

# FIRE SAFETY

Builder Level



## Purpose

To make you aware of the different fire dangers and make you more prepared to deal with them.

## Exploring

1. The **'Fire Triangle'** has three sides: Heat, Air, Fuel. All three are necessary to sustain a fire. If we remove any one of the three, a fire cannot start. More importantly, if we remove one of these ingredients, a blazing fire will go out.
2. There are three ways to extinguish a fire, one for each side of the **'Fire Triangle'**
  - a. Putting water on a fire reduces heat, thereby extinguishing it.
  - b. Using a fire extinguisher with foam smothers a fire by cutting off the oxygen (air).
  - c. If there is fire from a ruptured gas line, it may be extinguished by turning off a gas valve. This removes the fuel.

3. The **Stop, Drop and Roll** technique is used when a person's clothing has caught fire; it can save a life.

**First:** Cross your arms - your right hand should touch your left shoulder, and your left hand should touch your right shoulder.

**Second:** Drop to the floor or ground and roll over slowly. Keep rolling until the fire is out.

**Third:** Lying down and folding your arms will keep the flames away from your face. Rolling over helps cut off the air (one 'side' of the **'Fire Triangle'**), and so put out the fire. If there is a rug nearby, wrap yourself up in it to smother the flames as you roll.

Too often, people whose clothes have caught fire try to run. NEVER RUN! All it does is fan more air to the flames and make the fire burn more fiercely!

4. The four basic types of fires are
  - Class A** Fires in ordinary combustible materials such as wood, paper, cloth, rubber, and many plastics.
  - Class B** Fires in flammable liquids, oils, tars, oil-base paints, lacquers, flammable gases, and greases.
  - Class C** Fires in electrical equipment requiring the use of an extinguishing agent that will not conduct electricity. If electrical power to the fire is cut, the fire may be treated as a class A or B fire.
  - Class D** Fires in combustible metals, such as magnesium, titanium, potassium, etc.
5. The basic types of fire extinguishers are
  - Water.
  - CO<sub>2</sub> (carbon-dioxide).
  - Halon.
  - Dry Chemical.

Water is the most common fire extinguisher used in fighting Class A fires.

However water is dangerous when used on Class B, C, or D fires. It will spread a flammable liquid without extinguishing the flame. In electrical fires, it will serve as an electrical conductor greatly increasing the risk of electrocution! Carbon dioxide works well with Class B and C fires. It comes out of the extinguisher in the form of 'snow', known as dry ice. It evaporates in the fire and

both cools and smothers it. Carbon dioxide does not conduct electricity. Halon may also be used for Class B or C fires.

Dry chemical extinguishers come in a variety of types. Some are for Class B and C fires, and others are for Class A, B, and C. Read the label. It will say what type of fires it is to be used on. Dry chemicals fight fire in one of two ways: they either inhibit the chemical reaction of the combustion or they smother the fire by isolating it from the air.

#### 6. Smoke Detectors

Smoke detectors and batteries for them can be purchased at most good hardware stores. They should come with mounting instructions. They should be placed on the ceiling or within 15 cm of it, and in several places throughout the house.

Ensure that they are mounted near the sleeping areas!

The units usually emit a loud piercing ‘**Beep**’ that will wake up even sound sleepers. Many units, when the battery starts to get ‘low’, will give off short intermittent ‘beeps’ as a warning that the battery needs to be replaced. Some are fitted with a test button. It is a good practice to test your detector once a month.

#### 7. If a fire starts in your home.

##### a. If you are with your family.

First get yourself and everyone else out of the house! Be sure that you close all the doors on your way out, to slow down or contain the spread of the fire. Then call the fire department. Why in this order? Because property can be replaced, but life cannot! Take no chances!

##### b. If you are alone.

Again, get out of the house and call the fire department. Even if the fire is just a small one, you are best to leave and shut the doors behind you. An adult may, at his discretion, decide to douse the fire, but even that should not be done until after everyone else is out of the house and the fire department has been called. As mentioned before, take no chances.

#### 8. If a bush fire comes toward your home.

##### a. Notify the Fire Department and obey their instructions immediately and completely.

##### b. Unless told otherwise, do the best you can to fire-proof your home and **stay inside**. Cover yourself with rugs or blankets and stay low to avoid the heat.

## Doing

#### 1. Complete the following safety check of your home. (Tick box)

##### a. Heating Equipment

- Is your heating system regularly checked and serviced?
- Are all chimneys, gas and smoke pipes, and other flue connections inspected each autumn, cleaned and repaired as necessary?
- Are floors under space heaters or wood stoves protected by insulation or by ventilated air space?
- Are all portable and space heaters at safe level and out of the way of traffic?
- Is every indoor fireplace equipped with a sturdy metal or glass fire screen?
- Are the shut-off valves for gas appliances located on the rigid metal pipeline where they can be reached in case of trouble?

##### b. Matches

- Are all matches in containers and out of the reach of small children?
- Are all matches and smoking materials put out before being disposed of?
- Are babysitters instructed on what to do in case of fire?

c. Electrical Hazards

- Are there enough power points in each room to avoid the need of double-adaptors and extension cords?
- Are proper fuses or circuit breakers used on the household electrical circuit?
- Are all extension cords above and not run under rugs, over hooks, or taken through partitions and door openings?
- Are frayed and damaged electrical cords immediately disposed of?
- Are power-tools unplugged and properly put away after each use?

d. Storage and Flammable Liquids

- Are all oily rags and painting cloths properly disposed of?
- Is fuel for lawn mowers or outboard motors stored safely in proper containers?

e. Cooking

- Is the kitchen stove, including the oven and grill, kept clean of grease?
- Is the kitchen exhaust fan clean of grease?

f. Around the house

- Are barbecues used only outdoors and lit without the use of liquid fuels?
- Is there a cleared space around the house, free of flammable shrubs or wood?
- Is there ready access to water in case of bush fire?
- Are gutters and roofs clear of leaves and twigs or other flammable materials?

g. Smoke Detectors (if applicable)

- Are all smoke detectors properly mounted in central areas of the house?
- Are the smoke detectors tested regularly to check on the batteries?

h. Does everyone in the family know the telephone number of the Fire Brigade?

i. Did everyone in the family take part in completing this check-list?

2. With your family, draw up emergency fire-escape plans, showing both the usual exits and alternate emergency exits. See plan on right.

3. Practice a fire drill with your family. Remember to agree on a meeting place so that you will know everyone is safely out. Report the result to your Counsellor.

4. Visit your local Fire Brigade and arrange to interview one or more of the officers on duty. (Take pad and pencil to the Fire Department to take notes).

a. List the types of fire-fighting equipment they have and describe the use of each.

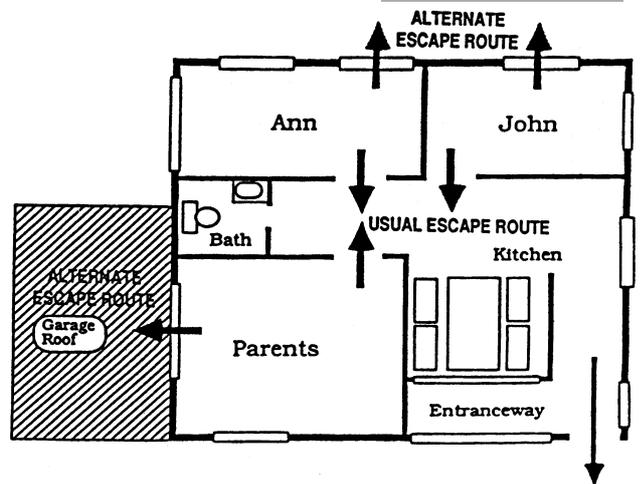
b. List the type of gear that a fireman has to keep him safe from the fire.

c. Find out why you should not try to put out a fire in your own house, but should call for help immediately.

d. List any physical, educational, or other requirements which are necessary to become a fire-fighter in the Fire Brigade.

e. Ask to see the fire alarm system. Explain to your Counsellor how it works and what each of the different signals means.

Ask your Counsellor to sign below and arrange for the presentation of your badge.



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