

Disaster Survival Seminar

Agenda

1. Pre-Disaster Planning
2. Disaster Action Plans
3. Post-Disaster Life Saving
4. Post-Disaster Survival

Attendees will get copy of presentation & *Disaster Survival Guide* emailed to them so they do not need to take notes.

Caveat Emptor

While the procedures contain herein are based on the average time windows available to handle various life-threatening conditions, the forces of nature and the injuries they cause cannot be predicted and they vary.

Therefore there is no guarantee that following the procedures contain herein will prevent you from losing your home or life.

YOUR CONTINUED ATTENDANCE AT THIS SEMINAR OR USE OF THIS INFORMATION CONSTITUTES YOUR AGREEMENT TO HOLD THE AUTHOR AND HIS HIERS HARMLESS FROM ANY AND ALL LOSSES, DAMAGES, AND LEGAL LIABILITIES, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL, RESULTING FROM YOUR USE OF THIS MATERIAL.

Types of Disasters

- Earthquake
- Biological Pandemic or Attack
- Fire Storm
- Land / Mud Slide
- Hurricane / Tsunami
- Tornado
- Nuclear Accident or Attack
- Civil Unrest

Earthquakes

REDACTED

San Andreas Fault



Field Guide to the San Andreas Fault

David K. Lynch
Thule Scientific



DEMO

On average,
the San Andreas fault
erupts every 150 years.

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On average,
the San Andreas Fault
erupts every 150 years.

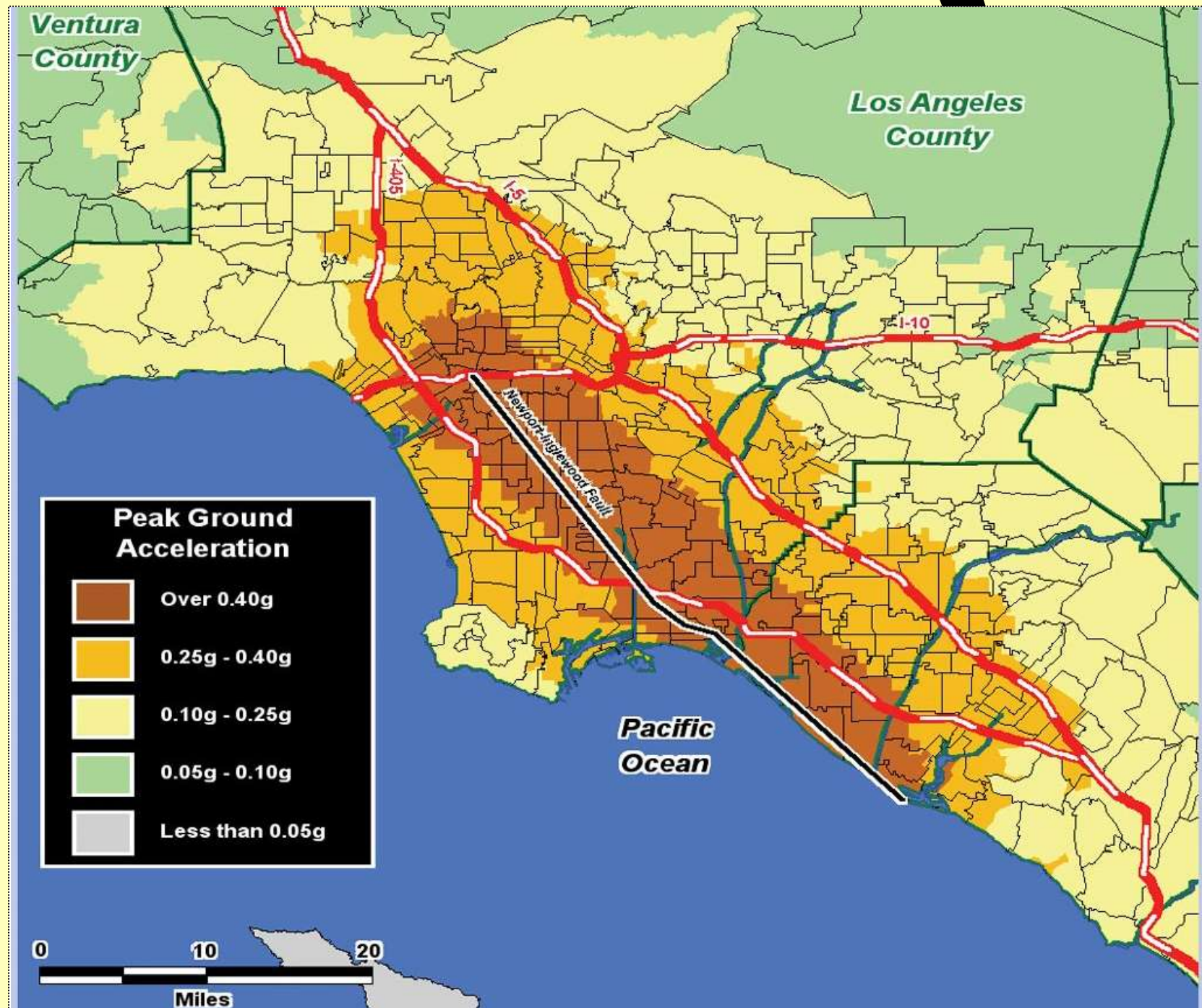
The last eruption was
300 years ago.

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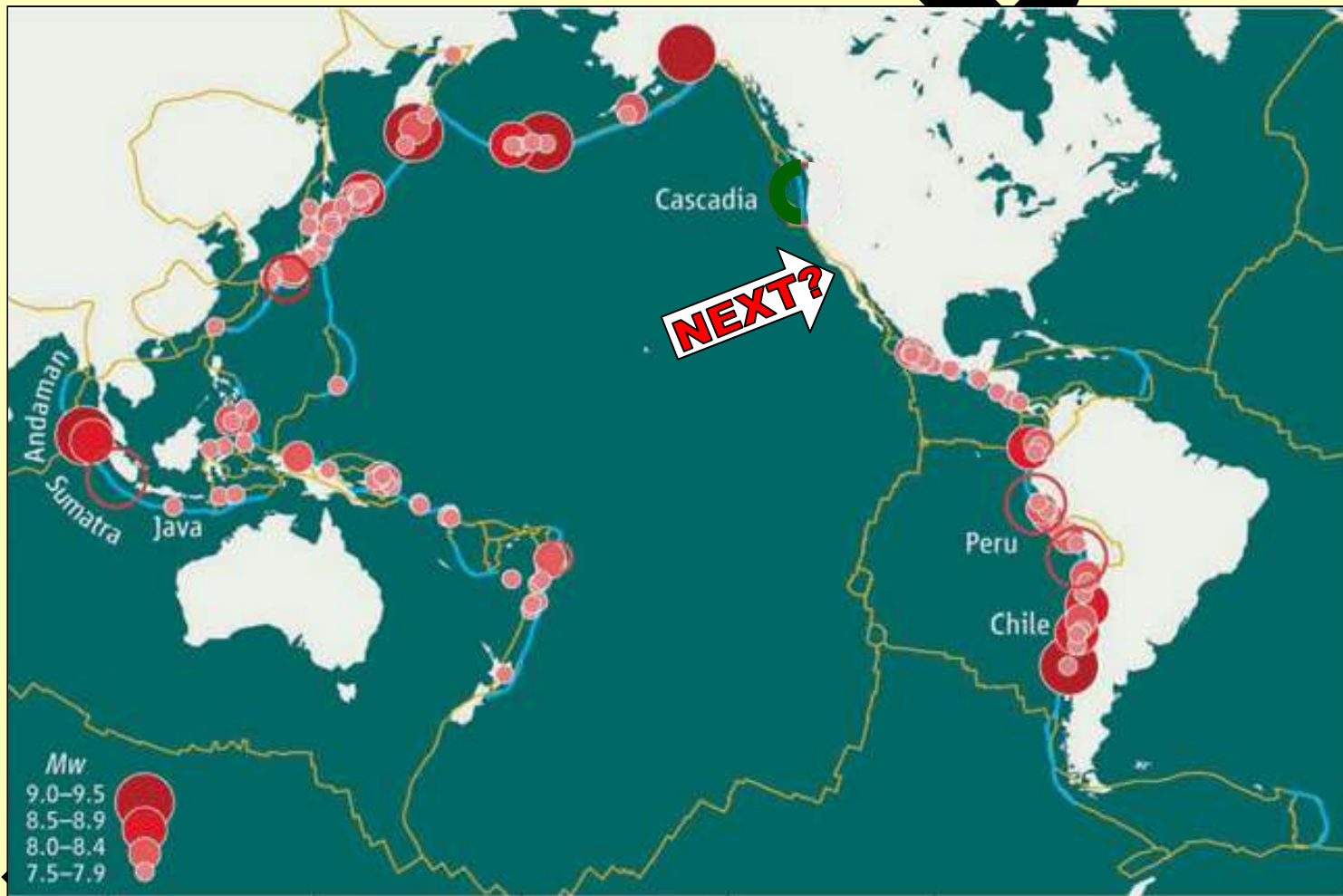
We are 150 years over due!

Newport-Inglewood Fault



When will it happen?

Since the 1994 moderate Northridge quake, major quakes have occurred at all points around the Pacific ... except here!



Source: [http://oceanworld.tamu.edu/resources/oceanography-book/Images/McCaffrey\(2007\)-f1.gif](http://oceanworld.tamu.edu/resources/oceanography-book/Images/McCaffrey(2007)-f1.gif)

* The quakes above were 7 to 153 times larger than the 1994 Northridge quake.

What will it be like?

	Magnitude	Shaking Duration	Ground Movement
Northridge	6.7	20 seconds	1 Foot ¹
"Big One"	(7.8 - 8.3) ²	3 minutes - 20 seconds ²	36 Feet ²
Newport-Inglewood	(7.0 - 7.5)	?	?

(Play Earthquake [video](#).)

Point out:

- Video was taken 200 miles from a 9.0 quake (2011 Tohoku Japan).
- LA Downtown is 50 mile from expected 8.3 San Andreas quake.
- A 7.3 on Newport-Inglewood Fault could be much worse.
- What can happen if you don't secure your furniture & cabinet doors.
- What can happen if you try to walk or run.
- What can fall on you if you leave a building.

¹ <http://www.nytimes.com/1994/01/18/us/earthquake-why-it-happened-scientists-say-unknown-fault-deep-within-earth.html>

² U.S. Geologic Survey

What will it cause?

(U.S. Geologic Survey predictions for a 7.8 on San Andreas Fault)

- 1,500 buildings collapse.
- 300,000 buildings severely damaged.
- 10 of Downtown's tall buildings may collapse from 3-4 per second shaking.
- 1600 fires, some taking out entire blocks.
- \$213,000,000,000 (\$213 Billion) in damages.
- 1,800 Dead
- 53,000 injured needing emergency care.
- 255,000 Homeless
- Sever water supply & fuel & food delivery highways.
- No electricity or phone lines to days.
- No food or gas for days to weeks.
- No water for weeks to months.
- Looting may become rampant by Day 3.

How many can Fire Department help?

Firefighters & Paramedics:	1000
Fire & Rescue Apparatus:	273
Incidents addressed Day 1:	1.1%

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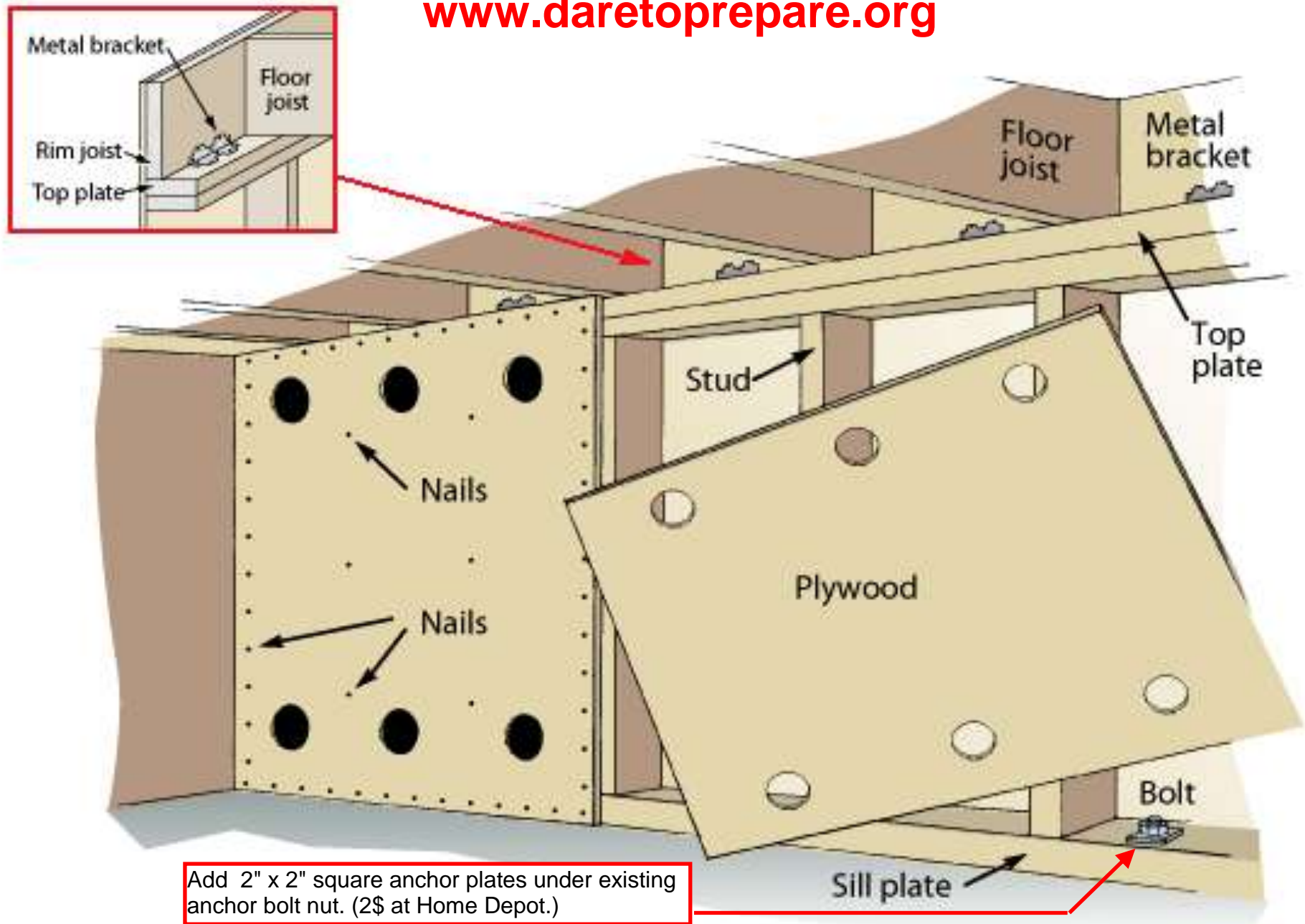
We must prepare now
to take care of ourselves
and each other!

Pre-Disaster Planning

(Handout page 2)

Harden your Home.

www.daretoprepare.org



Harden your Home.



Reinforce or replace masonry chimney with prefabricated metal chimney.

Retrofit Soft-First Story Buildings.



16 people killed when soft first-story collapsed.

City has 13,000 pre-1980
"soft first-story" buildings

- Tuck-under parking,
- Garage doors vs. shear-walls, or
- Retail display windows.

A 2015 Ordinance requires
reinforcement by 2022.

**Ensure retrofit done, ...
or move.**



Source: Sinai Construction

Retrofit Pre-1980 Concrete-Building.



The posts could not withstand the shaking and collapsed allowing upper stories to crush second floor inhabitants.

City of LA has 1,500 non-flexible reinforced-concrete post and slab buildings.

A 2015 Ordinance requires reinforcement by 2040.

Ensure retrofit done, ...
or move.

Non-Ductile Concrete Retrofitting

- Non-ductile concrete frame buildings were a collapse hazard.
 - Right: UC Berkley student dorm.
 - Below: Tohoku Univ. engr. bldg.
- Seismic retrofit was a new steel braced frame connected into the existing concrete structure.



Tall Furniture may topple, crushing or trapping victims.



Secure tall furniture to Wall Studs,



Find Stud Center. Anchor Securely!

1. Use a "Stud Finder" to locate general position.
2. Find stud center by drilling small holes until edge is found.
3. Then measure back $\frac{3}{4}$ ".

$\frac{3}{4}$ "

Plaster and wall board anchors are NOT sufficient.

Use at least 3 inch lag bolts into center of wall studs.

Cable Anchors

Mount on the back. Does not damage furniture.



Available from DreamBaby.com

Unsecured Objects can become Airborne Missiles.



Earthquake Putty or Remove Them.



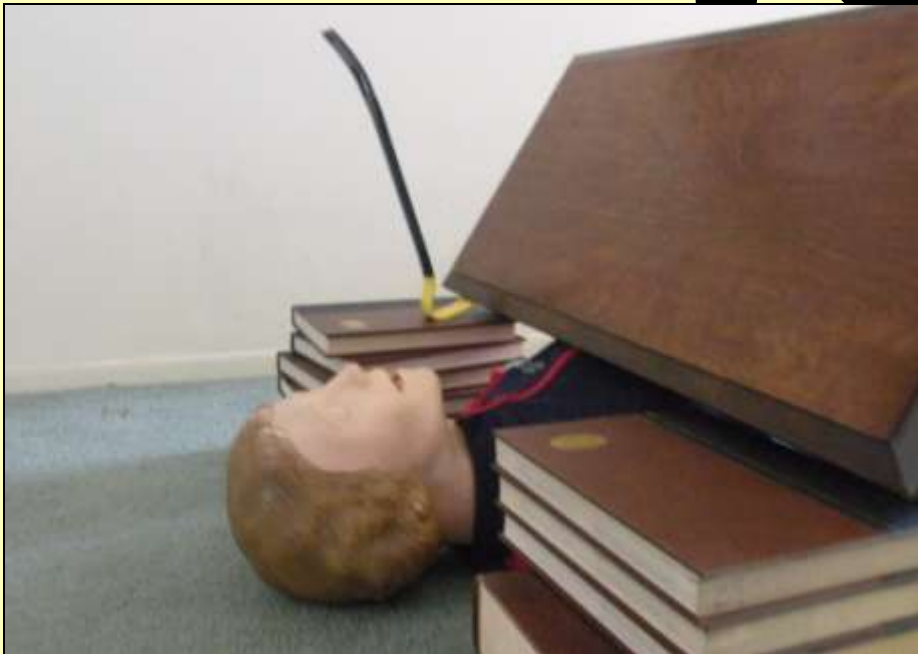
Glass Doors, Windows, Mirrors may Shatter. Doors may jam.



Keep Hard-soled Shoes & Flashlight near bed.



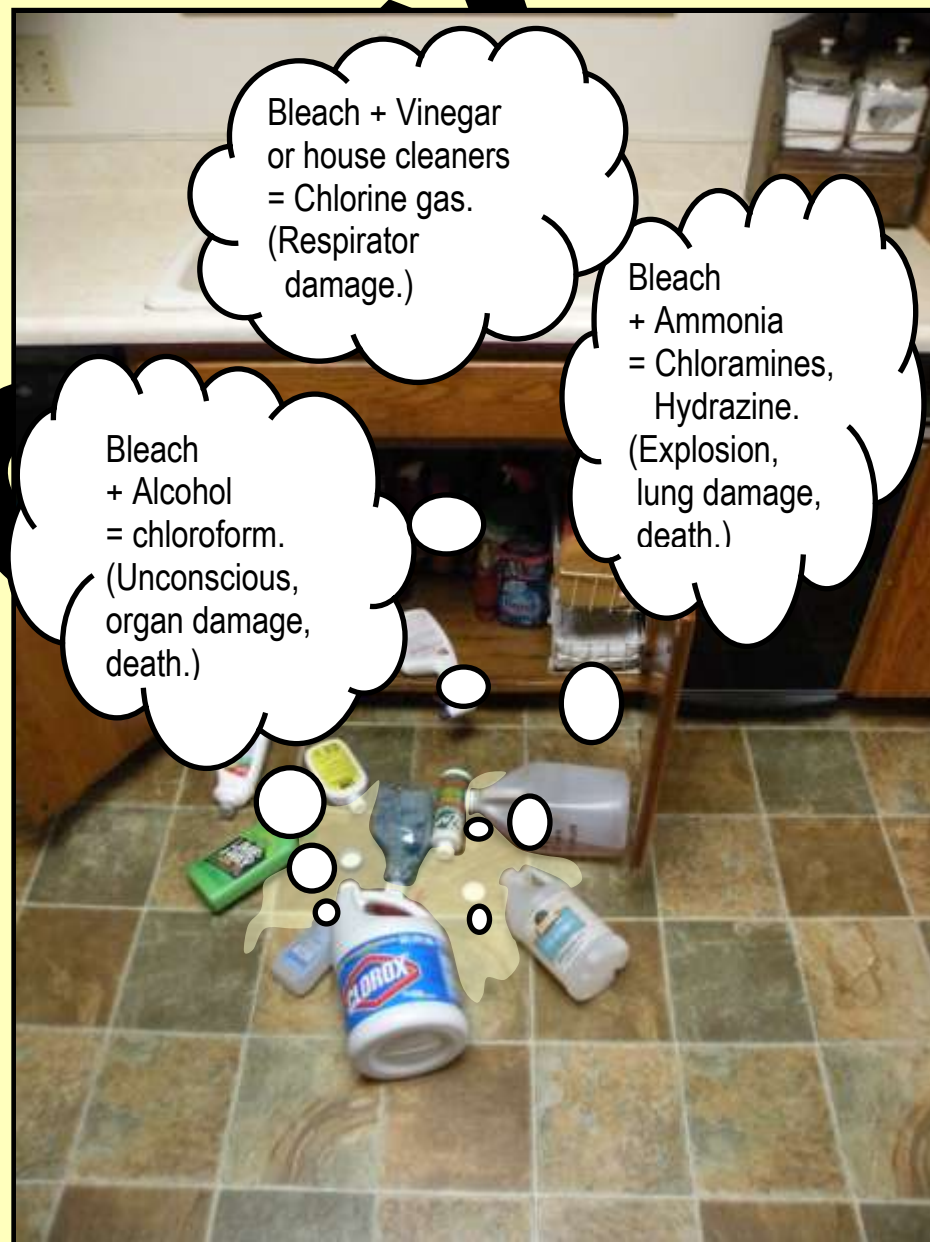
Keep a Pry-bar in Bedroom.



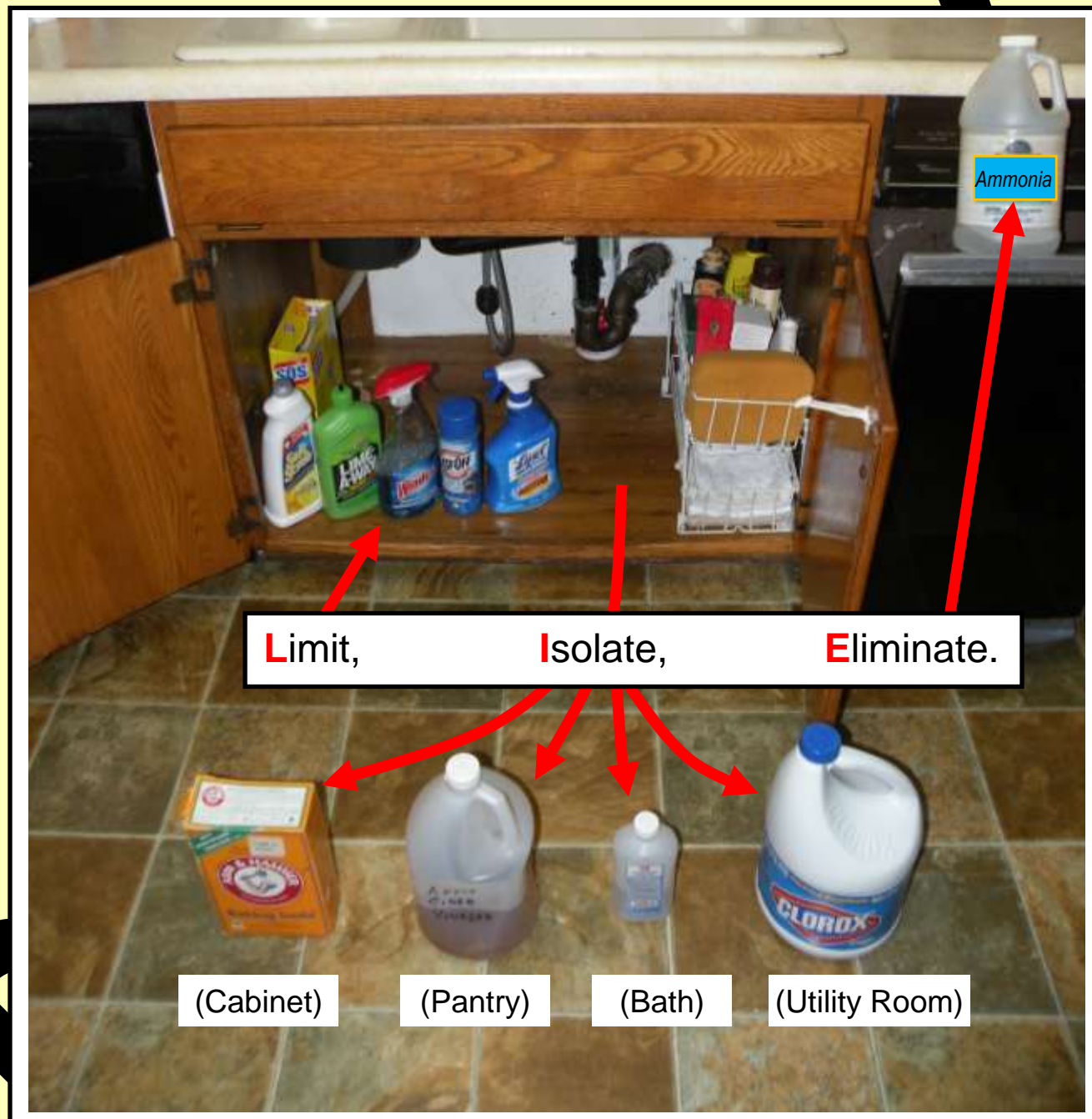
Secure Cabinets.



Hazardous Materials.



Limit, Isolate, Eliminate.



Water & Food.

88% of our water and 90% of our food come from the "other" side.

The 3 aqueducts cross San Andreas Fault in 32 places.

All highways from the Central Valley cross the San Andreas Fault.

There may be:

- No Power for days.
- No Gas for weeks.
- No Food for weeks.
- No Water for months.



City's Emergency Plans for:

Water

<http://www.latimes.com/local/california/la-me-quake-water-20141216-story.html>

?

Food

?

Gas

?

Power

?

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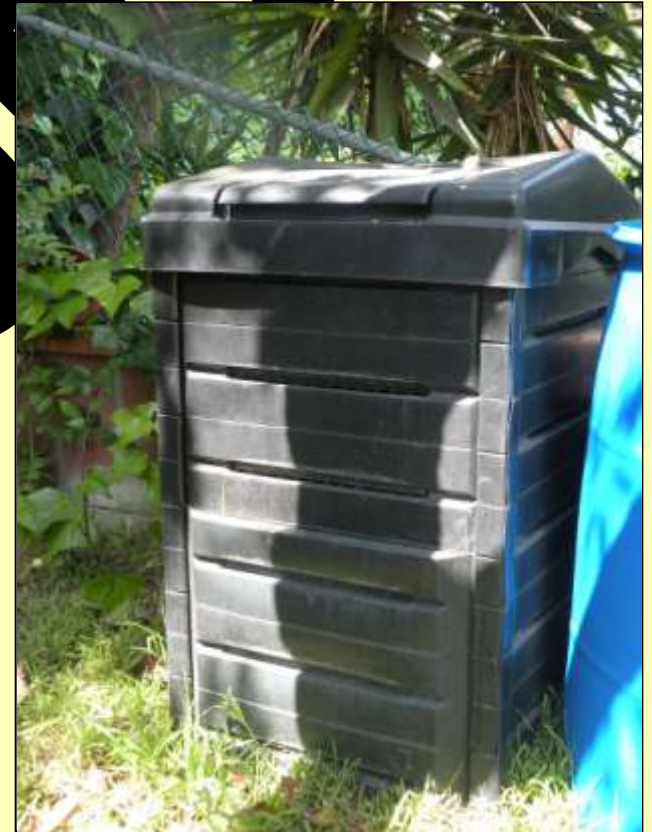
Home Survival Supplies

(Handout page 2.)

3 7 14 day supply.

outside.

- Water - One gallon a day for each person & pet.
- Foods - Canned, Packaged, Freeze-dried.
- Cooking utensils, manual can opener.
- Propane stove / charcoal grill (outdoor use only)
- Lighter / Matches.
- Pet food and restraints.
- Wrenches to turn off gas and water utilities.
- Work gloves and protective goggles.
- Heavy plastic bags & duct tape for garbage, wrapping, sealing windows, ground tarps, rain ponchos, more.
- Portable radio (crank-able or extra batteries).
- Lighting - Solar lanterns, glow sticks.
- Heating - Firewood. "Space" heater.
- Flashlights - Crank-able or extra batteries.
- First Aid Kit.
- Fire Extinguishers (2) "A" for kitchen.
- Comfortable, layered clothing, shoes, socks.
- Blankets / sleeping bags, tent.
- Bath and toiletries, gal. bucket with seat.
- Medication.
- Vital documents (birth, Citizenship Certificates insurance policies) in fireproof safe.
- Digital data, photos in offsite or "Cloud" backup storage.



Secure Your Water Supply.



If not Self-cleaning, Flush annually to remove sediment.



Food Shelf Life



6 Months



12 - 20 Years
(Requires water.)

Water Shelf Life



6- 24 Months for taste.
(BPA free but may burst.)



Indefinite
if commercially filled and sealed.
Copyright Bill Pope 2006, 2012, 2015, 2017



5 Years
(BPA-free and strong.)

Lighting and Heating



Luci 18 hr inflatable Solar
\$20



Goal Zero crankable
lantern & Cellphone
charger.



Wood-burning Fireplace or Stove.



Cover non-sunny windows with foil blankets
to reflect heat back into room.



Stores flat.



Kerosene &
Propane Heater.

Cooking



Camp Stove \$80.
(More fuel efficient.
Use on apartment patio or balcony)



WonderBag \$70
(Bring food to a boil and insert.
Food continues cooking.)



Solar Oven
(Clandestine cooking w 2 cardboard boxes
paper insulation and aluminum foil.)

Away Survival Supplies

Get-Home & Bug-Out Bag
2 - 3 day supply.
Keep one in each vehicle

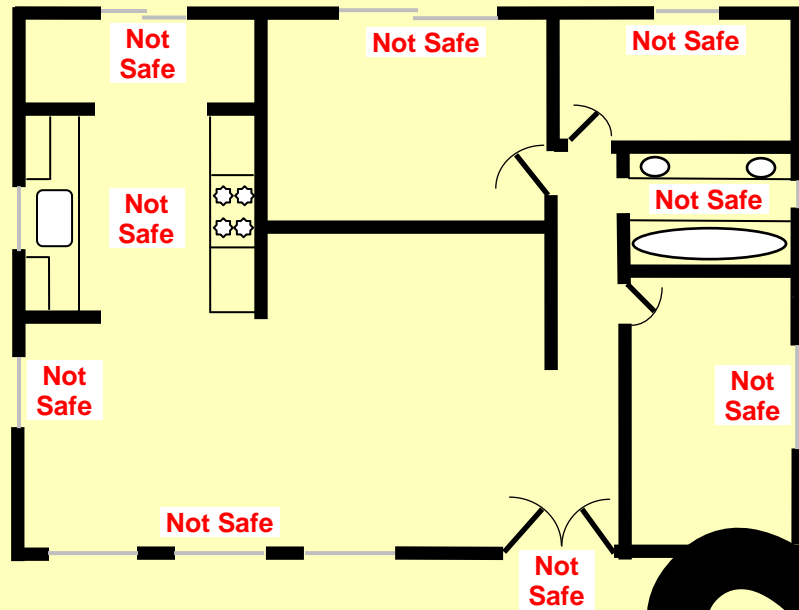
- Bottled water & LifeStraw water filter.
- Food, high calorie (energy bars, MRE's, unsalted nuts, SPAM, etc.)
- First aid kit & handbook, burn gel, cold compress, scissors, tweezers
- Medications, prescription list, aspirin doctor's contact information
- Leather work gloves, non-latex exam gloves.
- N95 dust mask
- Sturdy comfortable walking shoes
- Spare eyeglasses or contact lenses and cleaning solution
- Flashlight, extra batteries, light sticks
- Radio (preferably wind-up or solar)
- Whistle (to alert rescuers to your location)
- Road maps & compass
- Cash in small bills & tradables (junk, wire, pre-cut metal, mini booze)
- Space blankets, waterproof matches, lighter
- Knife, ¼" rope, duct tape
- Change of Clothes
- Personal hygiene supplies (toothbrush, wet wipes, toilet paper, etc.)
- Comfort items for kids (games, crayons, writing materials, teddy bears)
- Special items for elderly, disabled, animals.
- Out-of-area contact phone numbers & Auto cell phone charger
- Important documents (copy in cert., passport/SSN, property deeds, IDs, home, auto, health insurance, medical consents, wills/trusts, etc.)



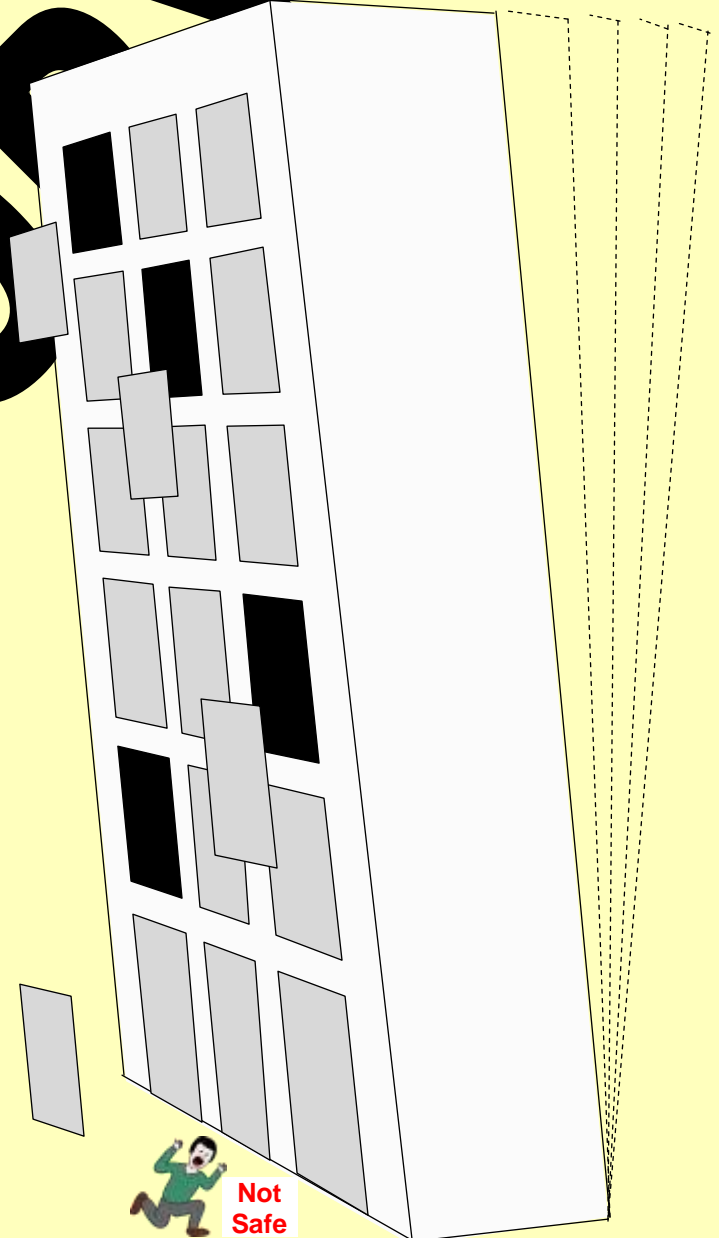
www.earthquakecountry.info

Identify "Safe(r)" Places

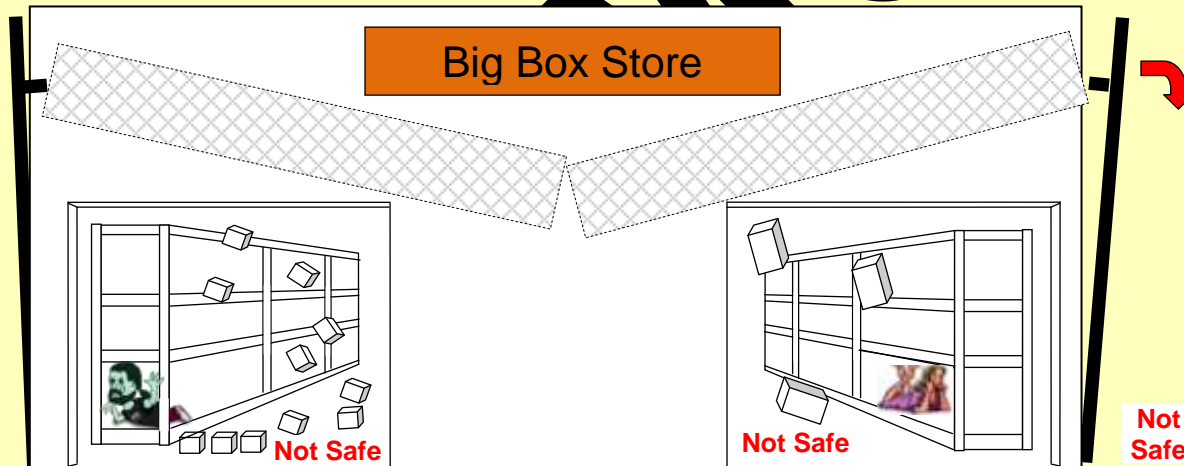
Wood-frame homes should stand, but glass doors & windows may shatter.



Stay. Glass & façade may fall. *



Concrete Tilt-Up walls may separate from walls.

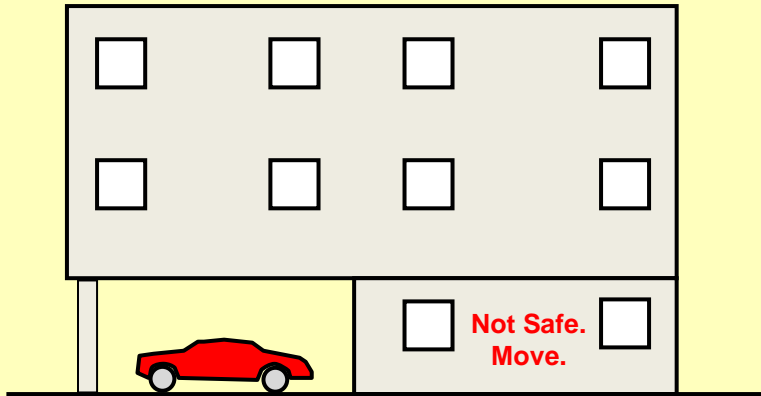


Not Safe

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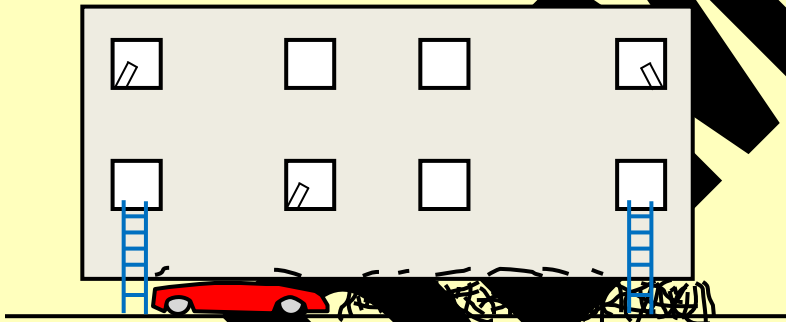
* In Parking Structures, open car door, lay on floor.

Unsafe Places



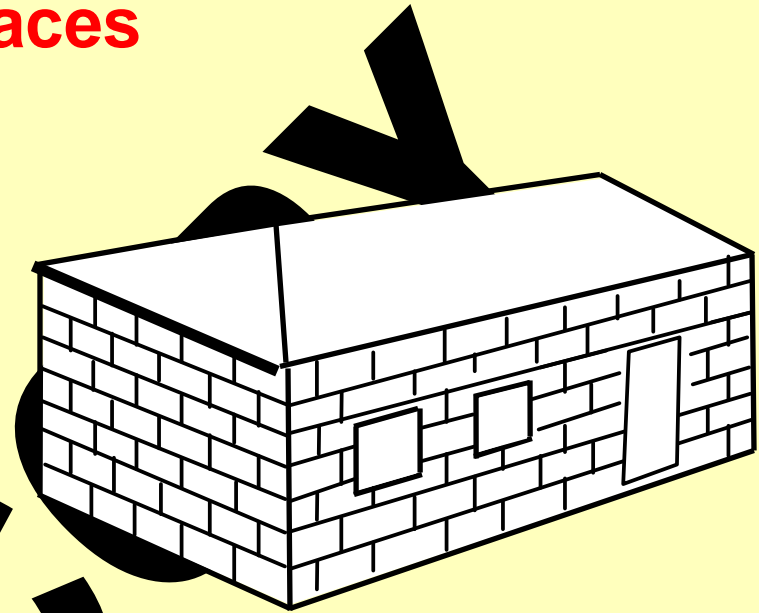
Un-braced "Soft First Story" not safe.
Ensure retrofit, move up or move out.

(Higher Levels: Get in bed when shaking starts, and ride it down.)

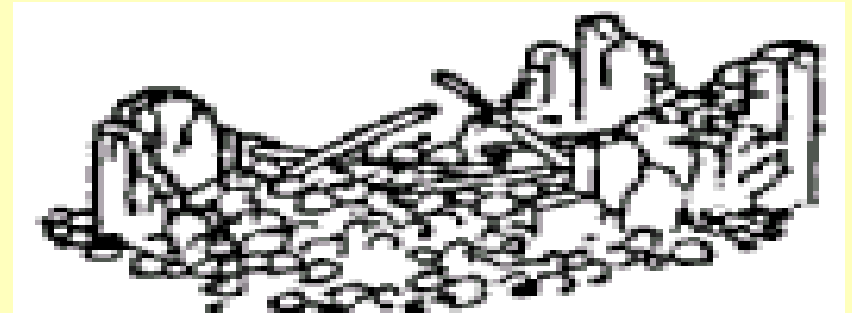


Do not use stairs!

Ride it down, then use escape ladder
or wait for rescue.



Pre-1933 Un-reinforced Masonry Building
Unsafe inside and within 1.5 X height outside.



Ensure reinforcing rods & diamond
plates installed, or move.

Soft First-Story Building after Northridge Quake.



(C) 2007 Daniel Friedman - inspect-ny.com

Soft First-Story Building after 6.7 Quake.



Un-reinforced Masonry Building after 6.7 quake.



Develop Emergency Plan

(Handout page 10)

Emergency Plans and Notes

Safest, strongest location away from glass, hazardous materials, falling or flying objects at,

Home: _____

Work: _____

Building Evacuation Routes (Avoid potential hazards: exits with glass overhead, outside areas near power lines, etc.):

Home, 1st Choice: _____

2nd Choice: _____

Work, 1st Choice: _____

2nd Choice: _____

Emergency Assistance (enter address and direct phone number of nearest):

Hospital: _____

Fire Station: _____, Use buzzer or Red phone by front door, or leave note on gate.

Police Station: _____

Out-of-Area Contacts: 1. _____

2. _____

Out-of-Area Meet-Up Place: _____

(In case your home area is
not safe and phone contact
is not possible.) _____

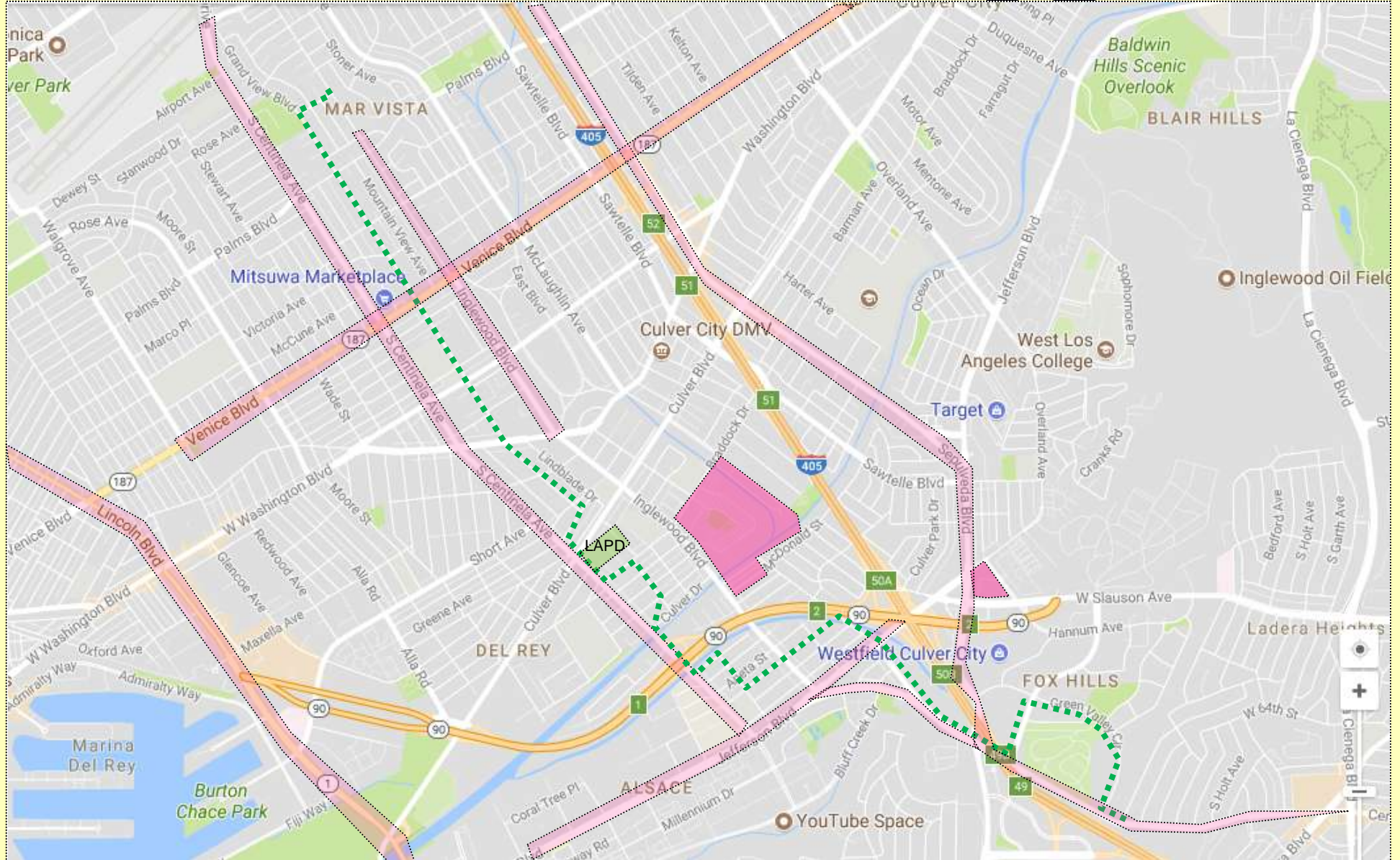
Area Evacuation Routes (Avoid Freeways and major highways.):

1st Choice: _____

2nd Choice: _____

Neighborhood Emergency Response Team's Command Center: _____

Develop Safe-Route-Home Map



**We've talked about
stocking supplies.**

**Now let's talk about
surviving to use them!**

Disaster Action Plans.

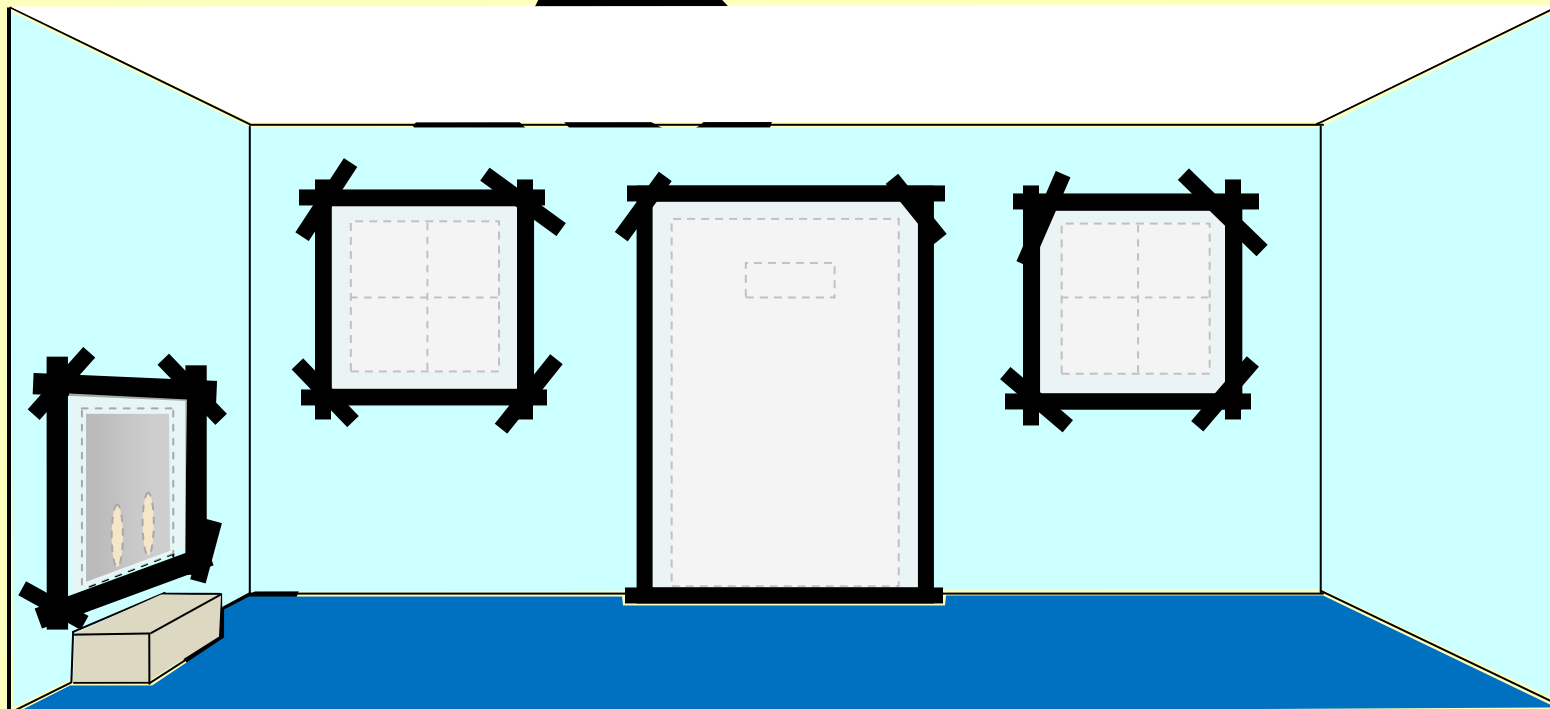
(What to do during a disaster.)

(Handout page 3)

Biological or Hazardous Material Leak

Shelter in Place (Clean up. Seal up. Listen Up.)

- Leave outside clothes outside. Wash hands. Don a mask.
- Seal all openings (windows, door, fireplace, vents) with Plastic. Tape to inside walls.
- Listen up for "All Clear"



Earthquake Action Plans.

If in-doors, stay in-doors.

Drop & crawl away from:

Windows,

Mirrors,

Glass doors,

Unsecured furniture,

Shelves and cabinets.

Cover & Hold on.



If out-doors, stay out-doors.

Move away from:

Buildings,

Power lines.

If driving, pull over & stop on side of road.

Avoid overpasses and bridges.

Fire Action Plans



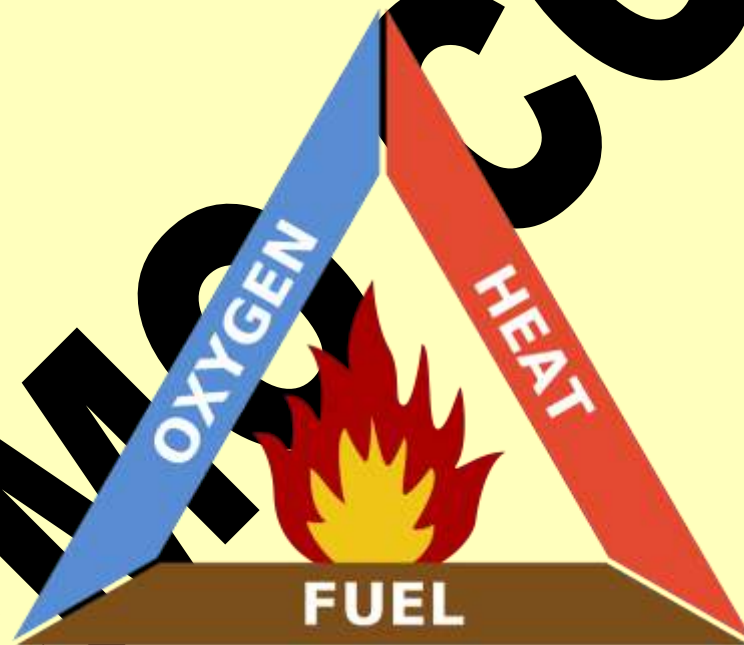
(This is NOT one.)

Small Fire Action Plan.



**Stop small fires before they become big fires.
Have at least one 10-B:C Kitchen extinguisher (white) and
one 4-60-B:C extinguisher (red) on hand. Invert monthly.**

Fire Chemistry



Suppression.

Person/Animal.

Blanket.

Fabric, Paper, Wood,
Electrical, Grease, Oil

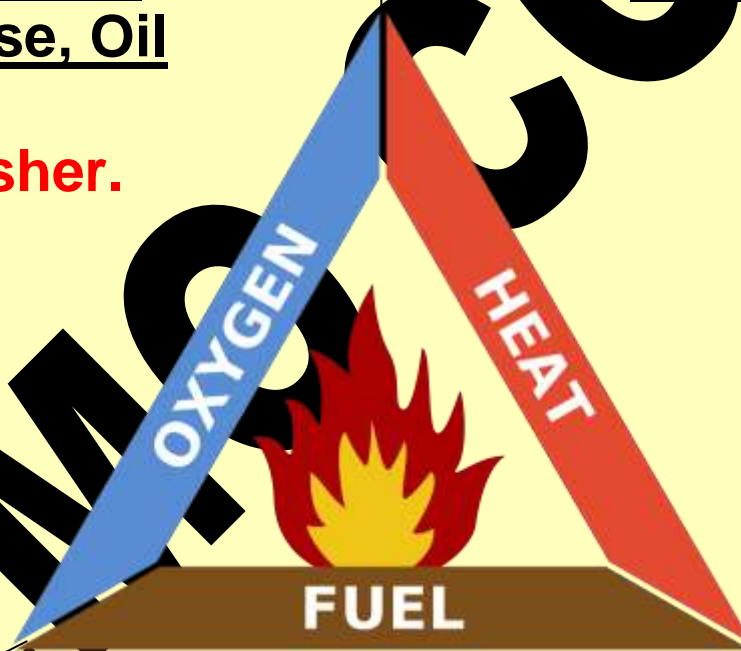
ABC Extinguisher.

Person/Animal.

Water.

Fabric, Paper, Wood.

Water.



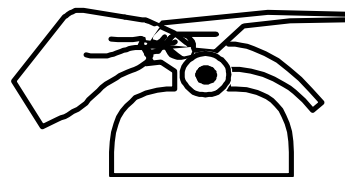
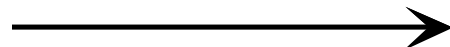
Natural Gas.

Shut off Gas.

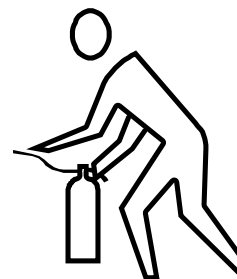
Fire Extinguisher Usage.

P.A.S.S.

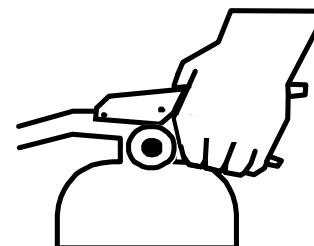
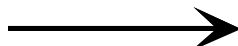
PULL



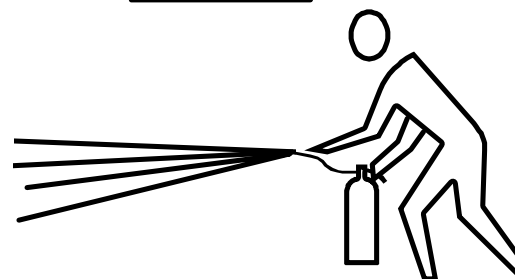
AIM



SQUEEZE



SWEEP



Escape.

**Cover nose & mouth with
damp cloth.**

Keep low under the smoke.

Don't hurry. Go outside.



Fires spread house to house.
Can wipe out entire block.



Nextdoor-Fire Action Plan.

Pull on. Pull down. Pull away.

- ☐ Pull on natural-fiber clothing, smoke mask, goggles.
- ☐ Back vehicle into driveway. Load "Go Bag" & valuables.
- ☐ Pull down all window coverings on threatened wall(s).
- ☐ Pull all flammable away from threatened wall(s).
- ☐ Optional: Until adjacent heat is hotter than direct sun:
 - a. Deploy heat shields (e.g., FireZat or Barricade).
 - b. Extinguish Firebrands landing on roof, and
c. Spray overhangs (eaves) with water spray.
- ☐ Evacuate when ordered. Leave lights on.

Wildfires wipe out entire neighborhoods.



Wildland Fire Action Plan

(In Wildland Urban Interface areas.)

Get Ready, Get Set, Go

☐ **Get Ready. Do the following now:**

- Register cell & email with www.NotifyLA.org (For county, www.alert.lacounty.gov .)
- Prepare Go-Bags. (See <http://www.mysafela.org/survival-kit/> suggestions.)
- Identify 2+ evacuation routes & meet up places.
- Clear brush per <http://www.lafd.org/fire-prevention/brush/clearance-requirements>.
- Fire-screen attic vents.
- If pool, buy siphon pump and fire hose.
- If pets, buy carrier cage.

☐ **Get Set. On Red Flag Days:**

- Move vehicles off street.
- Fill-up gas tank & back vehicles into driveway.
- On an Evacuation Alert from NotifyLA:
Load Go Bag, clothes, computers, pictures, papers, valuables.

☐ **Go. On Evacuation Order:**

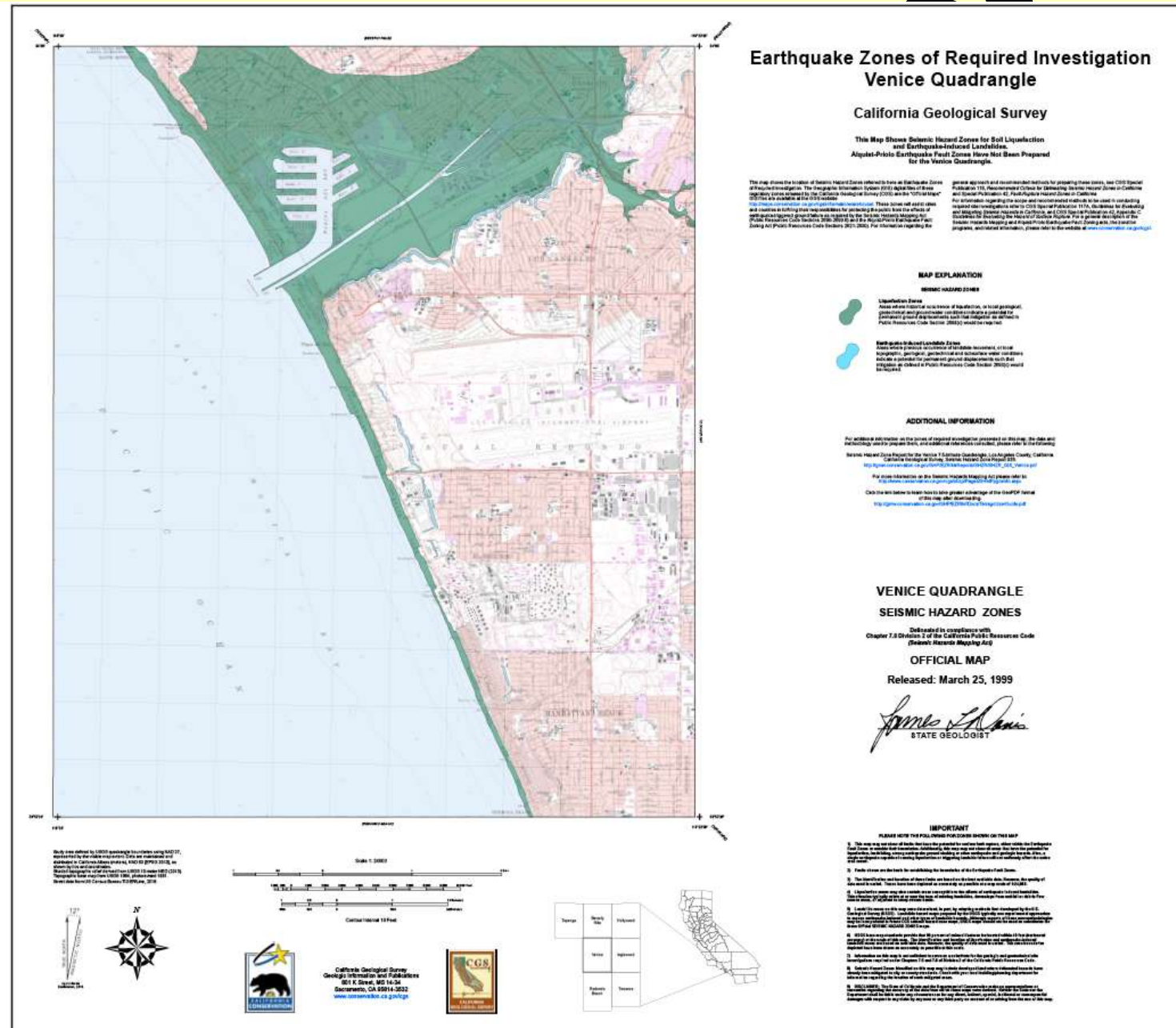
- Remove window covering. Pull flammables away from walls.
- Shut off gas and water utilities. (Leave lights on.)
- Evacuate to area.

Gas-Main Fire Action Plan.



Pressure S. Cal Gas now to install seismic shut-off valves on natural gas transmission and distributions pipelines.

Liquefaction



<http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/VENICE.pdf>

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Hurricane



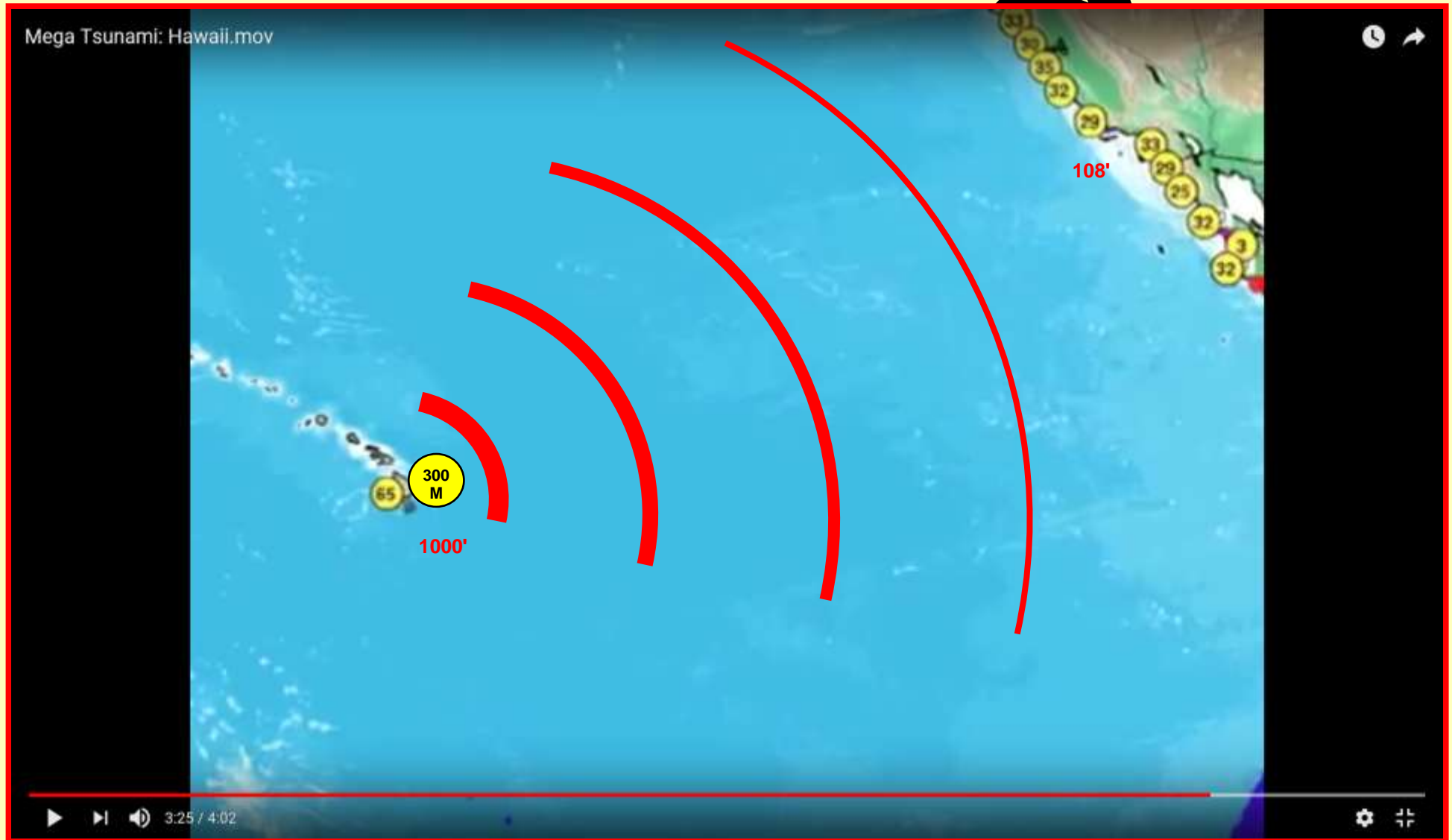
Tsunami



70 times in last 20 Million years.

Hawaii's Hilina Slump Tsunami

Source: <https://www.youtube.com/watch?v=VvMUJKFiAiA>



1/4 of Kilauea Island (1/4 of Kilauea) slides seaward 4 inches per year.
Slump release = 9.0 earthquake + 1000 to 1600 foot high tsunami.
LA coast hit by 100 foot high wave.

Hurricane / Tsunami Action Plan.

Board up. Gather up. Get up.

- Cover outside of windows with plywood.
- Gather up your "Go" bag.
- Get up (away from) the coast, if possible.
- Get up in a concrete or sturdy building.

Hurricane Harvey dropped 33 trillion gallons of water four times the amount left by Hurricane Katrina in 2005 . The 275 trillion pounds caused the Earth's crust under South Texas to give way and sink by two centimeters. - NASA JPL

Tornado



Pixabay

Tornado Action Plan



Open up. Wrap and Hide

If you hear "the Train"

- Open all windows a few inches.
- Wrap up in blankets.
- Hide in wood-door'd closet or iron bathtub.

Nuclear Disaster



Tololi Douglas

Types:

Power plant accident
North Korean attack.

Terrorist attack

"Suitcase" "Backpack Bomb".

"Dirty Bomb". (No mass destruction. Only contamination.)

Nuclear Disaster Perspective



95% survivable, if you know what to do.

Threat 1. The Blast

(10 Kiloton pictured)

Windows blown in.

Flying glass.

Injuries avoidable
or treatable.

Buildings habitable.

EMP disables:

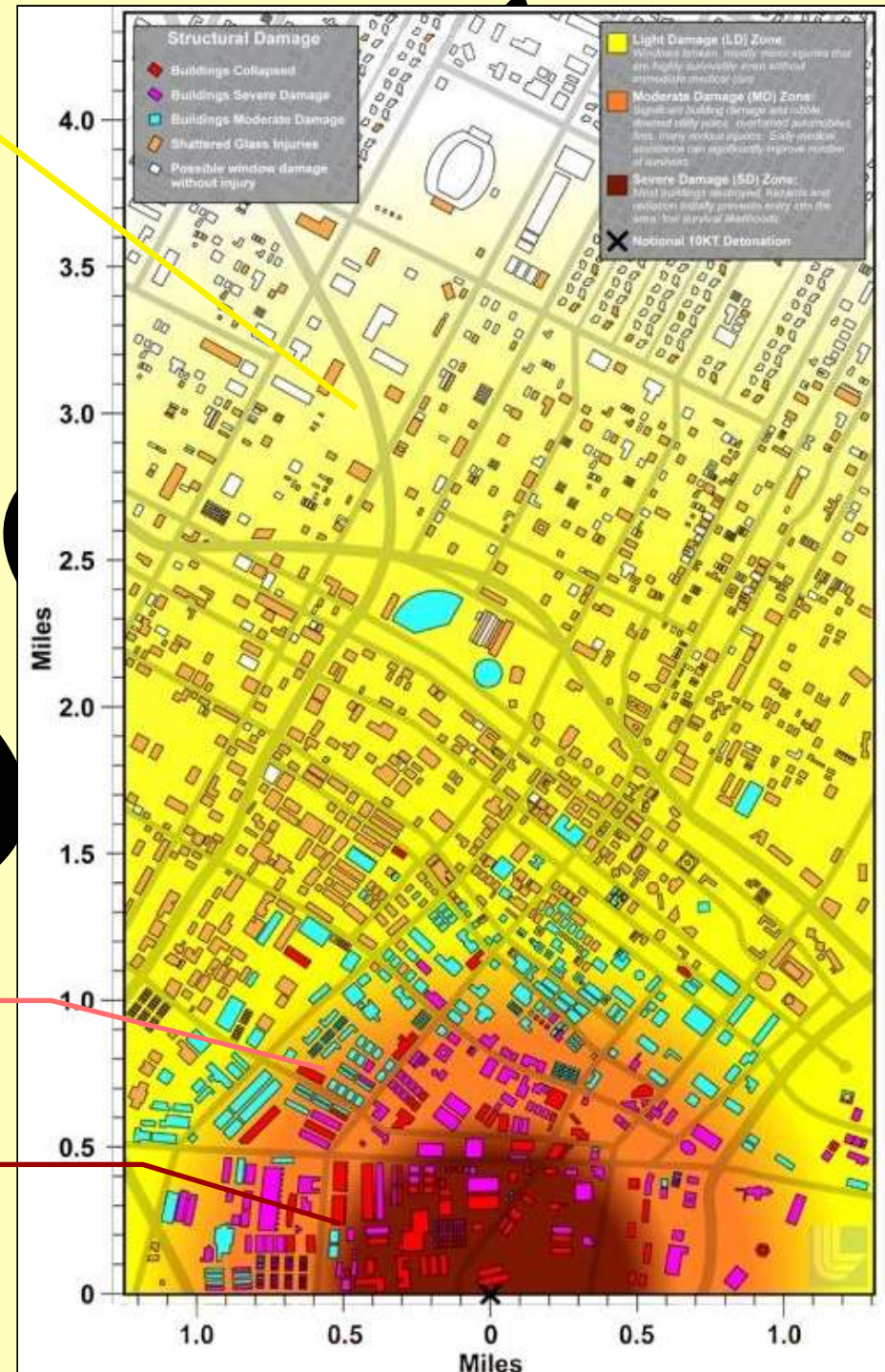
- Radios, TV.
- Computers.
- Motor vehicles.
- Water & Power.

Fallout Radiation.

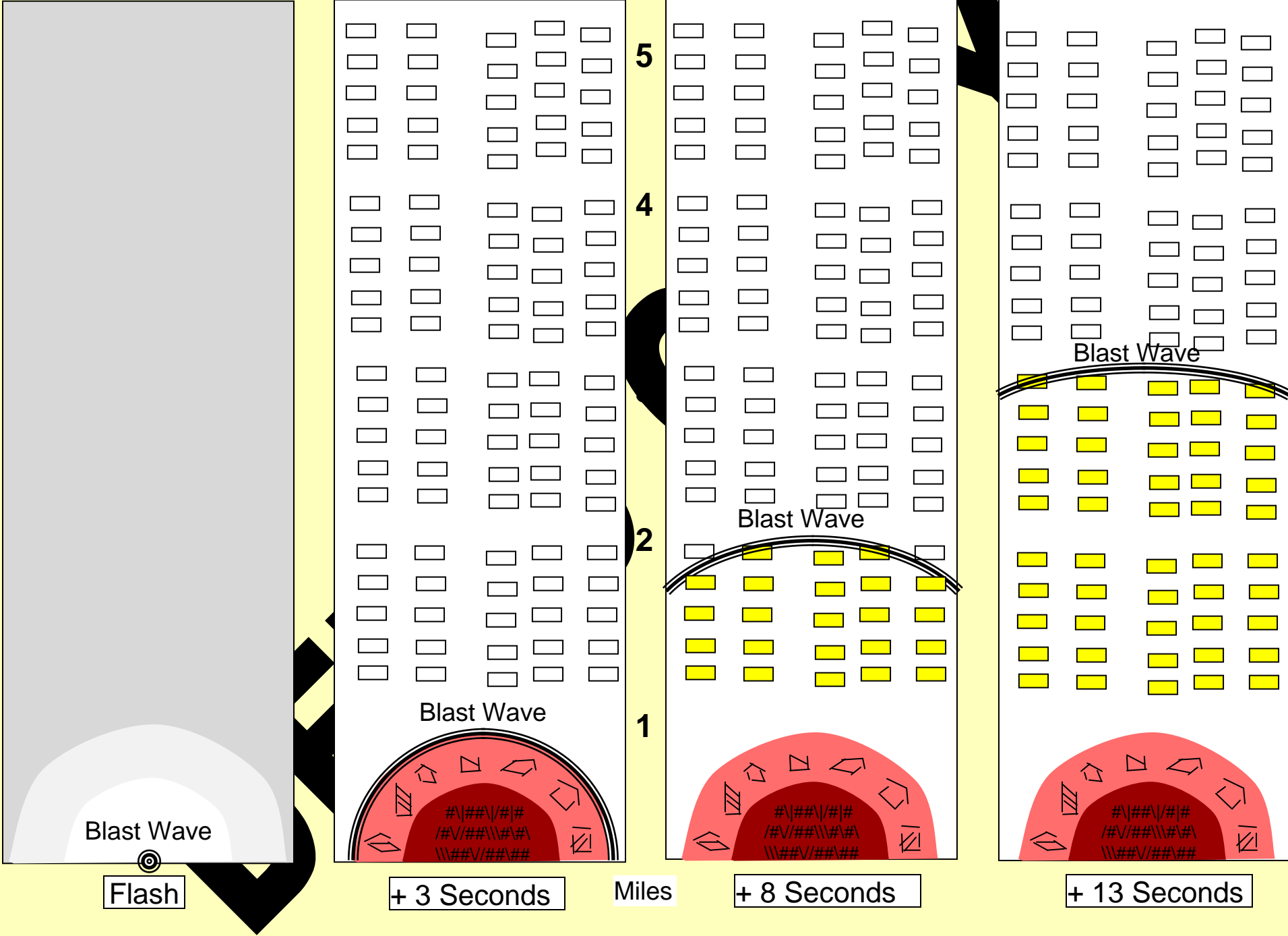
Survival possible.

Buildings blown in.
Vehicles overturned.
Survival questionable.

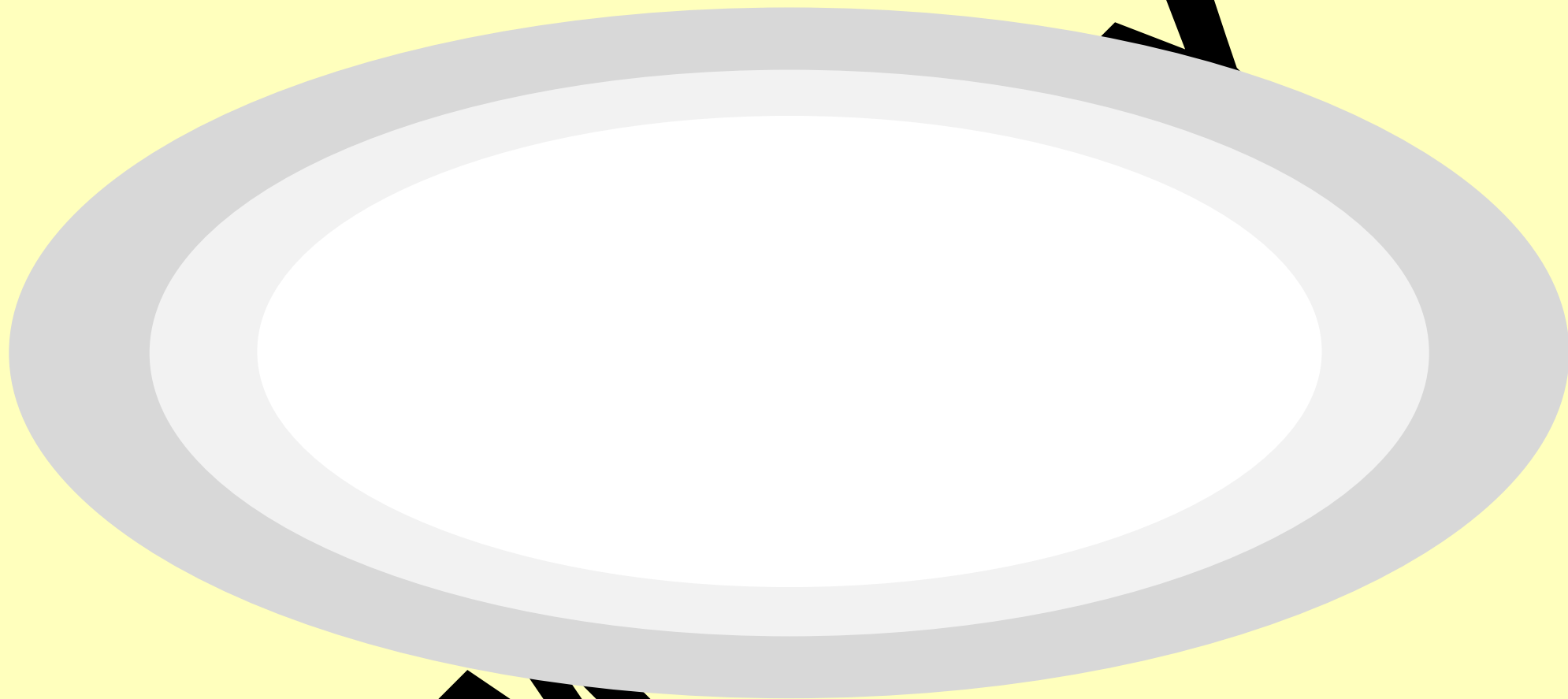
Rubble or vaporized.
Buildings collapsed.
Survival unlikely.



Blast Time Line.



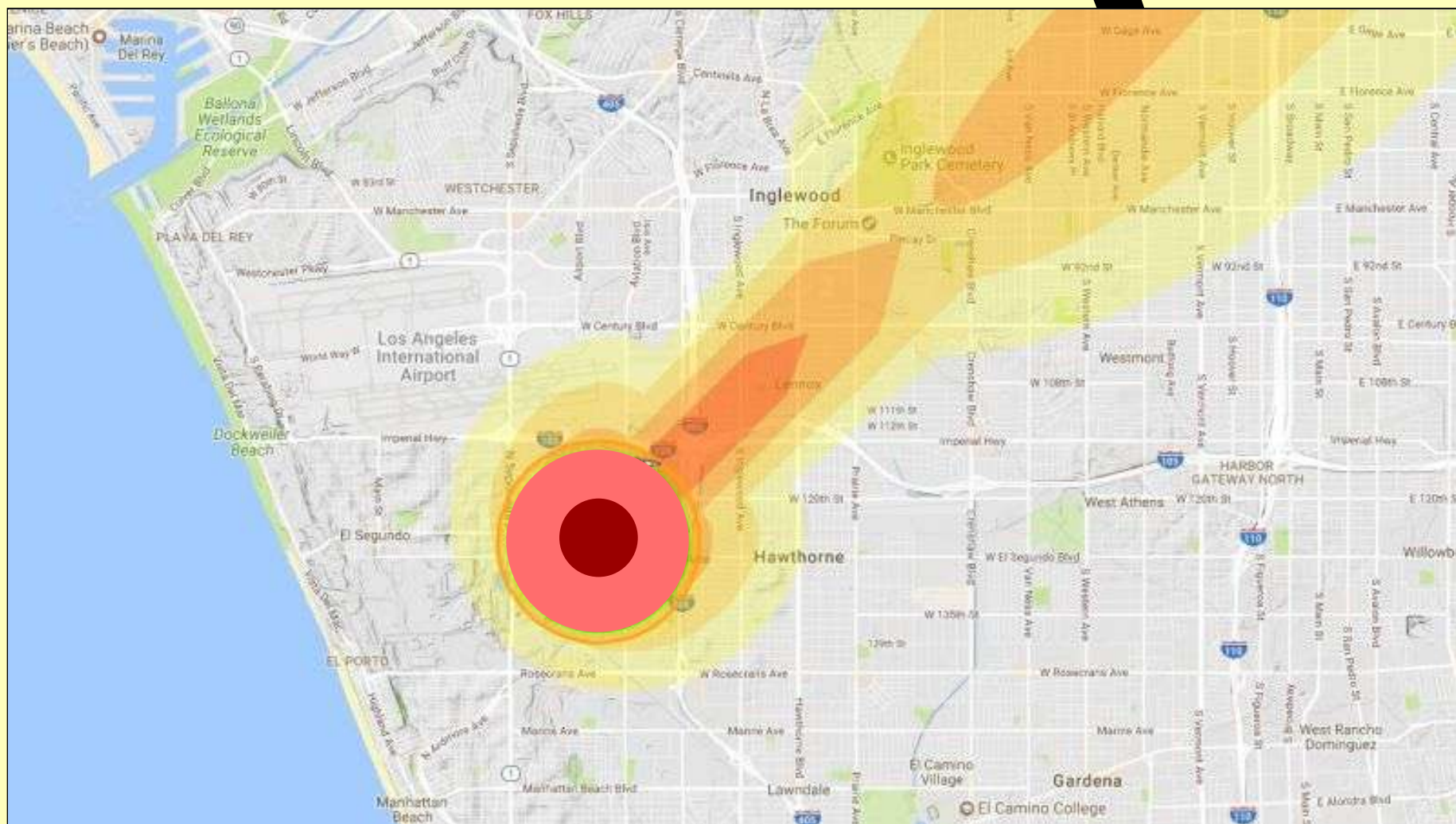
Action Plan: On Bright Flash, Drop and Cover.



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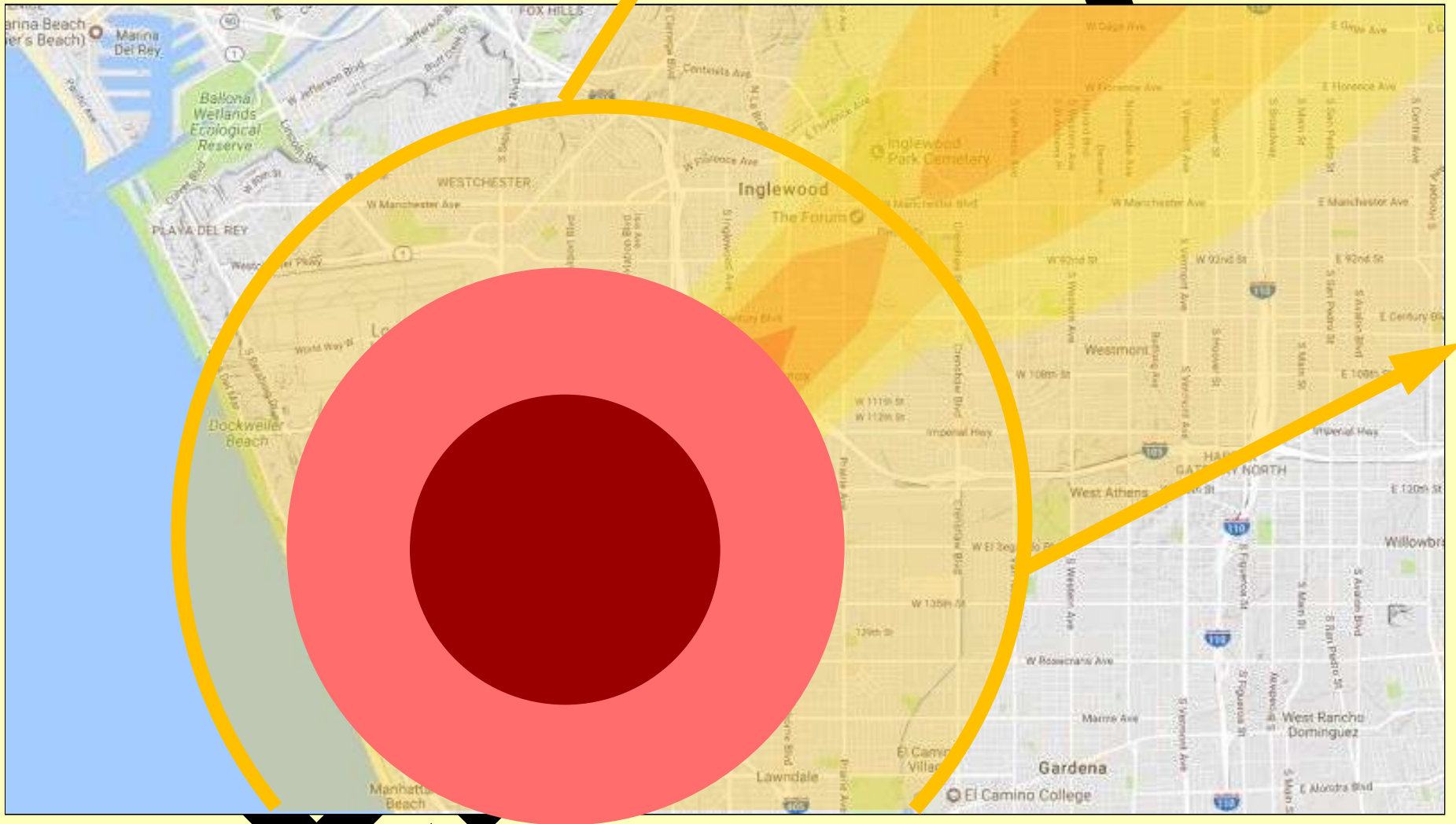


Threat 2. Fallout Radiation.



Example 10-ton explosion. (Backpack/suitcase bomb.)

Threat 2. Fallout Radiation



Example. 1 Kiloton explosion. (North Korea attack.)

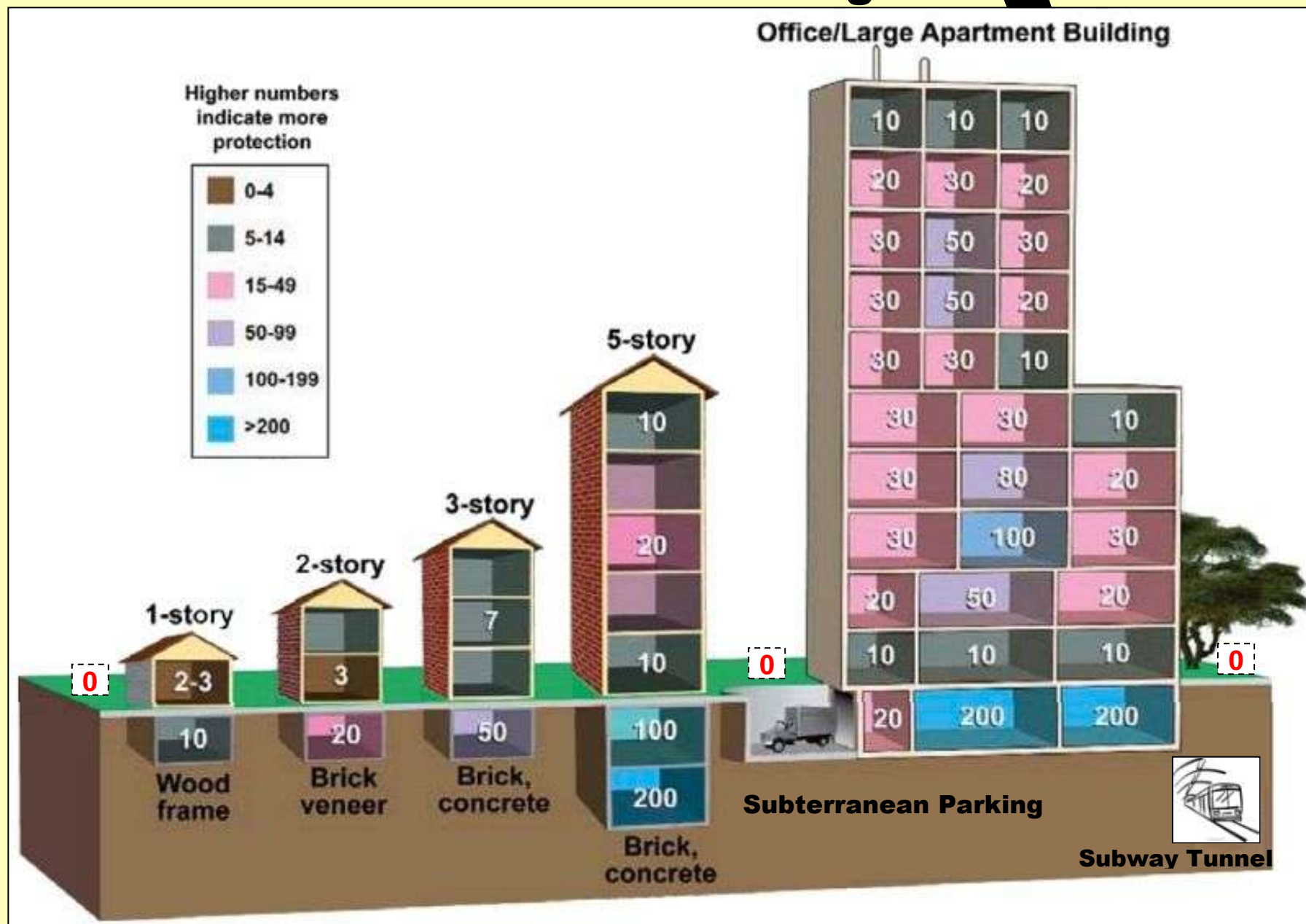
(10x Yield = 2x Destruction.)

Solutions:

- **Distance from Fallout ash.**
- **Shielding.**
- **Time.**

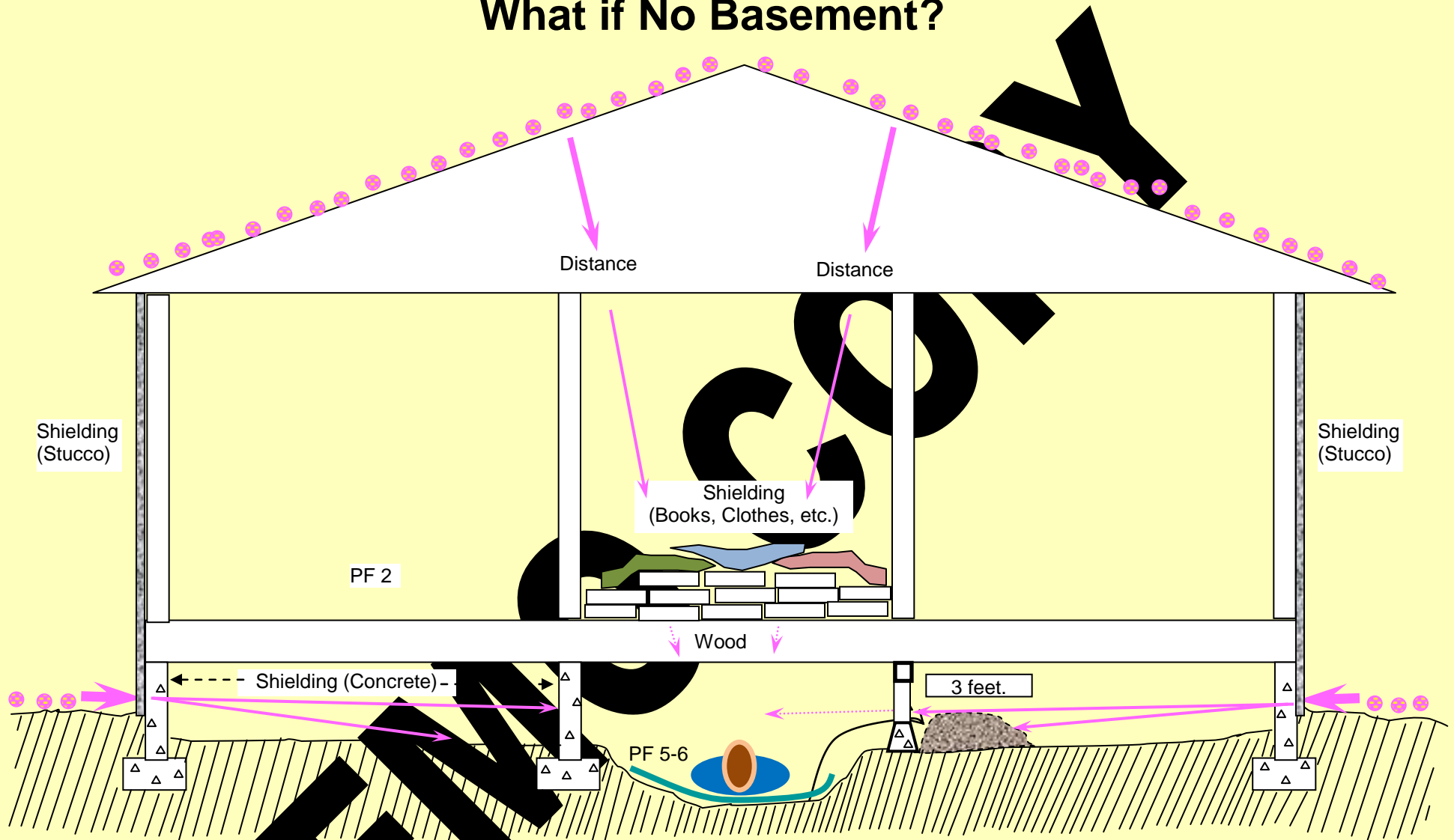
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Distance from Fallout ash + Shielding = Protection Factor.



Distance from Fallout-bearing surfaces: Ground, Roof. (Greater is better)
 Shielding (Best to Least): Dirt, Concrete, Brick, Water, Books, Wood, Air.

What if No Basement?

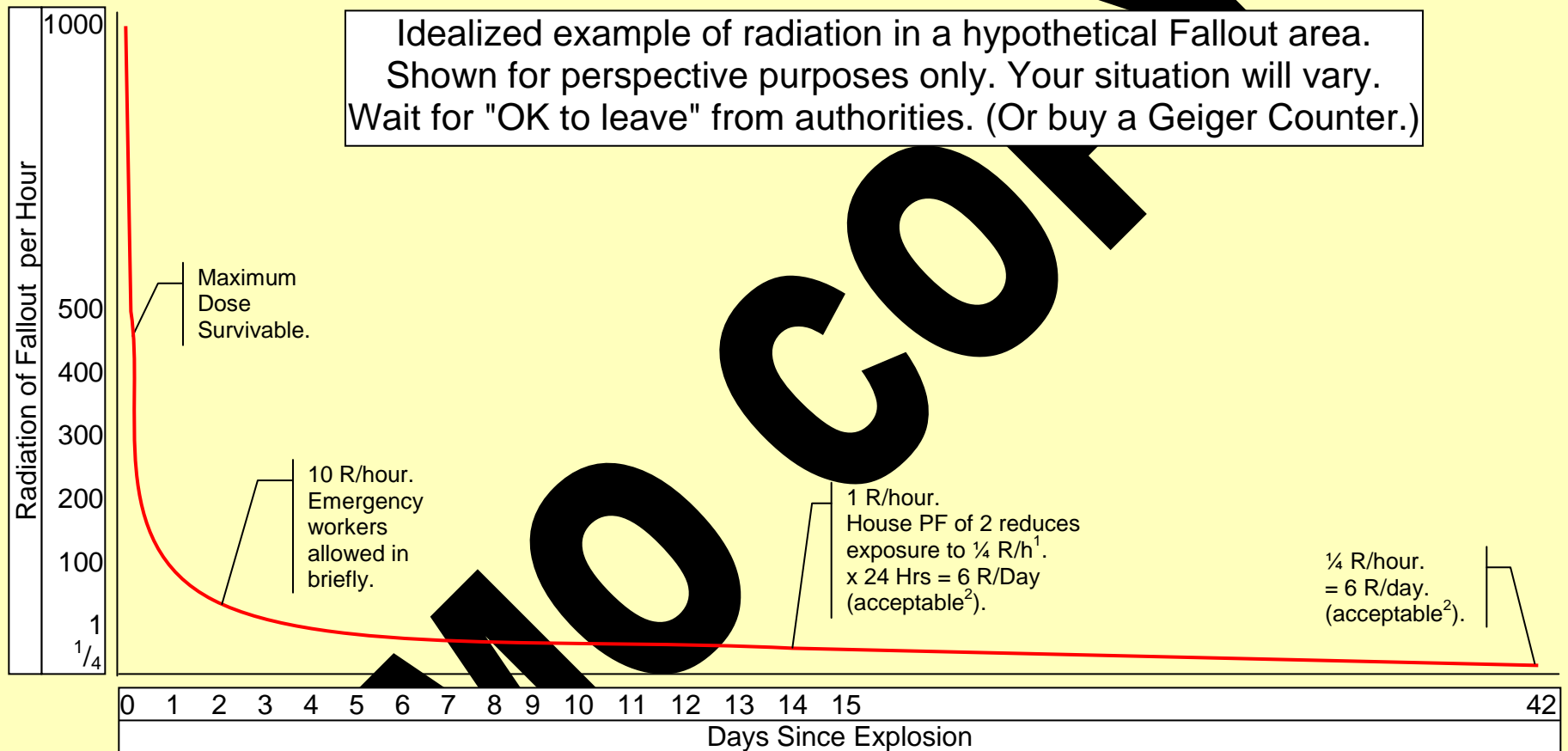


Dig and stock Shelter now with:

- 2 Gallons Water per person & pet.
- 6 Energy Bars per person & pet.
- 6 Light Sticks. 6 Dust Masks.
- First Aid Kit (potassium iodide tabs).
- 1 Crank Radio/Light.

Pile shielding (books, clothes, etc.) during 5 to 15 minutes before Fallout starts.

Time - It's on your side.



Best Case: Shelter Evacuation possible & authorized.

Worst Case: Shelter (>PF 5) w brief trips into house for supplies. In house (PF 2) w brief trips outside to wash Fallout off roof.

¹ Each Protection Factor reduces radiation dose by 1/2.

² Based on "Nuclear War Survival Skills"; Gresson Kearny, Oak Ridge National Atomic Laboratory, and "Planning Guidance for Response to a Nuclear Detonation - 2nd Edition"; National Security Staff Interagency Policy Coordination Subcommittee.

Nuclear Disaster Action Plan

Get in. Stay in. Tune in.

1. On Flash, Dive for cover, or Drop with feet toward Flash.
2. Don mask and gloves.
3. Get to best shelter reachable in (5 to 15 minutes).
4. Leave contaminated clothes outside.
5. Get In.
6. Stay In. *
7. Tune In.

* Potassium Iodide (130mg -adult, 65mg-child, 32mg-Infant) immediately & daily while exposed may help.

Caution: Do not take or drink Iodine or Povidone-Iodine. These are poisons.

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Post-Disaster Life Saving

(Handout page 3)

BASIC Life Saving.

Based on Critical Time Windows

B Basic Life Saving Intervention.

A ABCs of Life.

S Size up building.

Size-up victims.

I Immobilize injuries.

C Carry casualties out.

S Search for any missing.

Sort casualties for treatment.

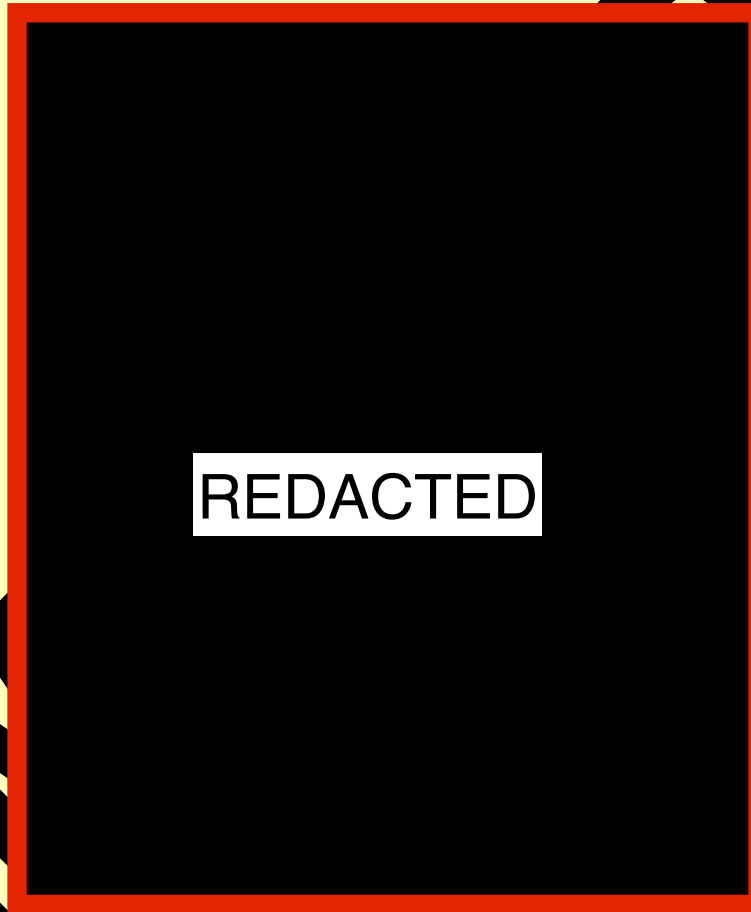
B Basic Life Saving Intervention.

You have only 4 minutes (or less) to save a person:

- **B**urning.
- **B**uried.
- **B**leeding rapidly.
- not **B**reathing.

B Basic Life Saving Intervention-

▪ Burning.



- Stop, Drop & Roll.
- Smother with towel, coat, blanket, rug, etc.

B Basic Life Saving Intervention-

■ Buried.



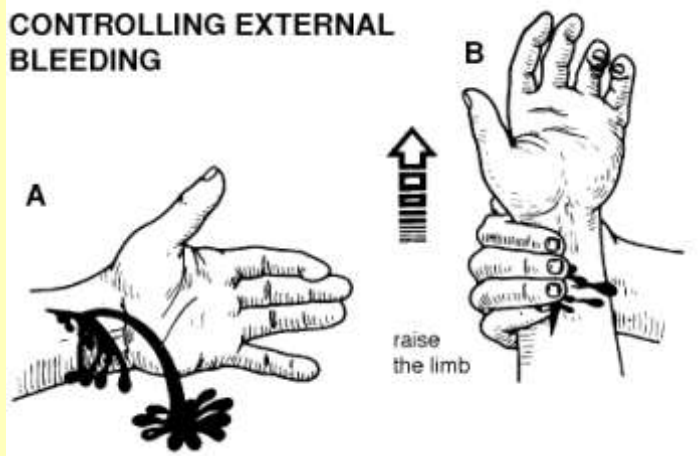
Remove debris from face and weight from chest.

B Basic Life Saving Intervention-

□ Bleeding rapidly.

1. Direct Pressure & Elevation.
2. Pressure Bandage.
3. Tourniquet.

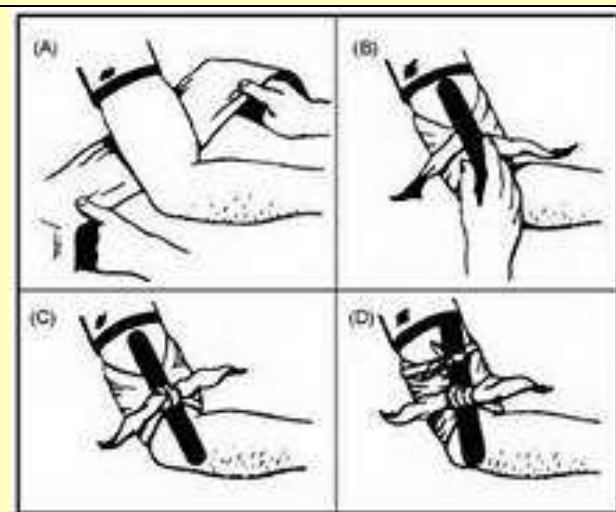
CONTROLLING EXTERNAL BLEEDING



1. Direct Pressure and Elevation



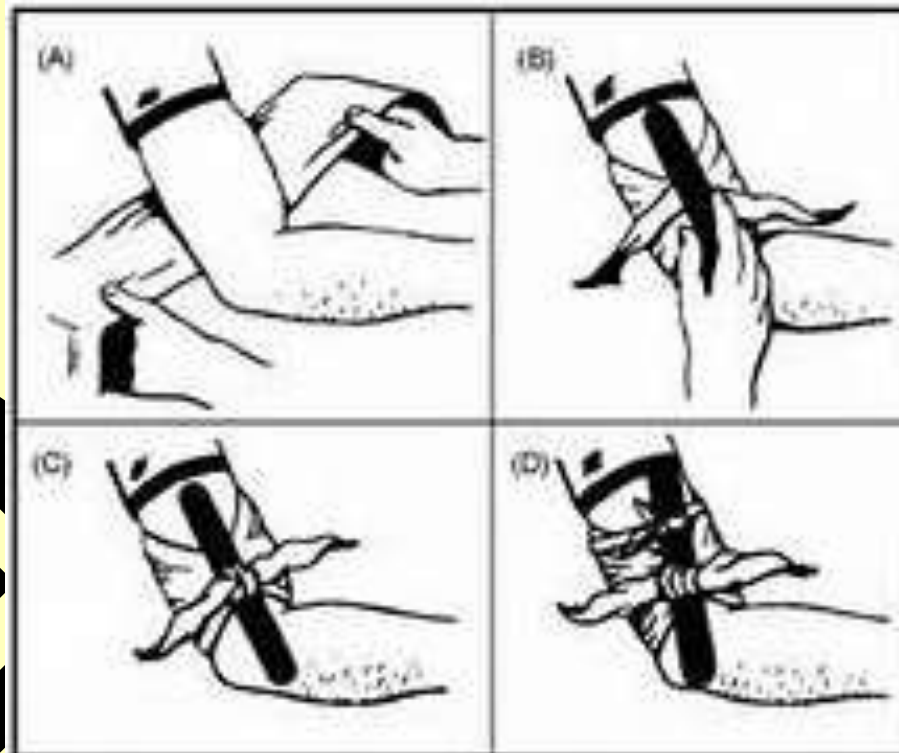
2. Pressure Bandage



3. Tourniquet on rapid bleeding or amputation.

Practice Break!

Make a tourniquet from something you have with you.



B

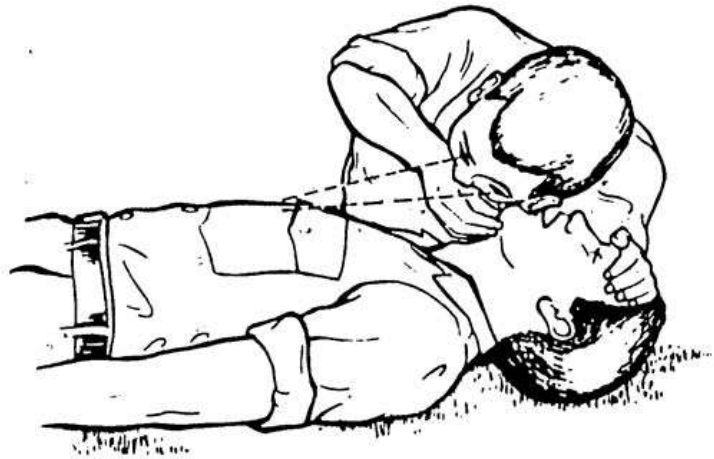
Basic Life Saving Intervention-

A

■ **Breathing?**

Look, Listen & Feel.

- **Look** at chest & abdomen,
- **Listen** at nose & mouth,
- **Feel** for carotid pulse,
for up to 10 seconds.



If not breathing, check & provide ABCs of Life.

S

I

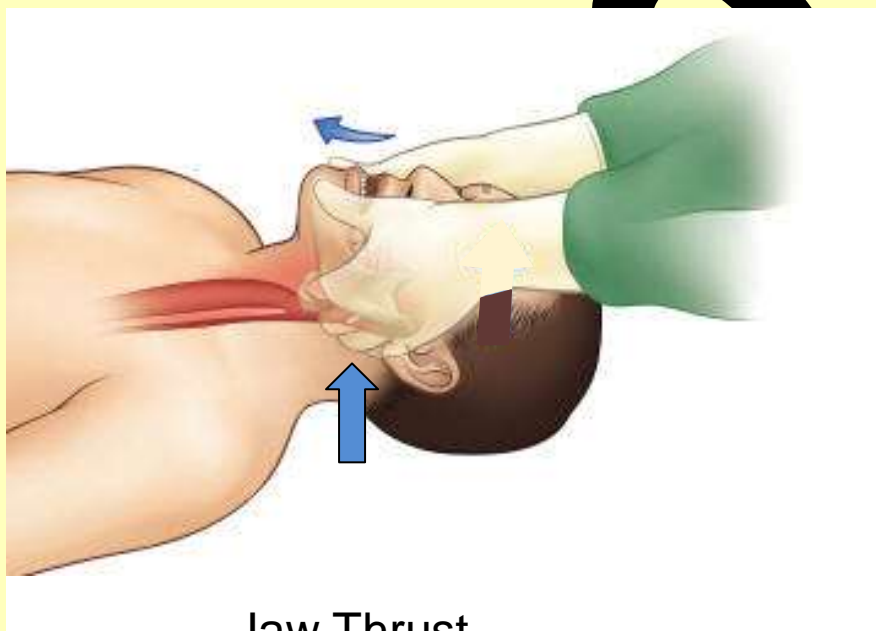
C

S

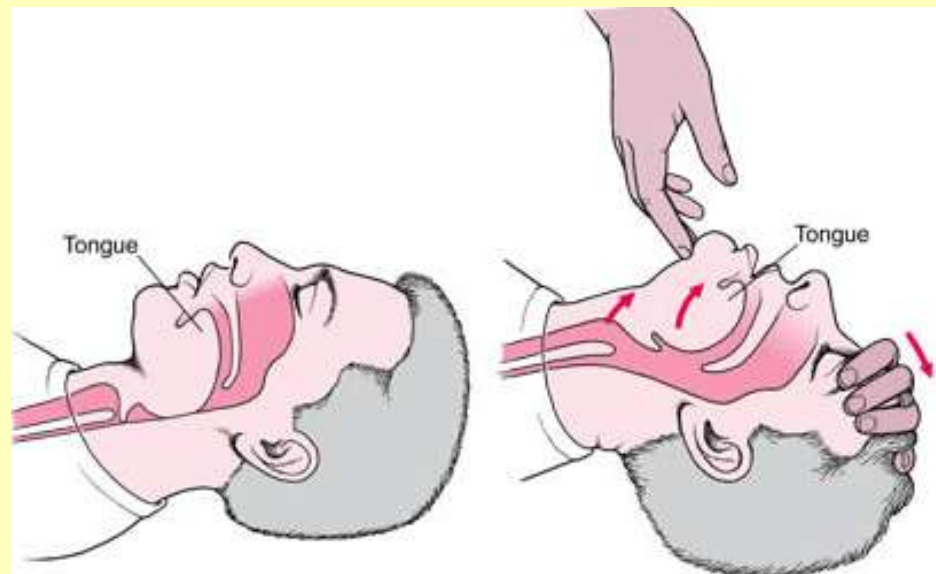
B

A ABCs of life.

- **Airway.** Clear mouth. Open Airway by Jaw Thrust. If no breathe, try Chin-Lift-Head-Tilt.
- **Breathing.** If Carotid Pulse but still not breathing, start Rescue Breathing.
- **Circulation.** If no Carotid Pulse, start CPR.



Jaw Thrust



Chin-Lift-Head-Tilt

Maintain Airway via HAINES Position (High Arm In Neck Exposed Spine - UK version)

- Keeps Airway open while you size up your home for fires and damage that may require evacuation.
- Prevents choking on stomach discharge.
- Keeps spine in line.



Old Recovery Position

Spine not aligned. - Exacerbates any spinal injury
Mouth facing up. - Patient may choke or aspirate.
Don't use.

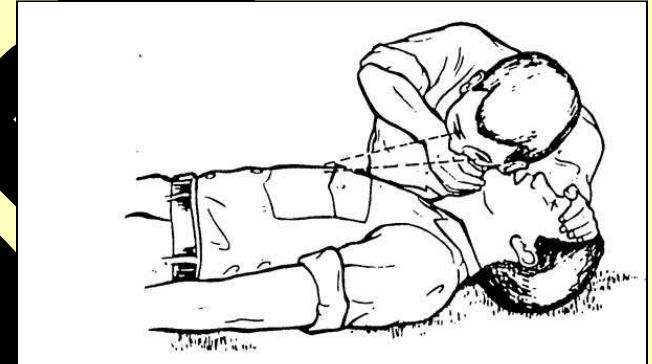


New Recovery Position

Head may slide off arm exacerbating any spinal injury.
Don't use.

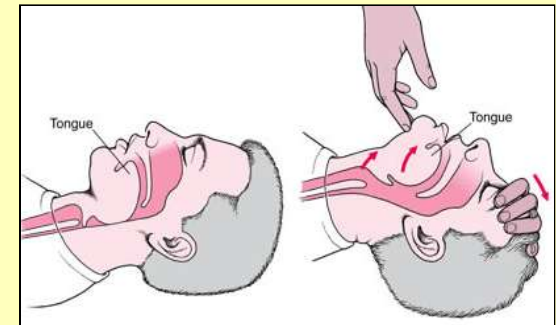
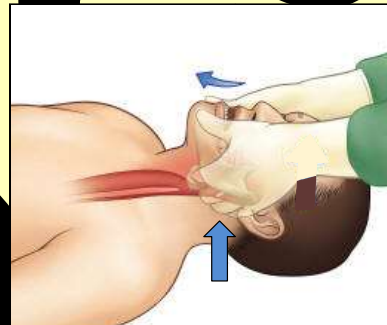
Practice Break!

1. Look, Listen & Feel for partner's Breathing.



2. Open partner's Air via:
Jaw Thrust.

Chin-Lift-Head-Tilt.



3. CPR (on CPR manikin).

4. Place partner in HAINES position.

1. Place right arm across chest, palm on left shoulder.
2. Swing left arm outward until straight over head.
3. Place your left forearm under pt's right shoulder.
4. Grasp bottom of pt's neck to stabilize it.
5. Bend pt's right knee up. Use as lever to roll pt left.



B

Size-up Building

A

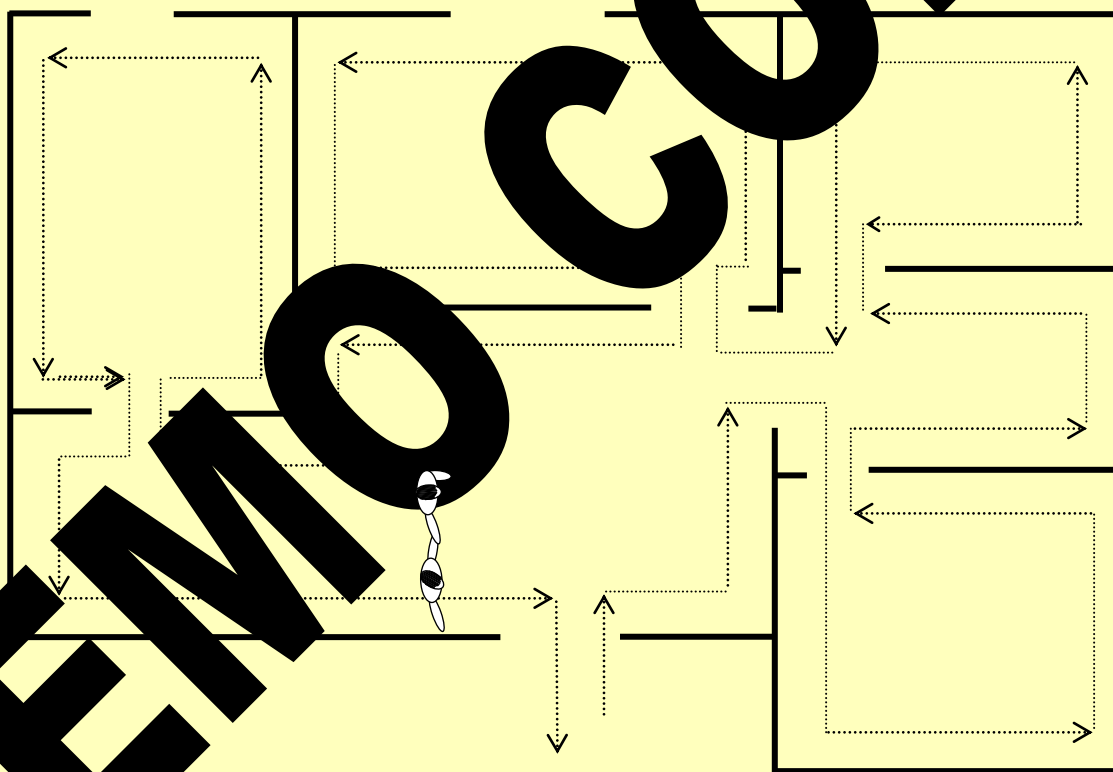
- Do lap around inside.

S

I

C

S



- . If dark, follow the walls. ("Right-to-Rescue. Left-to-Leave.")
- . Check closed doors for heat with back of hand before opening.

(Start a bottom of door and work upward.)

B

A

S

I

C

S

- Smell gas?



If so, **DON'T** turn on or off anything electric!



COPY

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B

Size-up Building (continued).

A

- ▣ Do lap around outside.

S

I

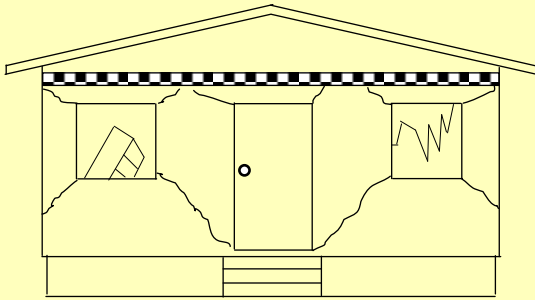
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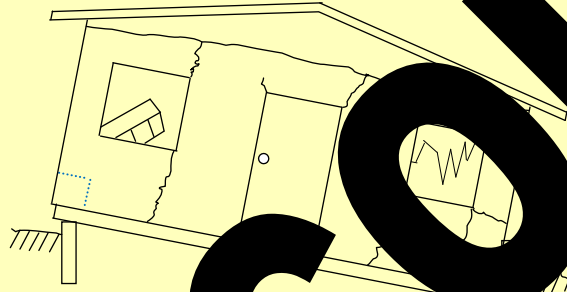


If you **See:** (Handout page 4.)

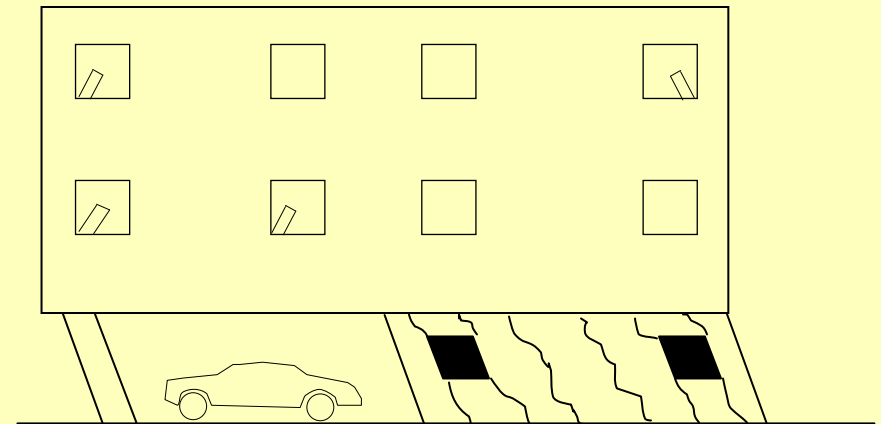
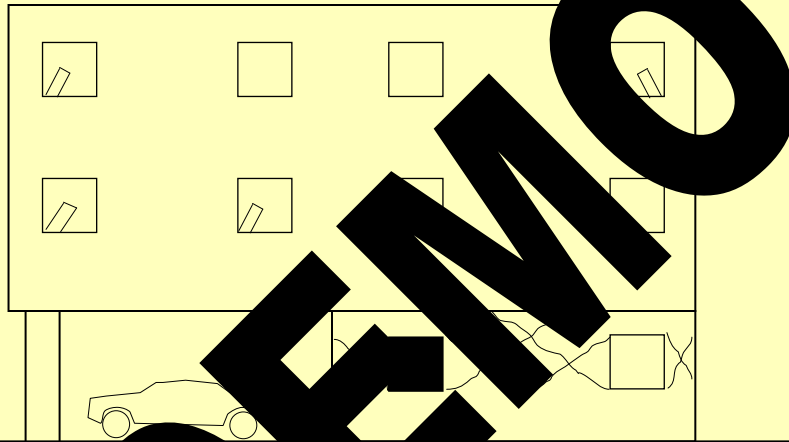
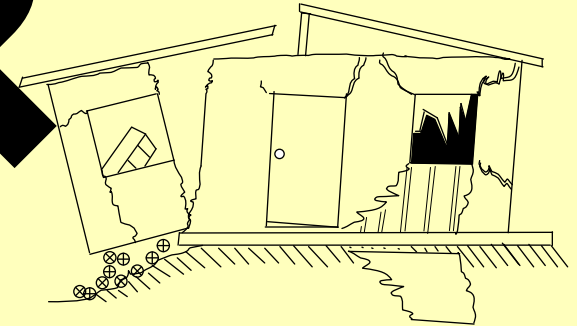
"X"-cracks



Tilting



Broken walls or
collapse

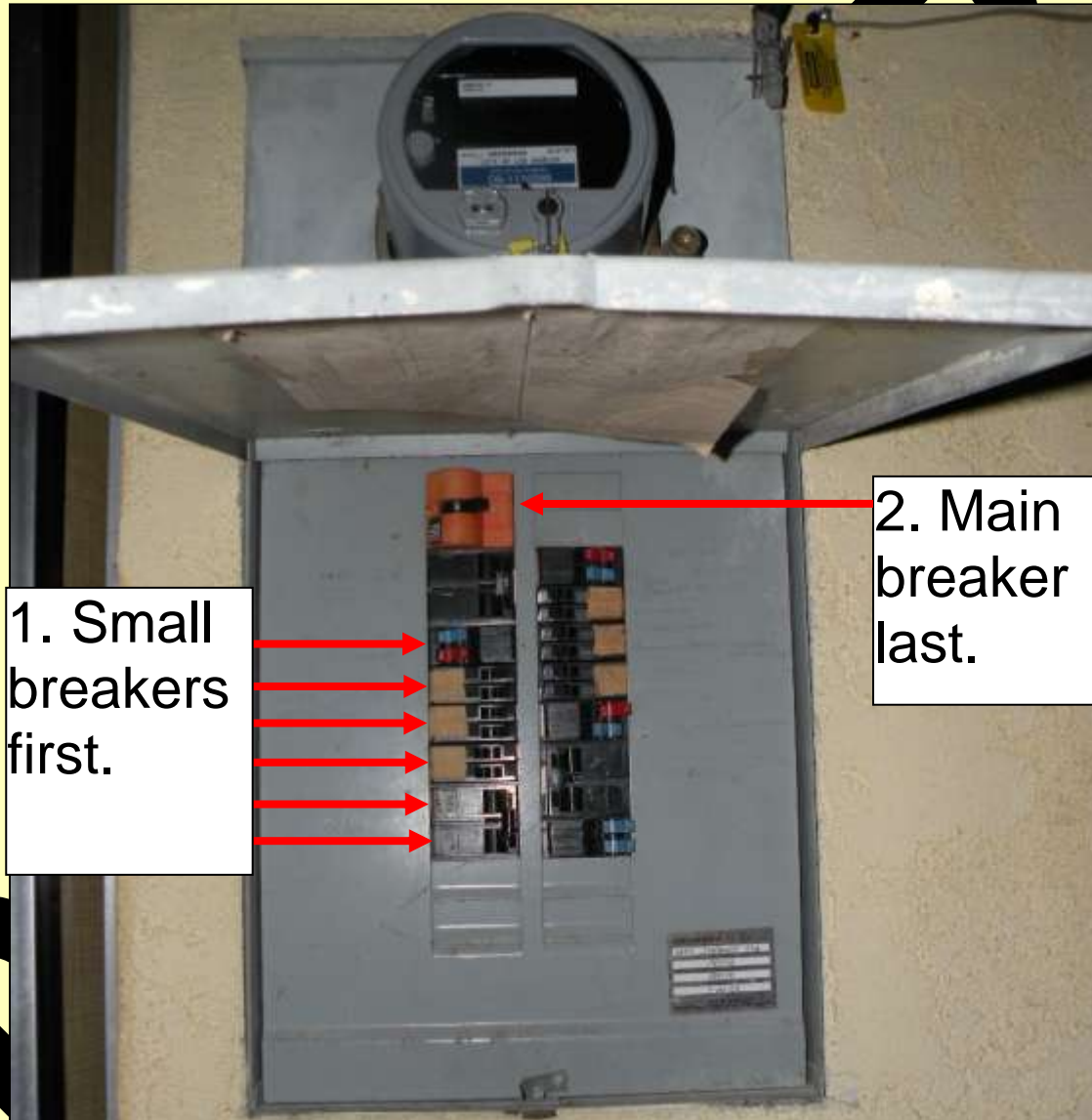


Racked supports/walls

or **Smell** smoke or gas, ...

Shut Off Utilities (in alphabetic order).

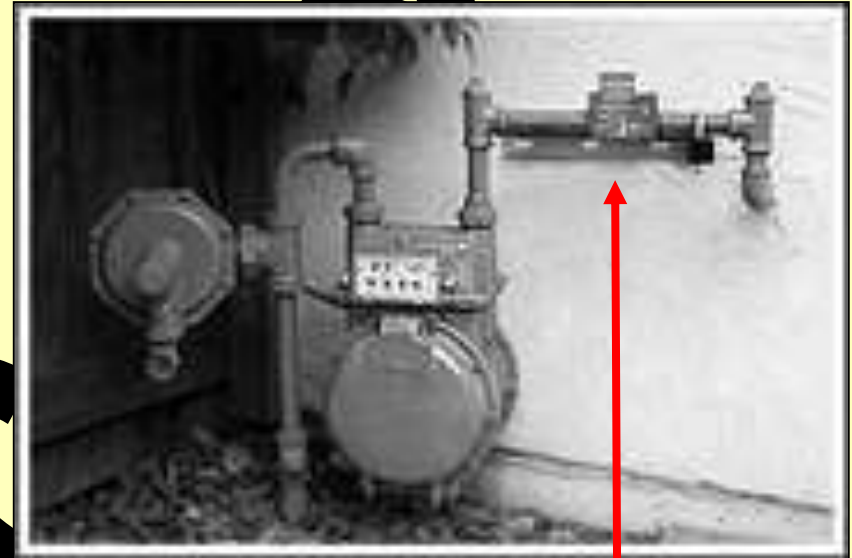
1. Electric Power...



1. Small breakers first.

2. Main breaker last.

2. Gas...



Keep a shut-off wrench nearby.
Or install automatic shut-off valve.

3. Water.

Prevents contamination of water hot-water tank and in house pipes.



Prevents losing water in house pipes & water tank.

B

A

S

I

C

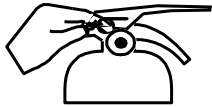
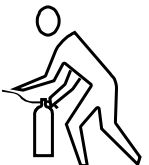
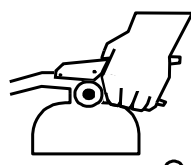
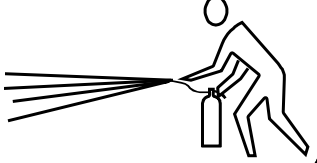
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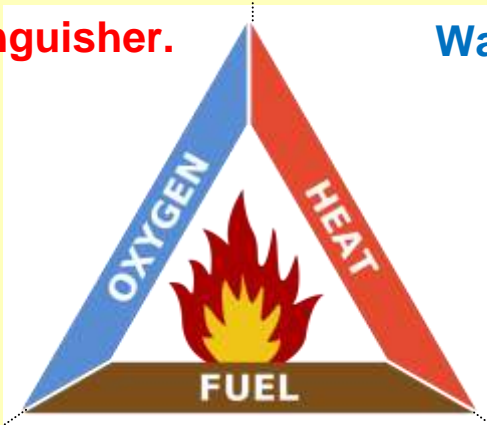
- **Shout-out the mobile.**

"If you can walk, meet me outside at the ____."

- Saves as many as possible if building is collapsing.
- Tells you who is injured / trapped / missing.
- Assembles a team for rescue work.

□ **Suppress any small fires.**

Method depends on <u>Fuel</u> burning.		How to use a Fire Extinguisher.
<p><u>Person/Animal.</u></p> <p>Blanket.</p> <p><u>Fabric, Paper, Wood, Electrical, Grease, Oil</u></p> <p>ABC Extinguisher.</p>	<p><u>Person/Animal.</u></p> <p>Water.</p> <p><u>Fabric, Paper, Wood, Electrical, Grease, Oil</u></p> <p>Water.</p>	<p>P.A.S.S.</p> <p>PULL → </p> <p>AIM → </p> <p>SQUEEZE → </p> <p>SWEEP → </p>



Natural Gas.
Shut off Gas.

If fire is near door or approaching,

- Close doors & windows. Remove window coverings.
- Move flammables away from wall.

B

A

S

I

C

S

(Review)

Size-up Building.

If you:

See "X" cracks, falling broken walls or any collapse, or

Smell gas or smoke

then:

Shut-off utilities, (preserves water in pipes & water heater)

Shut out the mobile,

Suppress any small fires.

B

Size-up Victims for:

A

▣ **S**cene Safety?

- Sharps? - Glass. Plaster or board walls. **Avoid.**
- Wires? - Did I shut off Electricity? **Avoid.**

S

▣ **S**pinal injury?

Suspect if:

- **Spinal column is tender, or**
- **Casualty can't move or feel finger(s) or toe(s), or**
- **Unconscious.**

I

C

▣ **S**keletal injury?

- **Slide your hands down & gently press arms, hips, legs.**
- **Suspect injury if deformed or pain.**

S

REVIEW

B **B**asic Life Saving Intervention for those:

Burning,
Buried,
Bleeding (rapidly),
not **B**reathing.

A **ABC**'s of life.

Airway.
Breathing.
Circulation.

S **Size-up building.**

Smell Smoke or Gas.

See X-cracked, bulging or separated walls, or any collapse? If so, Then ...

Shut-off utilities,

Shout for people to evacuate,

Suppress small fires.

Size-up victims.

Spinal Injury. Tender. Peripheral Motor/Sensation deficit. Unconscious.

Skeletal fractures? Deformity or Pain.

B

A

S

I

C

S

If evacuation required (rescued if smelled smoke or gas, saw fire, "X" crack or leaning walls, or partial collapse)

Immobilize spinal injury & major fractures.

Carry **C**asualties out of Harm's Way.

(Otherwise, DO NOT move casualties.)

B I Immobilize Major Fractures. (Stabilize, versus Splint.)

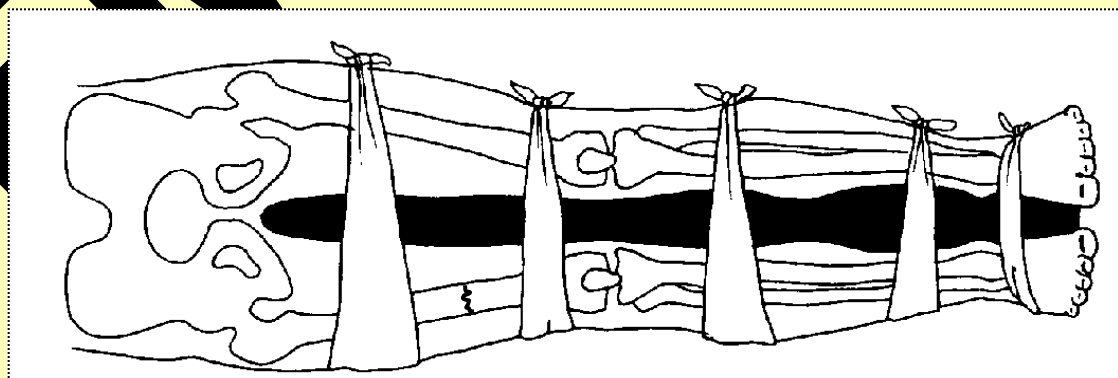
Arm(s) - Casualty holds. In waist band or belt. Cross & Tie.



Pelvis - Cinch with wide belt or swath.



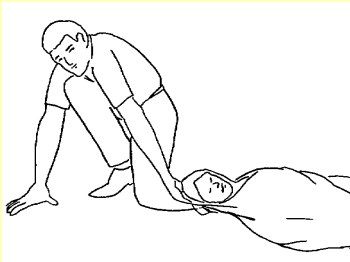

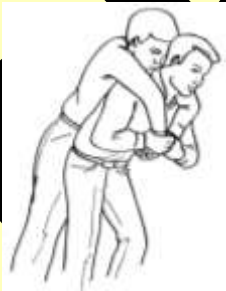
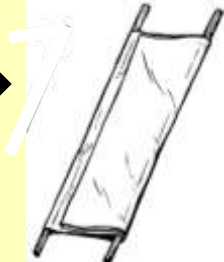







Leg - Pad below knee. Bind Bad leg to Good.



B A S I C S

Carry Casualties out of Harm's Way.

(Handout page 5.)

Single Person Rescue Carries	<u>Clothes or Blanket Drag</u> 	<u>Fireman's Crawl</u> 	<u>Pack-Strap Carry</u> 	<u>Blanket & Poles Litter</u> Unfold blanket on floor. Lay poles at 1/3 positions. Fold outside 1/3's over poles. 
Two Person Rescue Carries	<u>Human Crutch (Foot injury)</u> 	<u>Chair Carry</u> 	<u>Two Person Carry (Columbia Street Carry)</u> 	<u>Jackets & Poles Litter</u> Step 1. Turn sleeves inside. fasten front. 
Multiple Person Rescue Carries	<u>Three Person Carry</u> (Left Leg injury) only 	<u>6-Person Lift to Blanket or Backboard Carry</u> Immobilizes head, 3 role victim, 2 slide blanket/backboard under. (For Spinal injury, use 6 – 8 Person Lift-to-Litter.) 		
				Step 2. Insert poles thru sleeve holes. 

Practice Break!

Blanket drag.

- Hint: 1. Place partner in HAINES.
2. Scrunch 1/3 of blanket/towel over partner's back.
3. Roll partner back supine.
4. Pull scrunched blanket/towel out & over partner.
5. Roll corners to partner's head and pull.

Regular or Pope's-Head-Suspended Fireman's Crawl.

- Hint: Casualty cannot move fingers if conscious.
Tie hands with a scarf, shirt sleeve if unconscious.
Use a belt, tie or scarf for head-supporting loop.

B

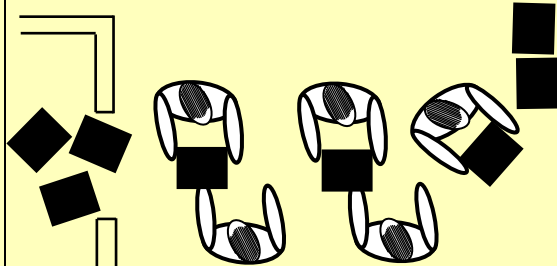
Search for any Missing (or for Exits). Hand

A

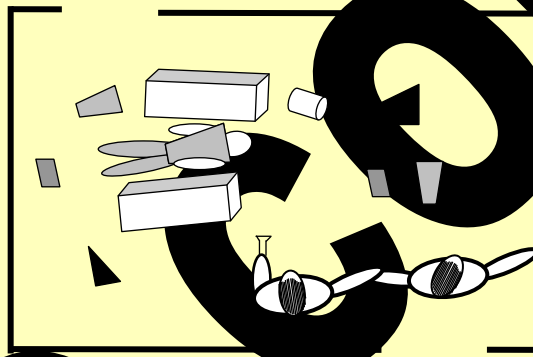
How to:

S

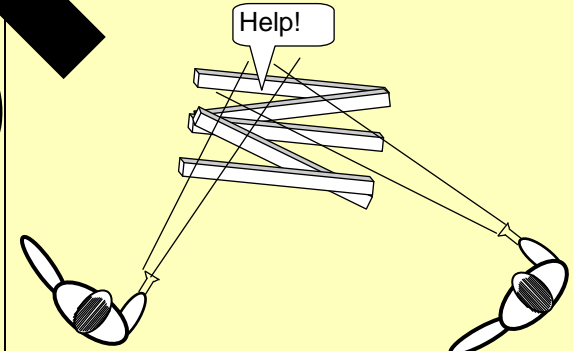
Remove Debris to Clear a Path.



Maintain Orientation.



Find Hidden Victims via Triangulation.



Search Patterns

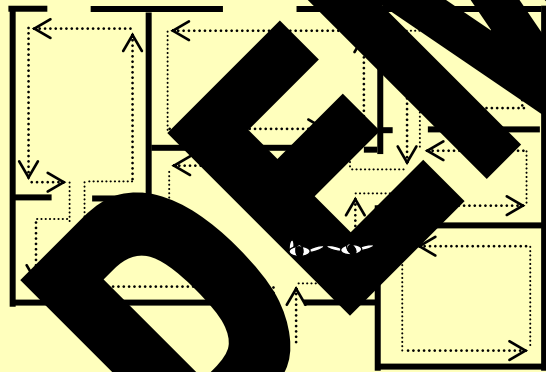
"Right to Rescue. Left to Leave."

I

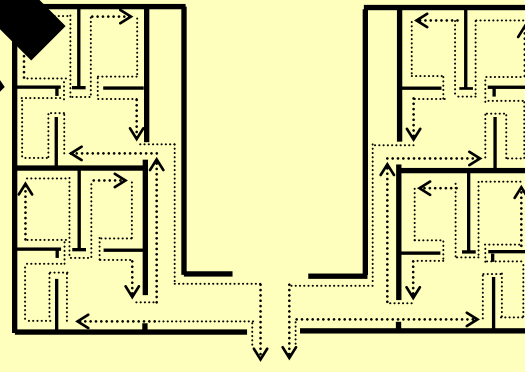
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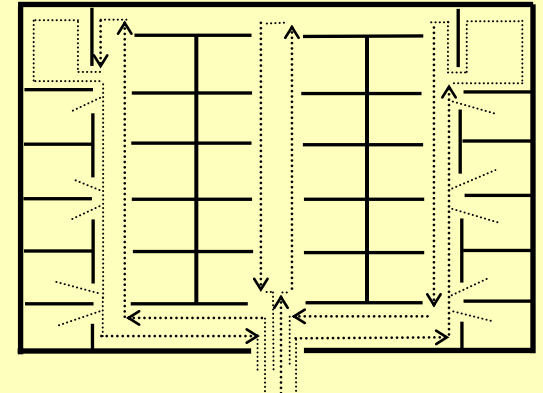
House



Apartment



Office Building



B Sort casualties for evaluation, treatment and transport. (Triage. "30, 2, Can Do")

A To know how well an engine is running, check the RPM.
To know how well an person is doing, check the RPMs.

→ **R**espiration Rate?

0 after opening airway twice.

≤30 but previously not breathing

>30. (Suspect chest injury or smoke inhalation.)

Perfusion?

Capillary refill **> 2** seconds or
no Radial Pulse. (Suspect internal bleeding.)

Mental Status

Can't follow simple commands. (Suspect head injury.)

Stay up by themselves?

(Suspect leg fracture, dislocation, sprain or strain.)

Yes

DEAD

**I
n
t
e
r
m
e
d
i
a
t
e**

Treat
for
Shock

**Delay
OK**

Minor

1st → Check
for
Injury.
Give
1st Aid.

Transport
(if possible)

Release

More

No

REVIEW

B

Basic Life Saving Intervention:

Burning, Buried, Bleeding, not Breathing.

A

Alive? Check **A**BCs of Life.

Airway (Open), Breathing (M²M), Circulation (CPR).

Size up building.

S

Smell, See, Shout-out, Shoot if, Suppress.

Size-up victims.

Spinal injuries. Skeletal injuries.

I

If evacuation required, **I**mmobilize long-bone injuries.

C

Carry nonmobile out.

S

Search for any missing.

Sort for triage, evaluation, treatment, transport.

FIRST AID

(Handout pages 6.)

- Do a Head-to-Toe exam looking & gently feeling for **DOTS:** (**D**eformities, **O**pen wounds, **T**enderness, **S**welling).

- Provide First Aid to family members. Offer to others. Use BSI* gear.

Head-Neck-Spine: Stabilize head in position found w padding.

Amputations: Tourniquet.

Abrasions: Clean & Cover.

Burns: Cool & Cover.

Cuts: Irrigate, Close & Cover.

Dislocations (Joint): Support & Ice.

Evisceration (Exposed organ): Plastic Wrap & warm blanket.

Fractures: Limb: Splint (Splice).

Pelvis: Tourniquet & Ice.

Hypothermia: Heat packs. Wrap. Warm sweet drink.

Impaled Object: Stabilize object with padding & tape. Don't remove.

Swelling (Sprain/Strain): Rest, Ice, Compress, Elevate (**RICE**).

Shock: Maintain normal body temp.

If BP <80 (no Brachial pulse), raise calves & feet.

If unresponsive, HAINES.

* BSI = Body Substance Isolation gear. (Eye shield, surgical or dust mask, Nitrile or Latex exam gloves.)

FIRST AID

(Handout pages 7.)

Splinting Fractures



1. Cardboard Splint



3. Secure splint.



2. Pad between splint and limb.

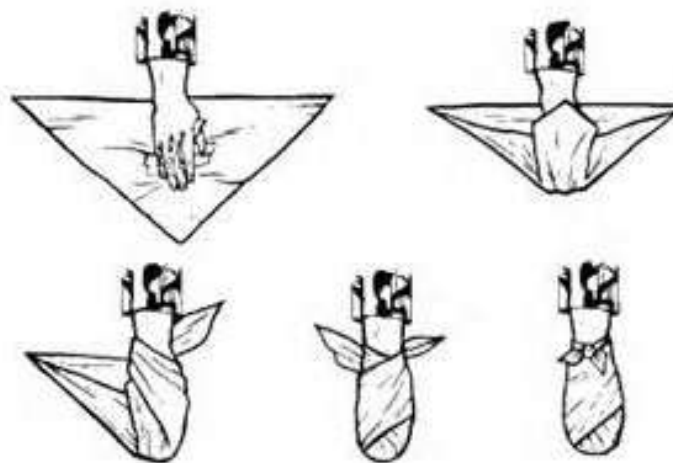
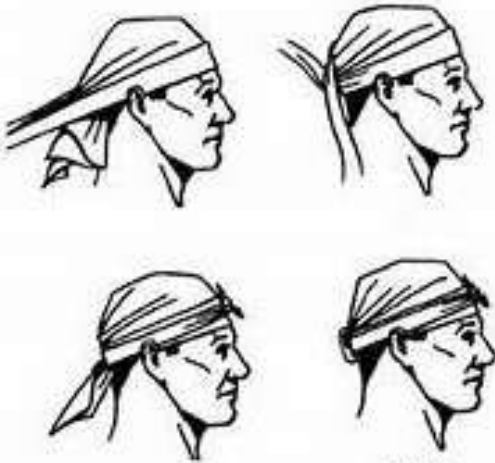


4. Verify Circulation.



5. Immobilized joints above & below.

Bandage = Many Uses



Option A.



Option B.



Status report to out-of-area contact. (Handout page 10.)

Emergency Plans and Notes

Safest, strongest location away from glass, hazardous materials, falling or flying objects at,

Home: _____

Work: _____

Building Evacuation Routes (Avoid potential hazards: exits with glass overhead, outside areas near power lines, etc.):

Home, 1st Choice: _____

2nd Choice: _____

Work, 1st Choice: _____

2nd Choice: _____

Emergency Assistance (enter address and direct phone number of nearest):

Hospital: _____

Fire Station: _____, Use buzzer or Red phone by front door, or leave note on gate.

Police Station: _____

Out-of-Area Contacts: 1. _____

2. _____

Out-of-Area Meet-Up Place: _____

(In case your home area is not safe and phone contact is not possible.) _____

Area Evacuation Routes (Avoid Freeways and major highways.):

1st Choice: _____

2nd Choice: _____

Neighborhood Emergency Response Team's Command Center: _____

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Post-Disaster Survival

(Handout page 8)

(Optional section)

Survival Skills

1. PERSONAL

Do's and Don'ts.

2. SHELTER

Securing, Finding or Building

3. FIRE STARTING (Heating, Cooking)

Methods.

4. WATER

Filtration, De-chlorination, Desalination, Disinfection, Purification.

5. FOOD

Finding, Snaring, Trapping.

6. COOKING

Methods to reduce fuel and odor.

7. SANITATION

Collection & disposal.

8. COMMUNICATION

Possible methods.

9. INFORMATION

Sources.

10 SECURITY

Best methods

11. FIGHT OR FLIGHT

Travel on foot at night by star or red light.

1. PERSONAL

Don't

- Panic.
- Sweat.
- Get Cold.
- Get Tired.
- Brag about your preparedness.

Do

- Think.
- Hydrate.
- Rest.
- Hide.
- Be Quiet.

2. SHELTER

If your home is habitable, Secure it.

- Board up front entrances.
- Lock gates.
- Opaque windows.
- Silence dogs.
- Make front yard look like house already raided.

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2. SHELTER

Find.

Red Cross Shelter (Park Rec Centers, Auditoriums, etc.)
Churches.

Build.

Principles:

- Dry.
- Preserves body heat.
- Defensible.

Methods (best to worst):

1. Block off structurally-stable section of home with plywood, "Space blankets", plastic sheeting, etc.
2. Tarp.
3. Lean-to (Erect a campfire if hypothermic).
4. South-facing wall + cardboard/debris/brush wind-barrier.
5. Layered clothing & poncho.

3. FIRE STARTING

Magnesium Spark Generator.



Gum Wrapper & Battery.



Magnifying or Reading glasses & sunlight.



Bow & Spindle.



3. FIRE STARTING

My All-Time Favorites

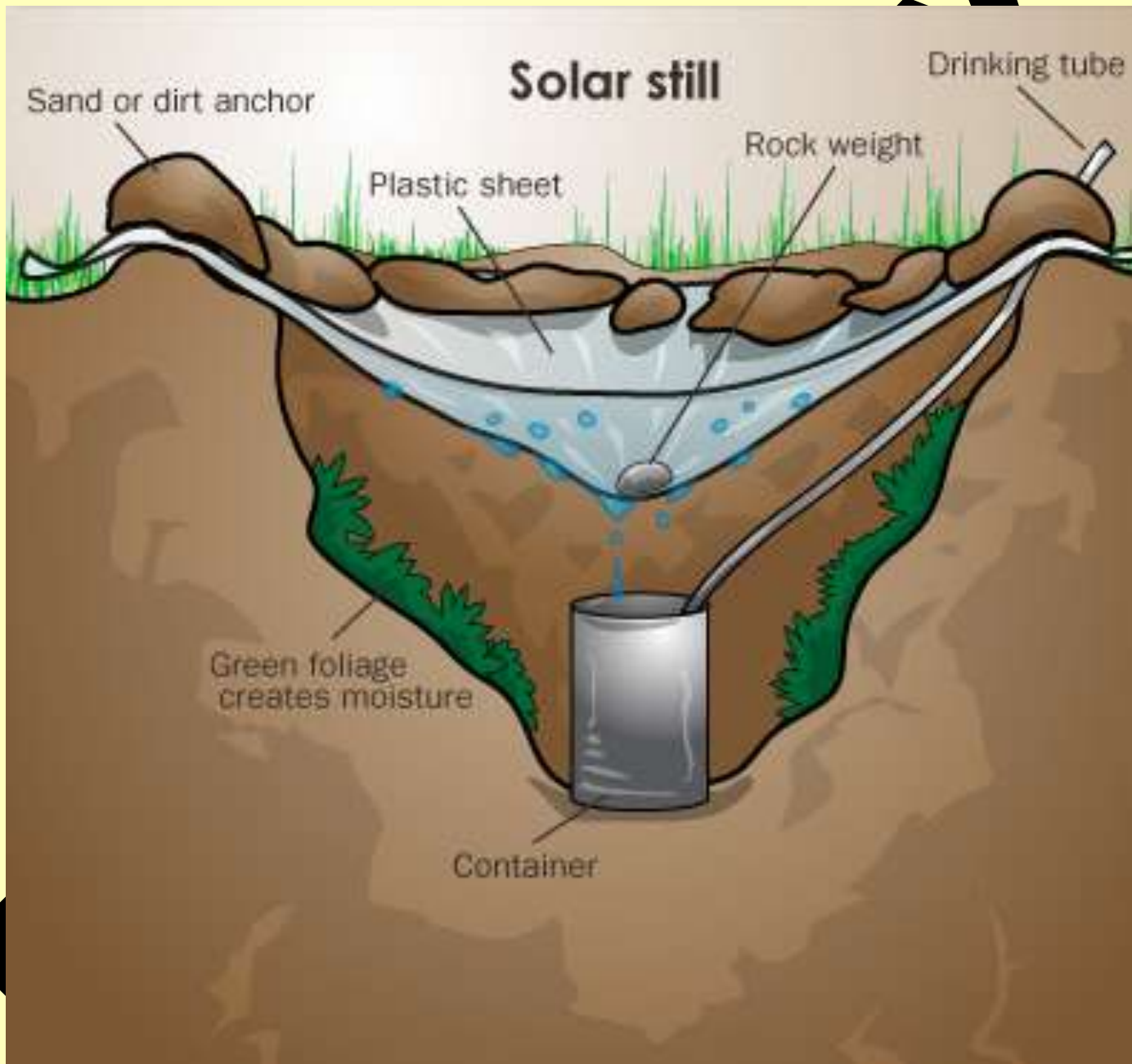
Waterproof Matches



Cigarette Lighter



4. WATER ACQUISITION - Solar Well.



4. WATER PURIFICATION METHODS - Solar Still.

1.



5.



2.



3.

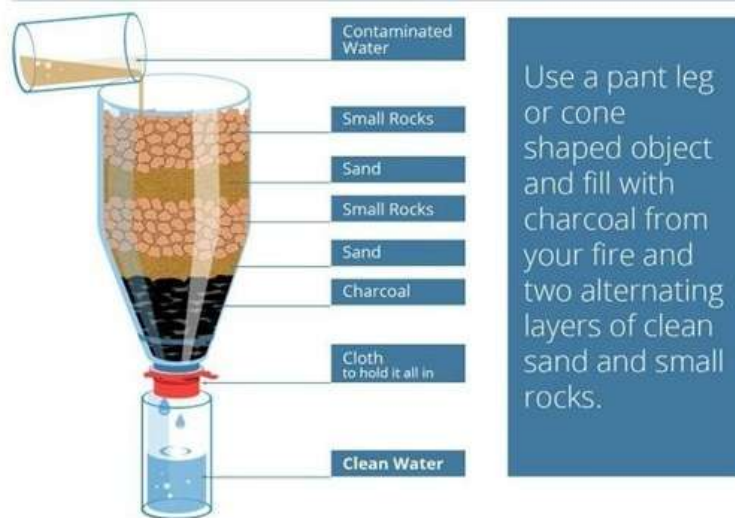


4.



4. WATER PURIFICATION METHODS.

Filter



Removes debris, chemicals & chemicals.

Disinfect w/ Iodine / Bleach.

Iodine tablets or Chlorine drops are effective at killing bacteria in the water but may result in an undesirable taste.



10 drops unscented bleach / gallon if water clear, 16 drops if cloudy. Stir. Let stand 30 minutes. Kills bacteria & viruses.

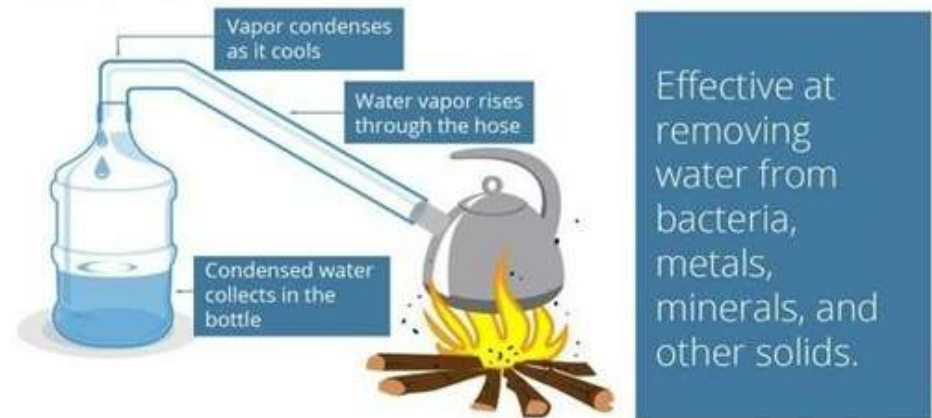
Disinfect by Boiling.

- Boil water for 5 minutes to be sure all bacteria is dead.
- Boiling will NOT remove minerals, solids, or metals in the water.



**Kills bacteria & viruses.
(Pasteurization (160° for 10 minutes) kills most.)**

Disinfect & Purify by Distilling.



Kills bacteria, virus. Remove salt, heavy metals.

4. WATER PURIFICATION METHODS



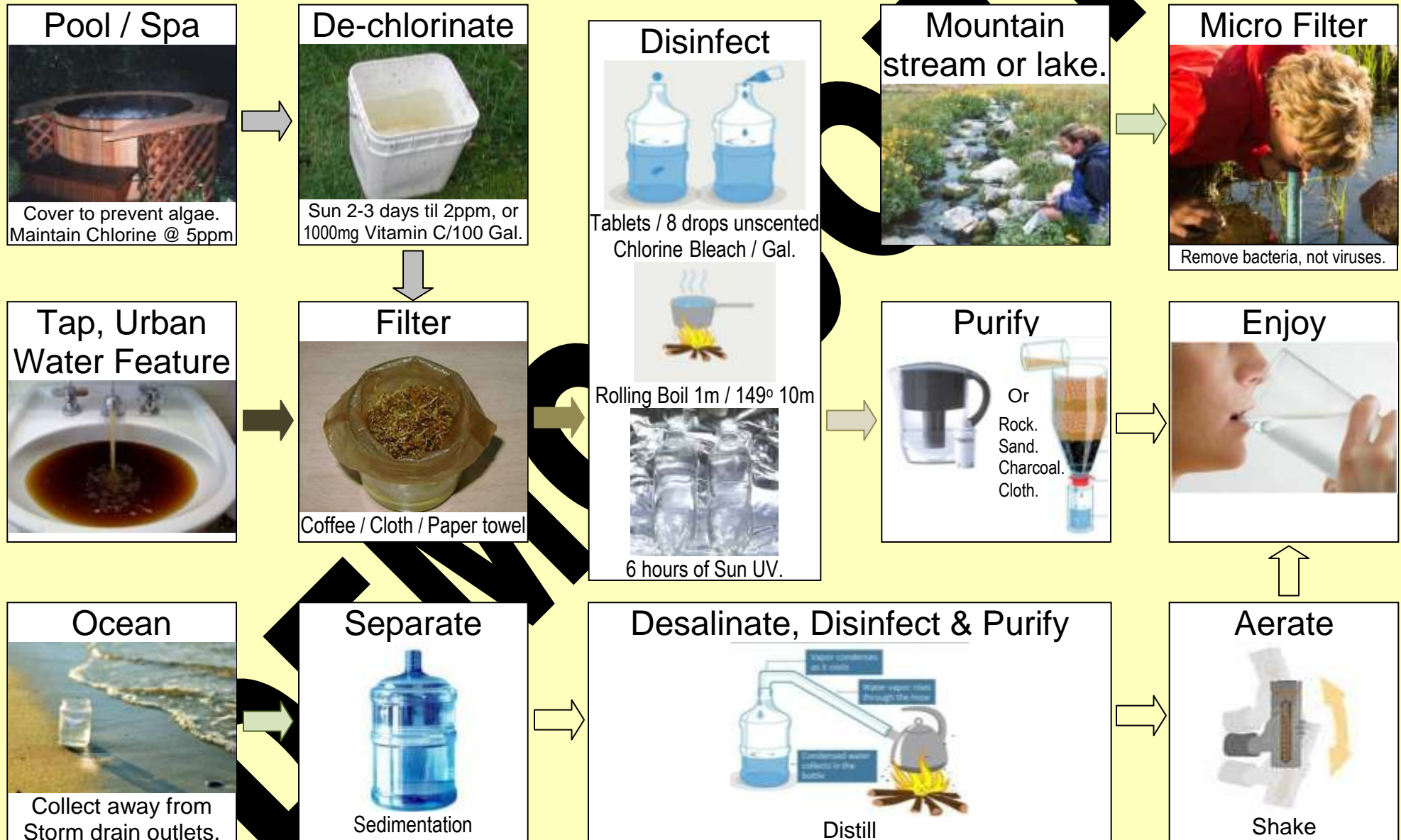
- Filters at least 1,000 liters of water (264 gallons).
- Removes up to 99.9999 percent of waterborne bacteria.
- Removes up to 99.9 percent of waterborne protozoan cysts. (parasite)
- Reduces turbidity by filtering particles of approx 0.2 microns. (bacteria)
- **Does not remove viruses. Use only in wilderness/backcountry.**

(A 0.02 micron pump filter is needed to remove viruses.)

4. WATER PURIFICATION PROCEDURES.

(In case you didn't stock enough or the City doesn't provide. Handout page 9.)

50% - 75% of human body is water. 1% loss = mental & physical performance decline. Thirst = 3% loss. Drink no water for 4 days. Drink bad water, die in 3.



5. FOOD

Consume stored food in following order:

- 1.Refrigerated
- 2.Frozen
- 3.Canned
- 4.Freeze-Dried.

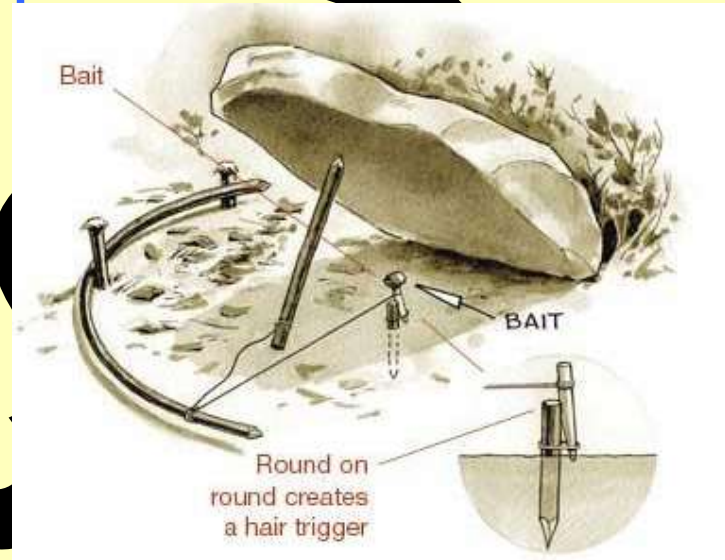
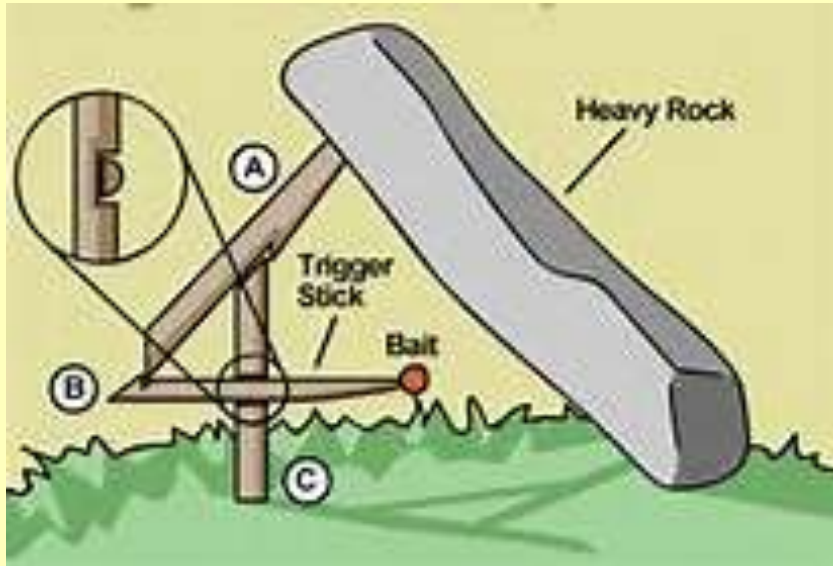
Minimize smoke and odor during preparation.

- 1.Solar Oven
- 2.Propane
- 3.Charcoal
- 4.Old dry wood versus new wet wood.

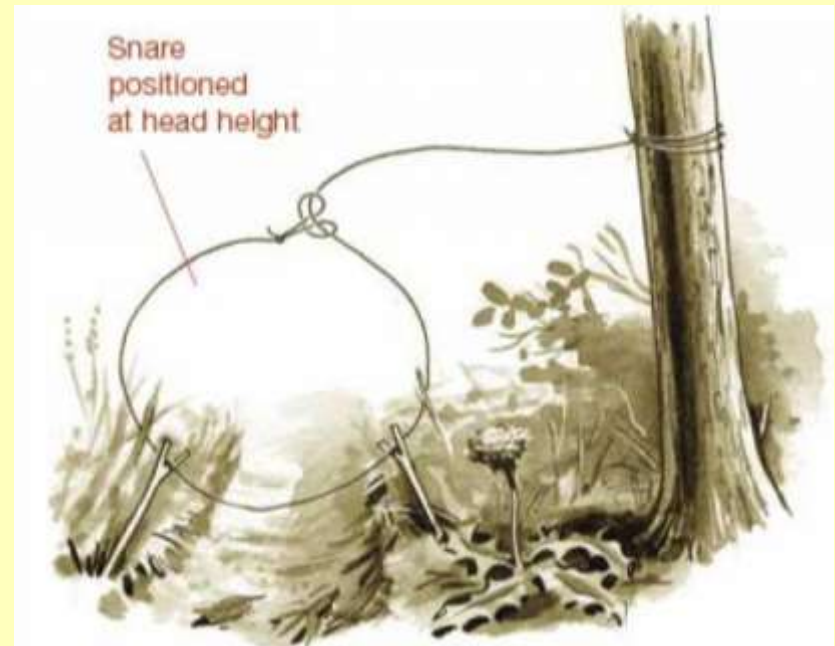
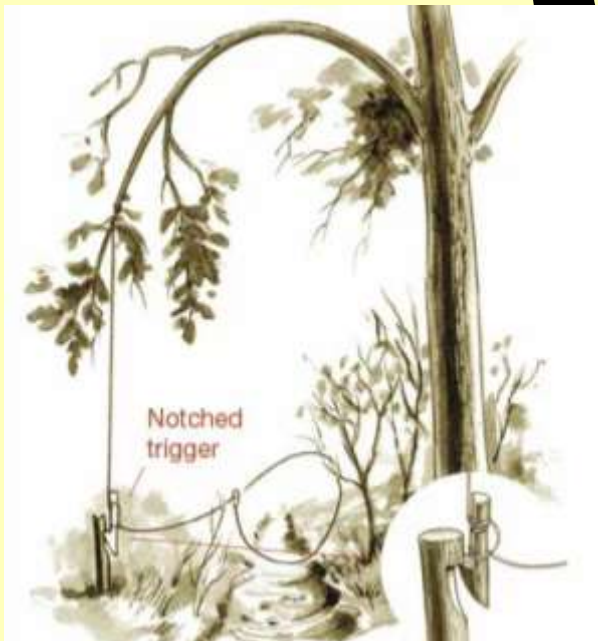
5. FOOD ACQUISITION - Dead-Fall Trap

(In case you didn't stock enough.)

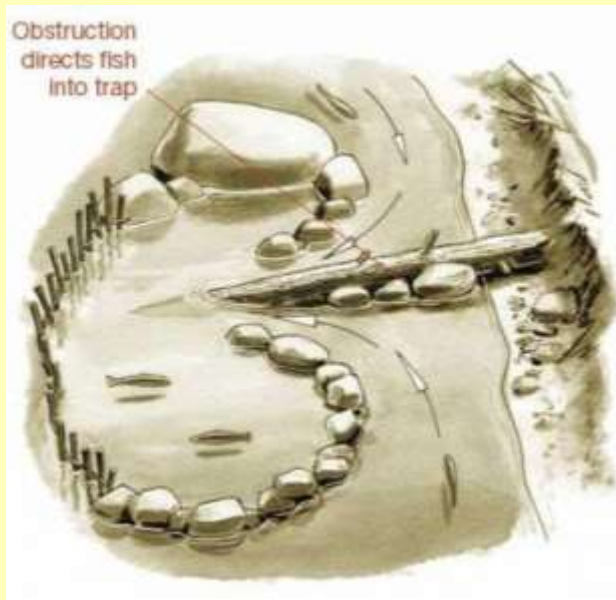
Dead-fall Traps



Snares



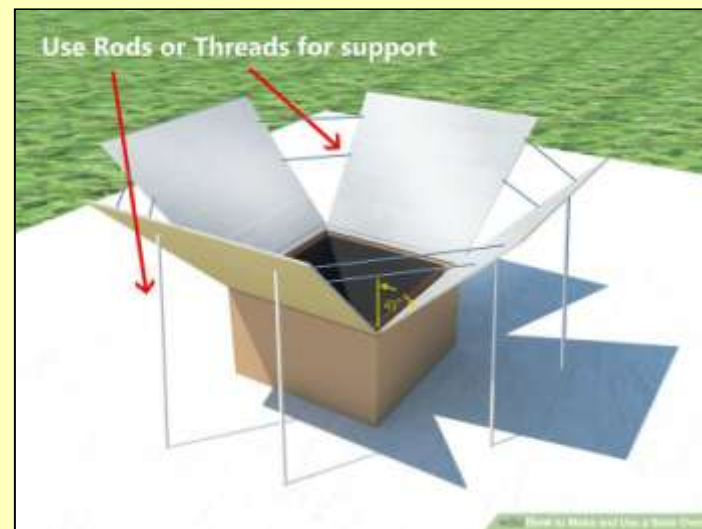
5. FOOD ACQUISITION - Fish Traps



6. COOKING - Solar Oven

1. Cover inside of small box with aluminum foil.
2. Cover flaps of large box with aluminum foil.
3. Place small box inside large box adding crumple or shredded paper to insulate.
4. Place a grate or 3 rocks in small box to hold pot off bottom for heat circulation.
5. Put food in black pot.
6. Put pot on grate or rocks.
7. Cover small box with glass or plastic wrap.
8. Adjust flaps periodically to let sun's rays reflected onto pot.
9. Cook twice as long as usual.

(Minimize movement & odder)



<http://www.wikihow.com/Make-and-Use-a-Solar-Oven>

7. Sanitation*

If Flow, Flush!

(After collecting good water from tank and pipes.)



If Pool, Pour!

(Can also use Rain Barrel water.)



No Water, Use Litter!

(After lining toilet bowl with trash bag.)
(May also use ashes from campfire.)

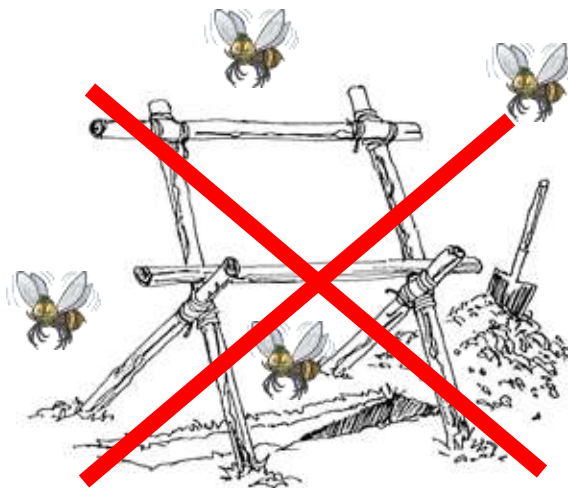


Unlucky, use Bucky!

(If home not safe.)



Latrines are obscene in a urban scene!



Seal & bury or contain Waste!

(Bury under least 1 foot or dirt.)
(Authorities may pick up.)



* Diaper wipes will be better than toilet paper.
Wash hands in Sterile Water (1 Tbsp Bleach/Gal) or Pearl.

8. Communication

Most Convenient to Most Reliable (maybe):

- 1. Corded Phone connected to non-cable land line.**
- 2. Cell phone Text message.**
- 3. Cell phone Voice.**
- 4. FRS Radio**
- 5. GMRS Radio**
- 6. Ham Radio**
- 7. Runner**

9. Information

Have a Solar/Crank-chargeable Radio for News

- Road conditions.
- Food & water locations.
- Shelter locations.
- Civil-unrest threats.
- Transportation options.

Register Cell number with:

- NotifyLA (Sign up at <http://emergency.lacity.org/notifyla>), or
Text "Ready" to 888-777, or @NotifyLA on Twitter.)
- Alert-LA (Sign up at <http://www.lacounty.gov/emergency/alert-la/>)

10. Security

Close-Range Self-defense,
1 Hand gun per adult,
sized to fit user's hand.

.38 caliber minimum.

.38 Hollow-point bullets = .45 caliber Stopping Power.
Revolvers more reliable than Semiautomatic Pistols.
Double-action faster than Single Action.
Laser Sighted best in home.



Home, Food & water defense,
1 shotgun,

Pump-action cheaper, more reliable than automatic.
20 gauge minimum.
Birdshot Shotgun carry but still Loud.
Short Wood & Barrel best inside.
Don't load chamber until needed.



11. Fight or Flight

Stay (& fight) after:

- **Biological Events.**
- **Earthquakes**
- **Nuclear Events.**
- **Tornados**

Safer in your home than outside or on the road.

Evacuate before:

Fire Storms
Hurricanes
Tsunamis

**If Civil-unrest become too dangerous,
Travel on foot at night by star light may be necessary.**

Follow-On Training Opportunities

A. Community Emergency Response Training.

- Personal response at a Mass Casualty Incident.
(Work or public place.)
- Concept oriented.

B. Neighborhood Emergency Response Team Training.

- Personal Response at Home, Business or MCI.
- Team Response to Neighborhood.
 - Downed power-lines.
 - Ruptured gas or water mains.
 - Unsafe roads.
 - Hazardous Materials.
 - Large Fire containment.
 - Urban Search & Rescue - Moderate & Light.
 - Advanced First Aid & Life Support.
 - Patient Transport.
- Procedure oriented. GuideBook w one-page Guides/job.

Why you need a NERT

After an major disaster, Emergency services will deploy to:

1. Hospitals
2. Schools
3. Businesses
4. Shopping malls
5. High-occupancy residential.

**Not to single-family residential.
We must take care of ourselves!**

**A Neighborhood Emergency Response Team
is your best chance of rescue
if you are injured or trapped.**

NERT Training

Includes:

- Neighborhood Command Center Operations.
- Neighborhood Damage Assessment.
- Managing the 8 typical neighborhood incidents.
- Large Fire Containment.
- Urban Search & Rescue.
- When and how to force entry.
- Rapid Trauma Assessment before moving a patient.
- Non-injurious patient lifts and extraction methods.
- Use of backboards, scoop stretchers, extraction straps.
- Advanced injury assessment, First Aid & Life Support.
- Patient Transport.

Done by Team:

- Command, Damage Assessment, Search & Rescue, Medical, Transport.
- 2 to 8 hours per Team on Saturdays/Sundays.

www.HilltopHERO.org