



Unit7

Fire safety

Road traffic safety

Small fires

Big fires

Causes of road accidents in the UAE

Prevent road traffic accidents

Use fire extinguisher

Call Civil Defense 997

Evacuation

Raise awareness and educate people about:
 *Importance of using seat belt
 *The dangers of speeding



Water

Powder

CO₂

Foam

*Wood /paper /fabrics

*Wood /paper /fabrics
 *Flammable liquids
 *Flammable gas
 *Electrical

*Flammable liquids
 *Electrical

*Wood / paper / fabrics
 *Flammable liquids



Assembly point (safe zone)

Conditions:
 *Safe distance from the burning building
 *Large area
 *Clear access to the area

Evacuation safety:

- 1) Don't use elevators
- 2) Help others where needed
- 3) Do not run
- 4) If there is smoke "get low & get out"
- 5) Do as you are instructed



U8: Road and fire safety

L1: Types of fires and how to deal with them

What is a fire?

Fire: a chemical reaction that produces: light/ heat/ smoke.



Why do we need fire? (fire benefits)

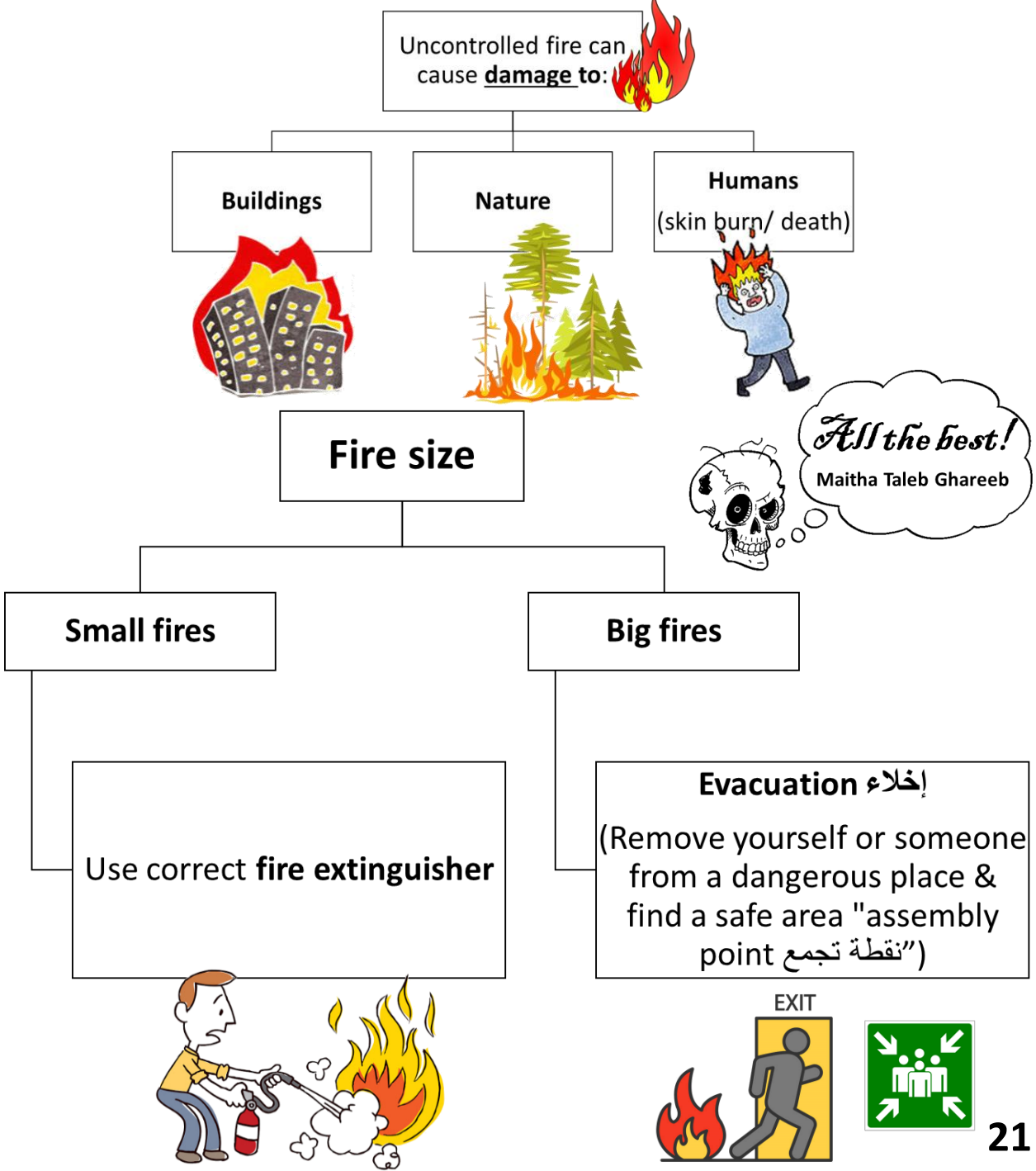
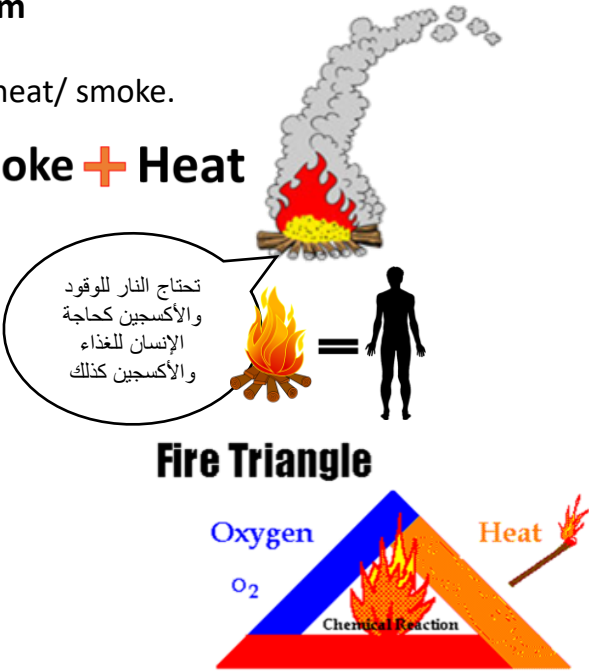
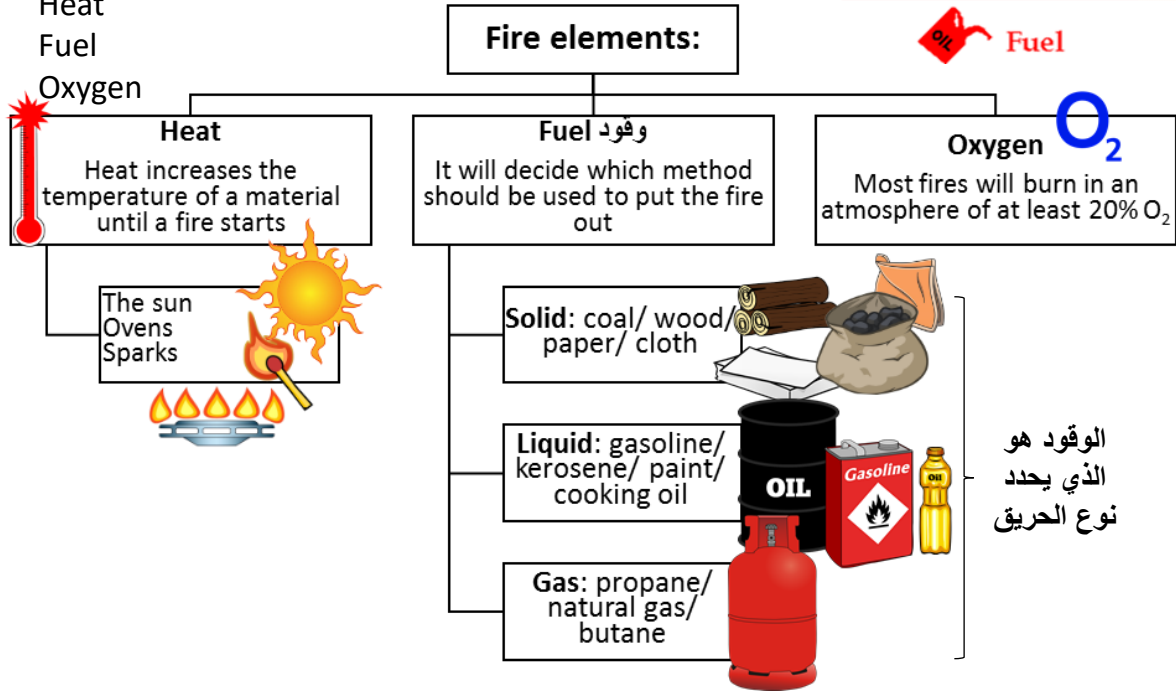
Fire can be used for:

- ☐ Cooking
- ☐ Warmth
- ☐ Light
- ☐ Engineering
- ☐ Manufacturing
- ☐ Powering vehicles

What do you need to start up a fire?

All fires need **3 different elements** to start:

- 1) Heat
- 2) Fuel
- 3) Oxygen



U8: Road and fire safety
L1: Types of fires and how to deal with them
How to extinguish fire?

A fire cannot start or exist without anyone of the 3 elements!

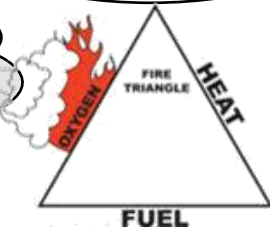
Fires can be stopped by removing one of the following:

1) Heat: cool the fuel using water.

2) Fuel: exhausted(used up)/ taken away.

3) Oxygen: smothering the fire

So we can put out the fire by removing any of the 3 elements.



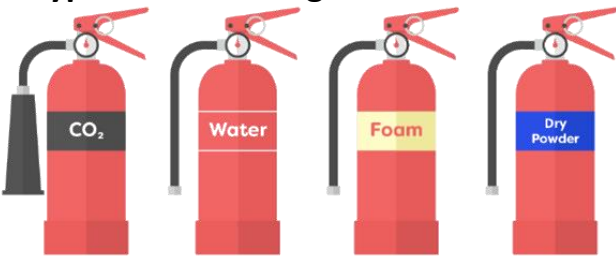
What are fire extinguishers & when to use them?

Fire extinguishers: are used to control small fires by either control the heat or smother the fire.

What are the different types of fire extinguishers?

There are 4 types:

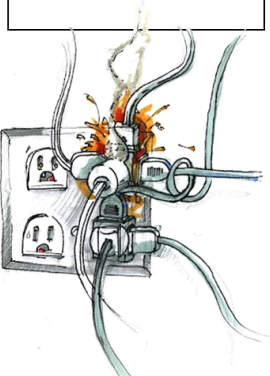
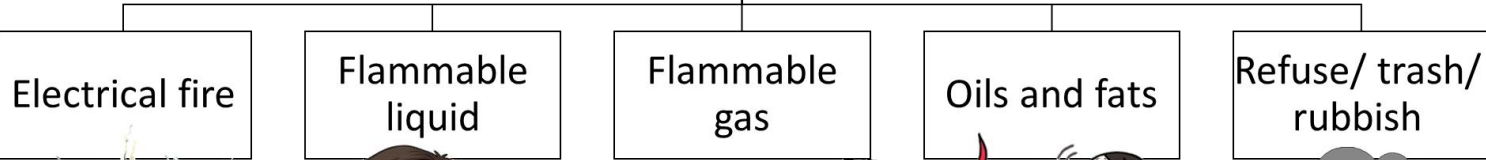
- ☐ Water
- ☐ Foam
- ☐ Powder
- ☐ CO₂



Each type of these fire extinguishers is used to extinguish a specific type of fire.



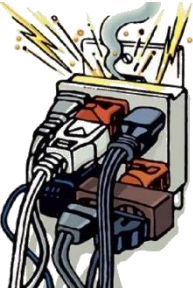




Fire type
(depends on fuel type)












Q: How does sand & fire blanket stop fire?
They smother the fire by covering the material & cutting oxygen supply.



All the best!
Maitha Taleb Ghareeb

Type of fire	Cause/ how does it happen?	Action to take/ how to deal with the fire?
<p>Electrical fire</p> 	<p>Misusing electricity. e.g. overloading: putting too many plugs into a single socket.</p> 	<ol style="list-style-type: none"> 1. Remove the plug if possible 2. If not locate the fuse box & switch off the main power 3. Extinguish the fire using: dry powder/ CO₂ (never use water) 4. If the fire becomes too large get out of the building and call the Civil Defense 997
<p>Oils and fats</p> 	<p>Overheating oil when cooking.</p> 	<ol style="list-style-type: none"> 1. Turn off the cooker if possible 2. Try to cover the pan with the correct lid or use fire blanket 3. Do not move the pan (hot oil may burn you!) 4. If the fire gets out of control get out of the building and call the Civil Defense
<p>Refuse fire/ rubbish/ trash</p> 	<p>Paper/ plastic & wood are flammable materials.</p> <div data-bbox="547 1178 1108 1392"> <p>Remember: Always use fire extinguisher from a safe distance (1.8m away)</p> </div>	<ol style="list-style-type: none"> 1. Move the bin trash to a safe area if possible 2. Extinguish the fire using: water/ foam/ dry powder 3. If the fire gets out of control get out of the building and call the Civil Defense

Symbols found on
fire extinguishers
& what they mean

				
	Water	Foam spray	ABC powder	Carbon dioxide
Wood, paper & textiles 	✓	✓	✓	✗
Flammable liquids 	✗	✓	✓	✓
Flammable gases 	✗	✗	✓	✗
Electrical contact 	✗	✗	✓	✓
Cooking oils & fats 	✗	✗	✗	✗

Remember!



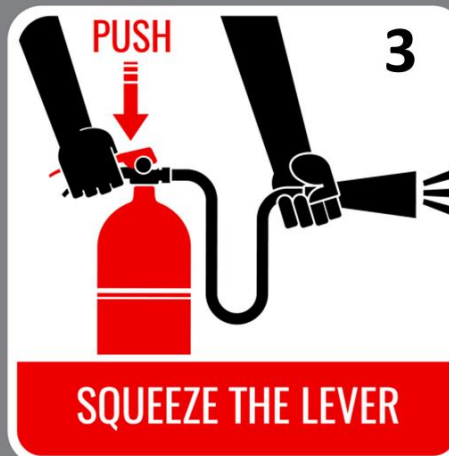
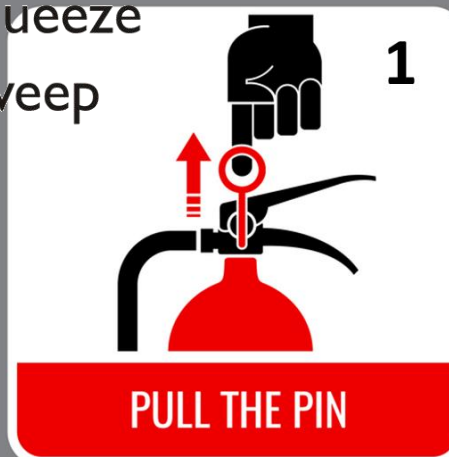
We can
consider it as
the best choice
because it
handles all kind
of fires except
oils

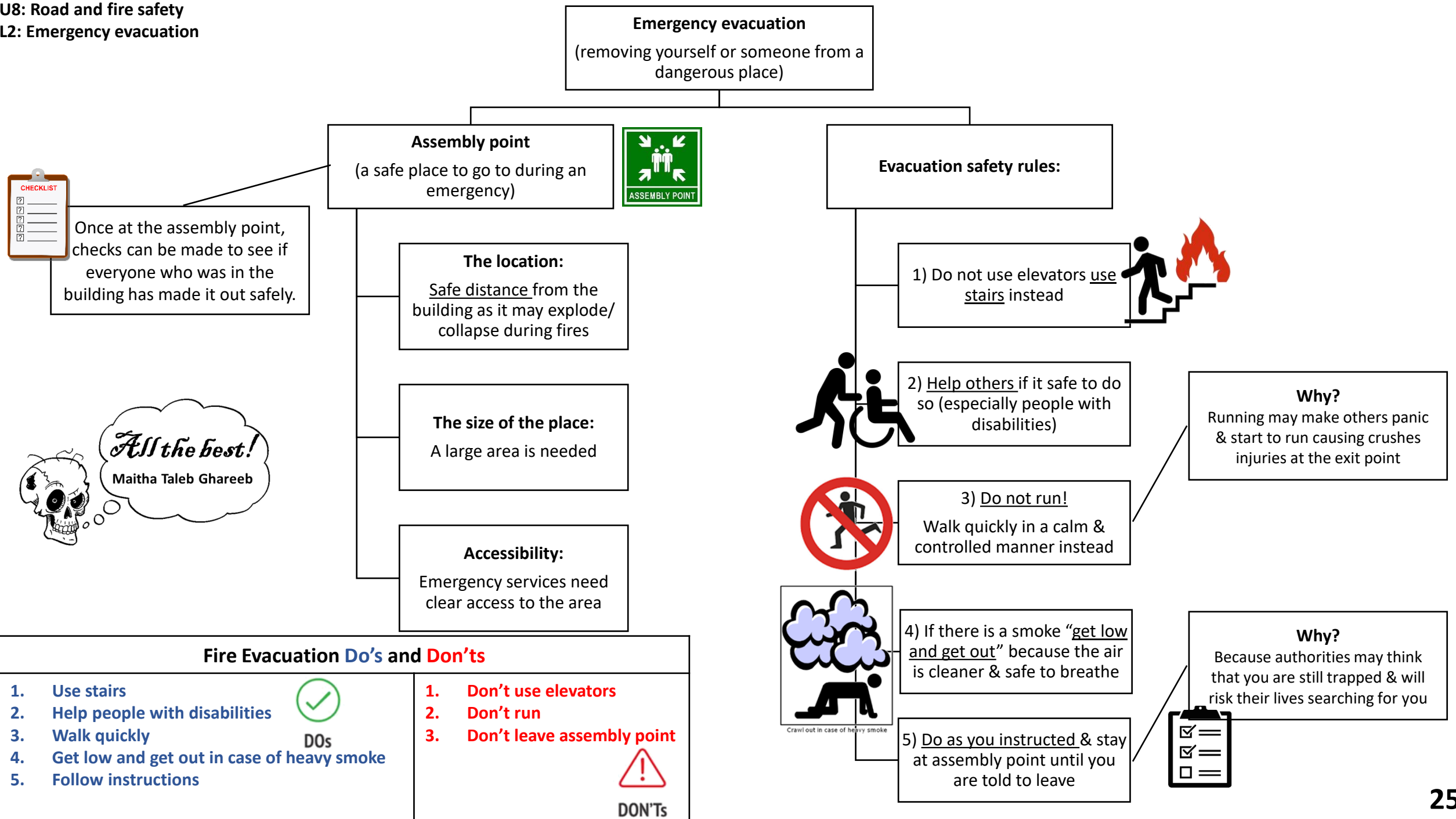


Pull
Aim

Squeeze
Sweep

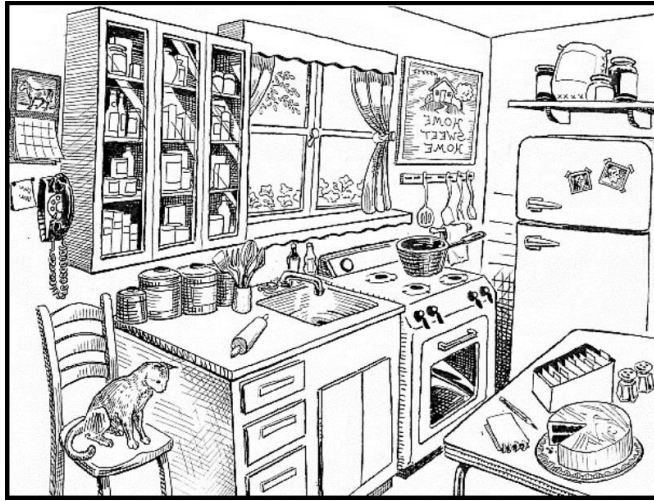
How to use a fire extinguisher?





Which pictures represent a good assembly point? (choose 4)

1



4



6



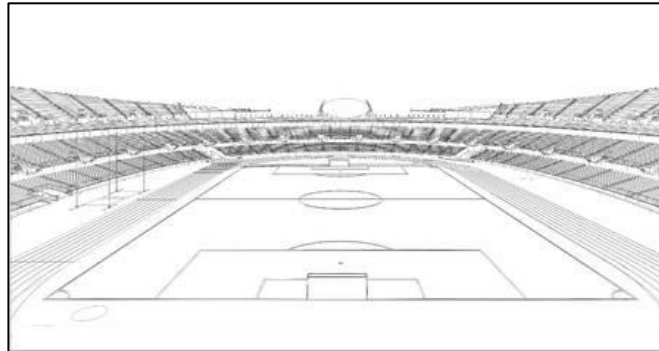
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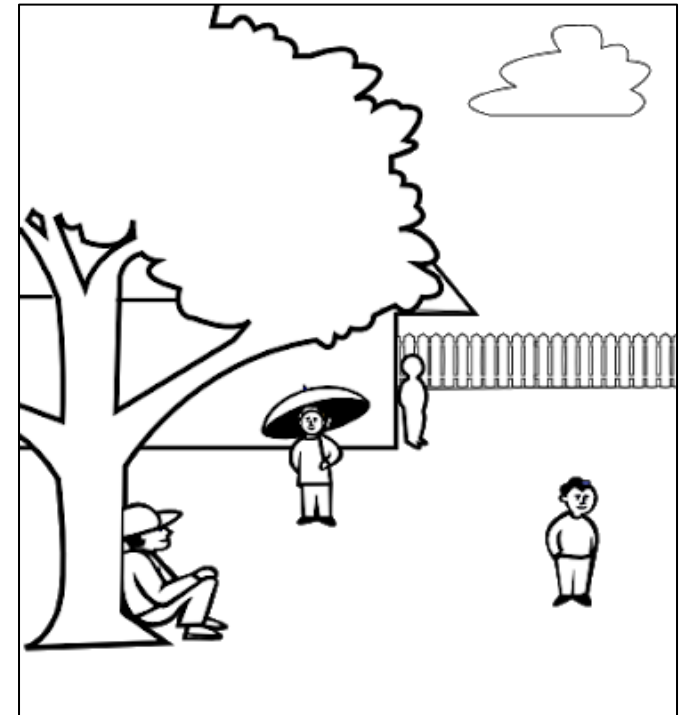
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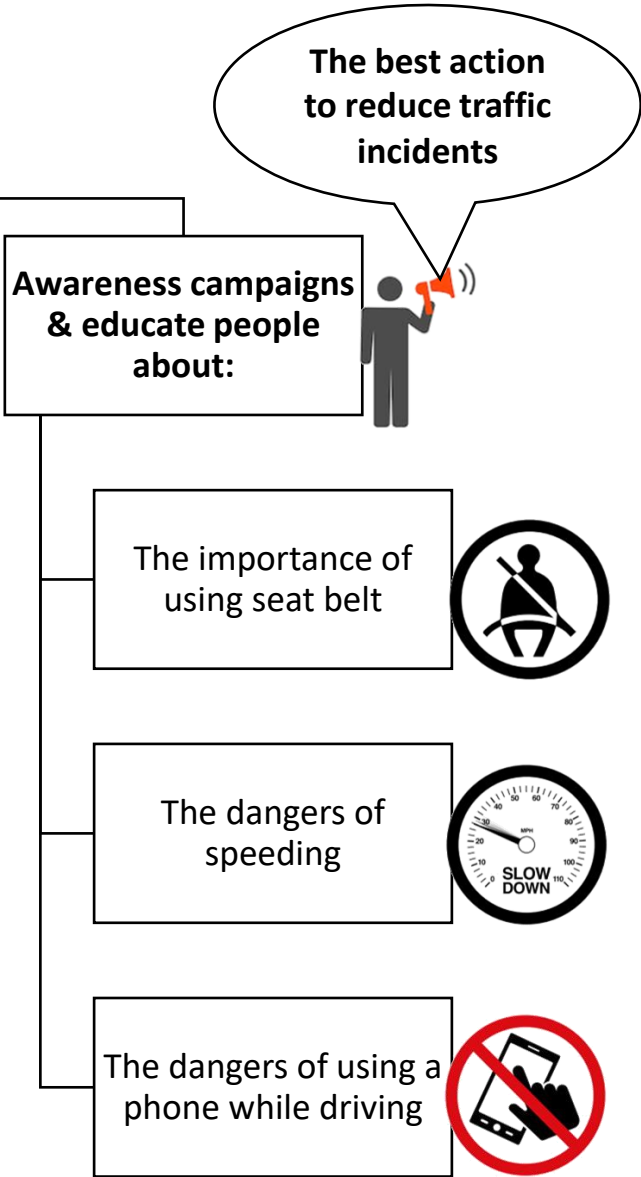
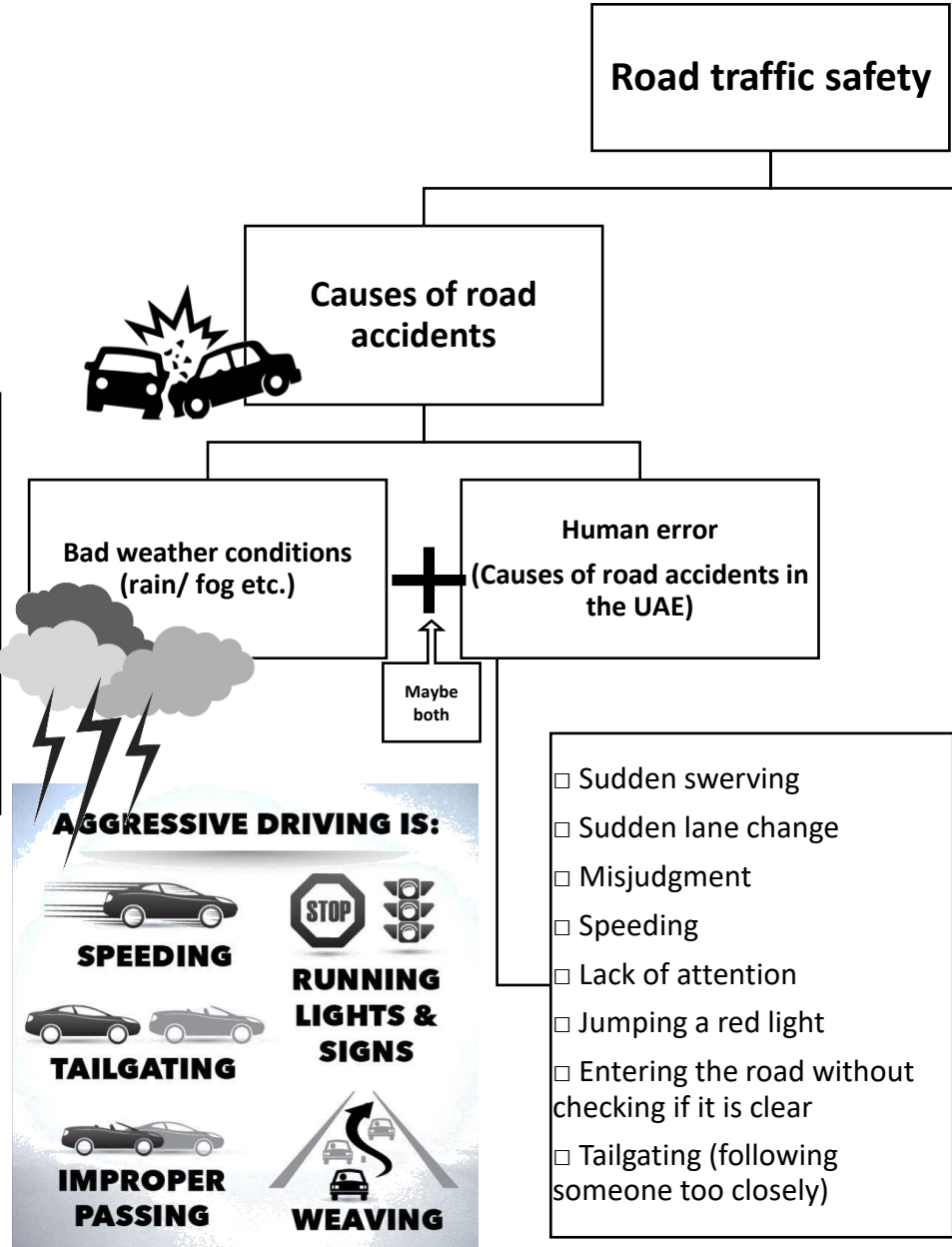
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Did you know:
Causes of death in the UAE:
○ 1st cause is heart disease
○ 2nd cause is traffic-related incidents

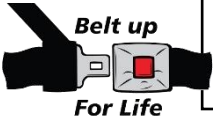
Multi-car pile-up: a large road traffic accident involving several cars.
حادث سير جماعي

Case study:
Year: 2009
Location: Germany (between Hanover & Peine)
Incident: 259 cars involved in a pileup
Causes:
☐ Wet weather
☐ Speeding
Results:
☐ 10 people with life-threatening injuries.
☐ 60 people with serious injuries.
☐ No deaths.



Seat belt

Seat belt history in the UAE:

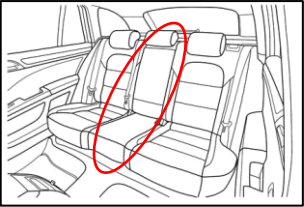


The importance (why do we need to wear a seat belt?)

- In 2017:**
A new law states that:
- 1. Both passengers & driver will face fines if they don't wear a seat belt.
 - 2. Infants under 4 must be in a child safety seat.

- In 1996:**
A law states that:
- 1. People in front of the vehicle should wear seat belt.
 - 2. Children under 10 cannot sit in the front seat.

- Notes:**
- A backseat passenger who is not wearing seat belt can kill the person in front of them during a crash.
 - The most dangerous place in the car is the middle of the back seat & even in low speeds the person may be thrown into the front window.



- * Seat belts keep people fixed in their seats during a crash.
- * A seat belt protects you from hitting the steering wheel/ dashboard/ going through windscreen which may cause serious injuries.
- * Recent statistics show that wearing seat belt reduces:
 - #Crush injuries by up to 63%
 - #Deaths by over 50%.



Types of car seats



Seatbelts Are For Everyone

- 1) Rear-facing car seat**
(infants up to 2 years + only fitted in the back of the car)



- 2) Front-facing car seat**
(2years & above up to 125cm + only fitted in the back of the car)



- 3) Booster seat**
(children 125-145 cm + only fitted in the back of the car)



- 4) Normal seat belt**
(children at least 145 cm + 10-years old can travel in the front)



Speed awareness

Speed limits: insure safe driving speeds

Tailgating: is when one vehicle is driving too close to another



When you are tailgating someone, you do not leave enough time to react if the driver in front brakes suddenly!

KEEP A SAFE DISTANCE

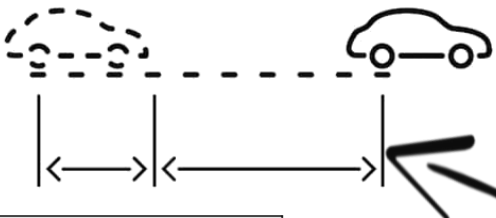


Why do we need speed limits?

- 1) Pedestrian safety
- 2) The condition of the road
- 3) School zones
- 4) Environmental issues (e.g., noise levels in residential areas)
- 5) Reducing the damage & seriousness of crashes

How to keep a safe distance?

- 1) Leave a 3 sec gap
- 2) In wet/ fast driving conditions add another 1 sec or 2
- 3) If the vehicle is driving too slow, avoid tailgating & find a safe way to pass



These calculations help to keep a safe distance

(the time that is needed to bring the car to a complete stop)

True stopping distance = Reaction time + Breaking distance

(thinking time/ the time your brain takes registering the events & pressing the brakes)

Speed & survival rates	
Speed rate (kph)	Pedestrian survival percentage (% of the person dying)
32	10 %
48	20%
64	80%
Statistics: UK GOV Think Campaign	

Typical Stopping Distances

20 mph
(32 km/h)



= 12 metres (40 feet)
or three car lengths

30 mph
(48 km/h)



= 23 metres (75 feet)
or six car lengths

40 mph
(64 km/h)



= 36 metres (118 feet)
or nine car lengths

50 mph
(80 km/h)



= 53 metres (175 feet)
or thirteen car lengths

60 mph
(96 km/h)



= 73 metres (240 feet)
or eighteen car lengths

70 mph
(112 km/h)



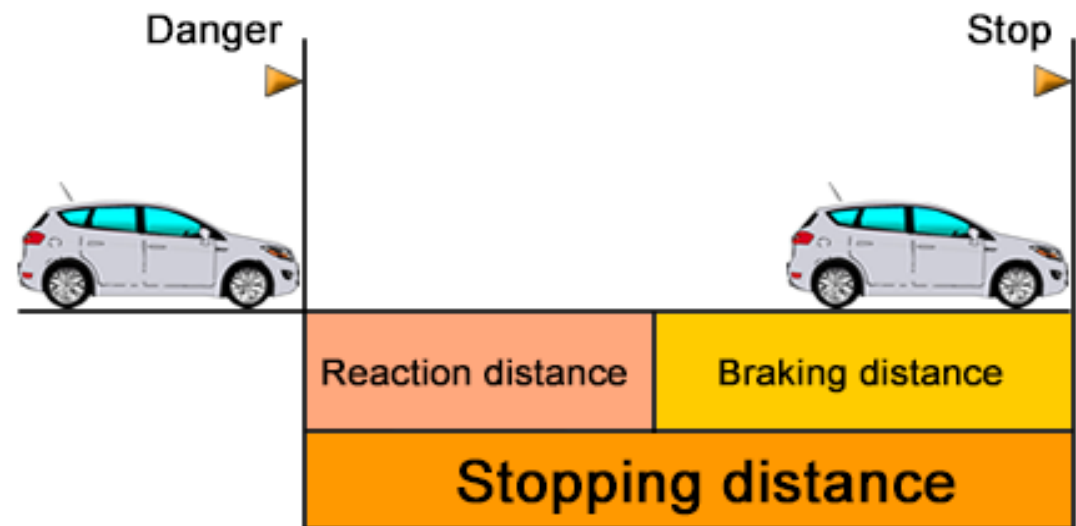
= 96 metres (315 feet)
or twenty-four car lengths

1 mile = 1.6 Kilometers

The distances shown are a general guide. The distance will depend on your attention (thinking distance), the road surface, the weather conditions and the condition of your vehicle at the time



Average car length = 4 metres (13 feet)



Q: At 60 mph, how many car lengths would it take to stop?

.....

Stopping time in wet conditions doubles!

Safe Following Distances

Under normal conditions

3 Seconds



During winter weather conditions

8-10 Seconds

