blanket)
  - **COOLING:** Reduce the heat contents (by using fire extinguishers)
- 
- **Scale of fire:** There are two scales of fire
    - (1) Small scale: It mean the fire in which we can control by using fire buckets or fire extinguishers.
    - (2) Large scale: It mean the fire in which we can control by using fire hydrants or fire brigade.

# Reasons of Out-break (*Causes of Fire*)

- Bad Housekeeping.
- Careless Smoking.
- Overloading of Machines /Motors.
- Welding / Gas cutting without Proper precautions.
- Leaving heating equipment's Unattended e.g. Iron, toasters heaters etc.
- Sparks & short- circuits.

# Fire Prevention

1. Good house keeping.
2. No smoking in Unauthorized places.
3. Always use Proper fire Extinguishers
4. Use proper fuse and plugs.
5. Do not keep wet clothes on electric fitting & bulbs.
6. Switch off all electric appliances if not in use.
7. Keep exhaust fans clean.
8. Keep cardboards, cottons away from heating appliances and Electric / Electronic equipment's.

# Type of Fire Control Device

- Two types:

- (1) Mobile or portable type

- (2) Non portable type

- (1) Portable type: The device which we can relocate them from one place to another place. Example: Fire extinguishers, Water/Sand buckets etc.

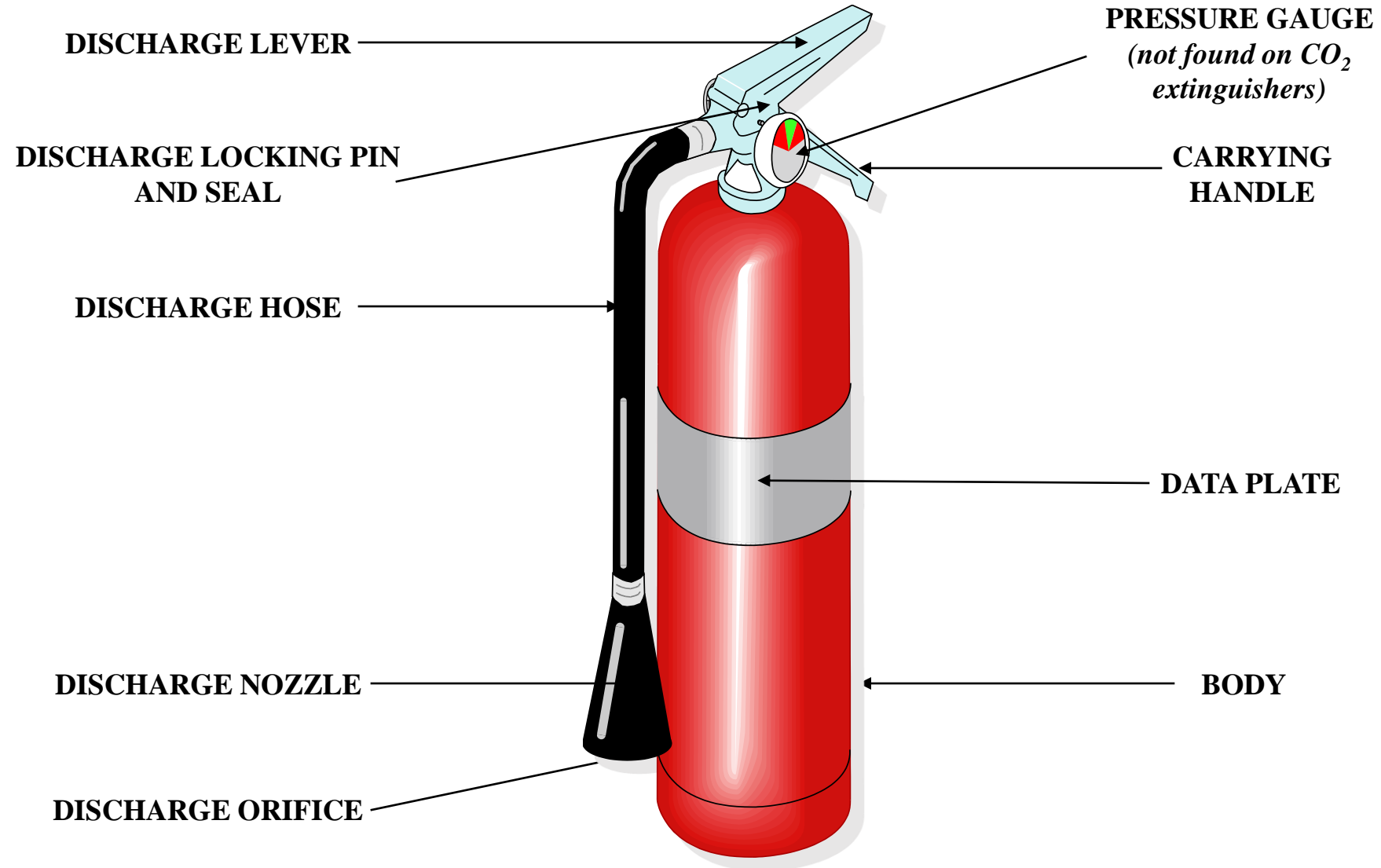
- (2) Non portable type: The device which we can't relocate them from one place to another place. Example: Fire hydrants system, sprinklers, smoke detectors etc.

## Class of fire & Extinguishers use

<b>Classification of Fire</b>	<b>Material/Fuel</b>	<b>Extinguisher use</b>
A	Wood, paper, cotton, plastic	Water
B	Petrol, diesel, alcohol	Foam type, DCP (BC)
C	L.P.G, Hydrogen & Electrical fire	DCP (ABC), CO2
D	Metal fire	DCP



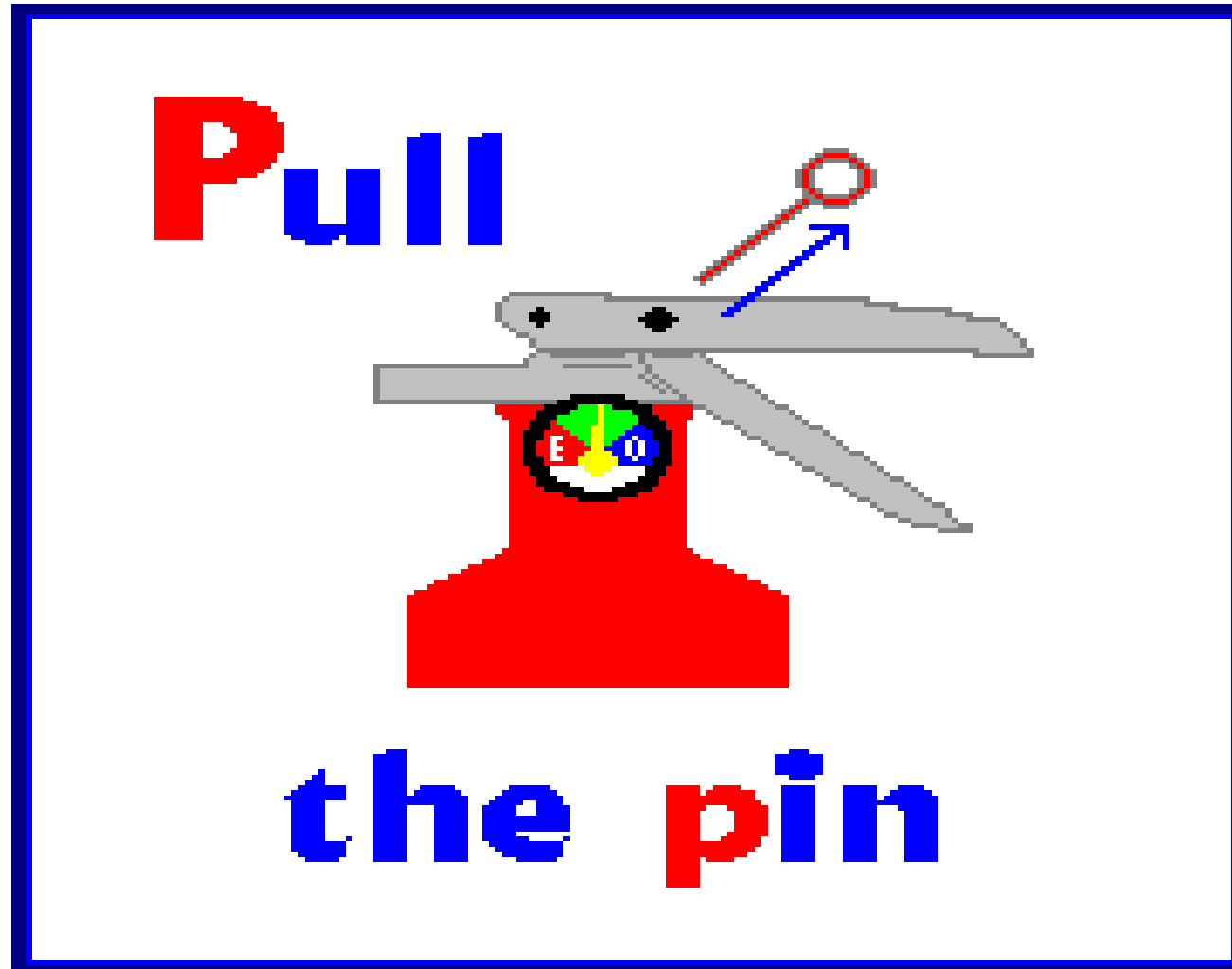
# Fire Extinguisher Anatomy



# How to use fire Extinguisher

- **PASS SYSTEM:**
- Pull
- Aim
- Squeeze
- Sweep

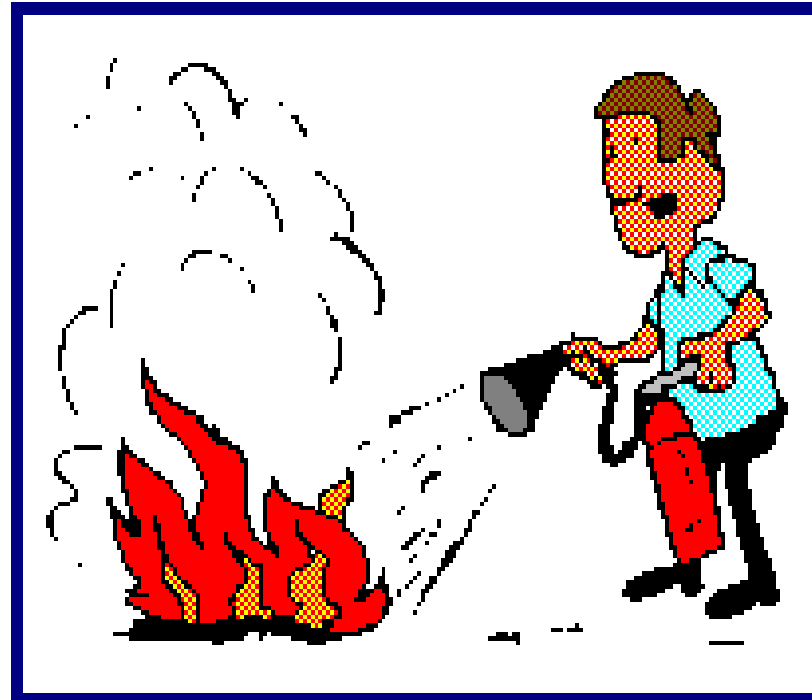
# How to use fire Extinguisher



# How to use Extinguisher

**Aim at the base of the fire...**

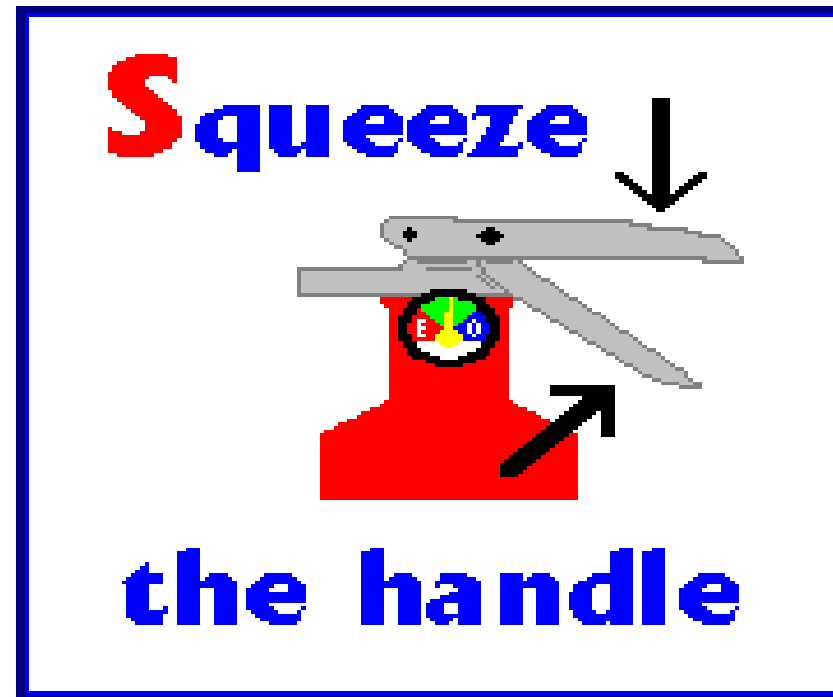
**Hit the fuel.  
If you aim at the  
flames...**



# How to use extinguisher

## Squeeze the top handle...

This depresses a button that releases the pressurized extinguishing agent.



# How to use Extinguisher

## Sweep from side to side...

.. until the fire is completely out.







Start using the extinguisher from a safe distance away, then slowly move forward.



# How to hold the fire extinguisher

- Always hold it on your shoulder.
- Run straight
- Liver of extinguisher should always in your hand side.
- Passage should be clear.

# Imp. Points keep in mind.....

<b>First Check the gauge</b>	
<b>Always use proper extinguisher for particular type of fire</b>	
<b>Stay properly during control on fire.</b>	
<b>Never loss hope during fire fighting</b>	
<b>Follow PASS system for fire control</b>	
<b>Proper body movement is necessary during work with extinguisher and hydrant system</b>	



# Fire Hydrant System

- These are the fire control device. Which is used to control large scale of fire.
- Complete hydrant system include hose cabin, hose pipe, nozzle, male coupling, Hose cabin mirror, key etc.
- It is important to keep in mind that while operating the fire hydrants your body movement must be accurate, you must be know how to stand, how to hold the nozzle because water pressure in the hydrant system is very high. If we cant control our holding capacity, there is a chances of injury either face injury or chest injury.
- So it is important to hold properly and one more person is require for support the hydrant operator.

# Images



**HOSE CABIN**



**HOSE PIPE**



**MALE COUPLING**



**NOZZEL**



**HOSE REEL**

# Smoke Detectors

- A smoke detector is a device that detect smoke, typically as an indicator of fire.
- This is an disc shaped plastic enclosure usually powered by central fire alarm system, which is powered by building power with a battery backup.
- Continuously blinking of light is the indication of detector is in working condition.
- When smoke attack on the surface of detector then the surface sense the smoke and circuit break that's why it give the indication to siren/hooter. And frequently hooter become start to generate sound.

# Sprinkler System

- A sprinkler system is an fire protection device, consisting of water supply system, having adequate pressure with proper flow rate of water.
  - Types of Sprinkler systems:
    - (1) Wet type
    - (2) Dry type
- (1) **Wet type:** While on working release water. Ex. Simple water type
- (2) **Dry type:** While on working release air with pressure. Ex. Clean Agent type Modular.

# Fire Control Devices



**SMOKE DETECTOR**



**SPRINKLER SYSTEM**

