

Disaster

Survival

Seminar

Topics

- **Types of Disasters**
- **Disaster Survival**
 - 1. Pre-Disaster Preparation**
 - 2. Mid-Disaster Action Plans**
 - 3. Post-Disaster Life Saving**
 - 4. Aftermath Survival Skills**

Attendees have received an email copy of this presentation & can buy a [*Disaster Survival Guide*](#) (\$2) so note-taking is not required.

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 will 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.

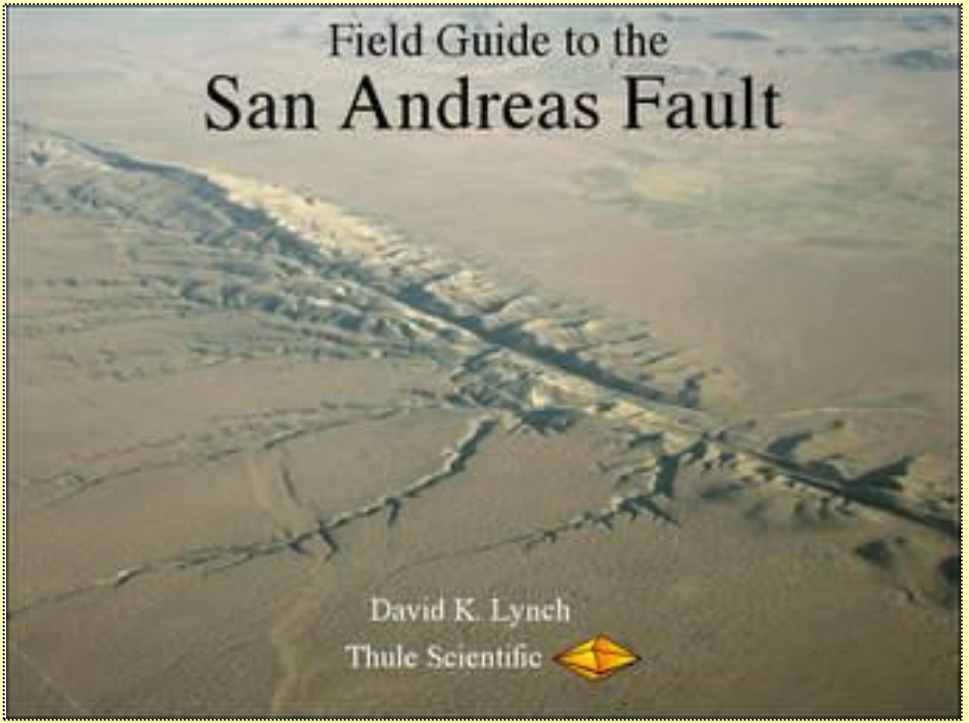
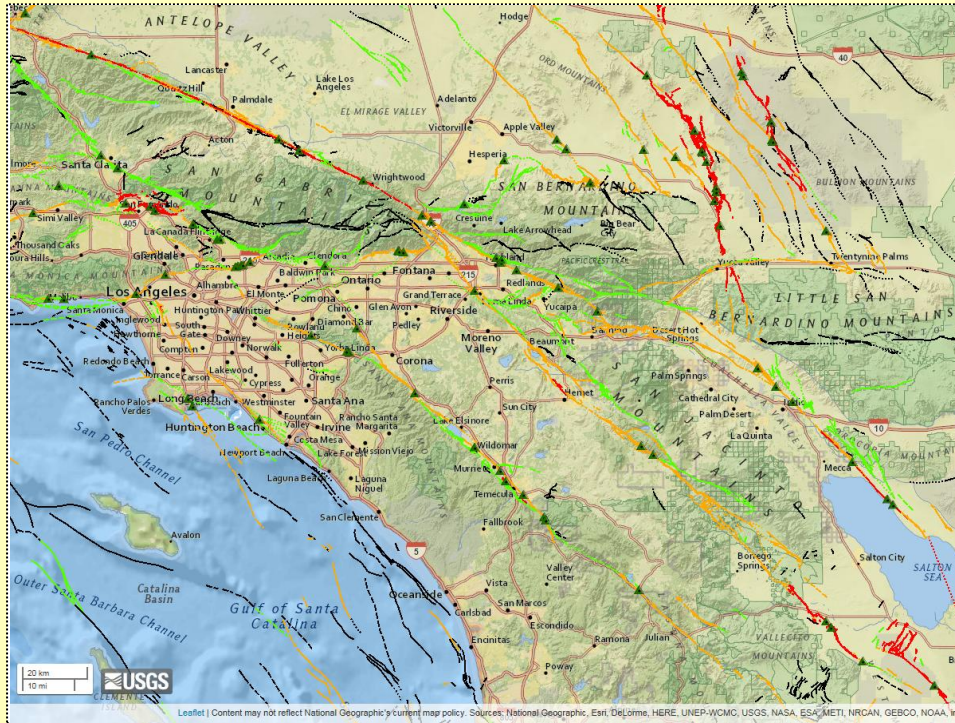
Types of Disasters

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

Earthquakes



San Andreas Fault



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

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

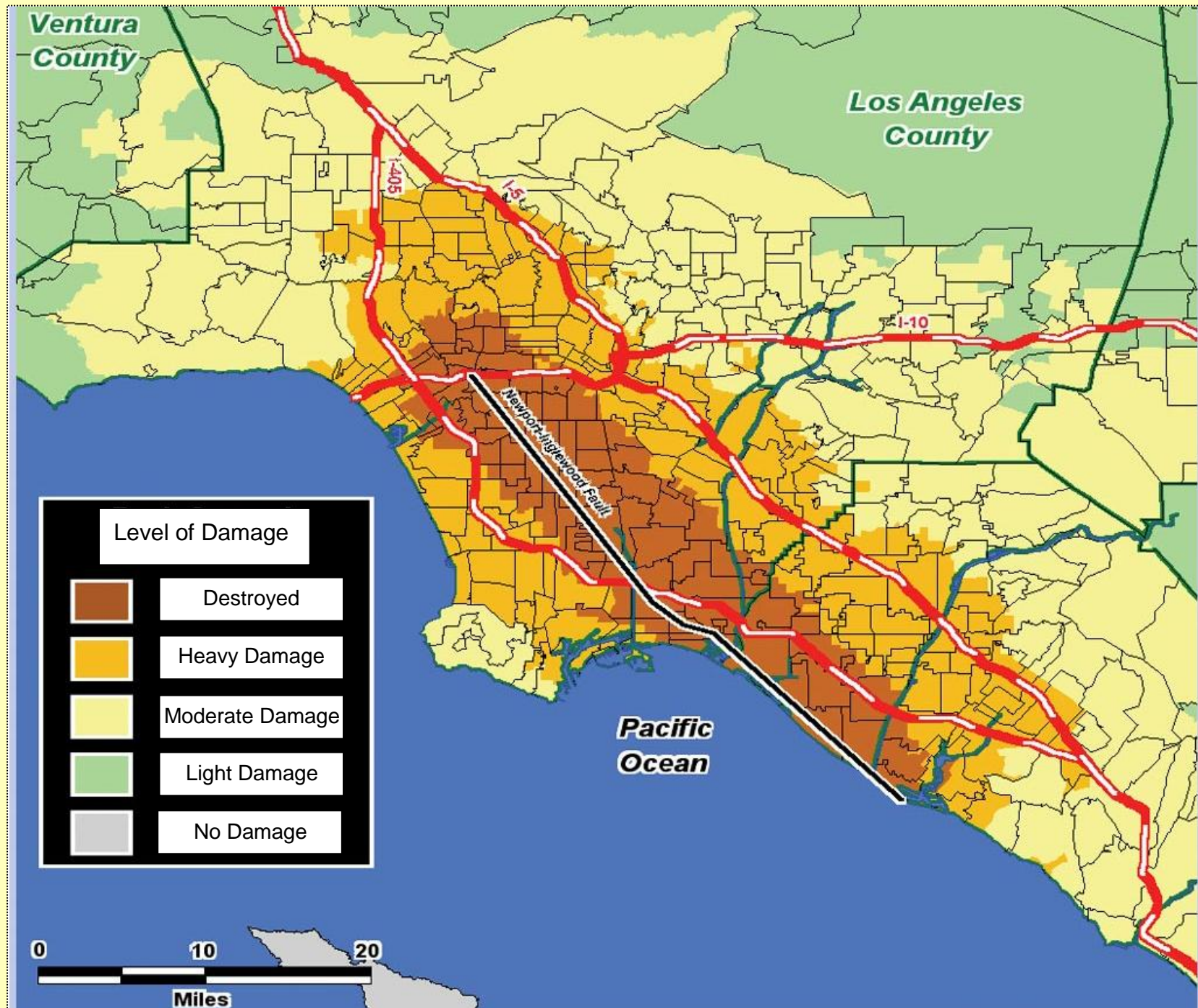
**The last eruption was
300 years ago.**

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

**The last eruption was
300 years ago.**

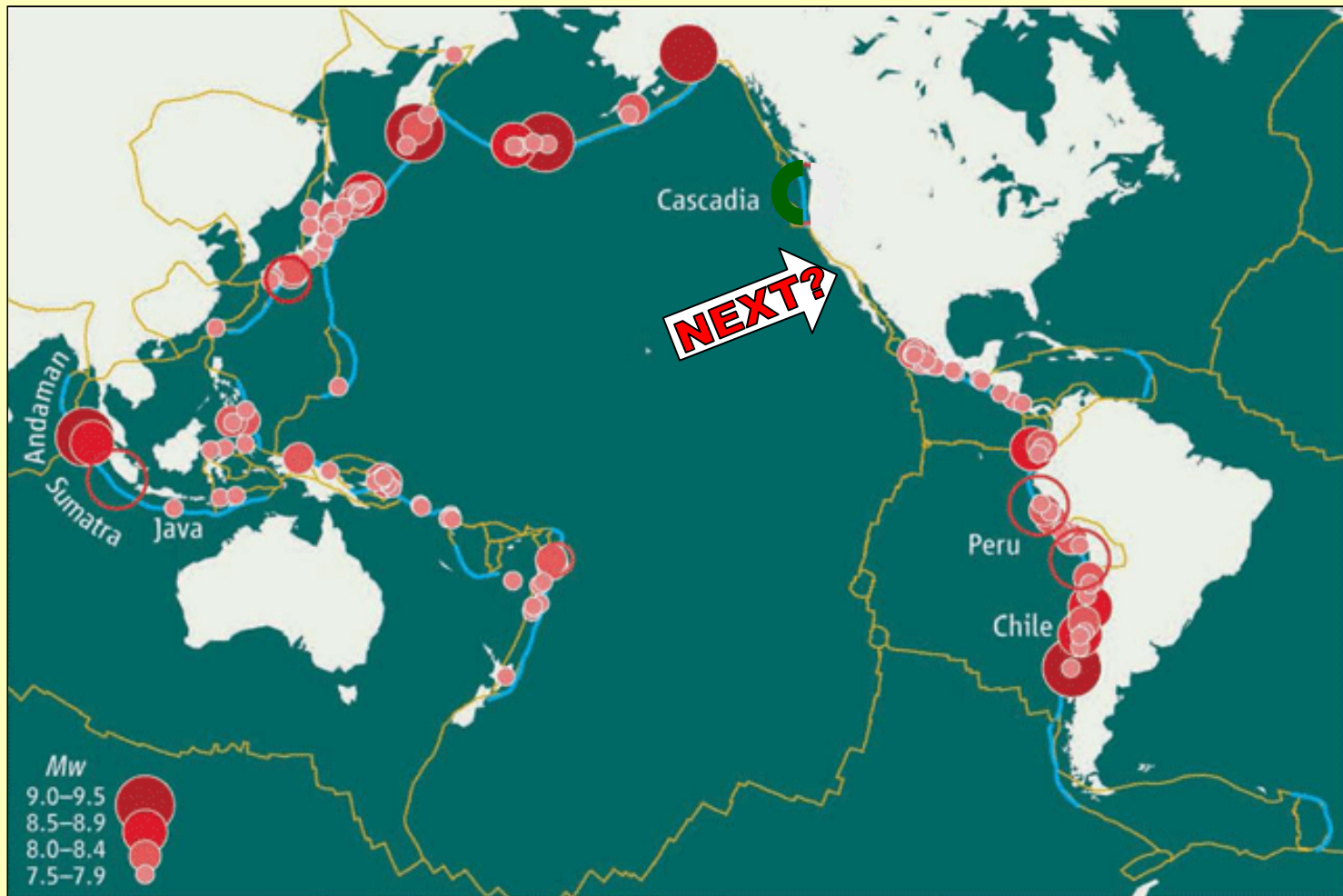
We are 150 years over due!

Newport-Inglewood Fault



When will it happen?

Since the 1994 moderate Northridge quake, major* quakes have occurred at all points around the Pacific Plate, ... 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	0:20 _{seconds}	1 Foot ₁
"Big One"	(7.8 - 8.3) ₂	3 _{minutes} : 20 _{seconds} ²	36 Feet ₂
Newport-Inglewood	(7.0 - 7.3)	?	?

(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.)

- 10 Skyscrapers collapse.
- 1,500 Buildings collapse.
- 300,000 Buildings severely damaged.
- 1600 Fires, some taking out entire blocks.
- \$213,000,000,000 (\$213 Billion) in damages.
- 1,800 Dead (Northridge: 57)
- 53,000 injured needing emergency care. (Northridge: 174)
- 2.6 Million needing First Aid [est.] (Northridge: 8700)
- 255,000 Homeless
- Sever water supply aqueducts & food delivery highways.
- No electricity or phones for hours to days.
- No food or gas for days to weeks.
- No water for weeks to months.
- Civil Unrest may become rampant.

Pre-Disaster Preparation

(Handout page 2)

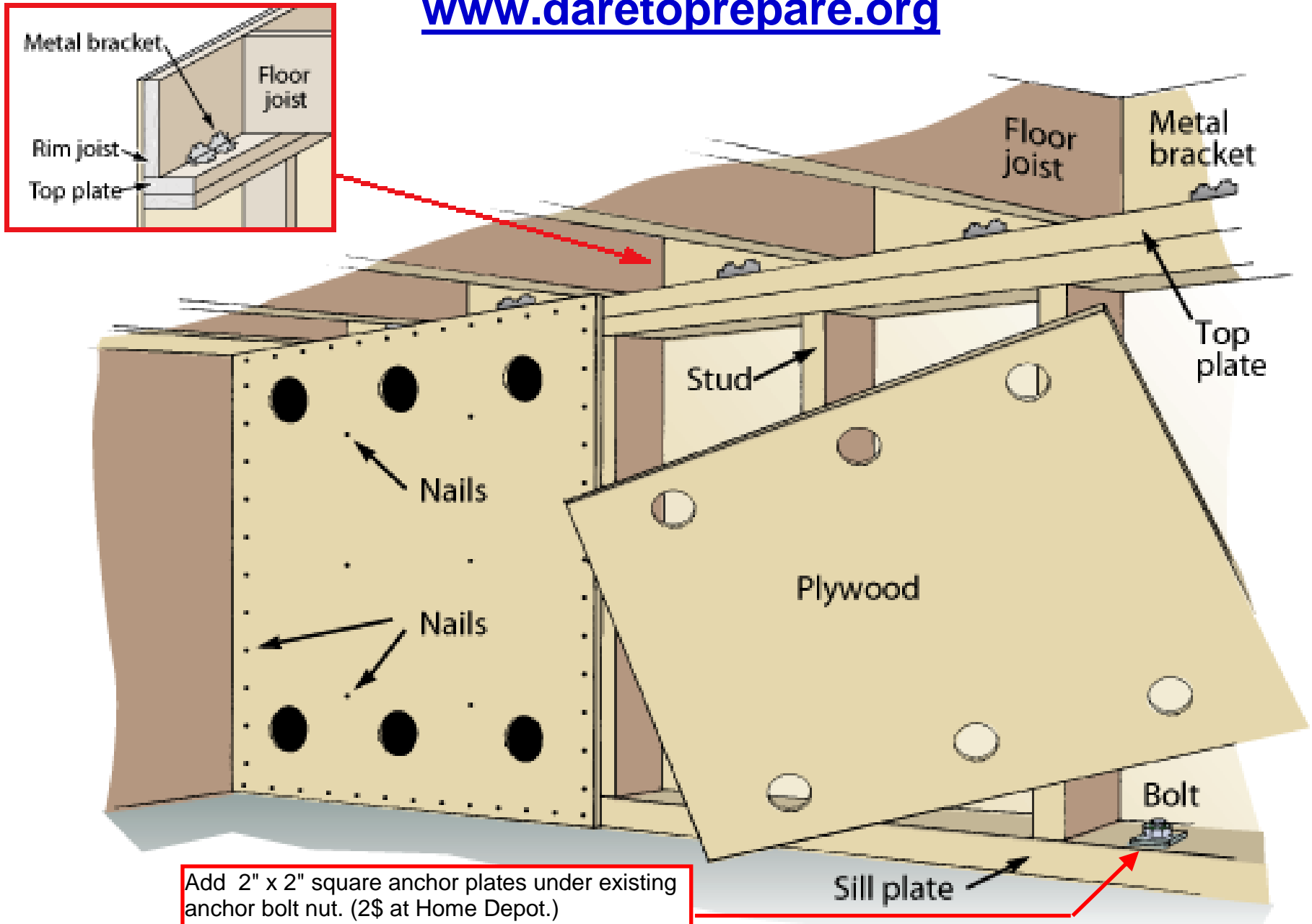
Why Prepare?

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

- 10 Skyscrapers collapse.
- 1,500 Buildings collapse.
- **300,000 Buildings severely damaged.**
- 1600 Fires, some taking out entire blocks.
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- **No water for weeks to months.**
- **Civil Unrest may become rampant.**

Harden your Home.

www.daretoprepare.org

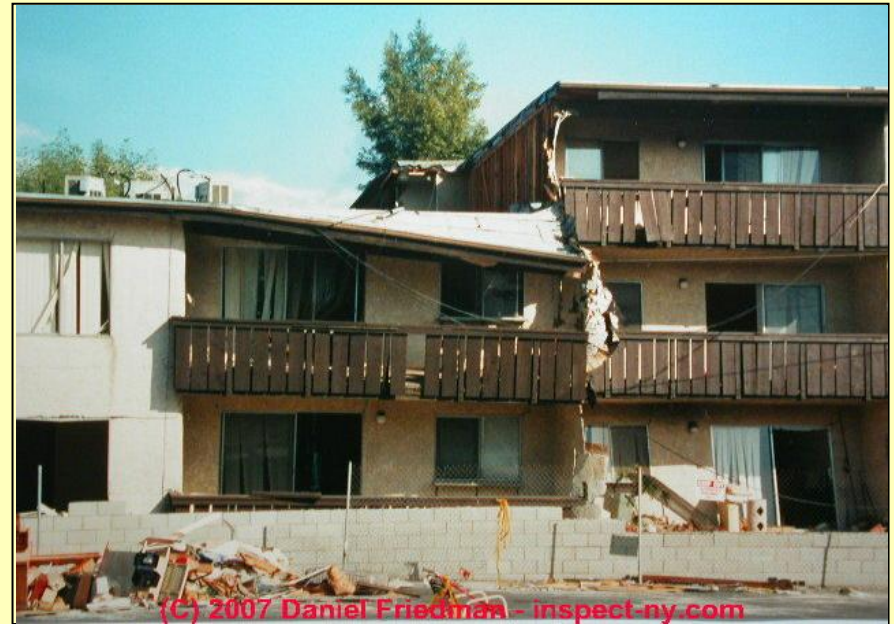


Harden your Home.



Reinforce or replace masonry chimney with prefabricated metal chimney.

Soft-First Story Buildings.



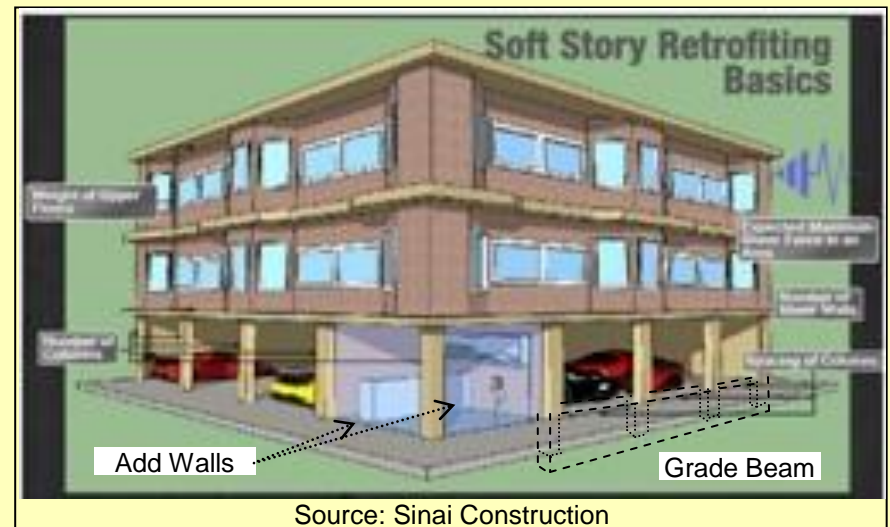
16 people killed when soft first-story collapsed.

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

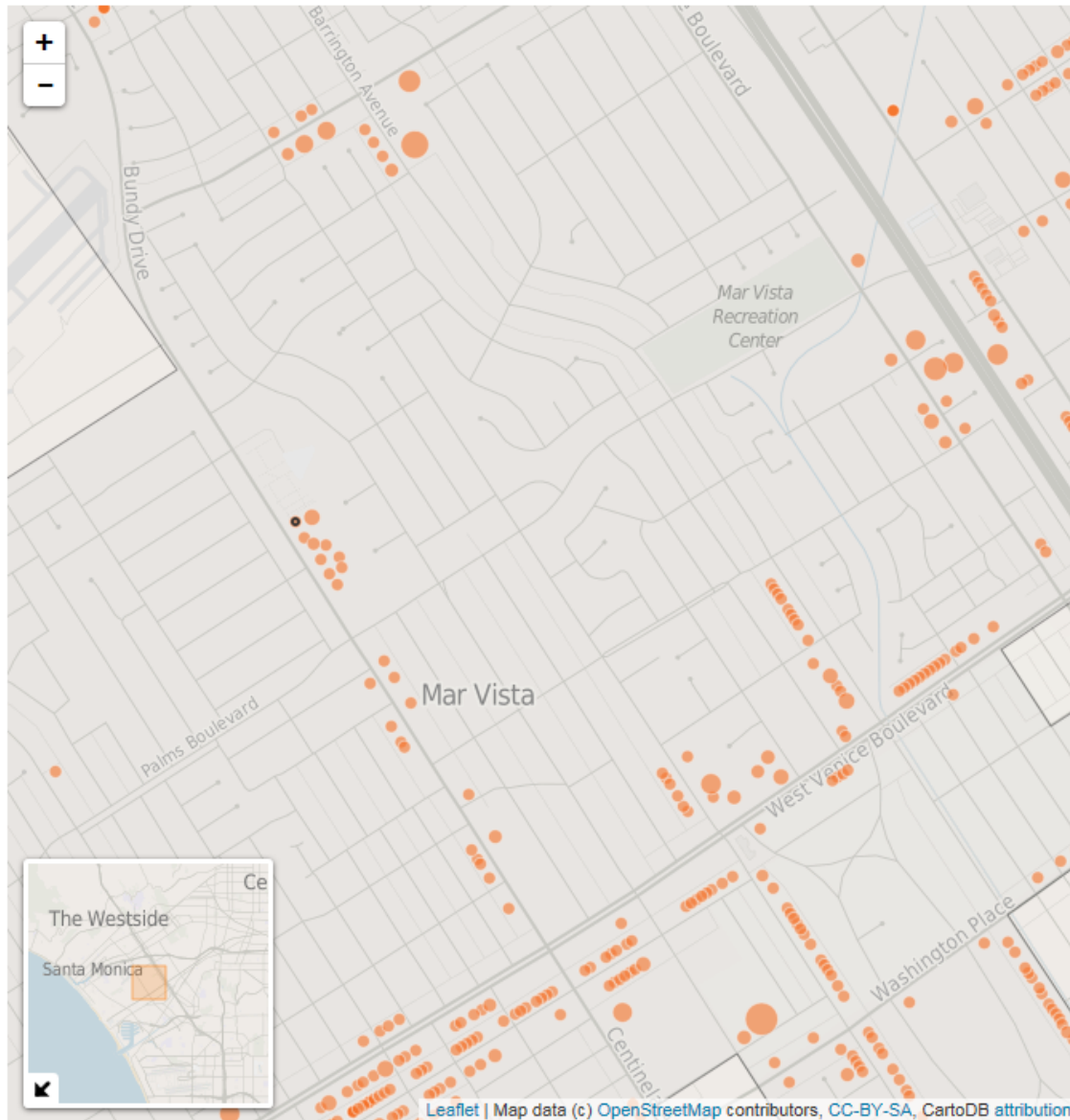
- Tuck-under parking,
- Garage doors vs. shear-walls, or
- Retail display windows.

A 2015 Ordinance requires reinforcement by 2022.

Ensure retrofit done, ... or move.



Soft-First Story Buildings - Mar Vista



34 addresses on Centinela

Addresses are listed the way the city provided them to the Times

< 1 / 3 >

3378 S CENTINELA AVE Los Angeles, CA 90066

3388 S CENTINELA AVE Los Angeles, CA 90066

3400 S CENTINELA AVE Los Angeles, CA 90066

3404 S CENTINELA AVE Los Angeles, CA 90066

3412 S CENTINELA AVE Los Angeles, CA 90066

3418 S CENTINELA AVE Los Angeles, CA 90066

3424 S CENTINELA AVE Los Angeles, CA 90066

3430 S CENTINELA AVE Los Angeles, CA 90066

3434 S CENTINELA AVE Los Angeles, CA 90066

3442 S CENTINELA AVE Los Angeles, CA 90066

3526 S CENTINELA AVE Los Angeles, CA 90066

3527 S CENTINELA AVE Los Angeles, CA 90066

3540 S CENTINELA AVE Los Angeles, CA 90066

3560 S CENTINELA AVE Los Angeles, CA 90066

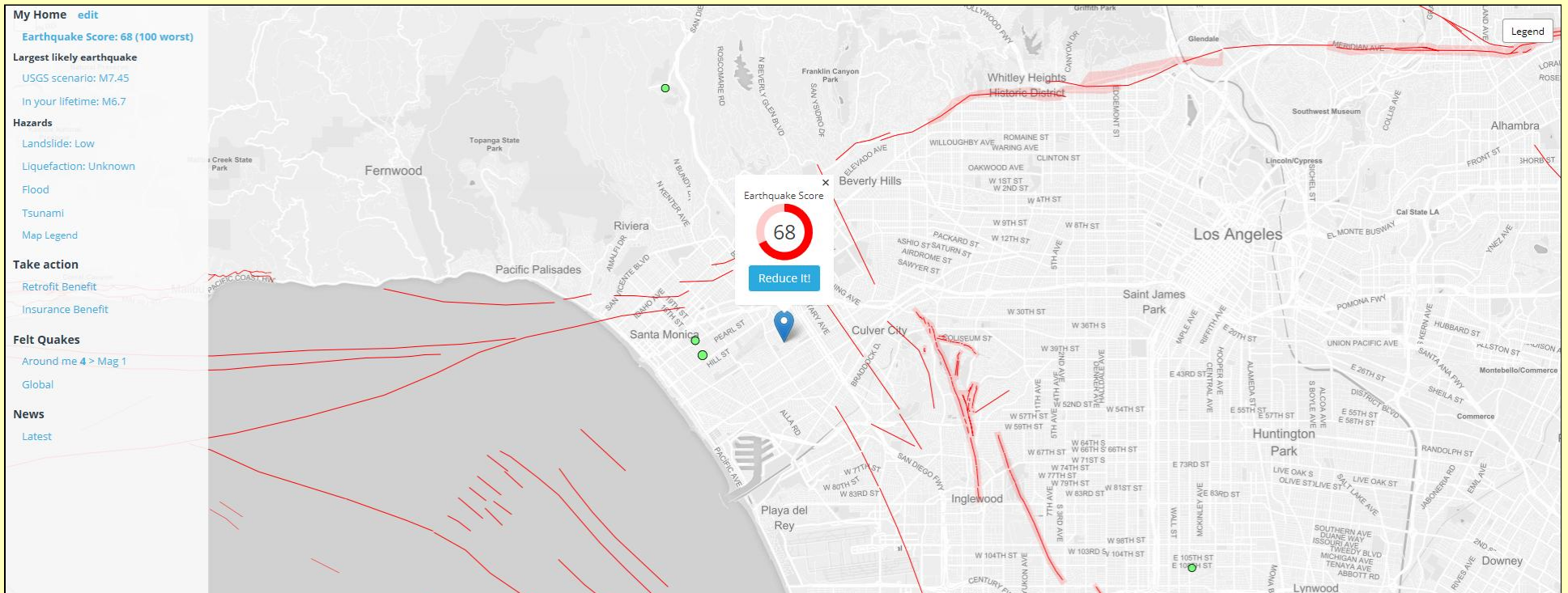
3565 S CENTINELA AVE Los Angeles, CA 90066

Note: Locations and unit sizes are based on L.A. County assessor parcel records.

Sources: Los Angeles Department of Building and Safety, L.A. County Assessor
[Download the addresses](#)

<http://graphics.latimes.com/soft-story-apartments-needing-retrofit/>

Check Your Risks at www.Temblor.net



My estimated out-of-pocket costs in my largest likely quake

\$118,000

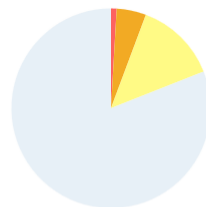
Safety concerns: Moderate chance of injuries

Recovery expectation: Within weeks to months

Based on scenario earthquake with magnitude 7.45 and on the fault Compton fault

DAMAGE

My out-of-pocket costs from likely quakes anytime in 15 years is low



- \$390,000 of damage: 1 in 111
- \$90,000 of damage: 1 in 21
- \$30,000 of damage: 1 in 8
- No struct. damage: 8 in 10

For an earthquake insurance policy with a 15% deductible, you would have a 1 in 26 chance of receiving a payout

Pre-1980 Concrete-Building.



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.



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

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 can 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 fine furniture.



Available from DreamBaby.com

Unsecured Objects can become Airborne Missiles.



Earthquake Putty or Remove Them.



Glass Doors, Windows, Mirrors may Shatter.

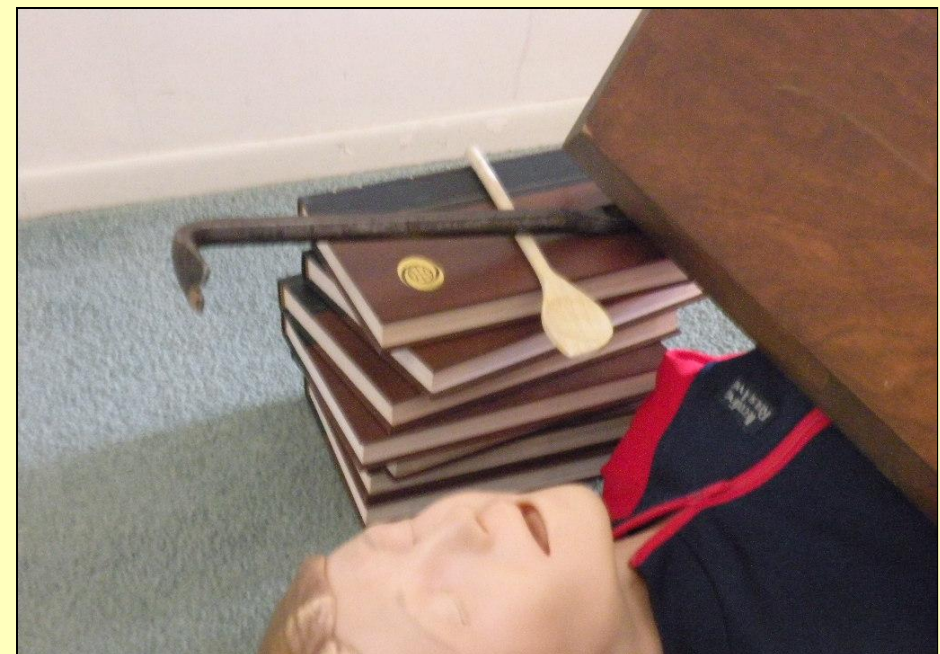
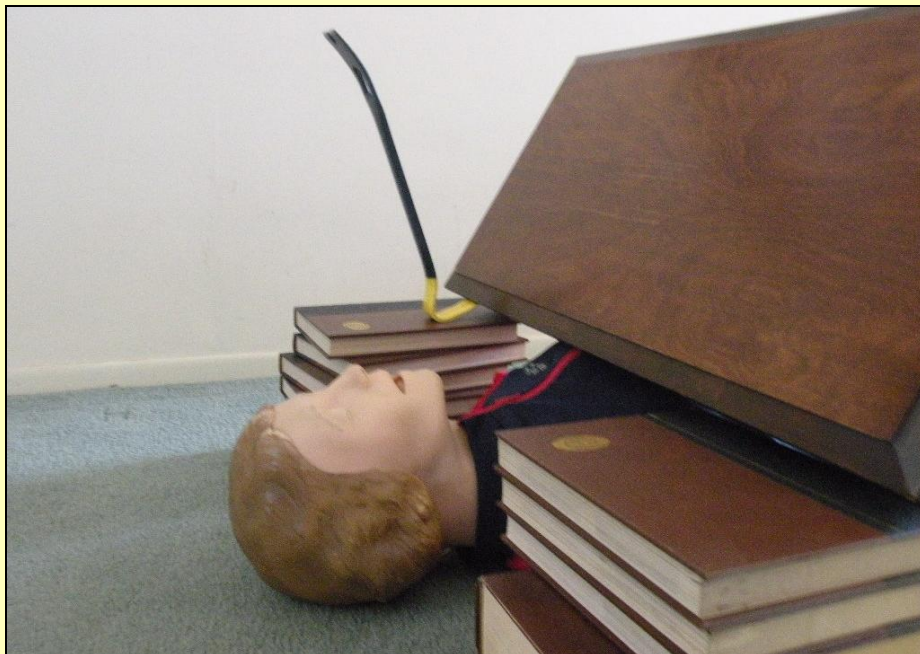
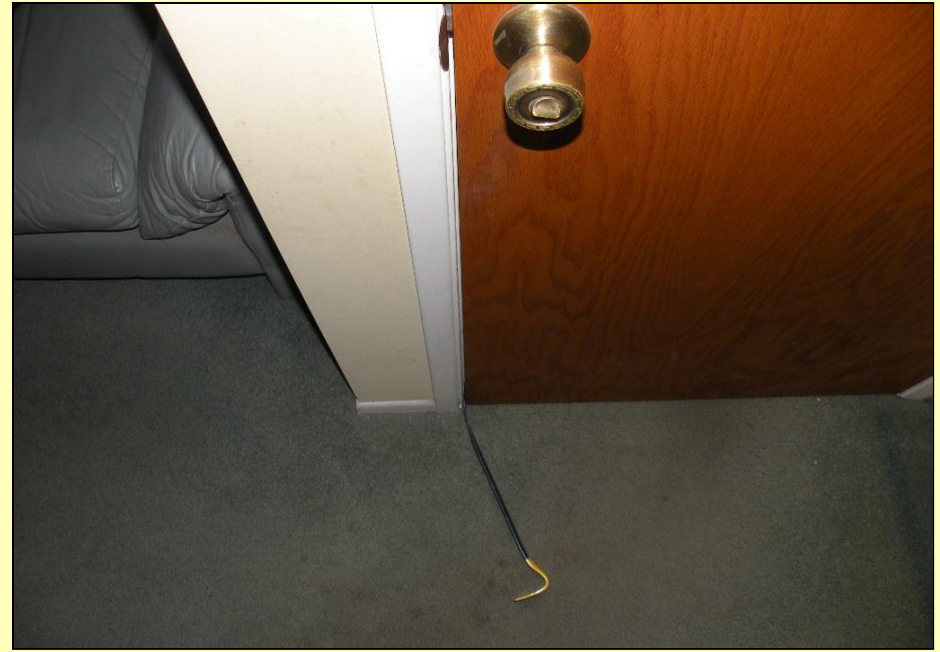


Keep Hard-soled Shoes & Flashlight near bed.

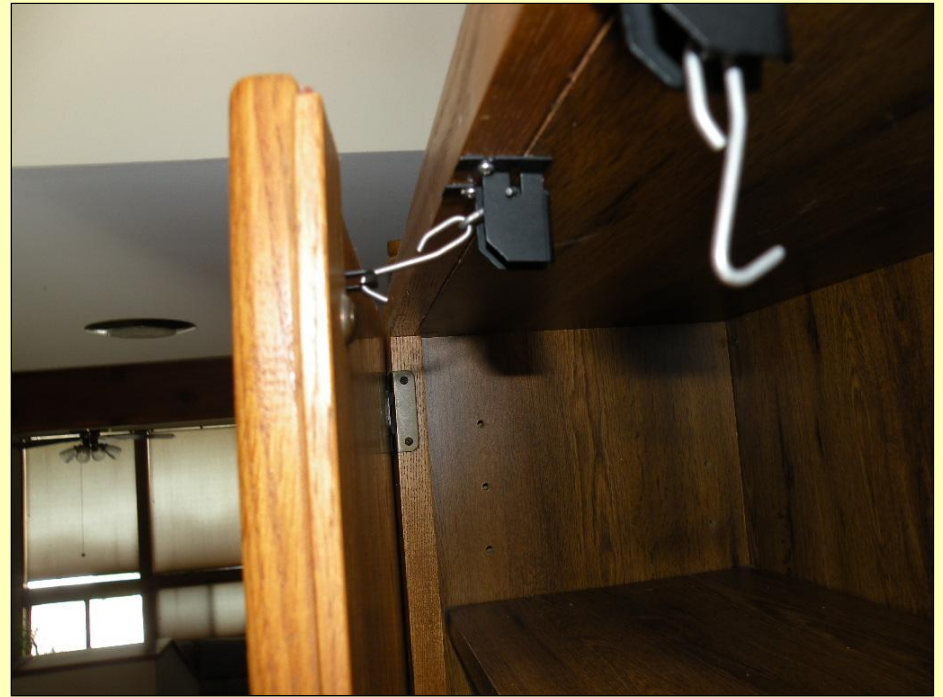


Doors may jam.

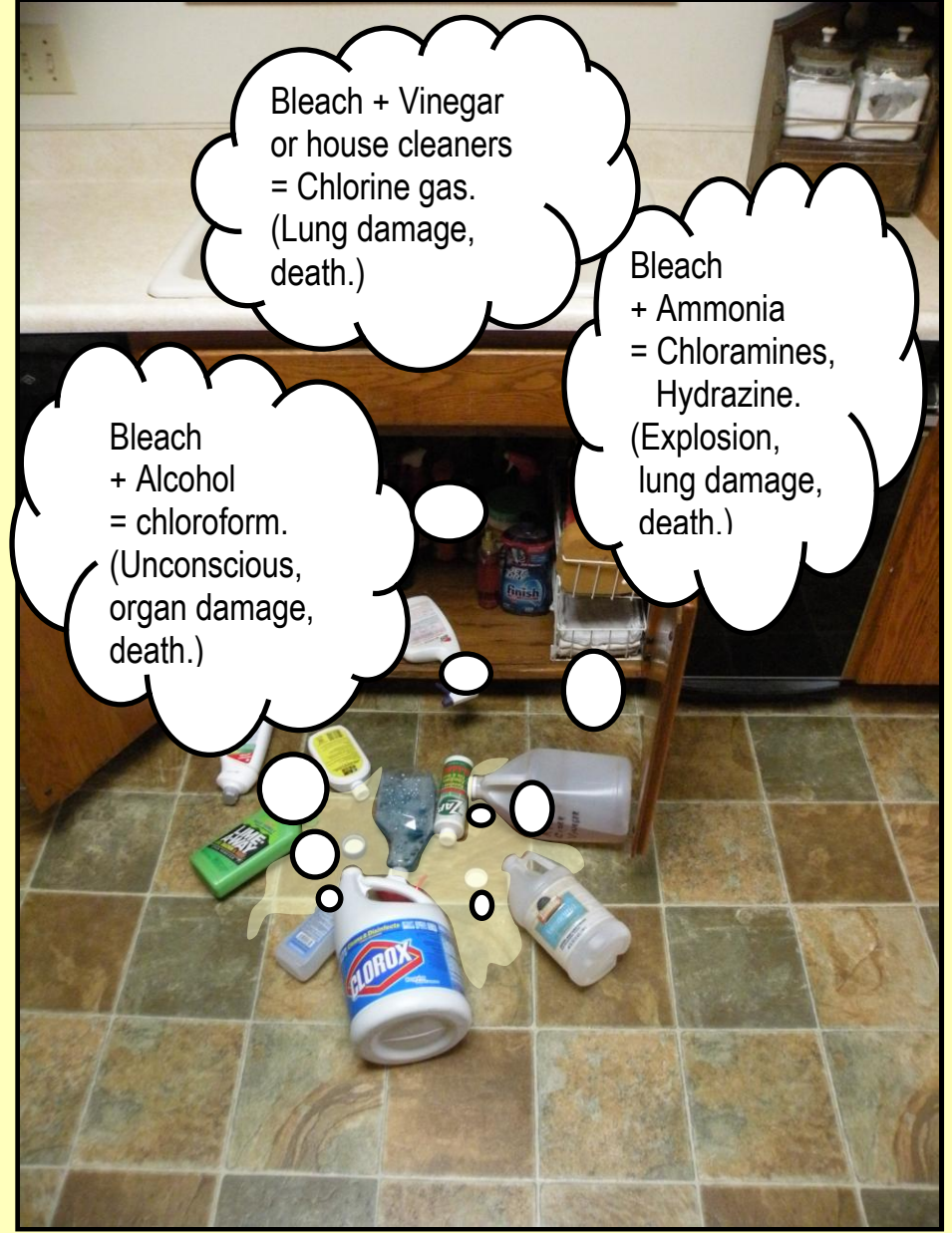
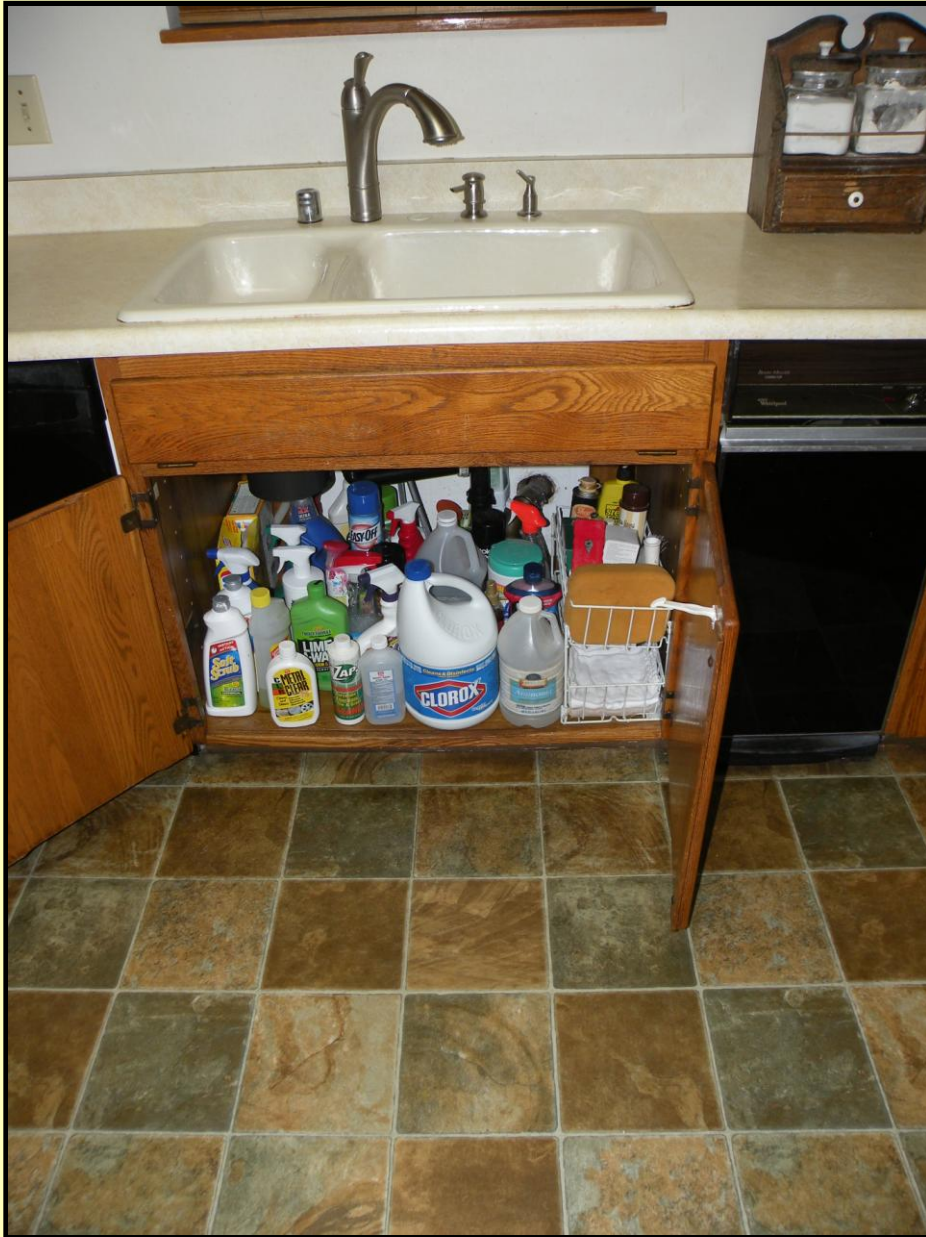
Keep a Pry-bar in Bedroom.



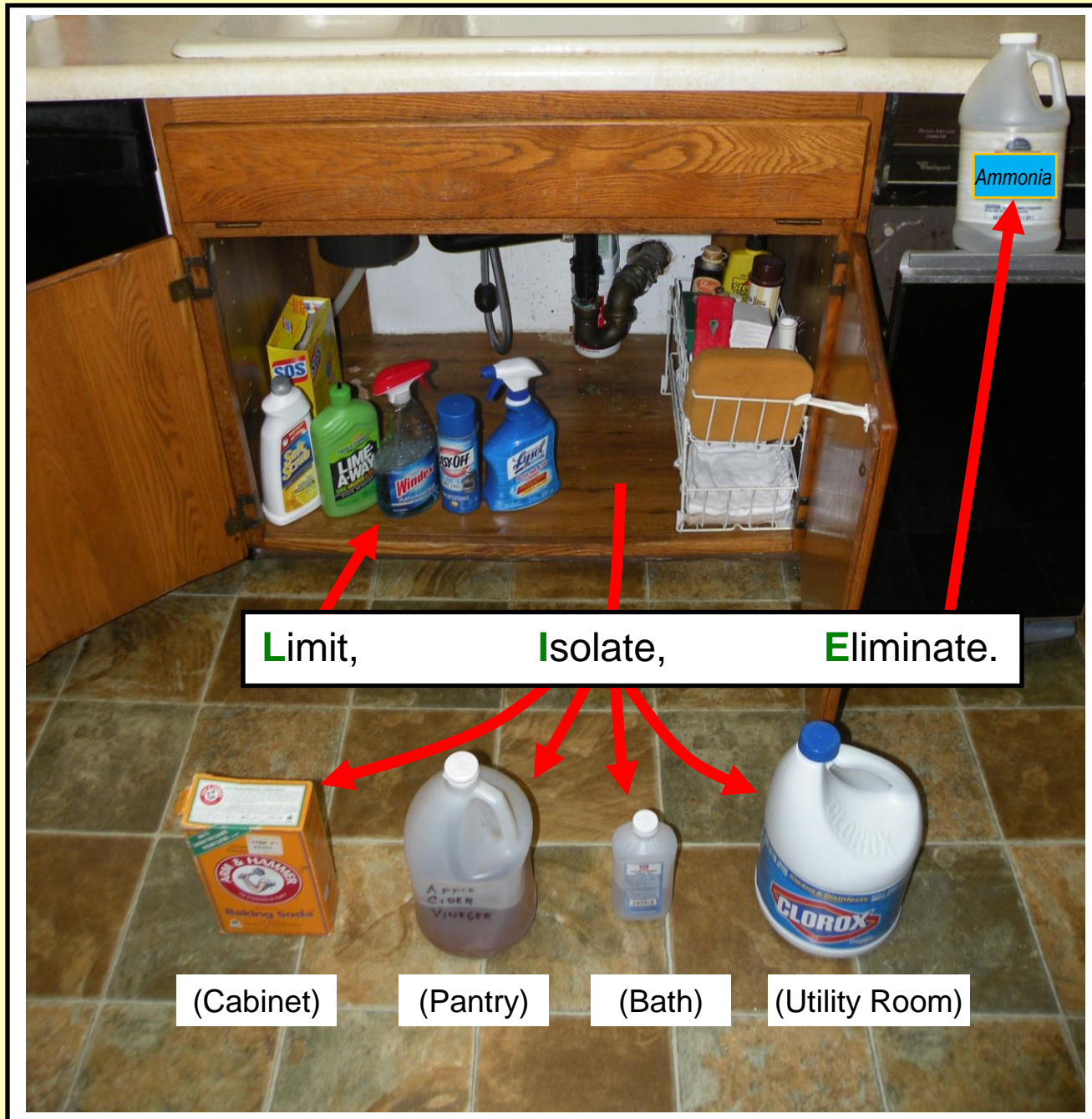
Secure Cabinets.



Hazardous Materials.



Limit, Isolate, Eliminate (LIE).



Water & Food.

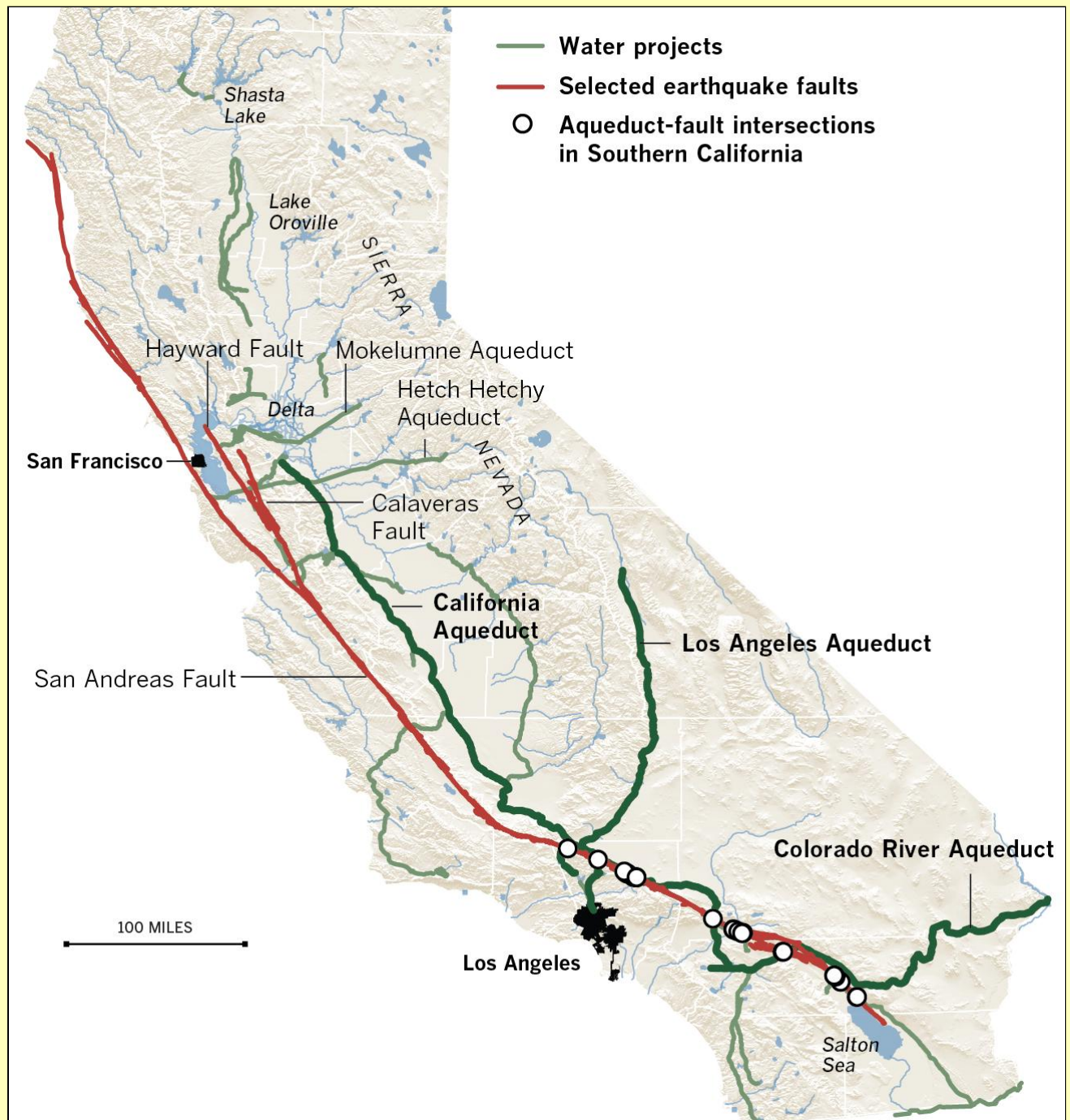
88% of our water and 90% of our food come from the "other" side.

The 3 aqueducts cross San Andreas Fault in 32 places.

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

Old Water Mains will break.

No power to pump it.



City's Emergency Plans for:

Water

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

LADWP has 3 Billion Gal. ÷ 60 Gal./day/person = 125 days.

LADWP replacing old main pipes with flexible pipes.

But no water if your pipes break.

Food

?

Gas

?

Power

?

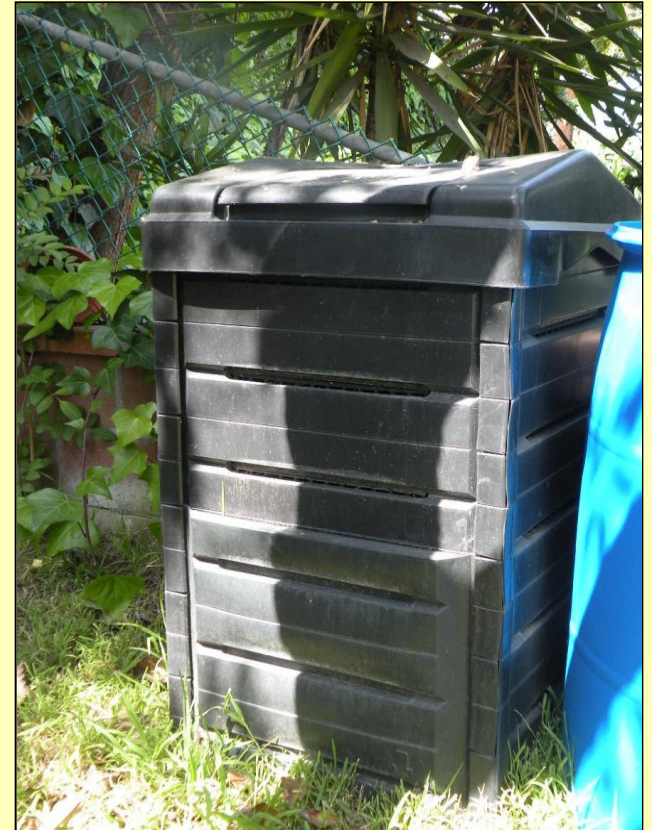
Home Survival Supplies

(Handout page 2.)

3 7 14 day supply.

Store 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, waste, sealing windows, ground tarps, rain ponchos, more.
- Portable radio (crank-able or extra batteries).
- Lighting - Solar lanterns, glow sticks.
- Heating - Firewood. "Space" blankets.
- Flashlights - Crank-able or extra batteries.
- First Aid Kit.
- Fire Extinguishers. 2) "A:B:C"s. 1) "K" for kitchen.
- Comfortable, layered clothing, shoes, socks.
- Blankets / sleeping bags, tent.
- Bath and toiletries. 5-gal. bucket with seat.
- Medications.
- 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.)

Communication & News

Communication

- Cell phone SMS Text.
- Cell phone Voice.
- Land-line phone.
- Runner.

News - Area

- Vehicle's radio.
- AM Radio App for Smart Phone.
- Solar and/or Crank powered AM Radio.

News - Neighborhood.

- FRS Radio.

Get-Home / Bug-Out Bag

2 - 3 day supply.

Keep one in each vehicle.

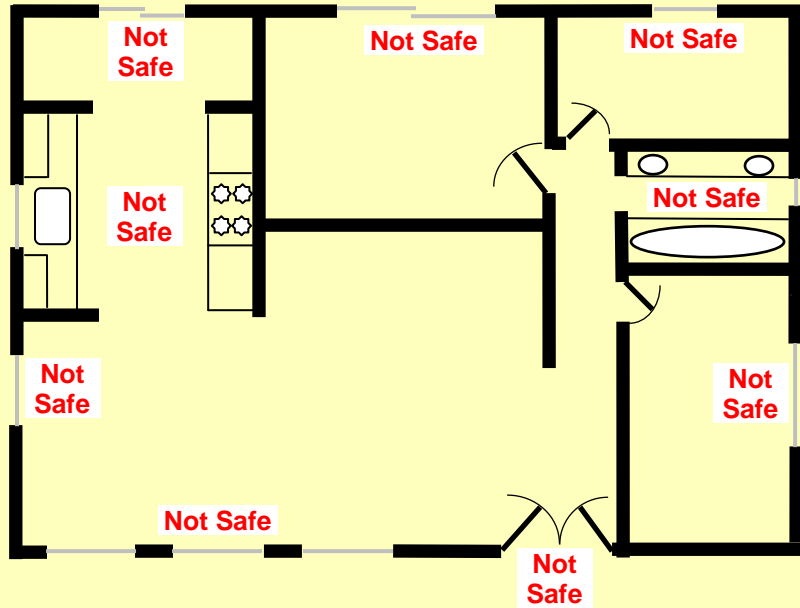
- Bottled water & LifeStraw water filter.
- Food, high calorie (energy bars, MRE's, unsalted nuts, SPAM, etc.)
- First aid kit & handbook, burn gel, cold compress, scissors, tweezers
- Medications, prescription list, aspirin doctor's contact information
- Leather work gloves, non-latex exam gloves.
- 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 (jewelry, watch, precious metal, mini booze)
- Space blankets, waterproof matches or lighter.
- Knife, ¼" rope, duct tape
- Change of Clothes
- Personal hygiene supplies (tooth brush, 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 document copies (birth cert., passport/SSN, property deeds, IDs, home, auto, health insurance, medical consents, wills/trusts, etc.)



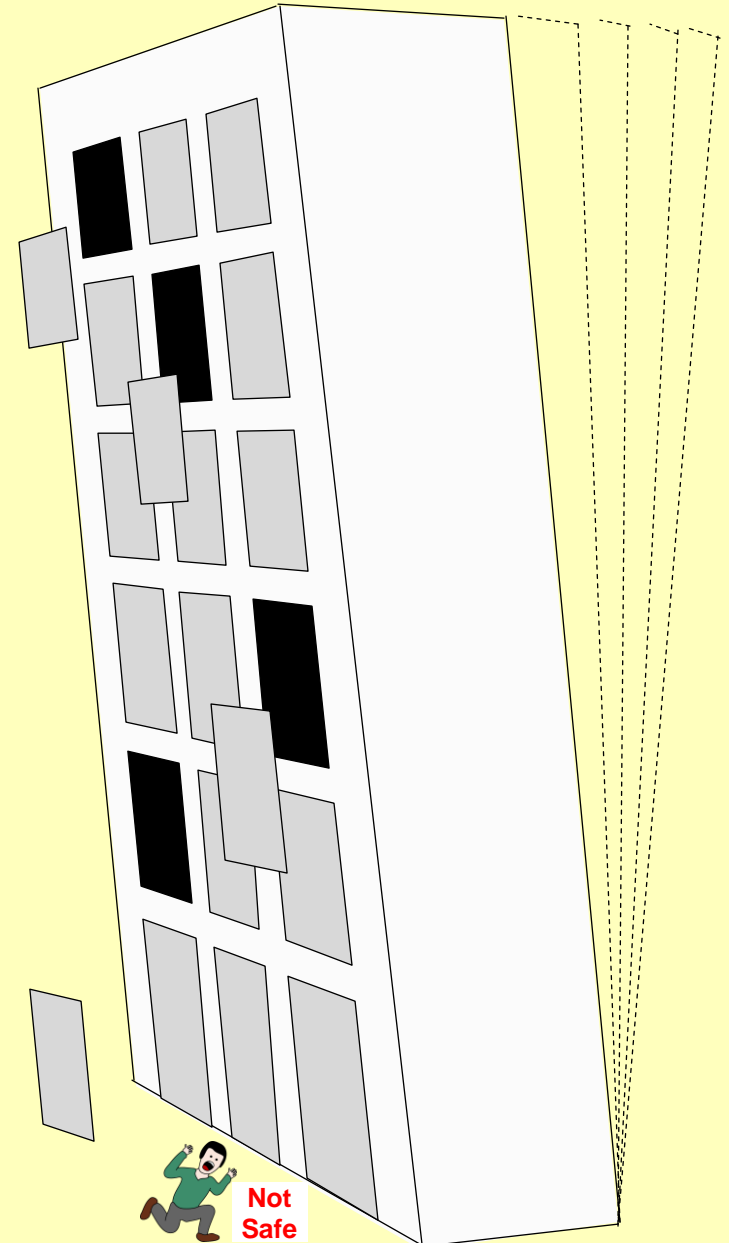
www.earthquakecountry.info

Identify "Safe(r)" Places

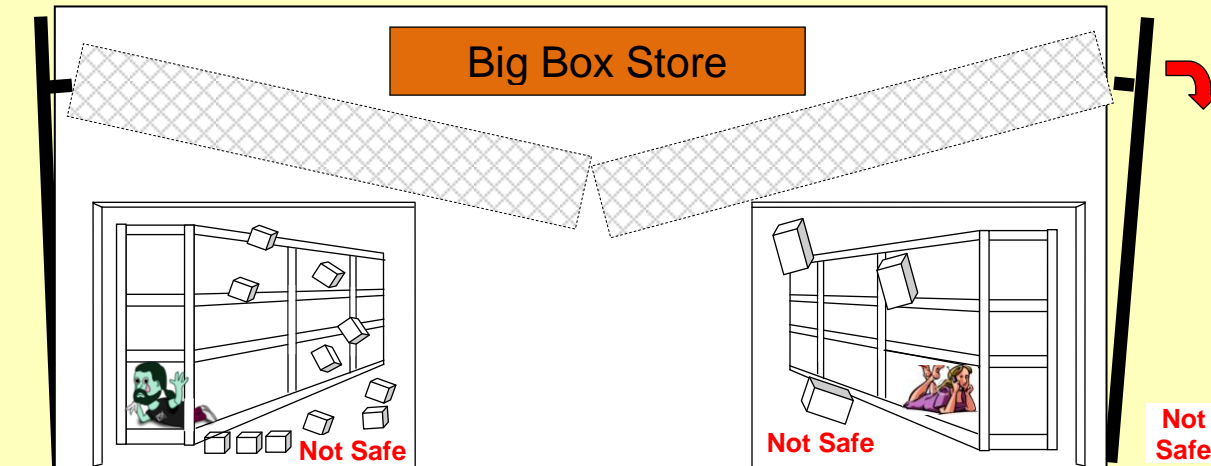
Wood-frame homes should stand, but glass doors & windows may shatter.



High Rises will stay. Glass & façade may fall. *



Concrete Tilt-Up walls may separated. Roof & walls may fall. *

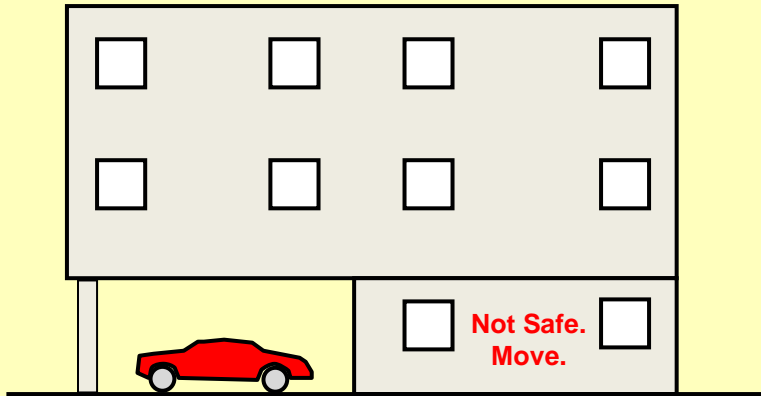


Not Safe

Copyright Bill Pope 2006, 2012, 2015, 2017

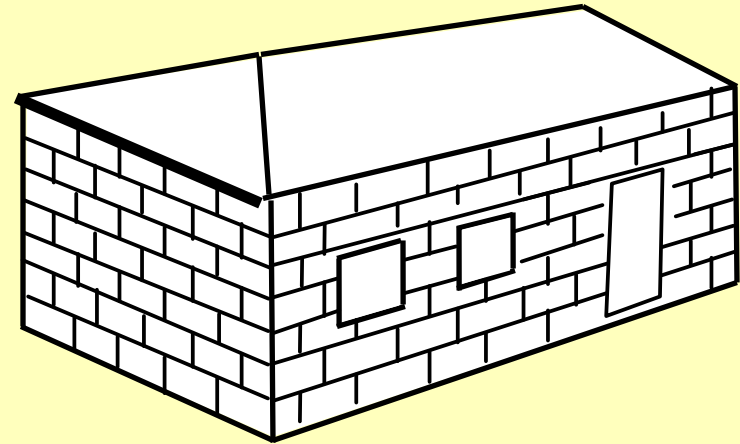
* In Parking Structures, open car door, lay on floor.

Unsafe Places

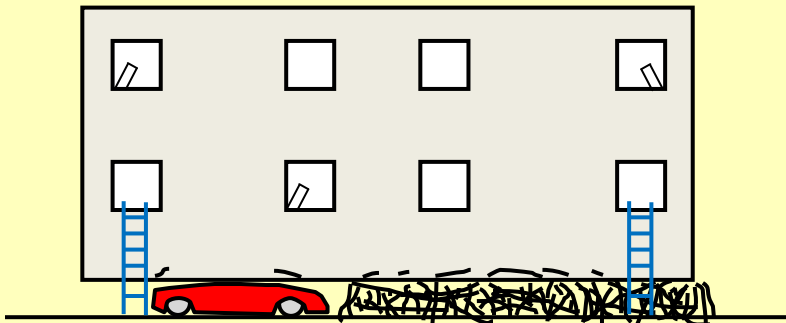


Un-braced "Soft First Story" not safe.
Ensure retrofit, move up or move out.

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

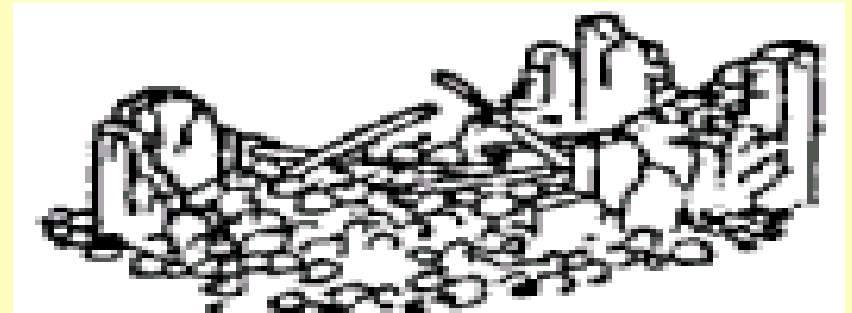


Pre-1933 Un-reinforced Masonry Building.
Ensure reinforcing rods & diamond plates
are installed, or move.



Do not use stairs!

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

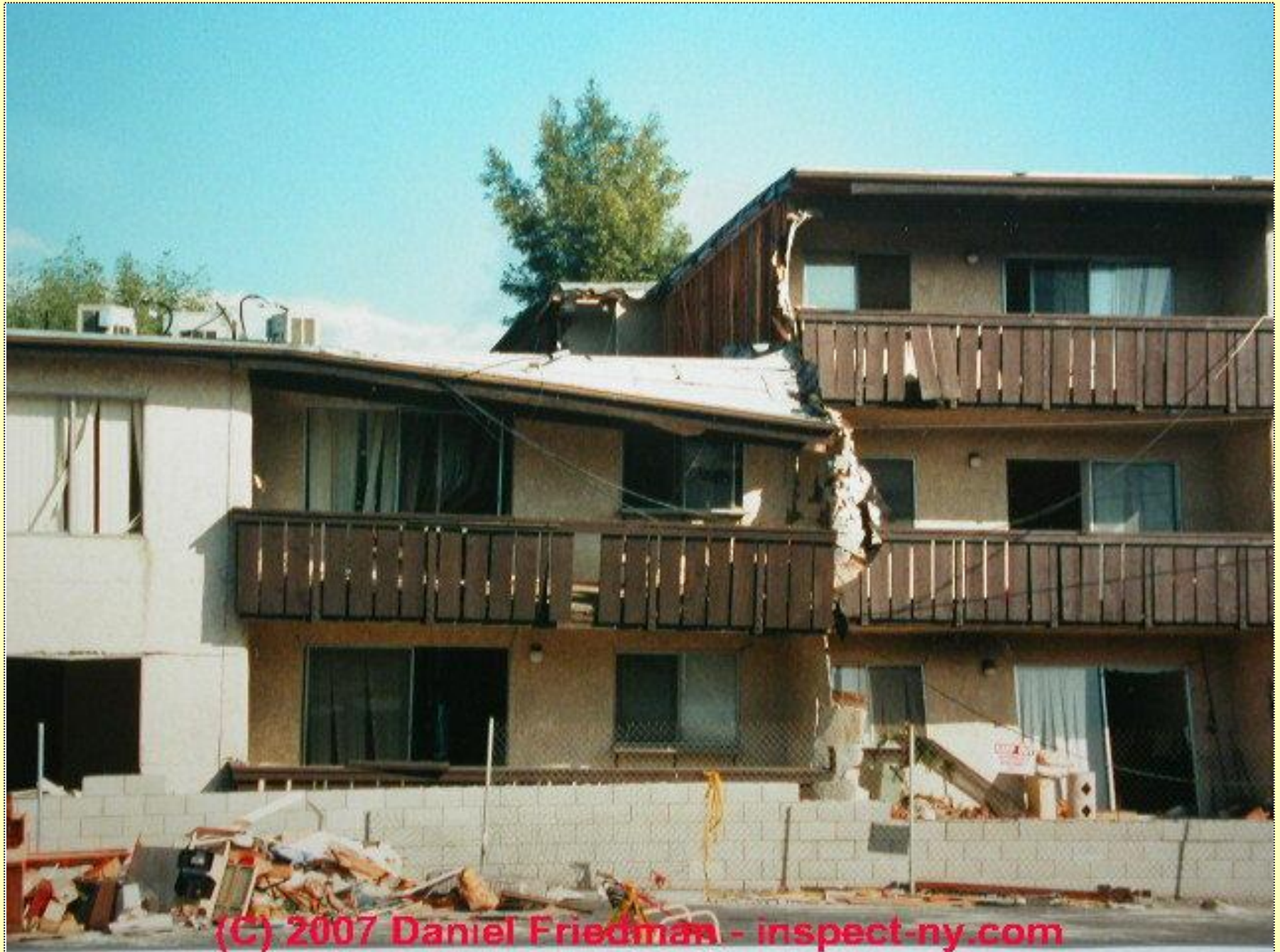


Unsafe inside debris field and within
1.5 X height of walls left standing.

Soft First-Story Building after 6.7 Quake.



Soft First-Story Building after Northridge Quake.



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

Un-reinforced Masonry Building after 6.7 quake.



Develop YOUR PERSONAL 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: _____

Hazards, Neighborhood & Area (The Hazard maps below may be helpful in defining remainder of Emergency Plan.)

Underground Pipelines: <https://www.npms.phmsa.dot.gov/>

Earthquake Faults, Liquefaction, Landslide Zones: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>

Emergency Assistance (Enter address and direct phone number of nearest facility, preferably outside of Hazard Zones):

Neighborhood CERT/NERT Command Center (if one): _____

Hospital(s): _____

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

Police Station: _____

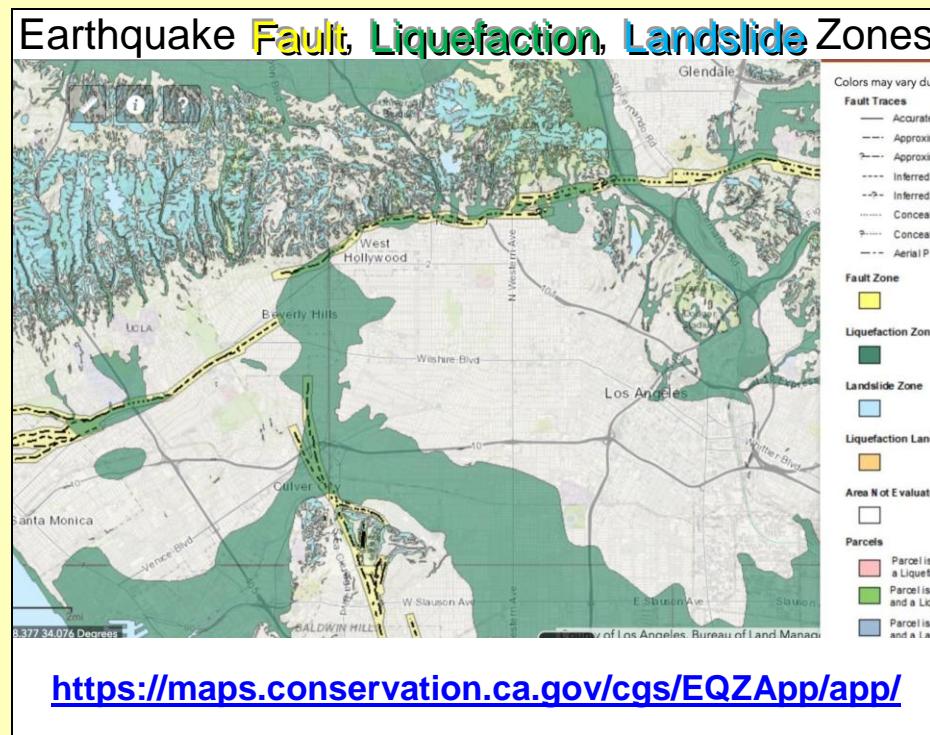
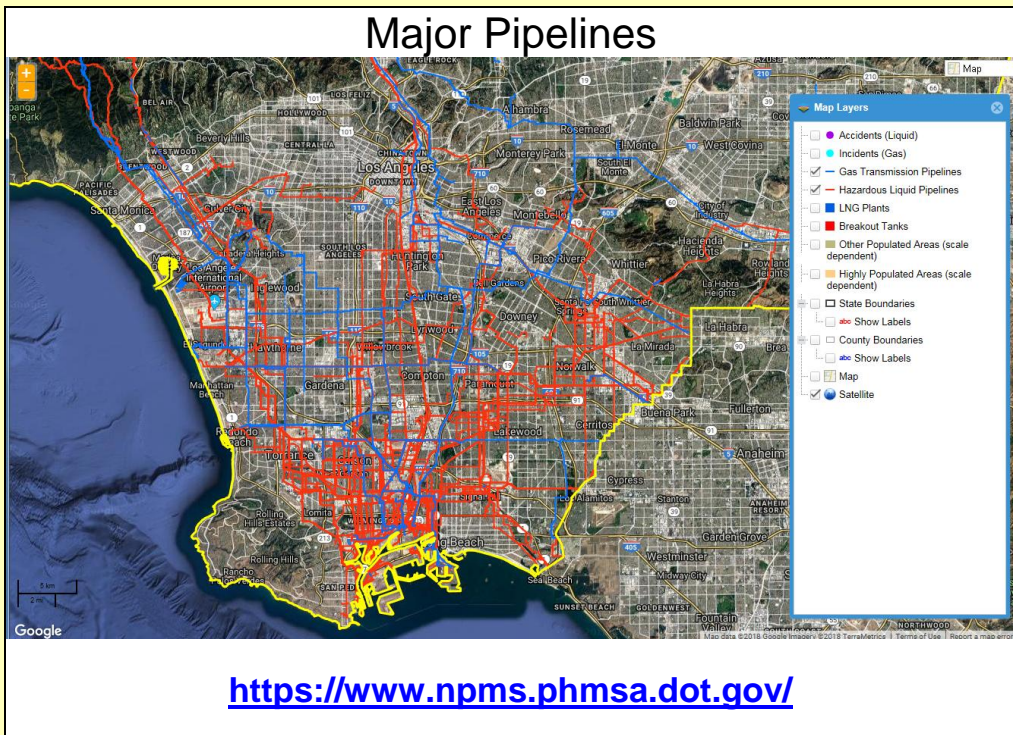
Out-of-Area Contacts: (Or log your status at www.redcrossla.org/safeandwell when possible.) _____

Out-of-Area Meet-Up Place: _____

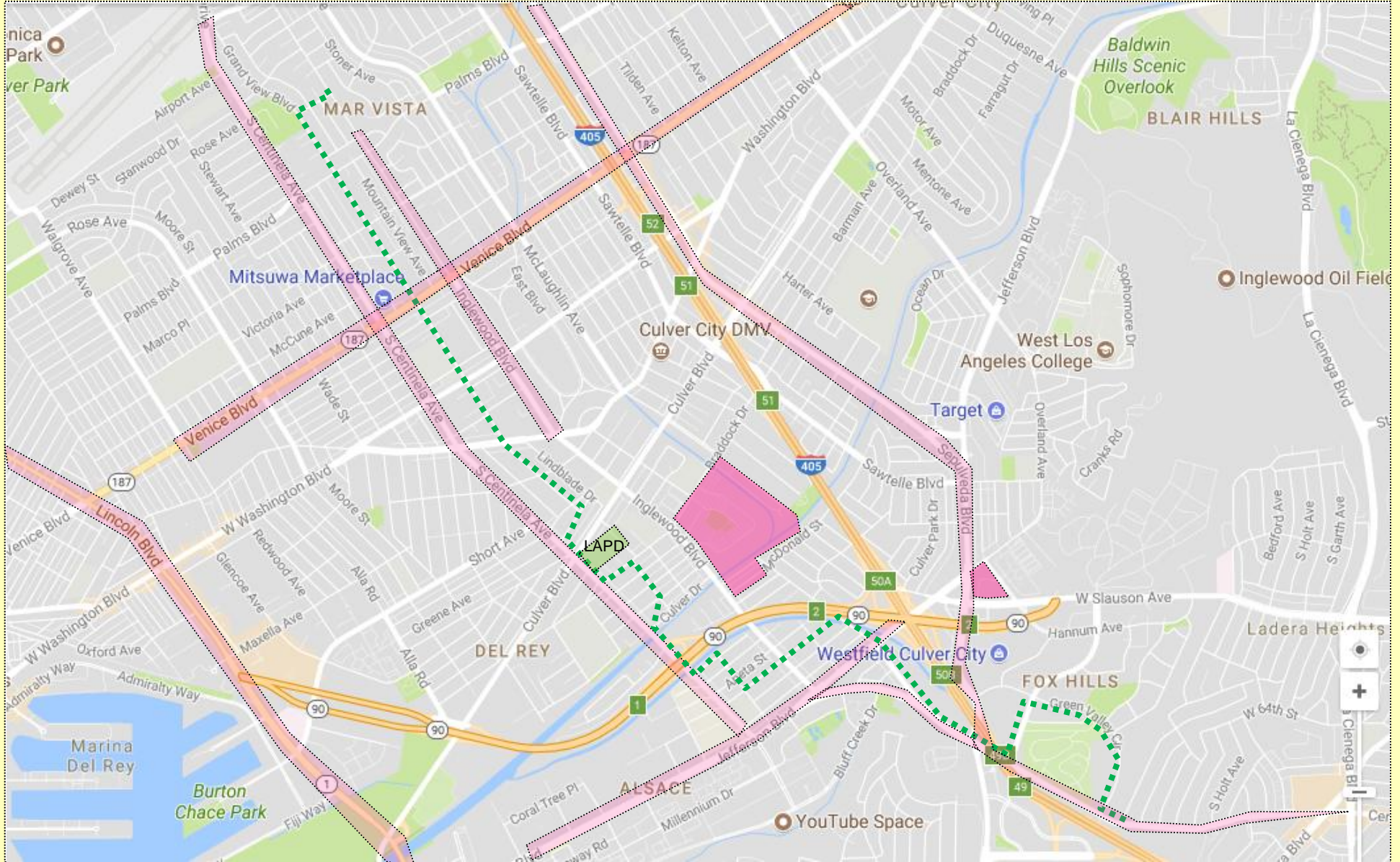
Area Evacuation Routes (Avoid Freeways and major highways.): _____

Things to Avoid

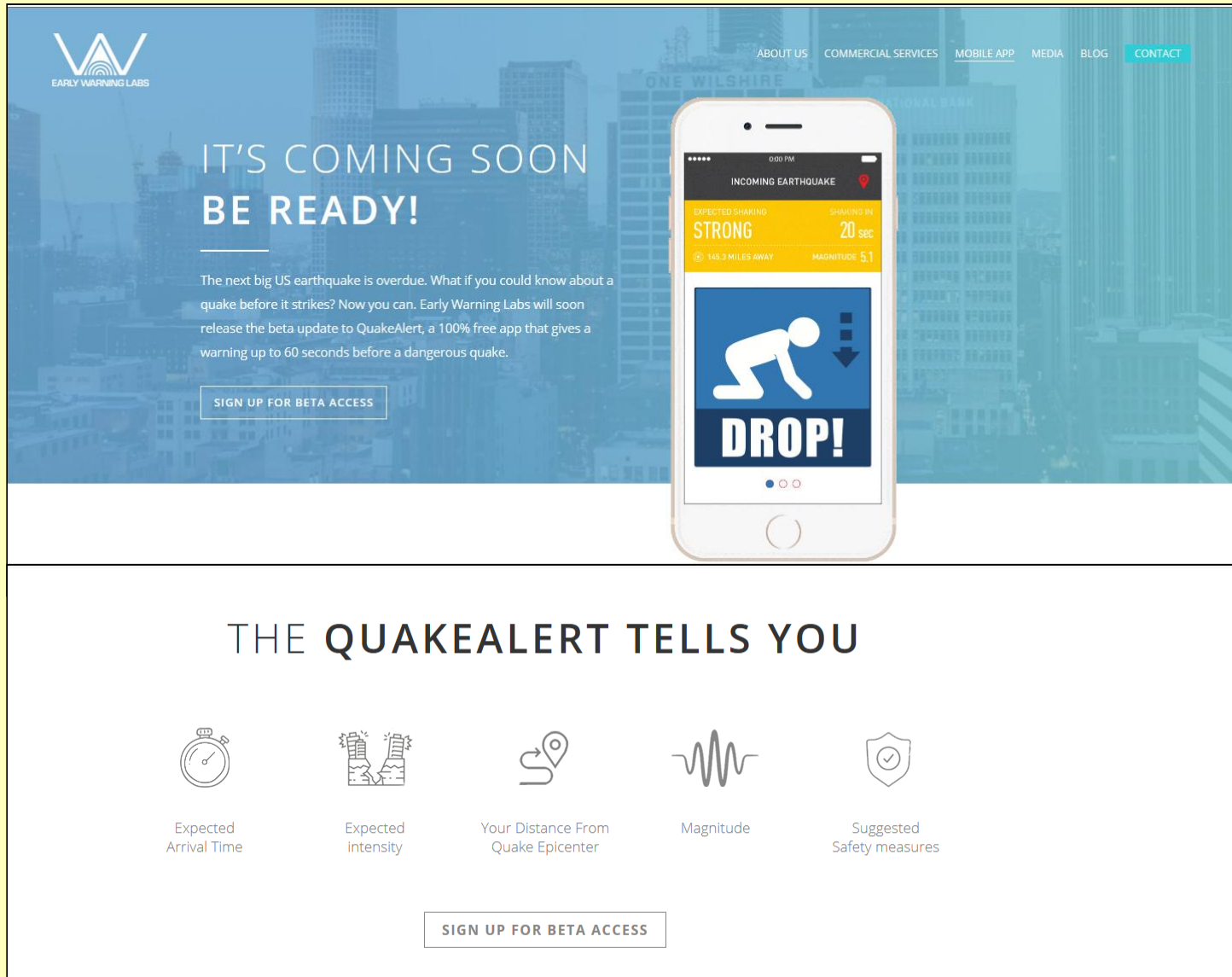
(Handout page 10)



Develop a Safe-Route-Home Plan



Early Warning System



The image shows a screenshot of the Early Warning Labs website. The top left features the logo for Early Warning Labs, which consists of a stylized 'W' with a signal wave underneath. The top right has a navigation menu with links for 'ABOUT US', 'COMMERCIAL SERVICES', 'MOBILE APP', 'MEDIA', 'BLOG', and 'CONTACT'. The main content area has a blue background with a cityscape. The headline reads 'IT'S COMING SOON BE READY!'. Below this is a paragraph: 'The next big US earthquake is overdue. What if you could know about a quake before it strikes? Now you can. Early Warning Labs will soon release the beta update to QuakeAlert, a 100% free app that gives a warning up to 60 seconds before a dangerous quake.' A button labeled 'SIGN UP FOR BETA ACCESS' is positioned below the paragraph. To the right, a smartphone displays the app's interface. The app screen shows 'INCOMING EARTHQUAKE' at the top, followed by 'EXPECTED SHAKING STRONG' and 'SHAKING IN 20 SEC'. Below that, it says '145.2 MILES AWAY' and 'MAGNITUDE 5.1'. The bottom half of the screen features a white icon of a person crouching and the word 'DROP!' in large, bold letters. Below the smartphone, the text 'THE QUAKEALERT TELLS YOU' is centered. Underneath this text are five icons with corresponding labels: a stopwatch for 'Expected Arrival Time', a building with cracks for 'Expected intensity', a location pin with a distance arrow for 'Your Distance From Quake Epicenter', a seismic wave for 'Magnitude', and a shield with a checkmark for 'Suggested Safety measures'. A second 'SIGN UP FOR BETA ACCESS' button is located at the bottom center of this section.

EARLY WARNING LABS

ABOUT US COMMERCIAL SERVICES MOBILE APP MEDIA BLOG CONTACT

IT'S COMING SOON BE READY!

The next big US earthquake is overdue. What if you could know about a quake before it strikes? Now you can. Early Warning Labs will soon release the beta update to QuakeAlert, a 100% free app that gives a warning up to 60 seconds before a dangerous quake.

SIGN UP FOR BETA ACCESS

INCOMING EARTHQUAKE

EXPECTED SHAKING STRONG SHAKING IN 20 SEC

145.2 MILES AWAY MAGNITUDE 5.1

DROP!

THE QUAKEALERT TELLS YOU

- Expected Arrival Time
- Expected intensity
- Your Distance From Quake Epicenter
- Magnitude
- Suggested Safety measures

SIGN UP FOR BETA ACCESS

<https://earlywarninglabs.com/mobile-app/>

**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)

Earthquake Action Plans.

If in-doors, stay in-doors.

Drop & crawl away from:

Windows,

Mirrors,

Glass doors,

Unsecured furniture,

Shelves and cabinets.

Cover body/head & neck.

Hold on.



If out-doors, stay out-doors.

Move away from:

Buildings,

Power lines.

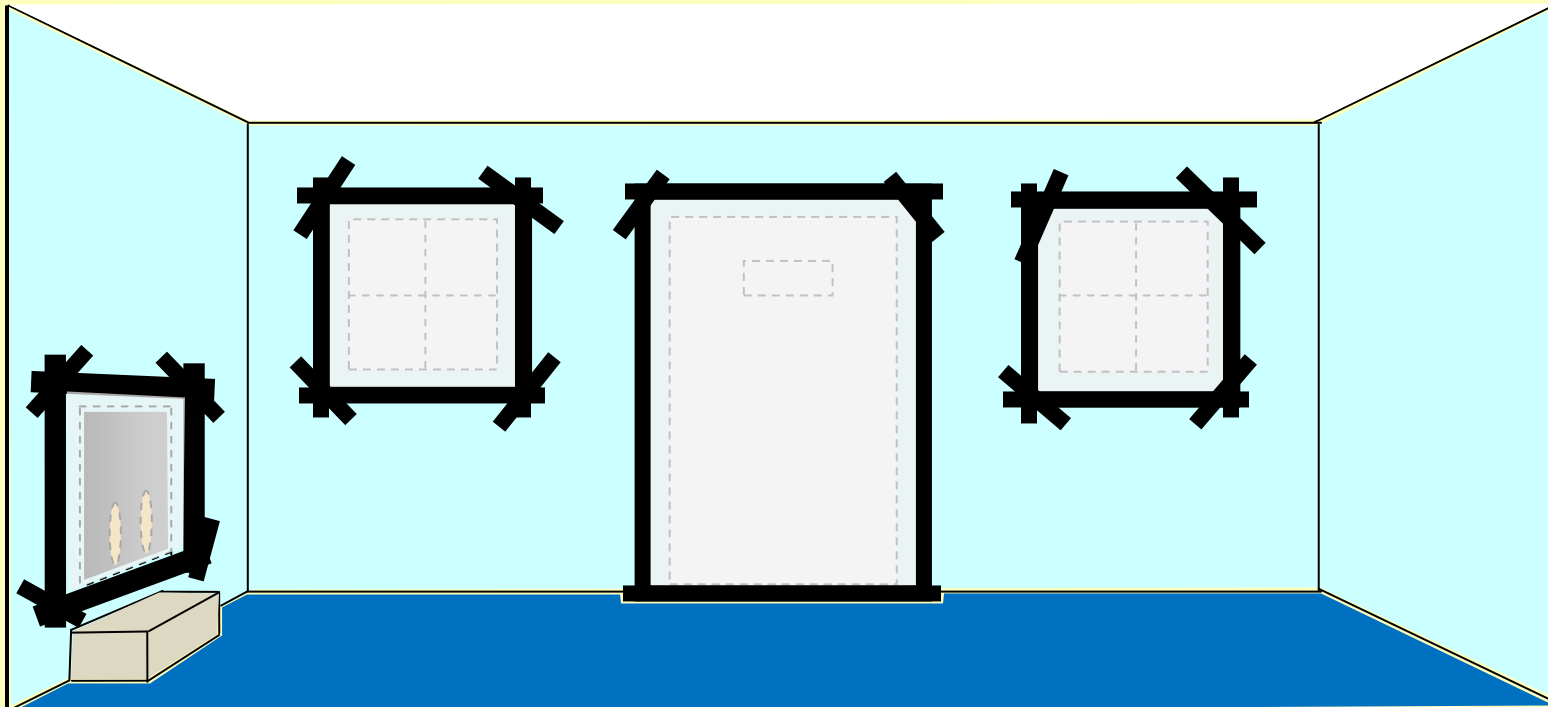
If driving, pull over & stop on side of road.

Avoid overpasses and bridges.

Biological or Hazardous Material Leak

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

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



Fire Action Plans



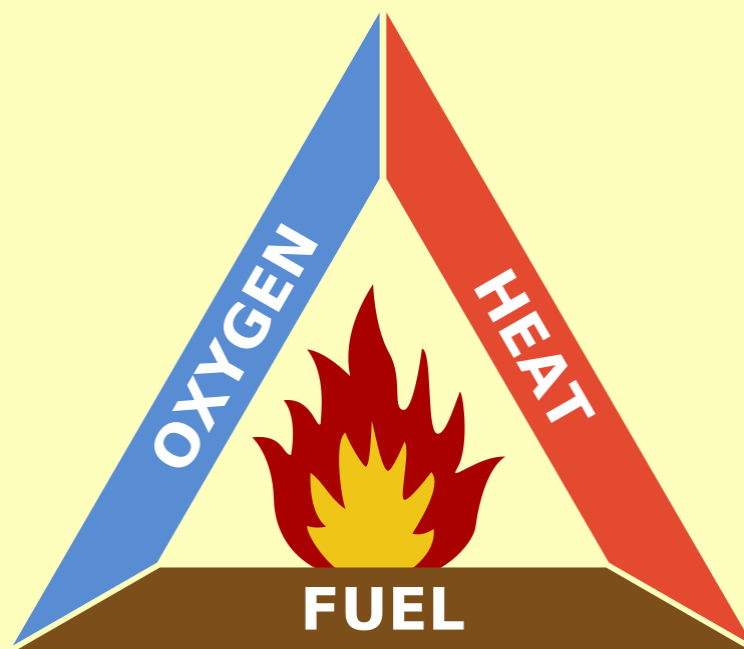
(This is NOT one.)

Small Fire Action Plan.

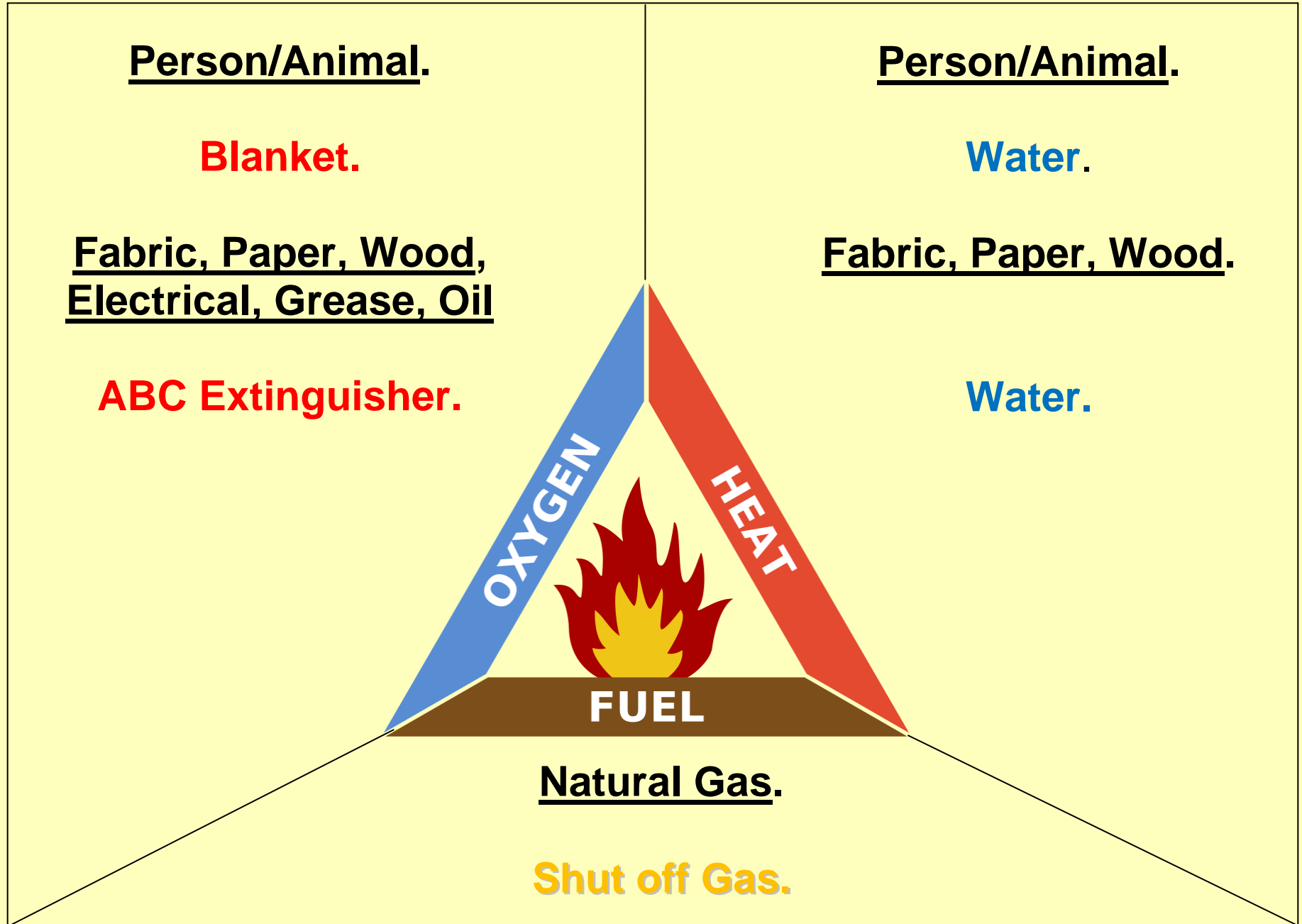


**Suppress small fires before they become big fires.
Have at least one 10-B:C Kitchen extinguisher (white) and
one 4-A:60-B:C extinguisher (red) on hand. Invert monthly.**

Fire Chemistry



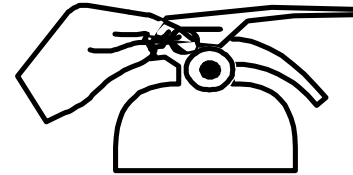
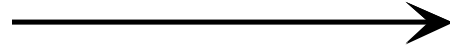
Suppression.



Fire Extinguisher Usage.

P.A.S.S.

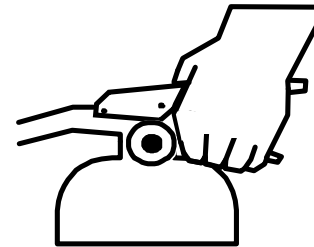
PULL



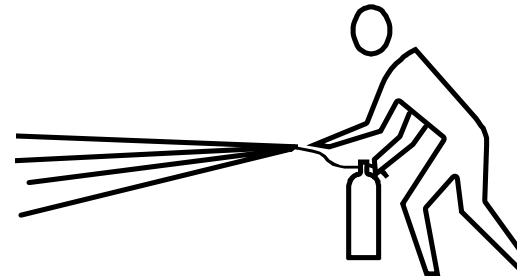
AIM



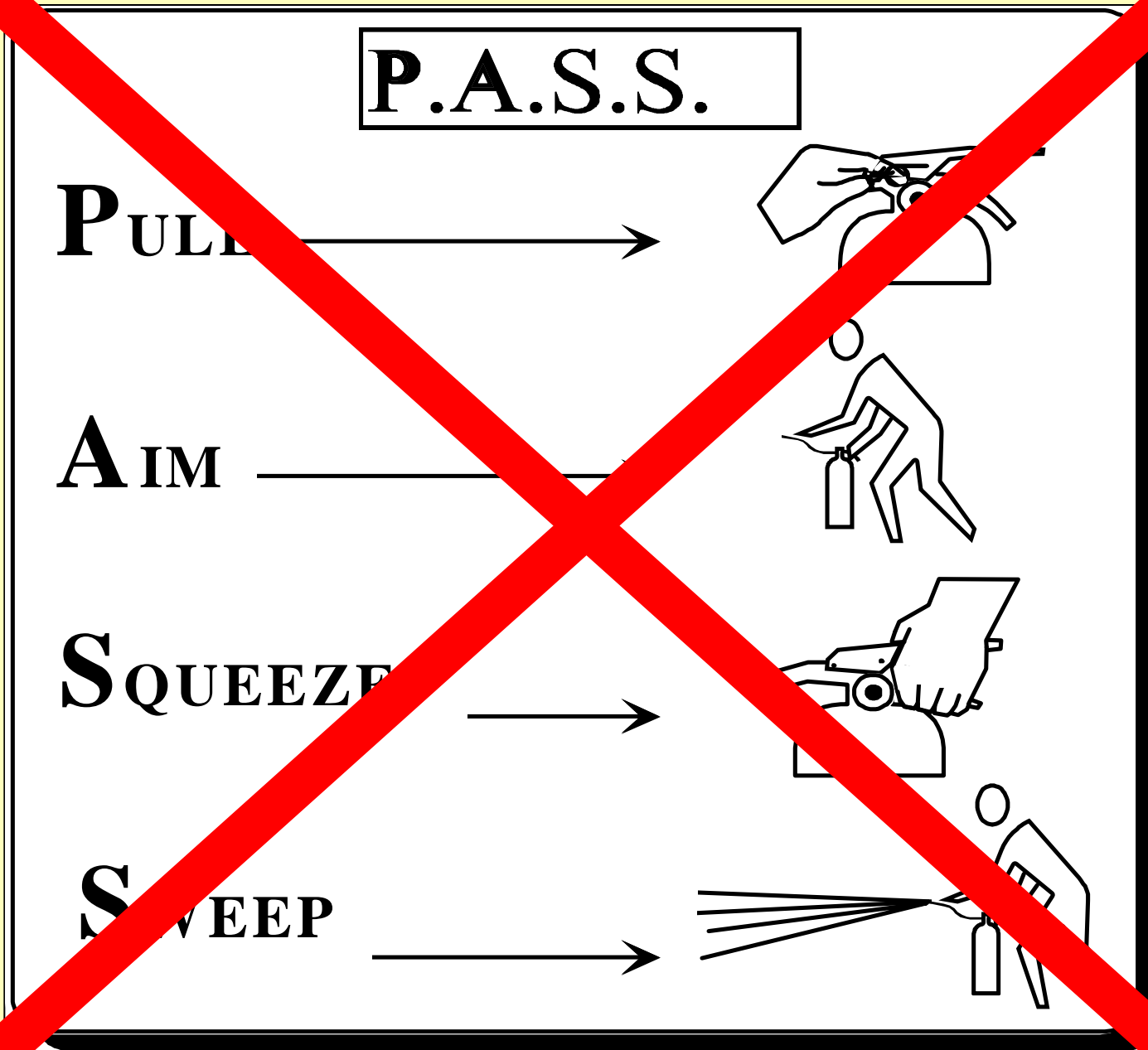
SQUEEZE




SWEEP



OLD Fire Extinguisher Usage.




NEW Fire Extinguisher Usage.



FIRE EXTINGUISHER OPERATING INSTRUCTIONS

www.LearnTPASS.com








T **wist** TWIST pin to break the safety seal and unlock the Extinguisher

P **ull** PULL out the safety pin from the Extinguisher

A **im** AIM at the base (bottom) of the fire and stand 6 to 8 feet away

S **queeze** SQUEEZE the lever to discharge the extinguishing agent

S **weep** SWEEP the nozzle from left to right until the flames are totally extinguished.



Escape.

Cover nose & mouth with a damp cloth.

Keep low under the smoke.

Don't hide. Go outside.



Fires spread house to house.
Wipe out entire block.



Neighborhood-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 flammables away from threatened wall(s).
- Optional: Until Radiant Heat is hotter than direct sun:
 - a. Deploy heat shields (e.g., FireZat or Barricade).
 - b. Extinguish Firebrands landing on roof, and Cool roof overhangs (eves) with water spray.
- Evacuate when ordered. Leave lights on.

Wind-driven Wildfires ...



wipe out entire neighborhoods.

Wildland Fire Action Plan

(In Wildland Urban Interface areas.)

Ready, 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 Handout pg. 2, or <http://www.mysafela.org/survival-kit/> for 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 cages.

- ❑ **Get Set.** On Red Flag Days:
 - Move vehicles off narrow streets.
 - Fill-up gas tanks & 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 specified area.

Gas-Main Fire Action Plan.



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

Land / Mud Slides

Earthquakes can cause Landslides.

Reduce risks on hillsides with caissons. (Contact a Soil Engineer)

Rain after wildfires can cause Mudslides.

Reduce damage risks with sandbags.



Fill bags ½ full. Fold open end of bag under & lay pointing upstream, butting bags end-to-end.



Stamp down to lock bags together.



Pyramid bags to build a Bern.



To protect a structure, tape plastic to the walls. Stack overlapping layers of sandbags on plastic and up wall against plastic.

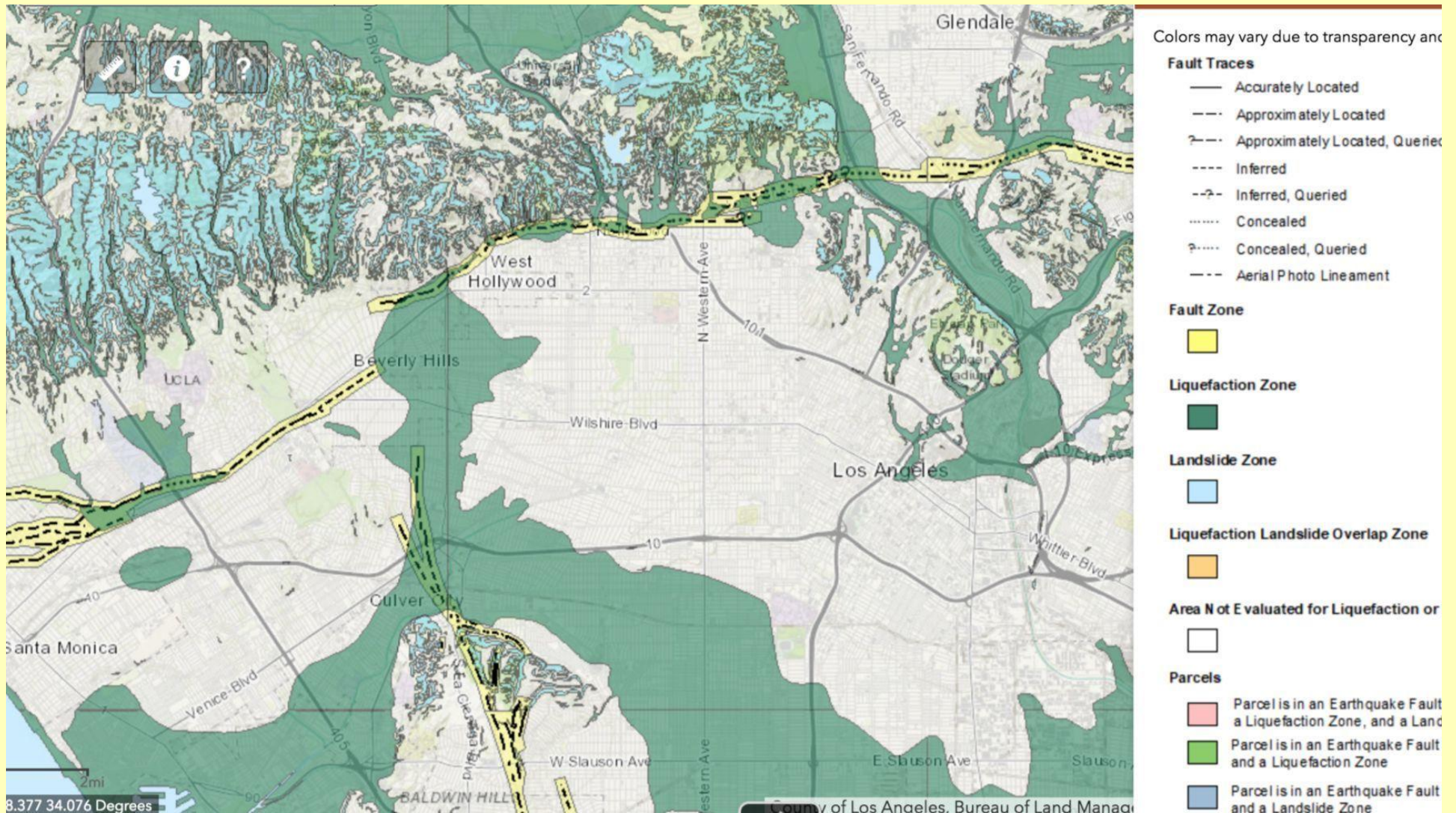
Liquefaction

Sandy Soil + High Water Table + Shaking = Liquefaction.



Liquefaction damage from 1964 7.5M Niigate Japan quake.
Also to San Francisco Marina District from Loma Prieta quake.

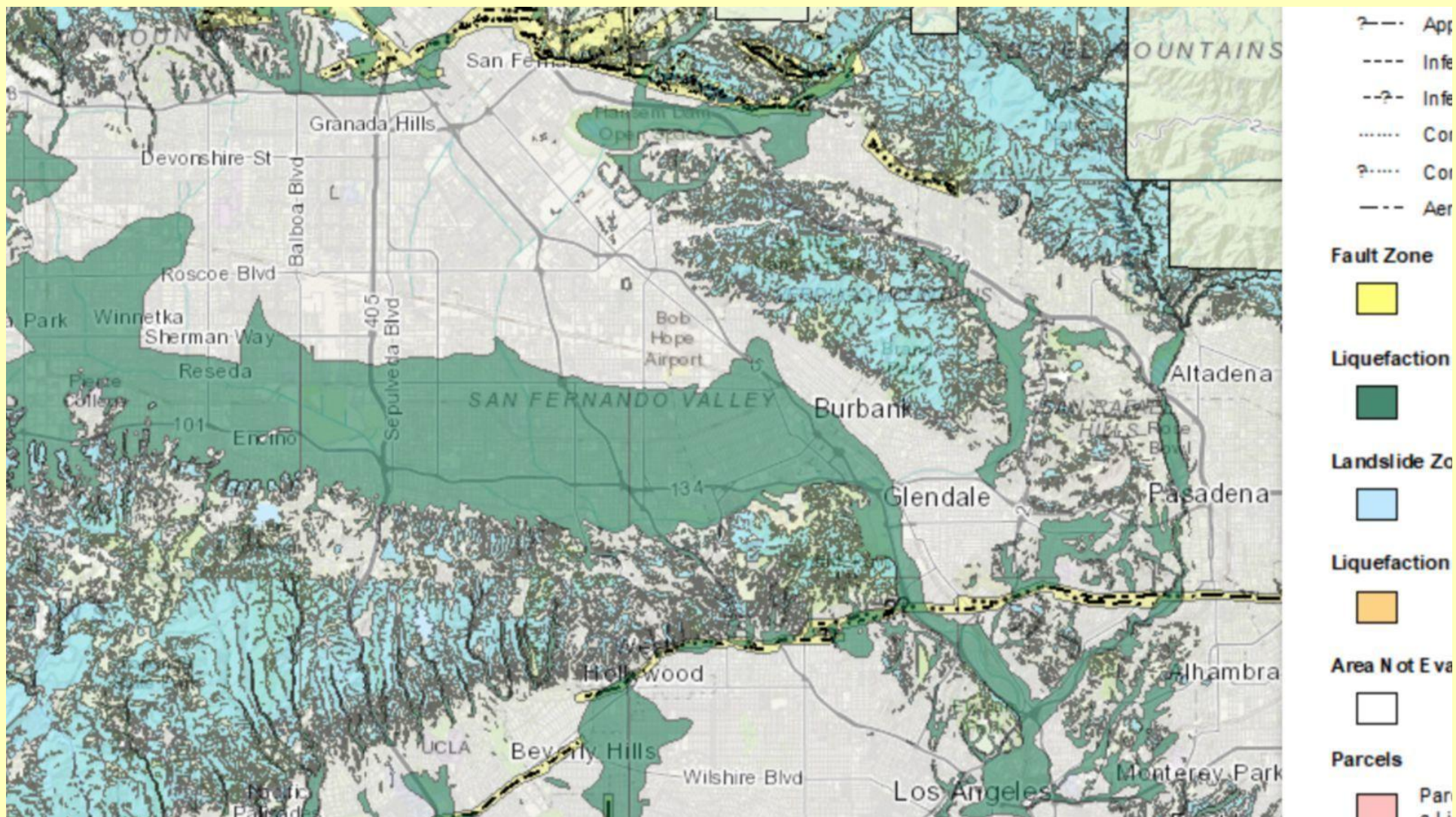
Liquefaction & Landslide Zones



LA Basin

(Contact a Soil Engineer for Liquefaction mitigation ideas.)

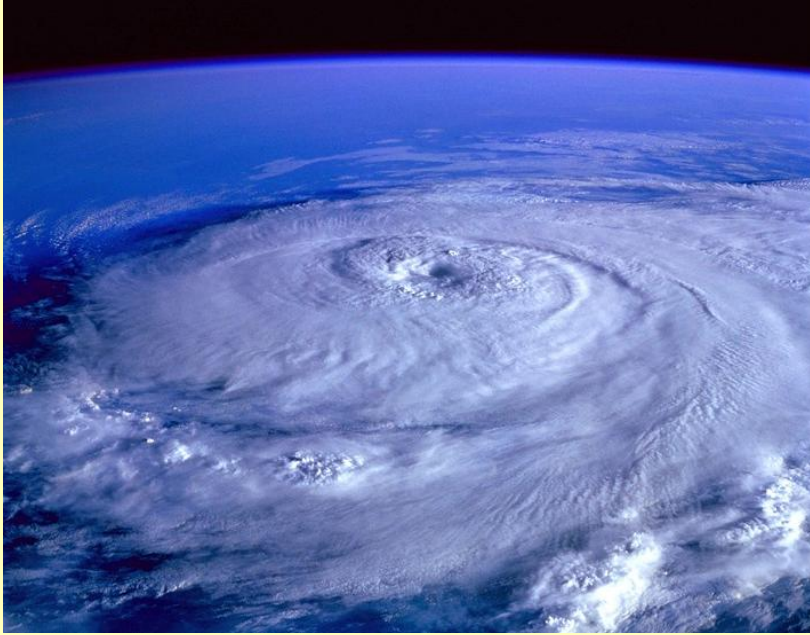
Liquefaction & Landslide Zones



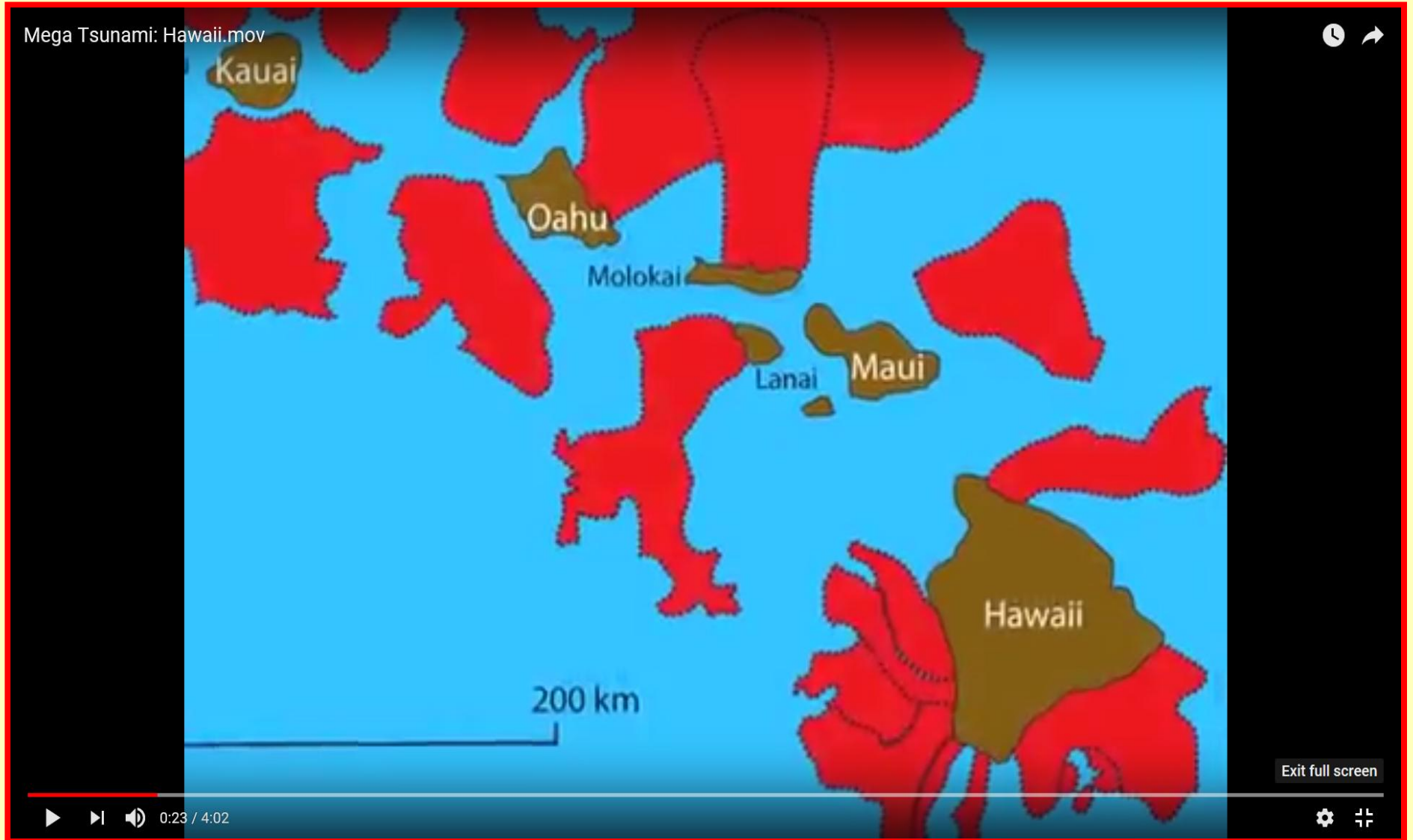
San Fernando Valley

(Contact a Soil Engineer for Liquefaction mitigation ideas.)

Hurricane



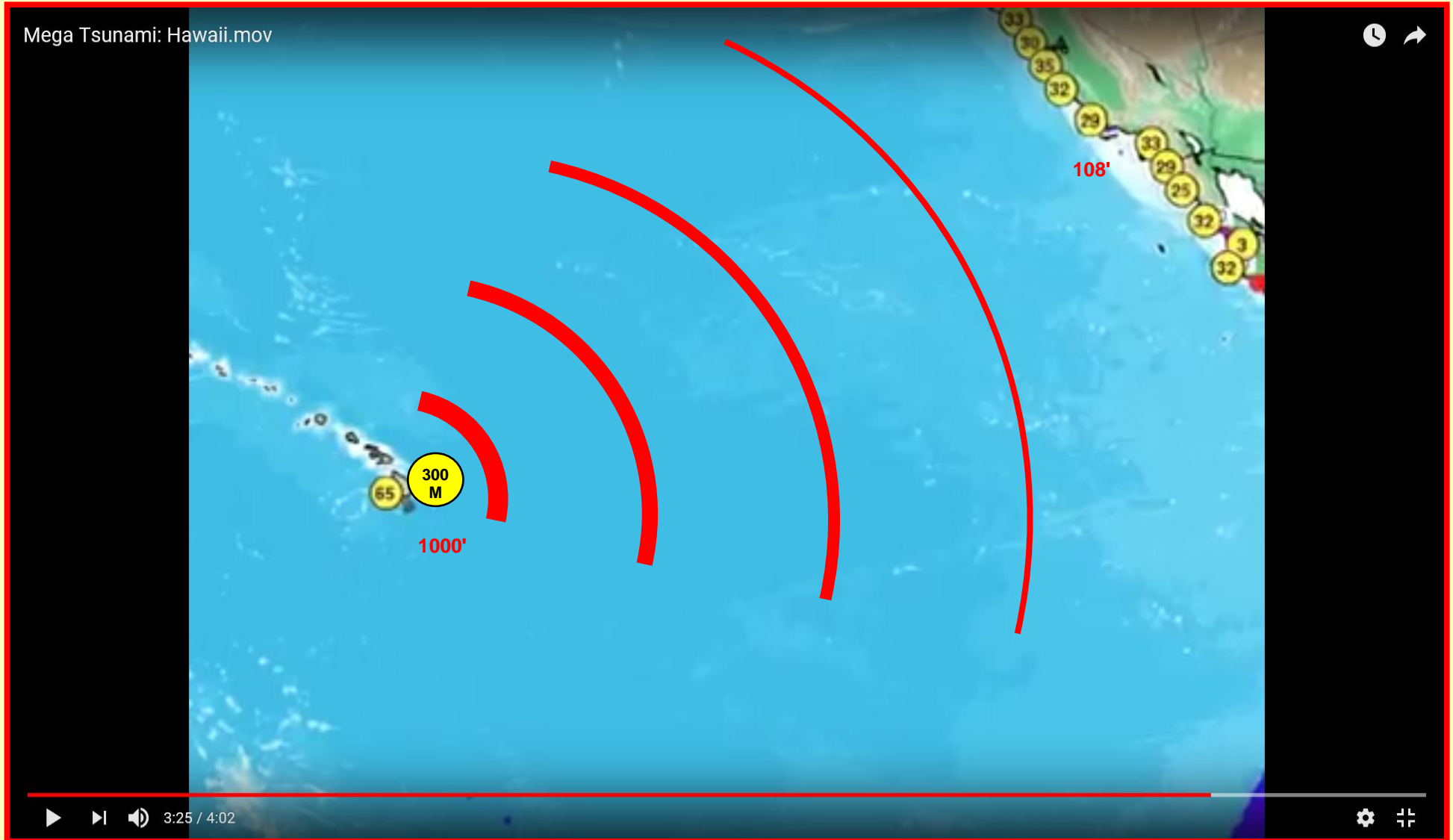
Tsunami



70 times in last 20 Million years.

Hawaii's Hilina Slump Tsunami

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



**10% of Big Island (1/4 of Kilauea) slides seaward 4 inches per year.
Sudden release = 9.0 earthquake + 1000 to 1600 foot high tsunami.
LA coast hit by 100 foot high wave.**

More Likely Tsunami

CA.GOV
California Department of Conservation
California Geological Survey

Problems with Internet Explorer?

Regulatory Maps | Landslides | Mineral Lands Classification | **Tsunami** | Borehole Database | Help

CGS Information Warehouse: Tsunami

12020 Havelock Ave, Cu

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, U.S. ...

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3:43 PM
10/2/2018

Hurricane / Tsunami Action Plan.

Board up. Gather up. Get up.

- **Cover outside of windows with plywood.**
- **Gather up your "Go" bag.**
- **Get up (2 miles away from) the coast, or**
- **Get 100' 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 up. Hide.

If you hear "the Train",

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

Nuclear Disaster



Tololi Douglas

Types:

Power plant accident.

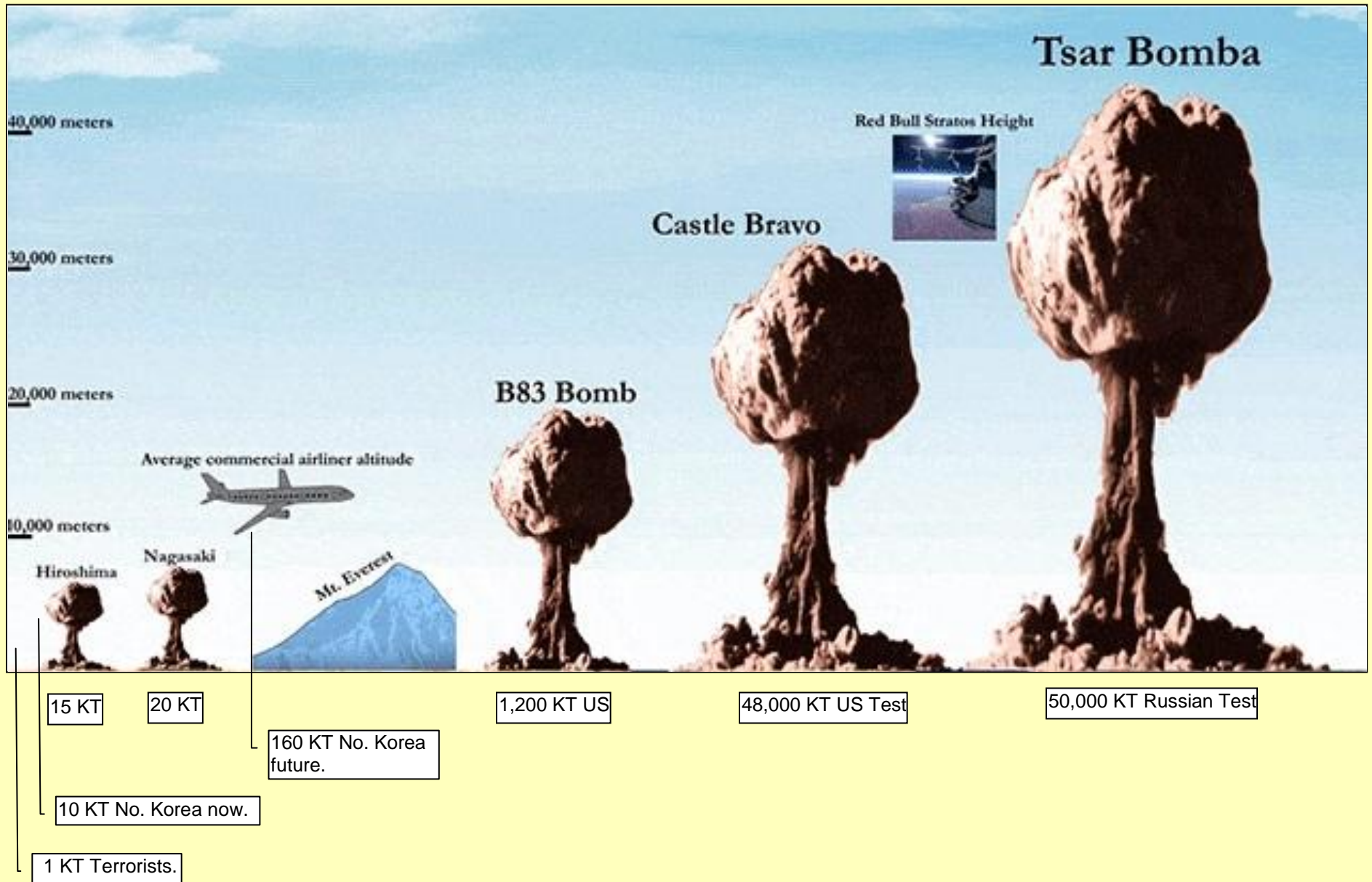
North Korean attack.

Terrorist attack.

"Suitcase or 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:

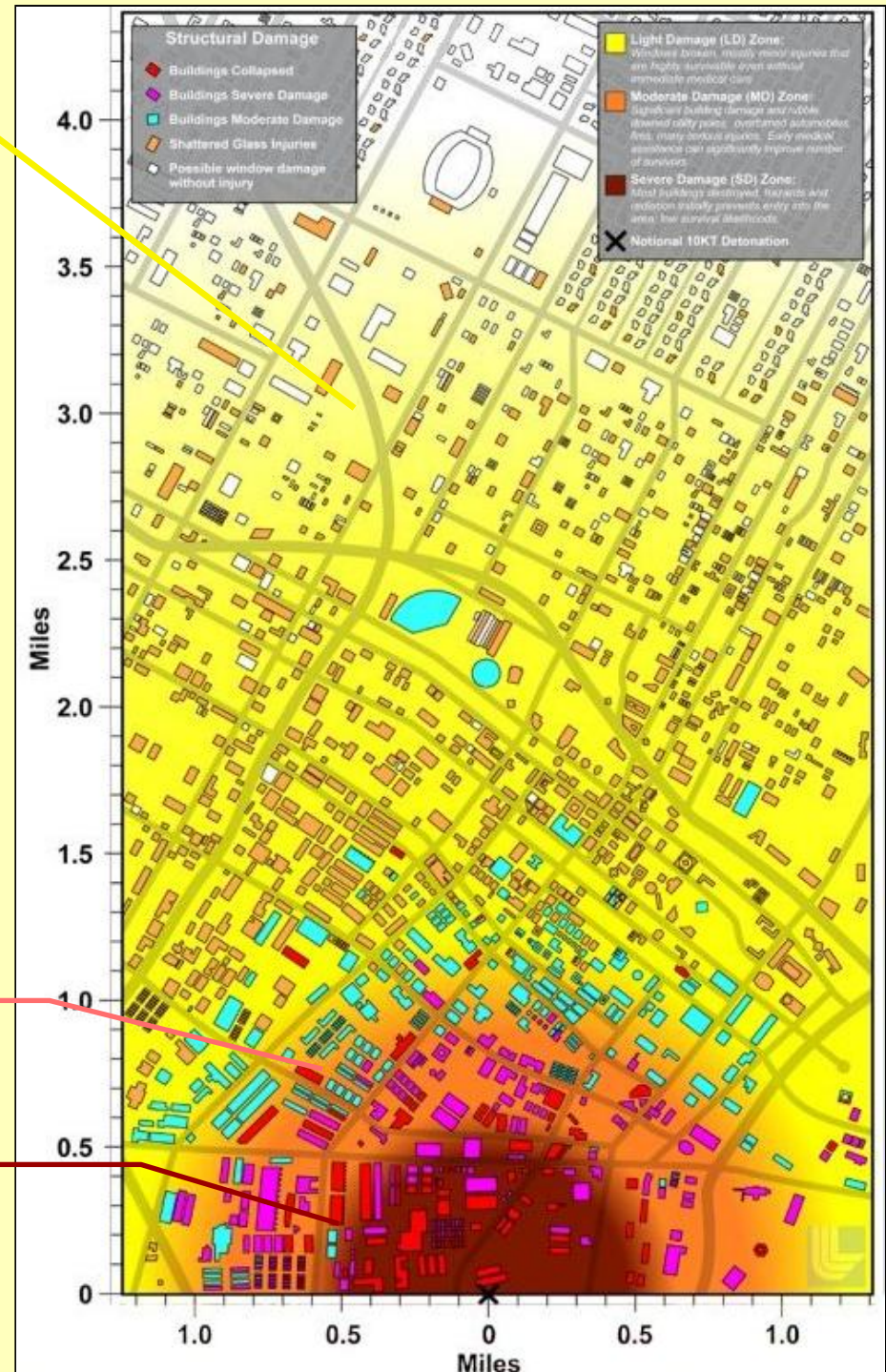
- Radios, TV.
- Computers.
- Motor vehicles.
- Water & Power.

Fallout Radiation.

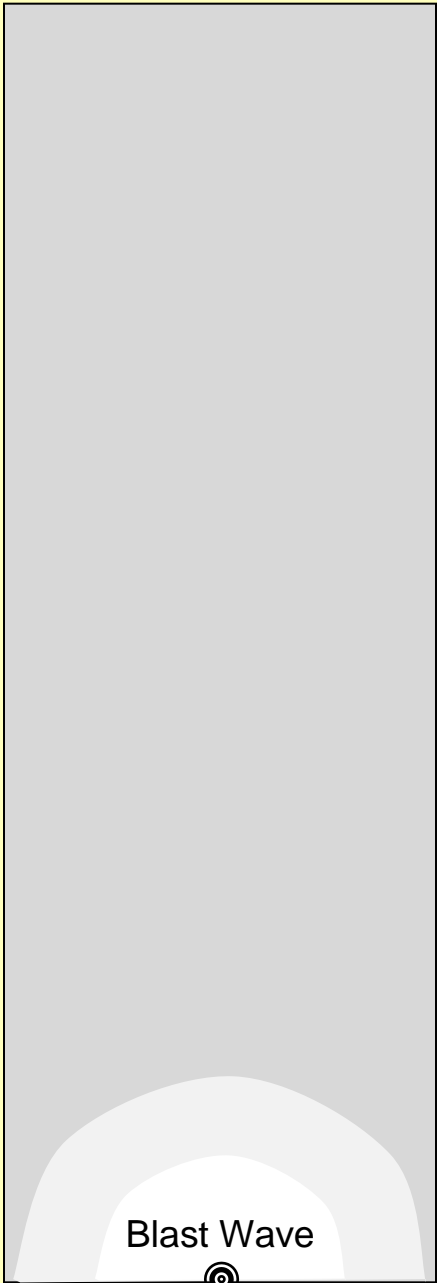
Survival possible.

Buildings blown in.
Vehicles overturned.
Survival questionable.

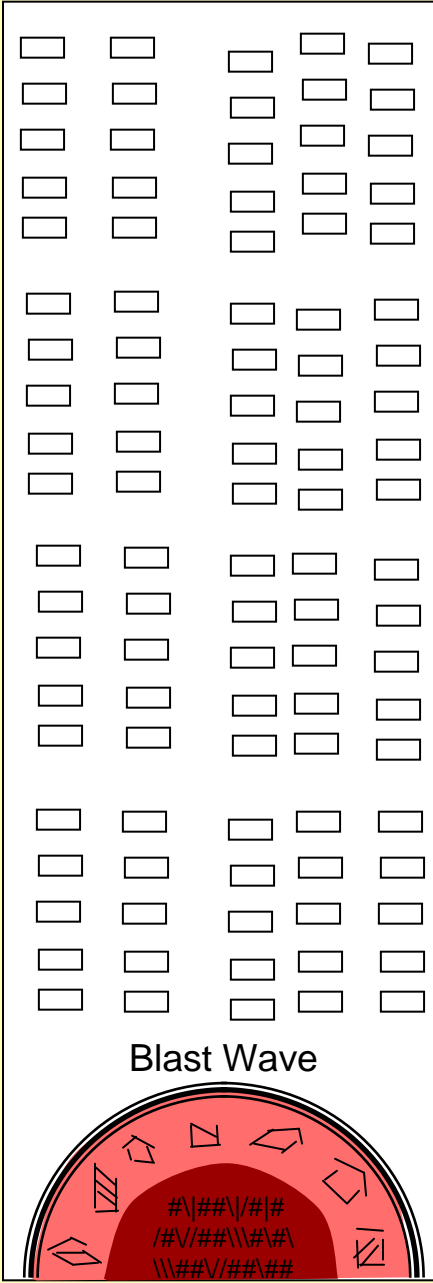
Rubble or vaporized.
Buildings collapsed.
Survival unlikely.



Blast Time Line.

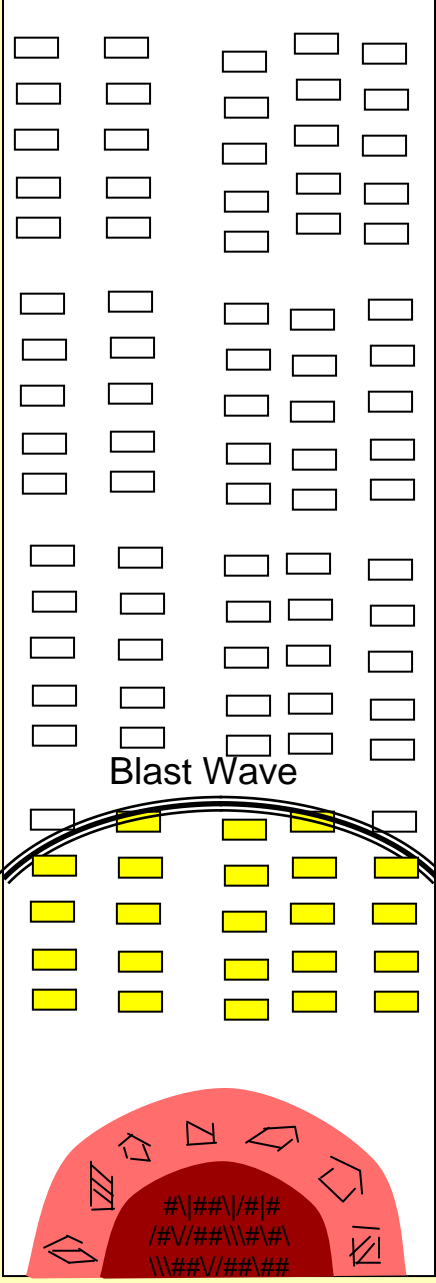


Flash

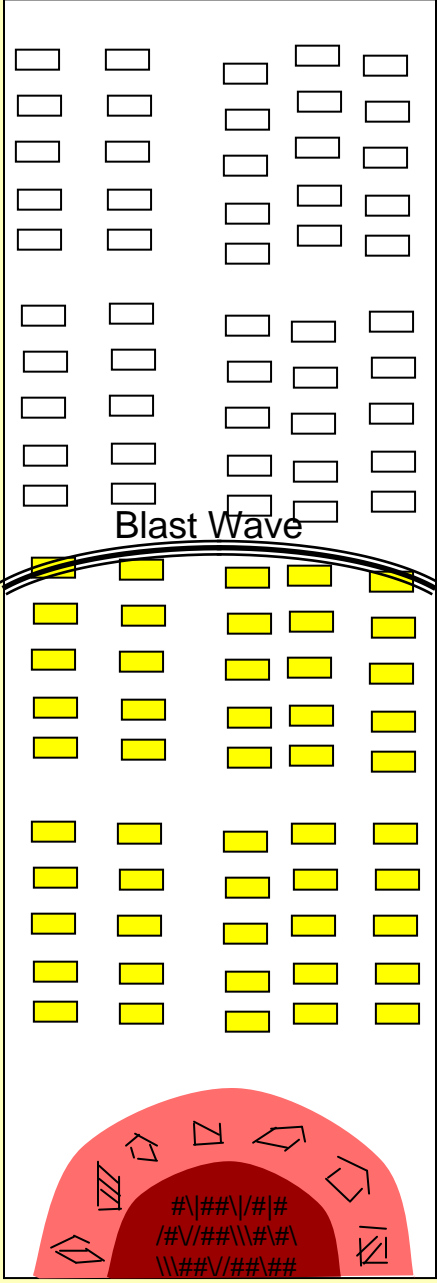


+ 3 Seconds

Miles



+ 8 Seconds

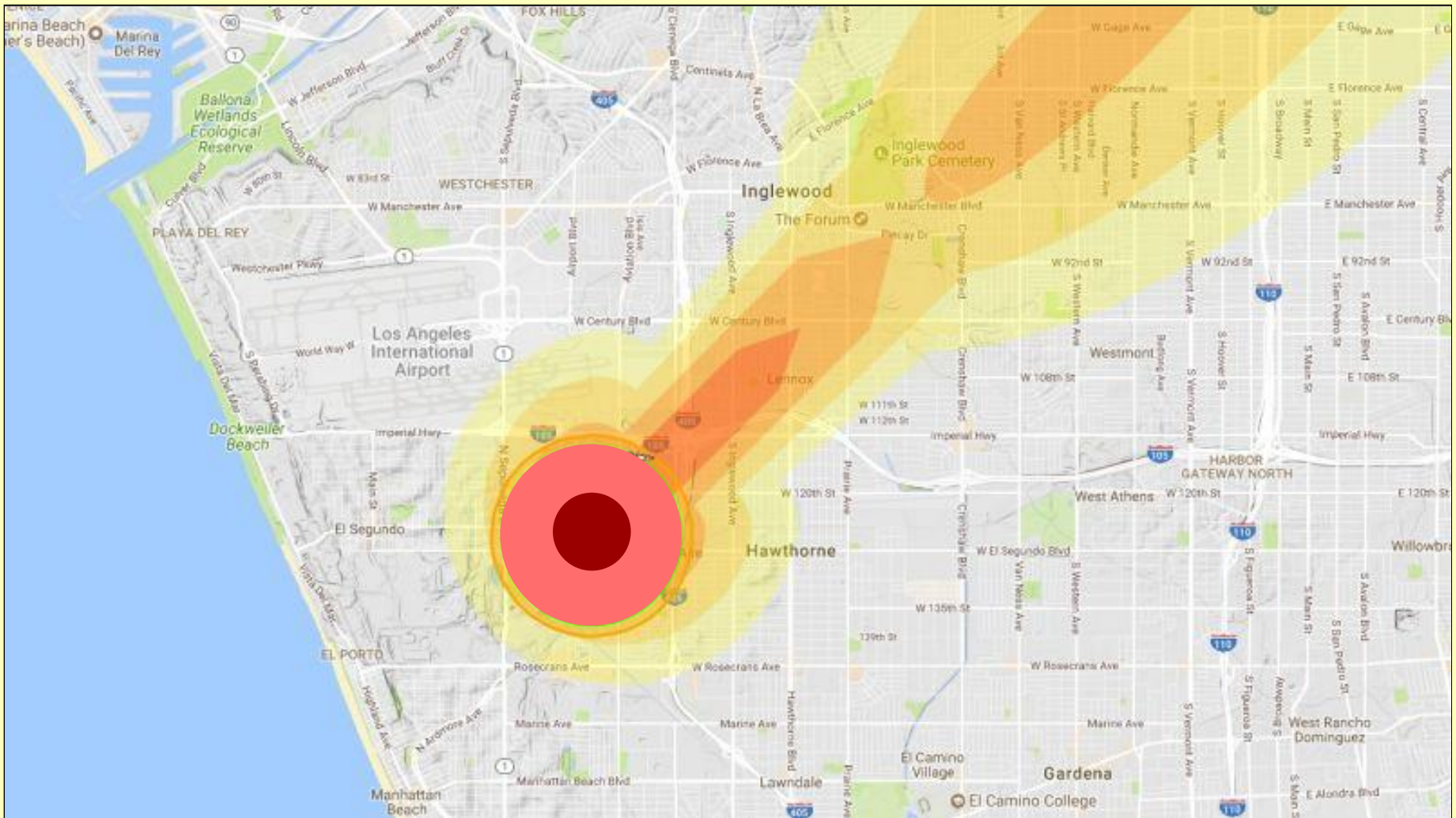


+ 13 Seconds

Action Plan: On Bright Flash, Drop and Cover.

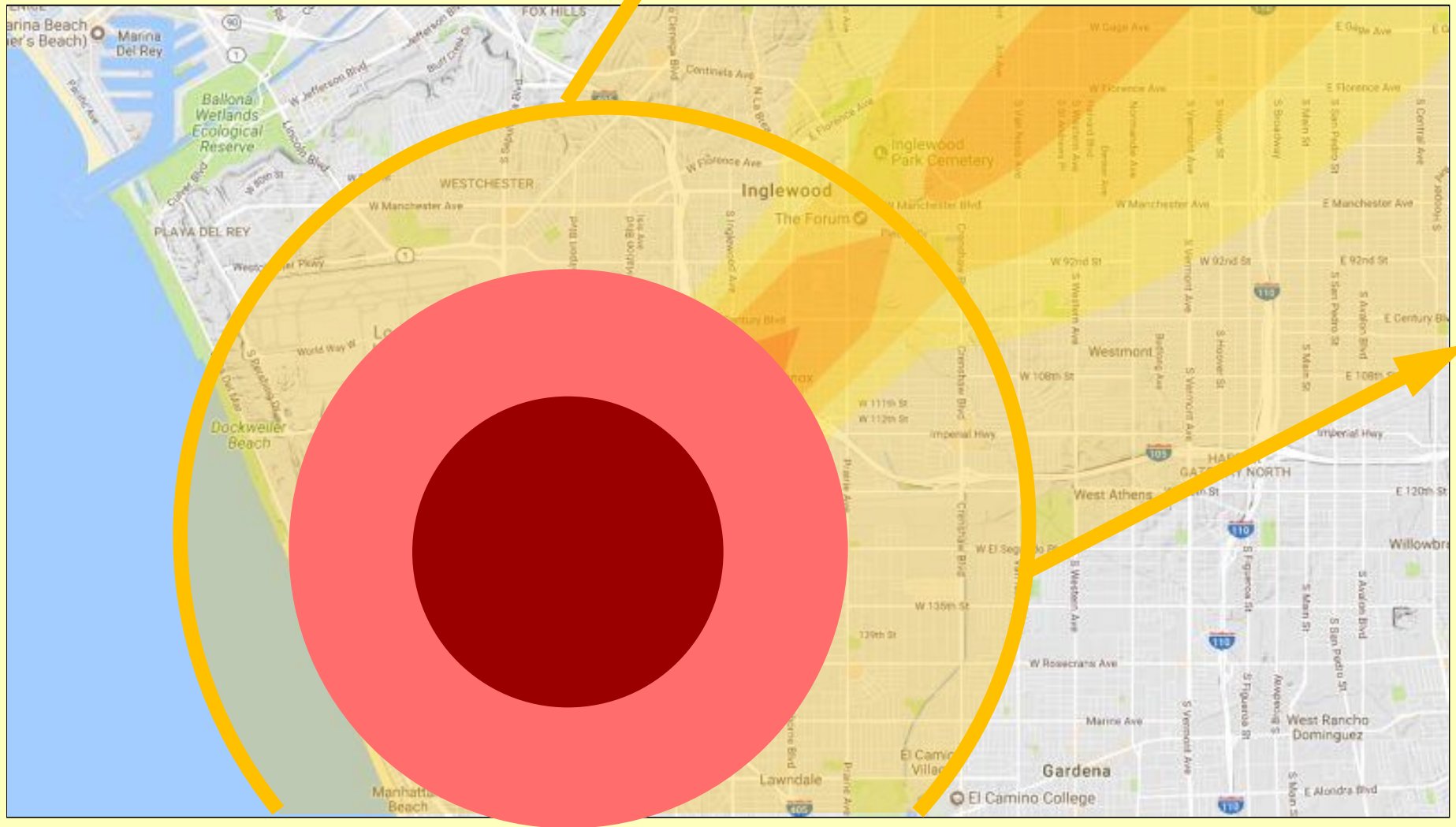


Threat 2. Fallout Radiation.



Example: 10 Kiloton explosion. (Backpack/suitcase bomb.)

Threat 2. Fallout Radiation



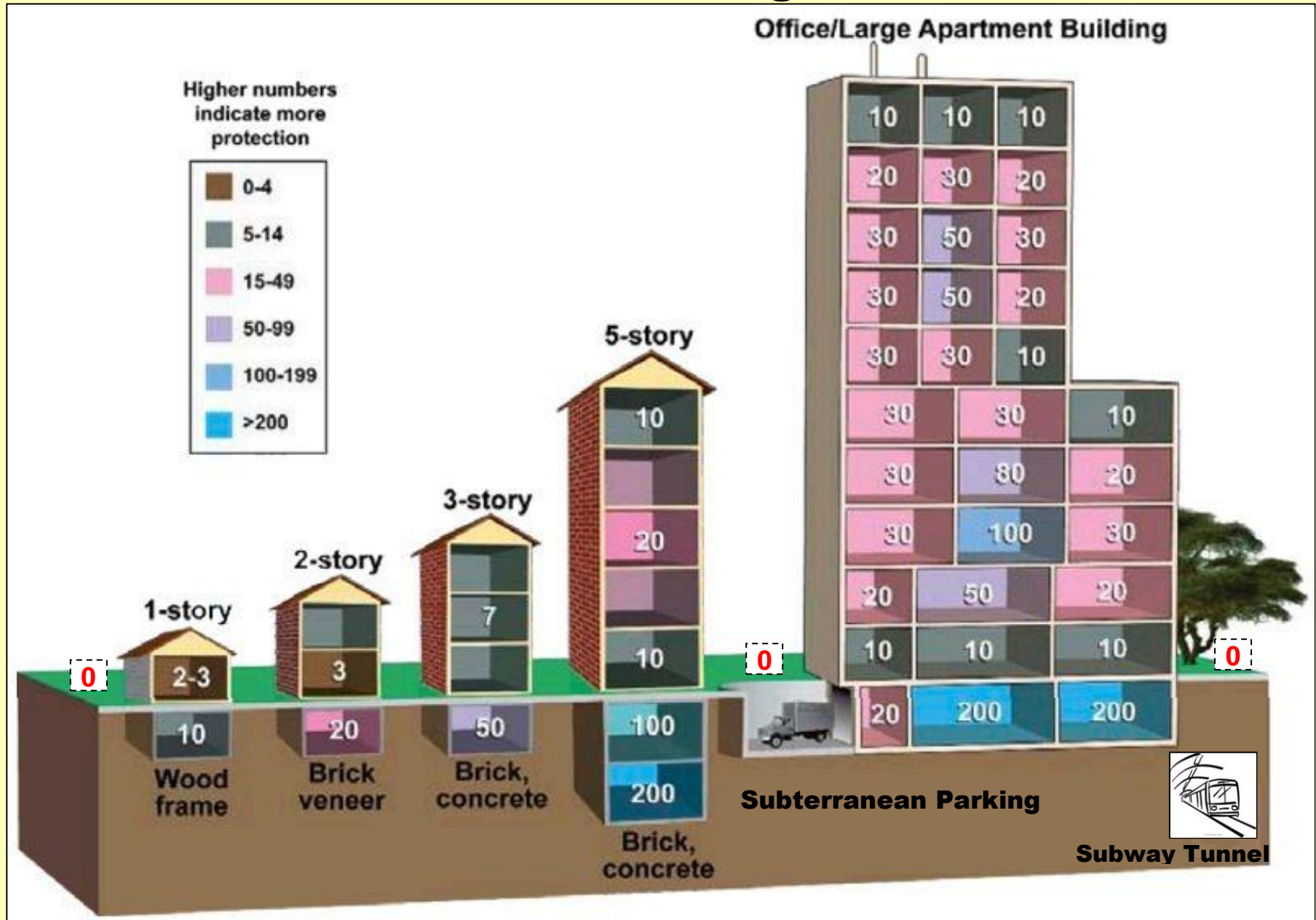
Example: 160 Kiloton explosion. (North Korea attack.)

(10x Yield = 2x Destruction.)

Solutions:

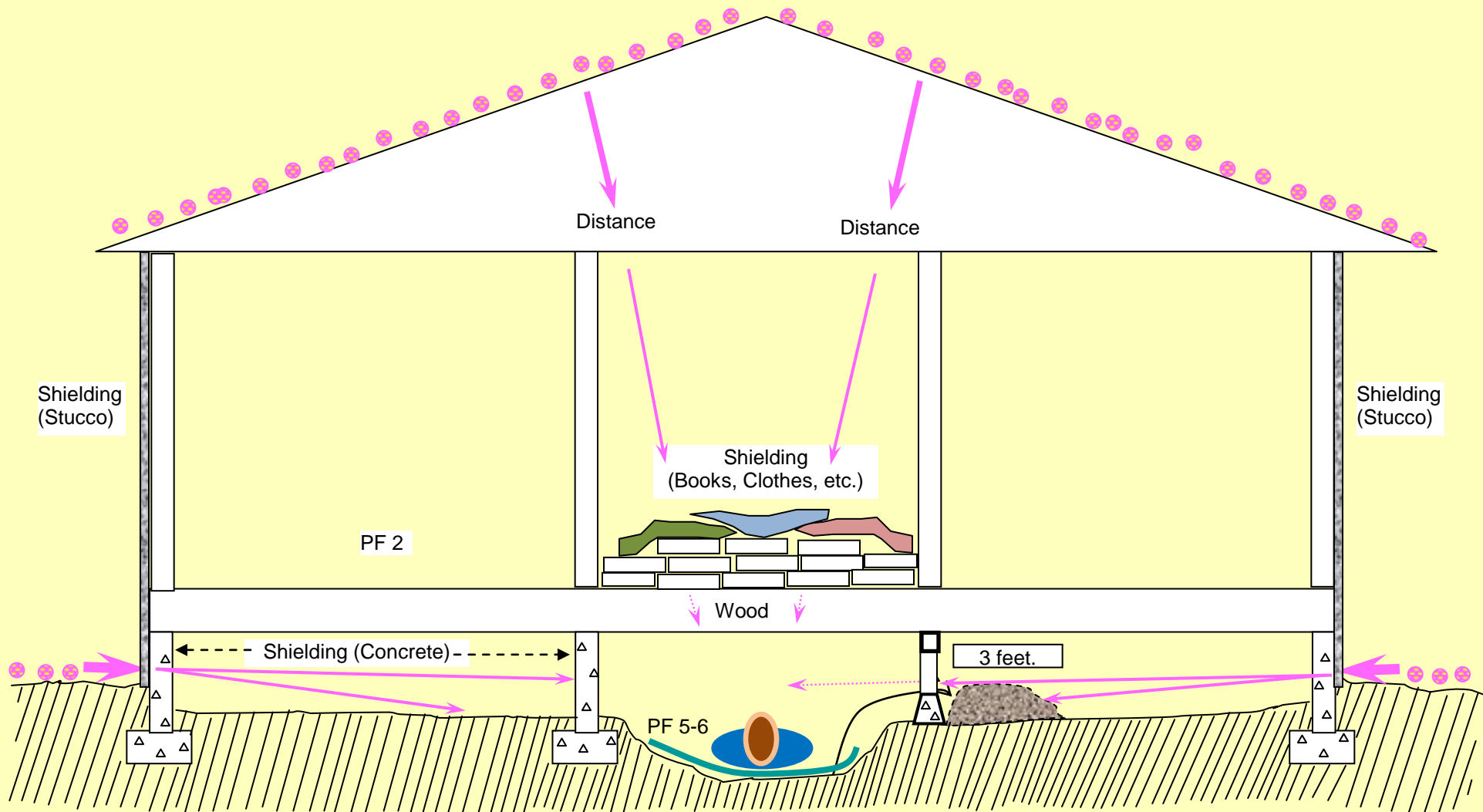
- **Distance from Fallout ash.**
- **Shielding.**
- **Time.**

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, Cloth.

What if No Basement?

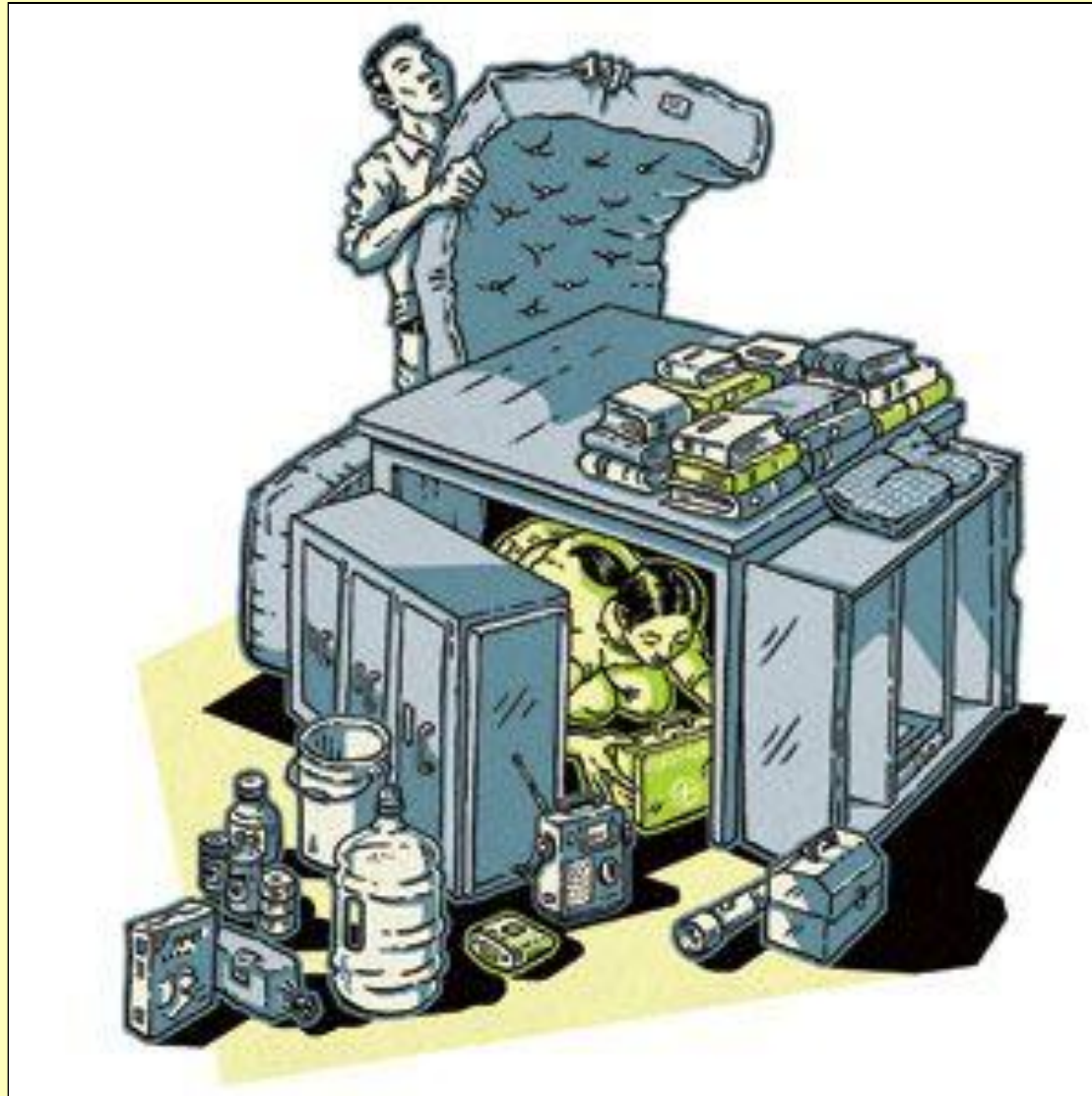


Dig and stock Shelter now with:

- 2 Gallons Water per person & pet.
- 6 Energy Bars per person & pet.
- 6 Light Sticks. N95 Dust Masks.
- First Aid Kit (w Potassium Iodide tablets).
- 1 Crank Radio/Light.

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

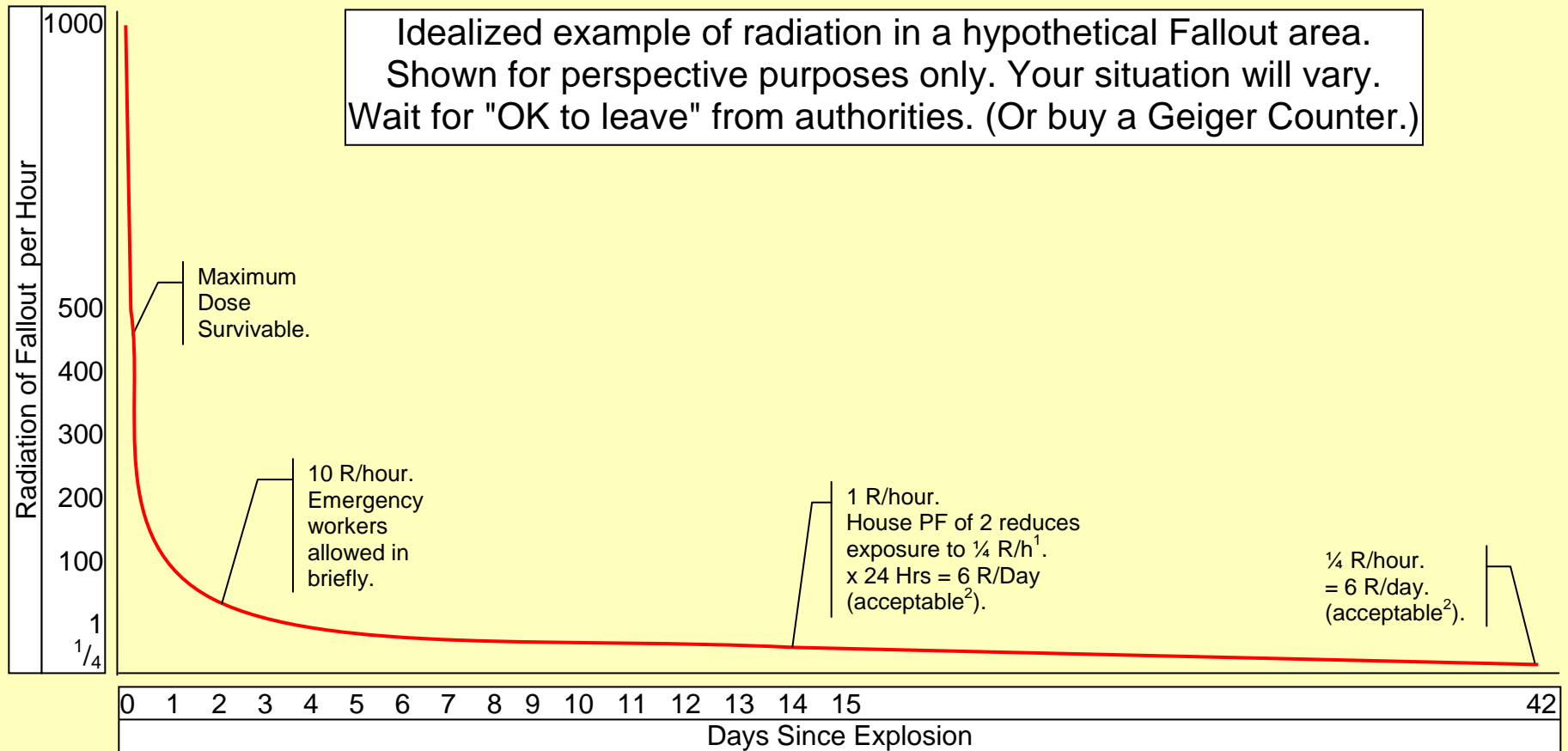
What if no Crawlspace?



Source: Popular Mechanics

- Assemble away from exterior walls.
- Pile up as much as possible before fallout starts.

Time - It's on your side.



Best Case: Shelter Evacuation possible & authorized.

Worst Case: Shelter (\geq 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 10 (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.**

Post-Disaster Basic Life Saving

(What to do immediately after a disaster.)

(Handout page 3)

Why Learn Basic Life Saving?

Why Learn Basic Life Saving?

Predictions:

- Major Fires 1600
- Collapsed Buildings 1500
- Collapsed Skyscrapers 10

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Response Resources:

- Firefighters & Paramedics 1100
- Fire Trucks & Ambulances 273
- Incidents addressed Day 1 **1%**

Why Learn Basic Life Saving?

Predictions:

- Major Fires 1600
- Collapsed Buildings 1500
- Collapsed Skyscrapers 10

Response Resources:

- Firefighters & Paramedics 1100
- Fire Trucks & Ambulances 273
- Incidents addressed Day 1 **1%**

**We must
take care of ourselves
and each other!**

BASIC Life Saving.

(Based on Critical Time-Windows.)

B **Body Protection Gear.**
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 Body Protection Gear.

A

- Sturdy shoes.

- N95 Dust Mask

S

- Leather work gloves.

- Flashlight.

I

If at work, add:

C

- Sterile gloves.

- Eye shield.

S

- Helmet

B Basic Life Saving Intervention.

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

A

▫ Burning.

▫ Buried.

S

▫ Bleeding rapidly.

▫ not Breathing.

I

C

S

B Basic Life Saving Intervention-

A

S

I

C

S

□ Burning.



- Stop, Drop & Roll.
- Smother with towel, coat, blanket, rug, etc.
- Extinguish with water or CO₂ extinguisher.
- Cover face. Extinguish with A:B:C extinguisher.

B Basic Life Saving Intervention-

▣ Buried.



Remove:

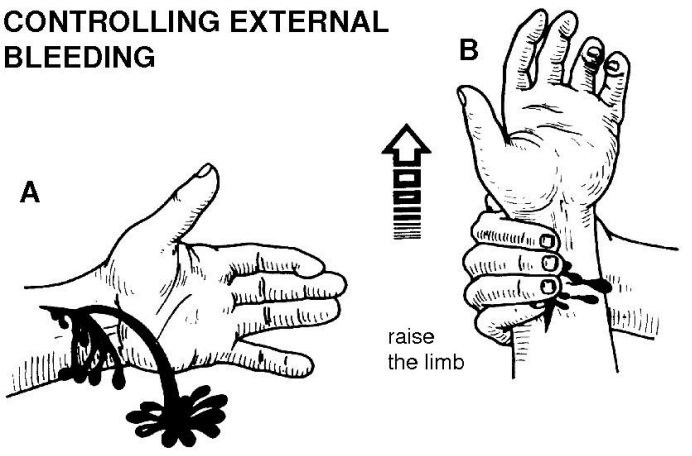
- Debris from face,
- Weight from chest.

B Basic Life Saving Intervention-

□ Bleeding rapidly.

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

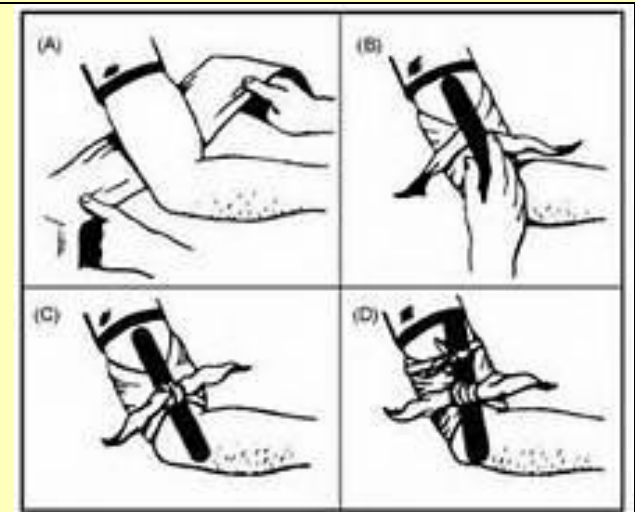
CONTROLLING EXTERNAL BLEEDING



1. Direct Pressure and Elevation



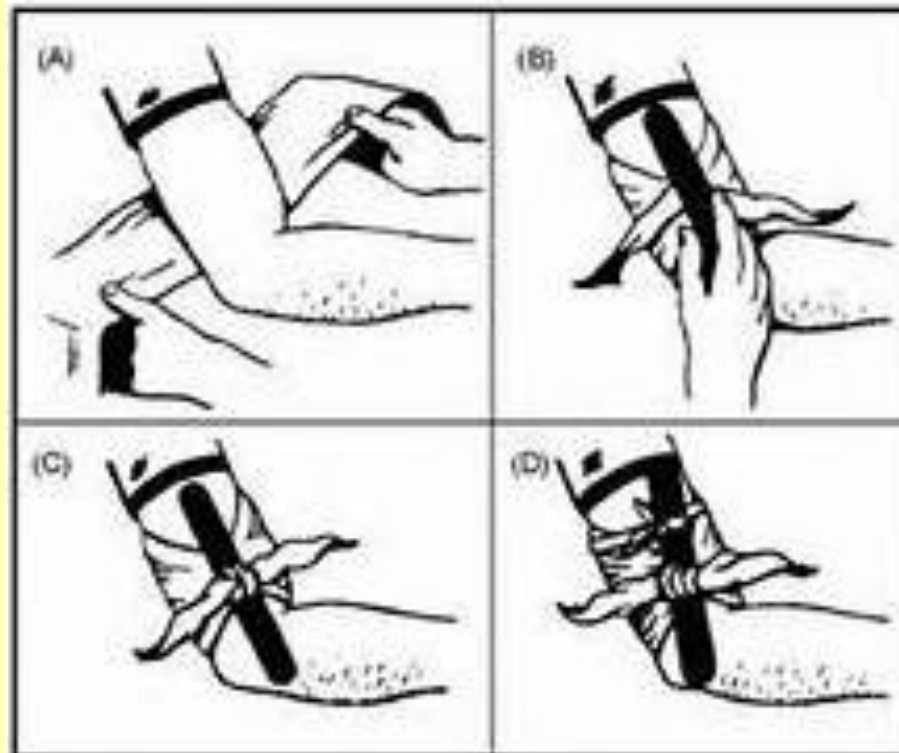
2. Pressure Bandage



3. Tourniquet on rapid bleeding or amputation.

Practice Break!

Make a tourniquet from something you have with you.

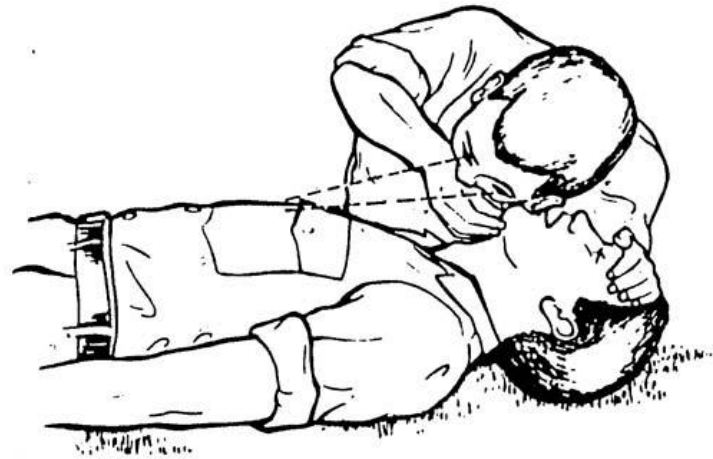


B Basic Life Saving Intervention-

□ not 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.

B

A ABCs of life.

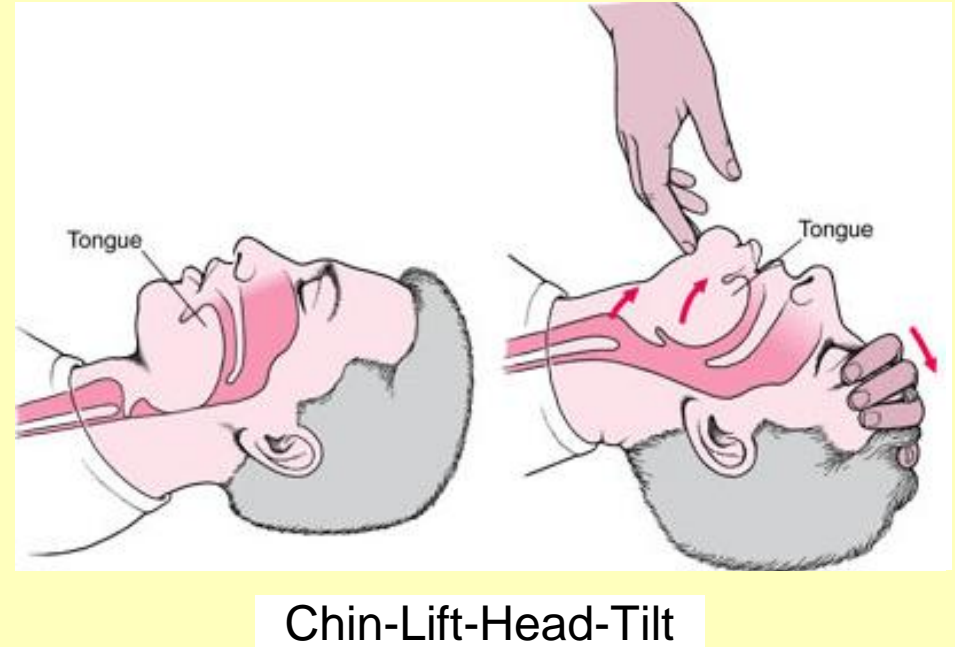
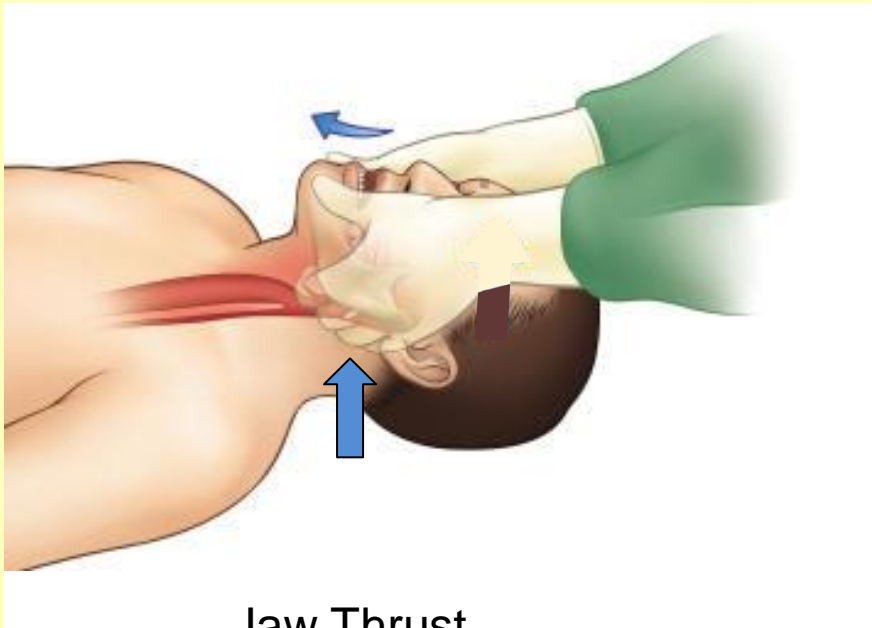
- **Airway.** Clear mouth. Open Airway by Jaw Thrust. If no breathe, try Chin-Lift-Head-Tilt.
- **Breathing.** If Carotid Pulse but still not breathing, start Rescue Breathing.
- **Circulation.** If no Carotid Pulse, start CPR.

S

I

C

S



Maintain **A**irway via **HAINES** Position (High Arm In Neck **E**xpose **S**pine - UK version)

- Keeps Airway open while you size up your home for fires and damage that requires 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.

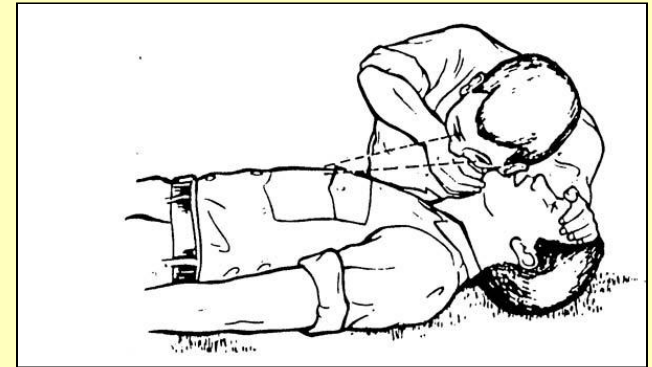


New Recovery Position

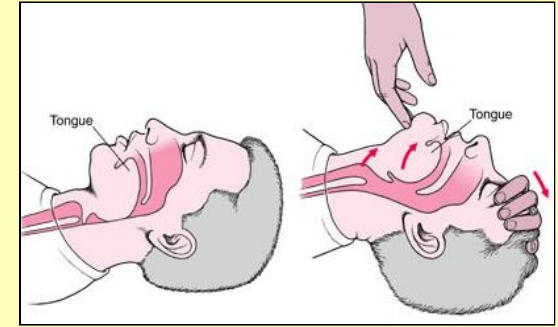
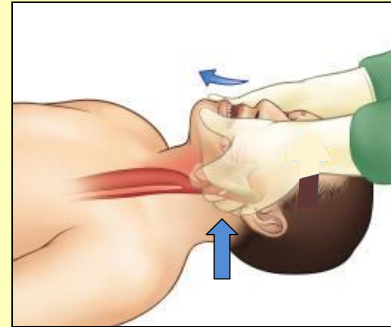
Head may slide off arm exacerbating any spinal injury.
Don't use.

Practice Break!

1. Look, Listen & Feel for Breathing and Carotid pulse.



2. If not breathing:
Open Airway via:
1st Jaw Thrust.
2nd Chin-Lift-Head-Tilt.



3. If pulse but not breathing → Rescue Breathing 1) Breath@5 sec.
If no pulse or breathing → CPR 30) 2"-compressions, 2) 1-sec. breaths.

4. Maintain Airway by HAINES position.

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



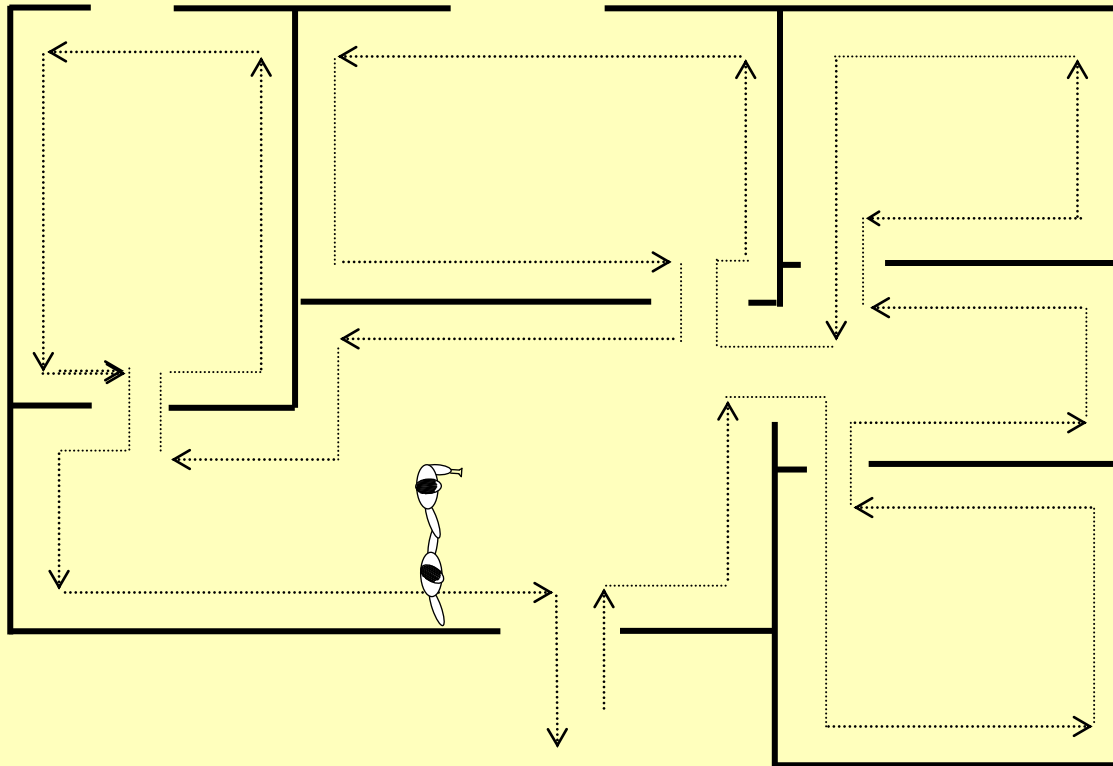
B

Size-up Building

A

- Do lap around inside. (Your home, business, or office)

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 touch anything electric!**



Size-up Building (continued).

- Do lap around outside.

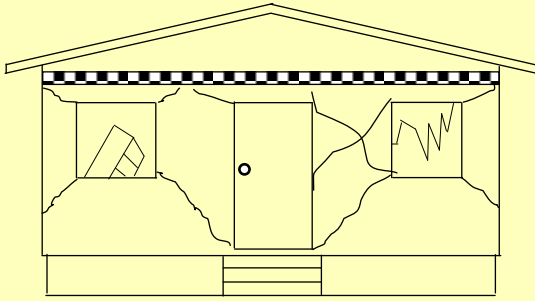


B
A
S
I
C
S

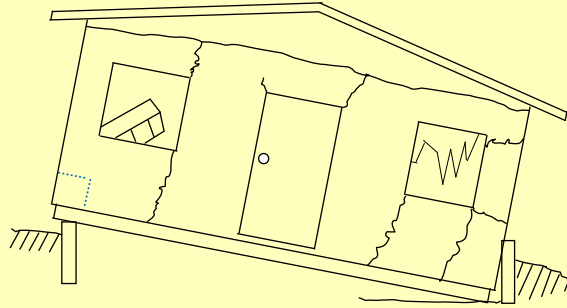
If you See:

(Handout page 4.)

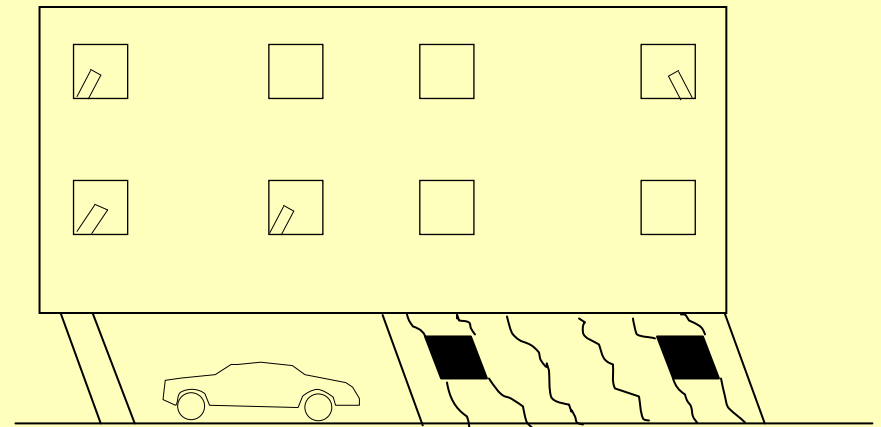
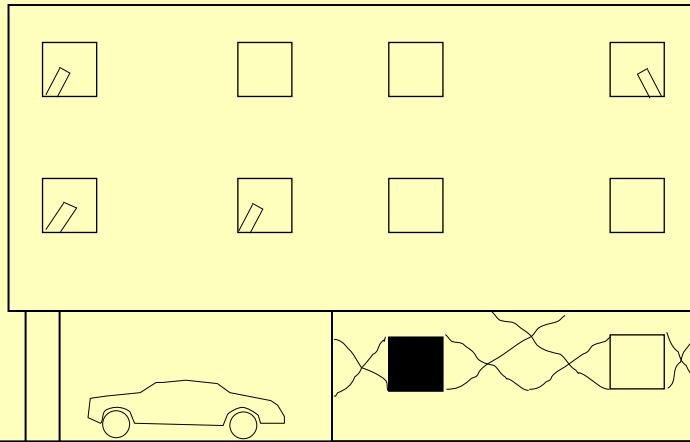
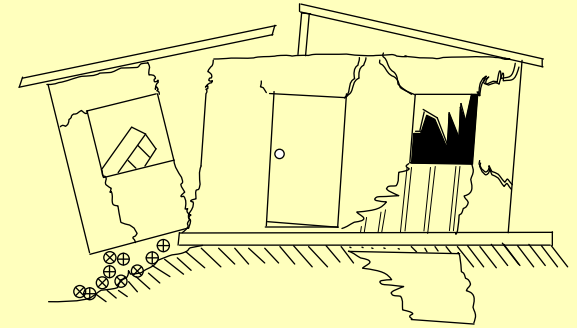
"X"-cracks



Tilting



Broken walls or any collapse

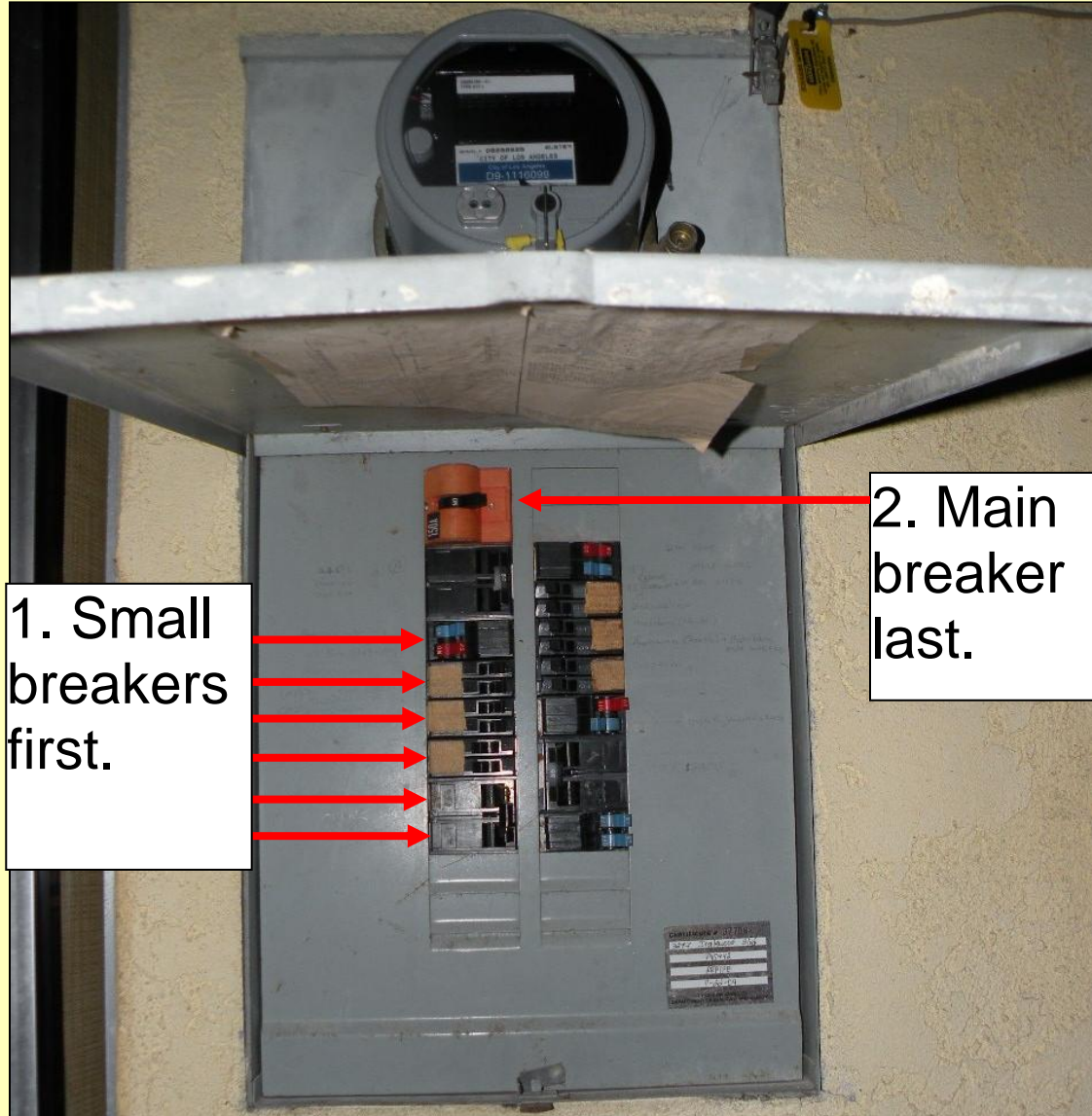


Racked supports/walls

or **S**mell smoke or gas, ...

Shut Off Utilities (in alphabetic order).

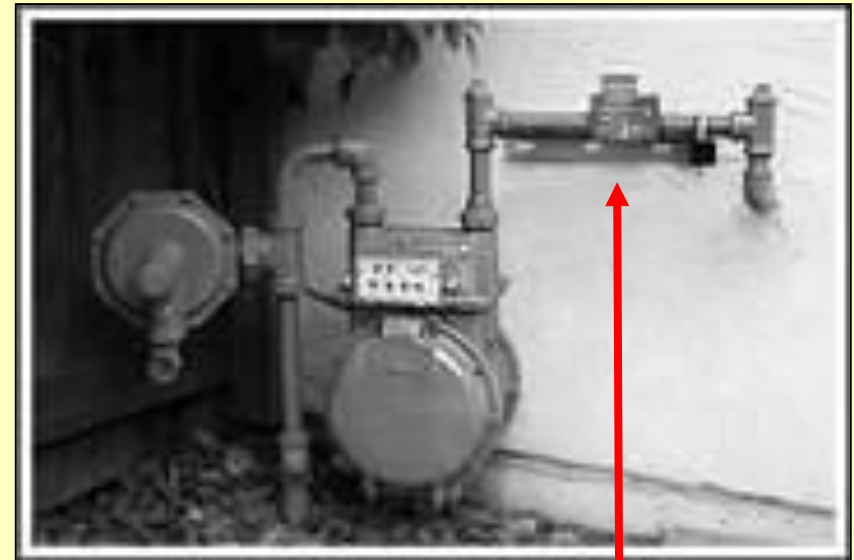
1. Electric Power...



1. Small breakers first.

2. Main breaker last.

2. Gas...



Keep a shut-off wrench taped to valve.
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 □ **Shout-out those mobile.**

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

I

. Saves as many as possible if building is collapsing.

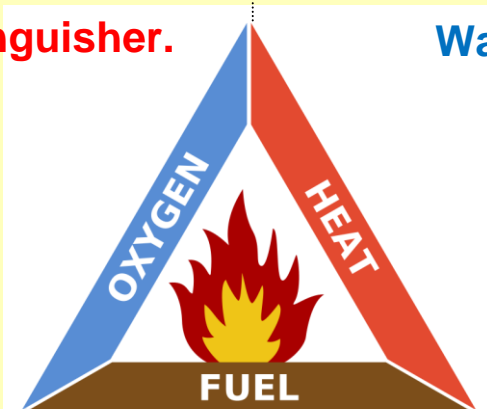

. Tells you who is injured / trapped / missing.

. Assembles a team for rescue work.

C

S

□ **Suppress any small fires.**

Method depends on <u>Fuel</u> burning.		How to use a Fire Extinguisher.
<p><u>Person/Animal.</u> Blanket, CO₂.</p> <p><u>Fabric, Paper, Wood, Electrical, Grease, Oil</u> ABC Extinguisher.</p>	<p><u>Person/Animal.</u> Water.</p> <p><u>Fabric, Paper, Wood.</u> Water.</p>	 <p>T <i>wist</i> TWIST pin to break the safety seal and unlock the Extinguisher</p> <p>P <i>ull</i> PULL out the safety pin from the Extinguisher</p> <p>A <i>im</i> AIM at the base (bottom) of the fire and stand 6 to 8 feet away</p> <p>S <i>queeze</i> SQUEEZE the lever to discharge the extinguishing agent</p> <p>S <i>weep</i> SWEEP the nozzle from left to right until the flames are totally extinguished.</p> 
<p><u>Natural Gas.</u> Shut off Gas.</p>		

TPASS © PAL Fire Protection, Inc.

If fire is next door or approaching,

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

B

(Review)

A

S **Size-up Building.**

If you:

I

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

Smell gas or smoke,

C

then:

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

S

Shout out those mobile,

Suppress any small fires.

B

A

Size-up Victims for:

▣ **Scene Safety? Avoid:**

S

- **Sharps - Glass. Plaster or boards w nails.**
- **Wires - (In case you didn't shut off Electricity.)**

I

▣ **Spinal injury?**

Suspect if:

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

C

▣ **Skeletal injury?**

S

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

REVIEW

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

Burning,

Buried,

Bleeding (rapidly),

not **B**reathing. (For these, check ...

A **ABC**'s of life.

Airway.

Breathing.

Circulation.

S **Size-up building.**

Smell Smoke or Gas, or

See X-cracked, leaning or separated walls, or any collapse? If so, then ...

Shut-off utilities,

Shout out the mobile,

Suppress any small fires.

Size-up victims.

Spinal injury? Tender. Peripheral Motor/Sensation deficit. Unconscious.

Skeletal fractures? Deformity or Pain.

B

A

S

I

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

Immobilize spinal injury & major fractures.

C

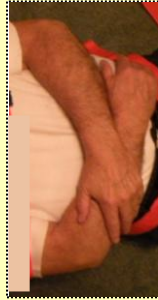
Carry Casualties out of Harm's Way.

S

(Otherwise, DO NOT move casualties.)

B **I**mmobilize Major Fractures. (Stabilize, versus Splint.)

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



A

S

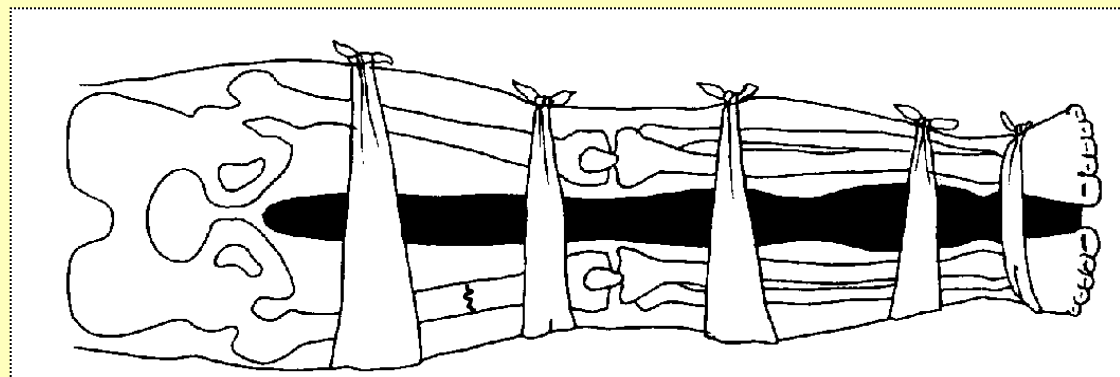
Pelvis - Cinch with wide belt or swath.



I

C

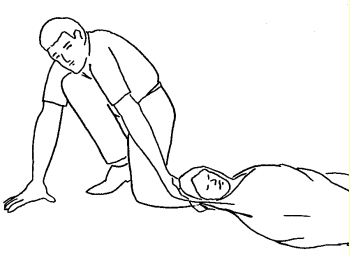


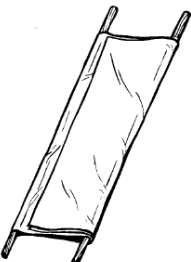






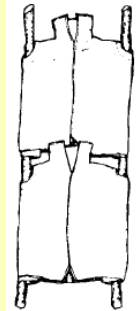
Leg - Pad between. Bind Bad leg to Good.



S

B**A****S****I****C****S**

Carry Casualties out of Harm's Way. (Handout page 5.)

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

Practice Break!

Size-up Victim

Scene Safe?

Spinal Injury?

Skeletal Injury?

(Rapid Trauma Check)

Check room's 6 sides for sharps, loose overheads, wires.

Tender? Can't move/feel finger(s) or toe(s)? Unconscious?

Palpate arms, shoulders, chest, hips, legs for pain, deformity.

Immobilize fractured limbs. Avoid rolling victim to injured side.

Carry Victim to safety.

Blanket drag.

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

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

If victim is conscious, victim can interlace fingers.

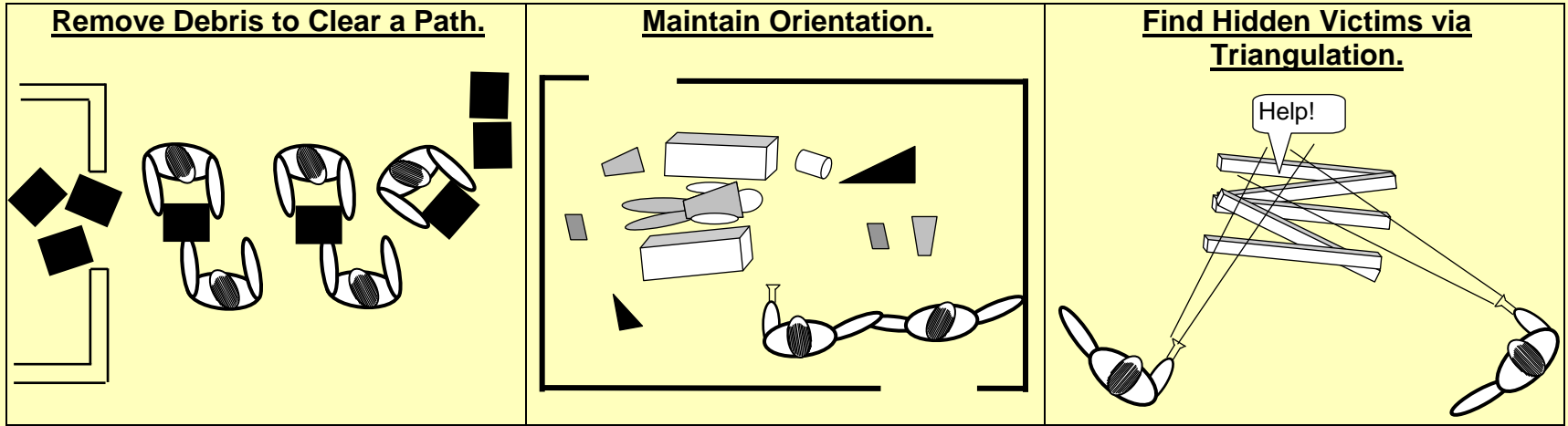
If unconscious, Tie wrists with tie, scarf, shirt sleeve.

Use a belt, tie or scarf for head-supporting loop.

B

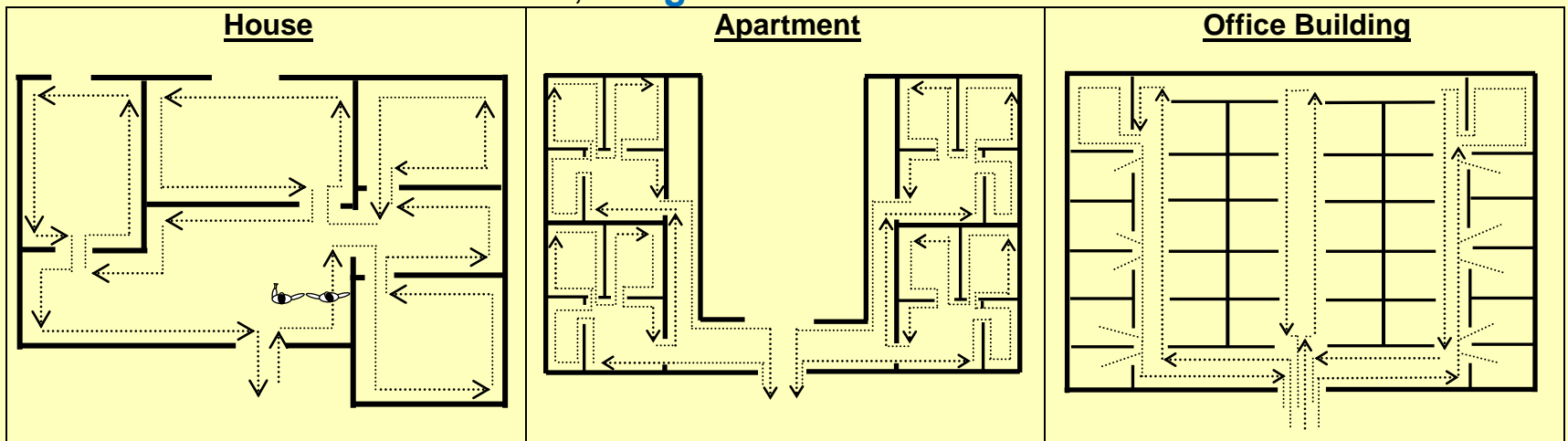
Search for any Missing (or for an Exit). Handout page 5.

How to:



Search Patterns

Follow walls, "Right to Rescue. Left to Leave."



A

S

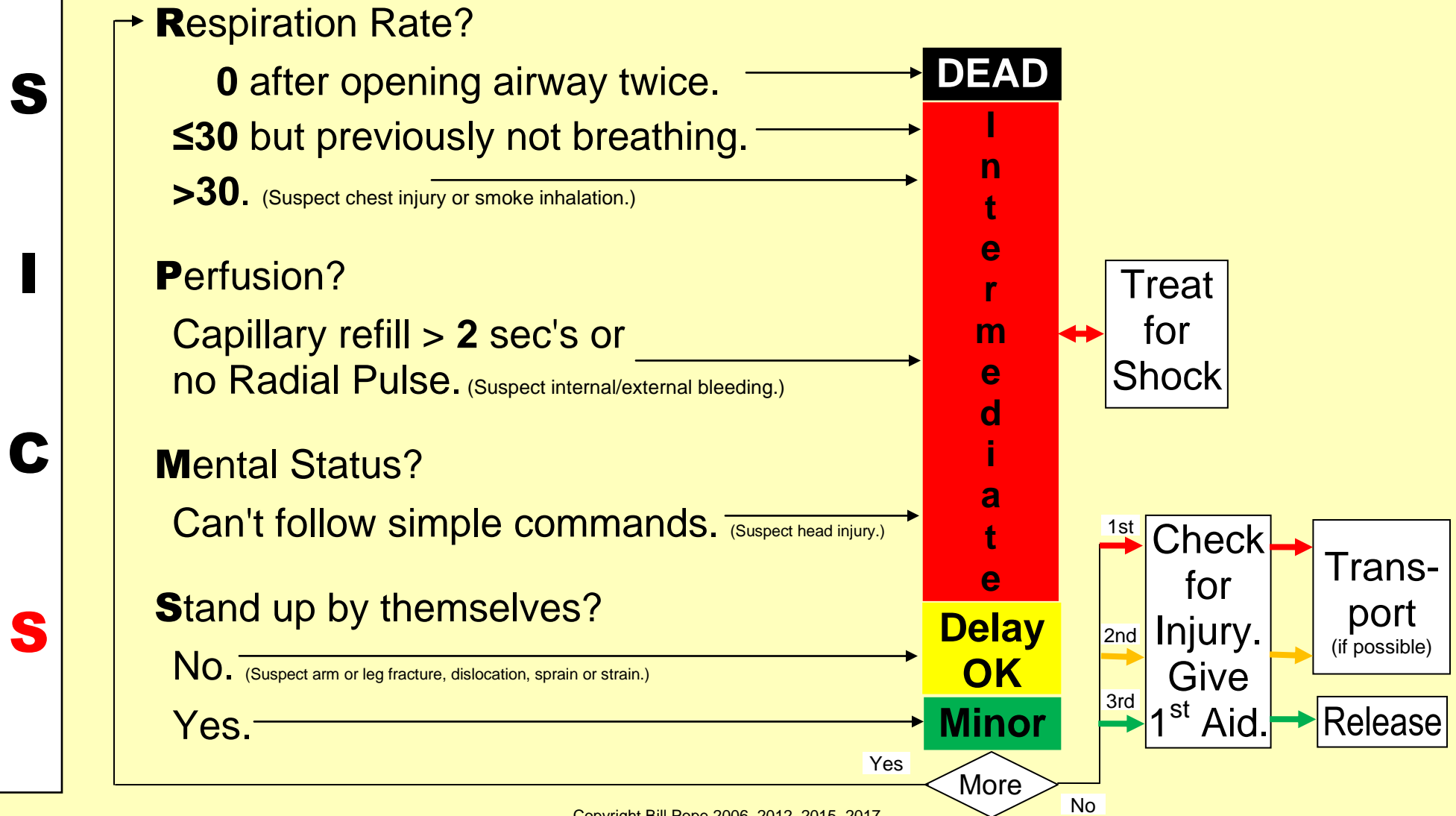
I

C

S

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

A To know how well an engine is running, checks its RPMs.
To know how well an person is doing, checks their RPMs.



REVIEW

B **B**asic Life Saving Intervention for:
Burning, Buried, Bleeding, not Breathing.

A **A**live? Check **A**BCs of Life.
Airway (Open), Breathing (MTM), Circulation (CPR).

Size up building.

S Smell, See, → Shout-out, Shut-off, Suppress.

Size-up victims.

Scene Safety. Spinal injuries. Skeletal injuries.

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

C **C**arry immobile out.

S **S**earch for any missing.

S **S**ort for 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 & Ice (Splice).
Pelvis:	Bind & 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.

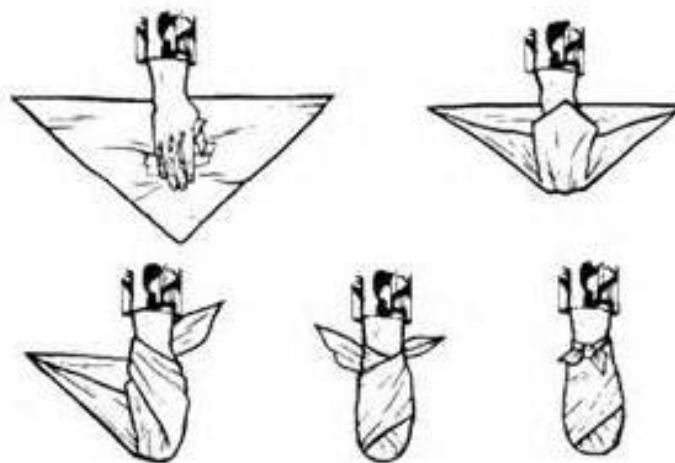
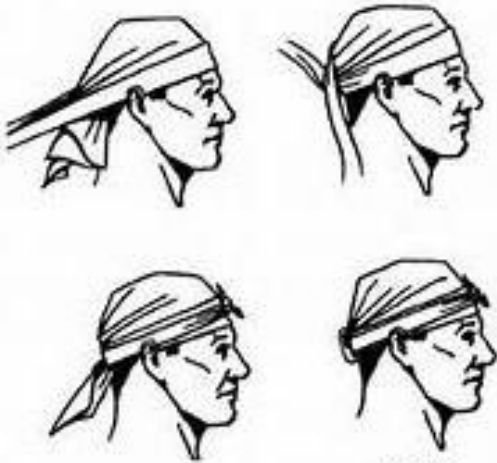


4. Verify Circulation.



5. Immobilized joints above & below.

Triangle Bandage = Many Uses



Option A.



Option B.



B

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

A**S****I****C****S**

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 contact via phone is not possible.) _____

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

1st Choice: _____

2nd Choice: _____

Neighborhood Emergency Response Team's Command Center: _____

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 building already raided.**

2. SHELTER

Find.

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

Government Shelters (Local government, FEMA, etc.).

Build.

Principles:

- **Dry.**
- **Preserves body heat.**
- **Defensible.**

Methods (best to worse-case):

- 1. Block off structurally-stable section of home with plywood, "Space" blankets, plastic sheeting, etc.**
- 2. Tent.**
- 3. Lean-to.** (Facing 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 & sun.



Bow & Spindle.



3. FIRE STARTING

My All-Time Favorites

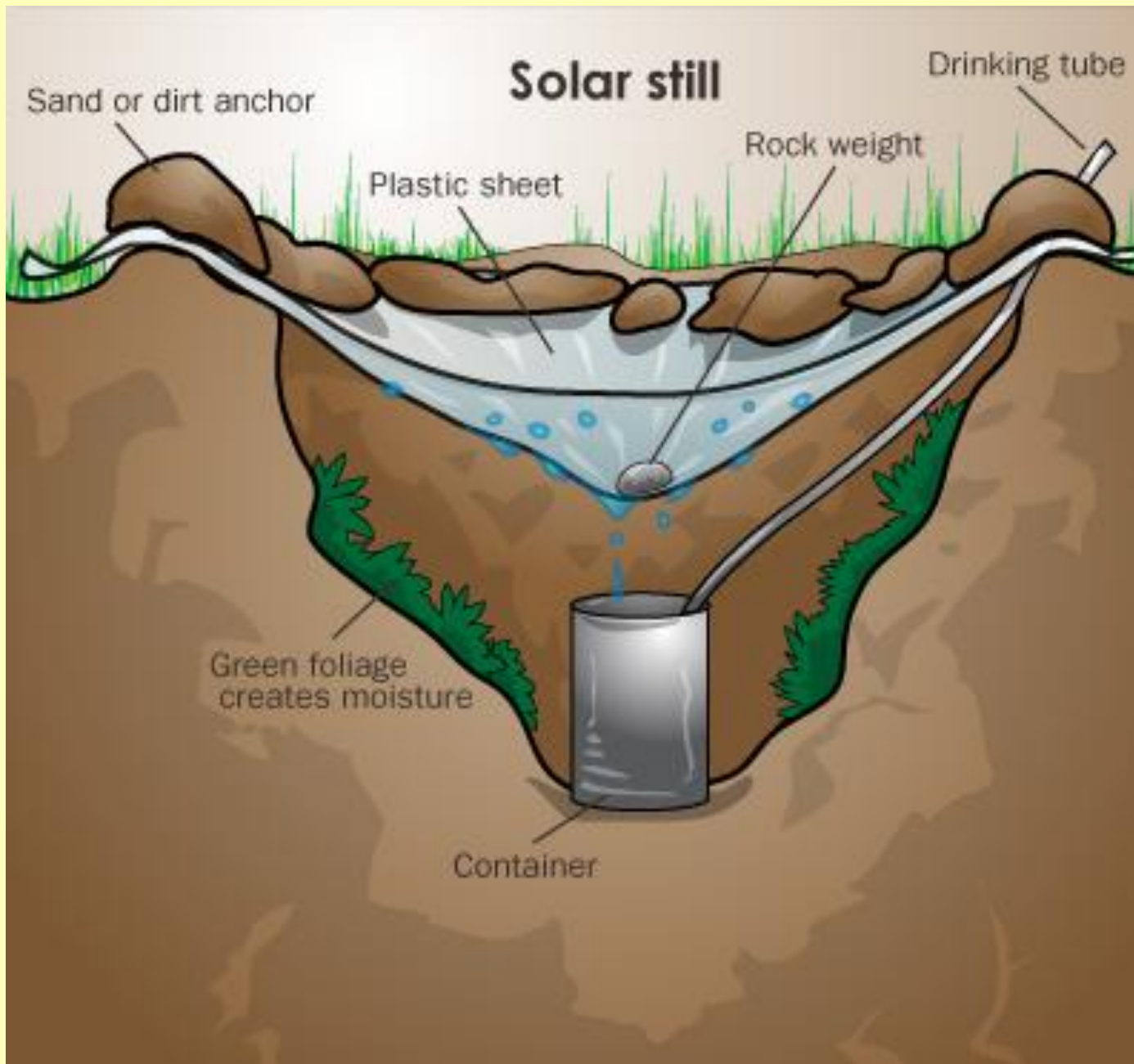
Waterproof Matches



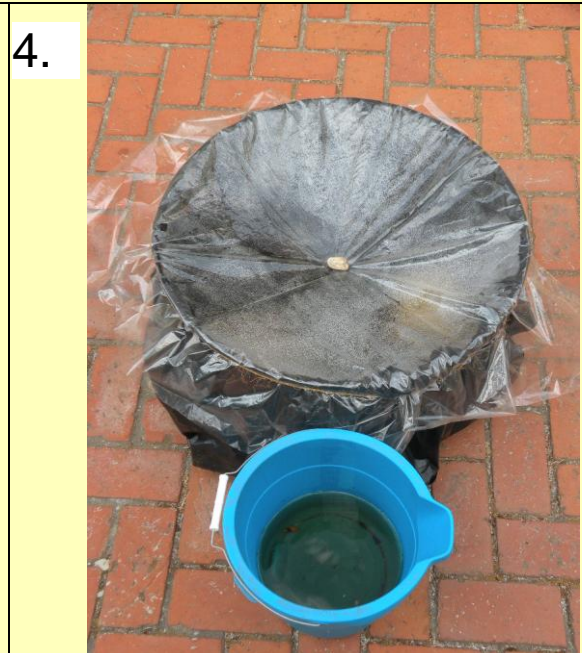
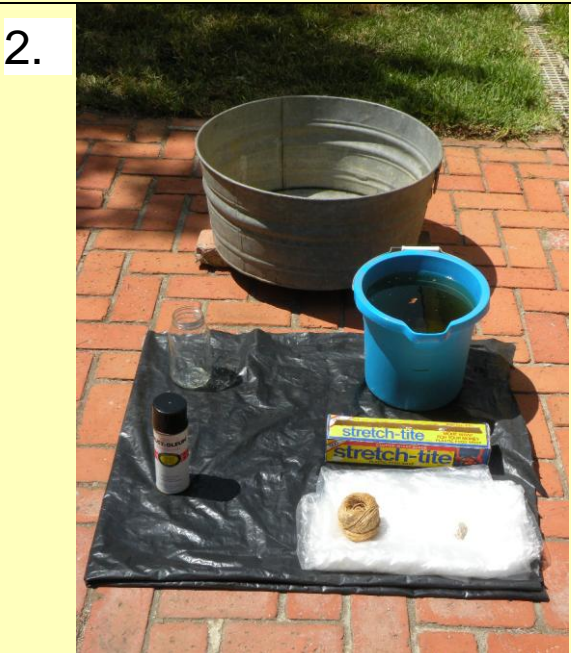
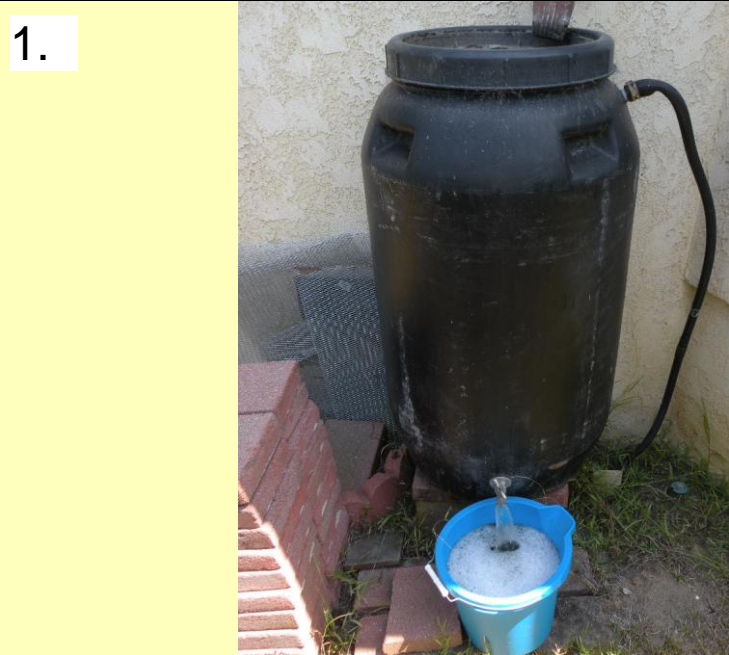
Cigarette Lighter



4. WATER ACQUISITION - Solar Well.



4. WATER PURIFICATION METHODS - Solar Still.



4. WATER PURIFICATION METHODS.

Filter



Removes debris, chemicals & chlorine.

Disinfect w Iodine / Bleach.

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



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

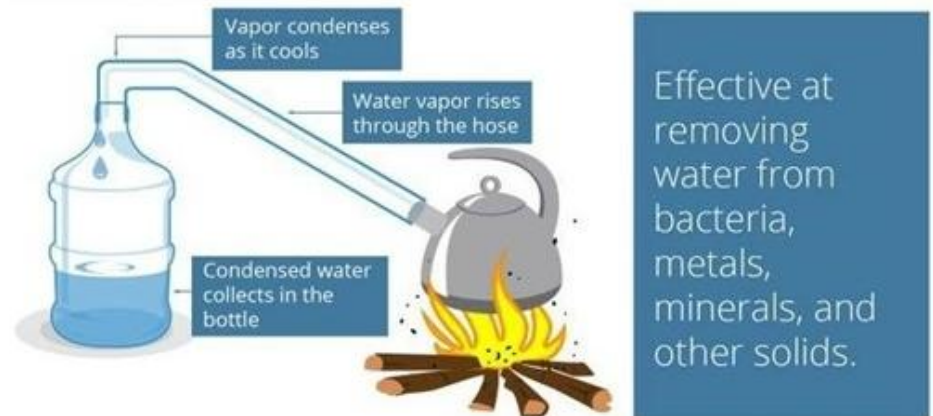
Disinfect by Boiling.

- 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 (150° for 10 minutes) kills most.)

Disinfect & Purify by Distilling.



Effective at removing water from bacteria, metals, minerals, and other solids.

Kills bacteria, virus. Remove salt, heavy metals.

4. WATER PURIFICATION METHODS



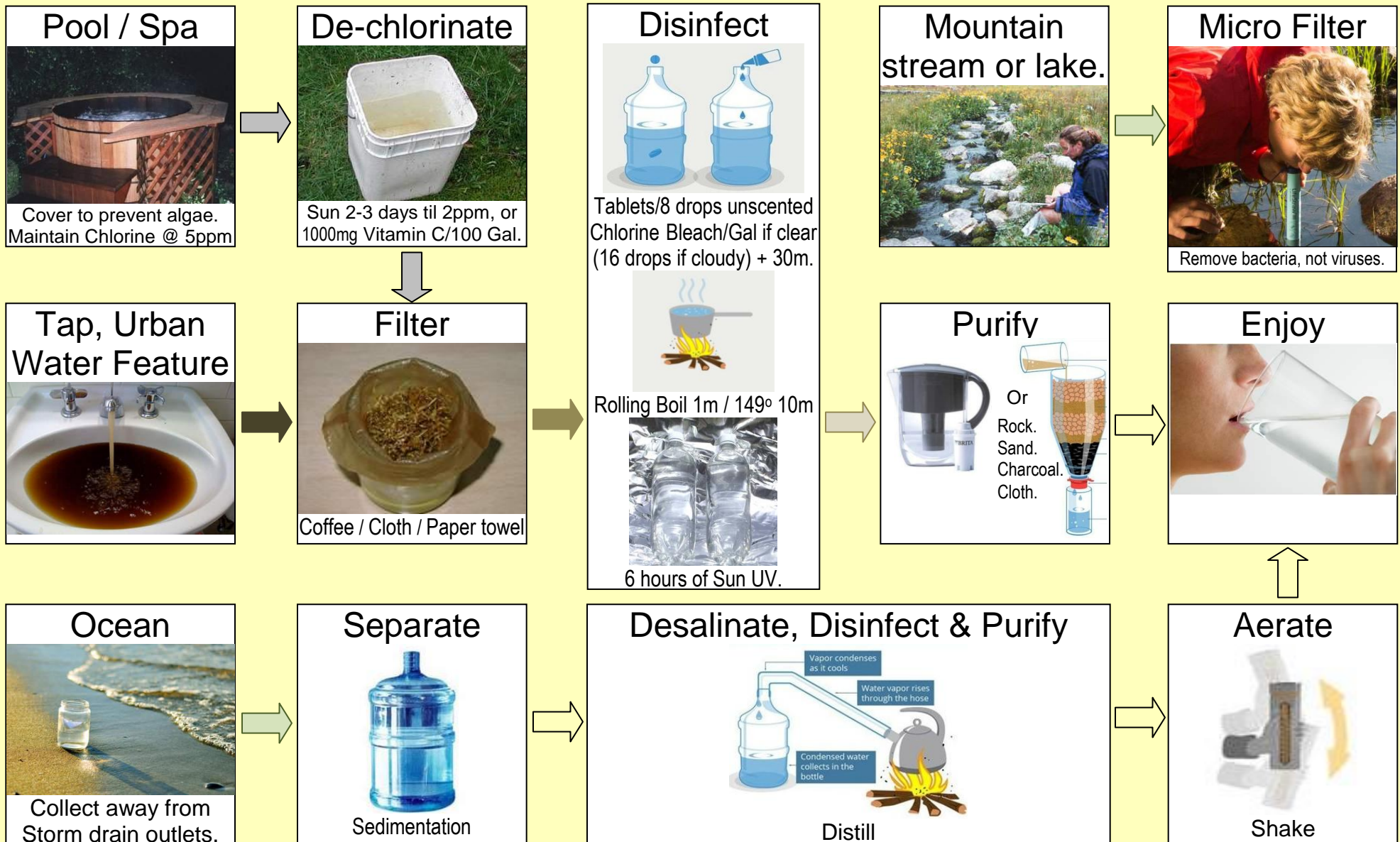
- Filters at least 1,000 liters of water (264 gallons).
- Removes up to 99.9999 percent of waterborne bacteria.
- Removes up to 99.9 percent of waterborne protozoan cysts. (parasite)
- Reduces turbidity by filtering particles of approx 0.2 microns. (bacteria)
- **Does not remove viruses. Use only in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

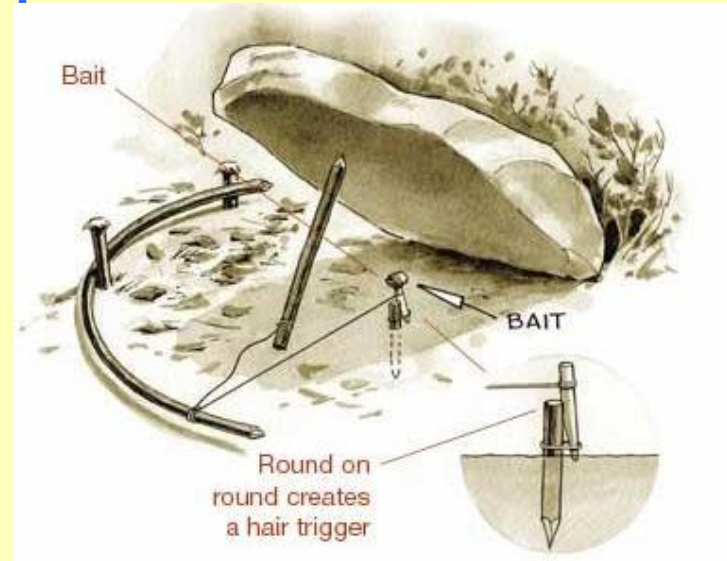
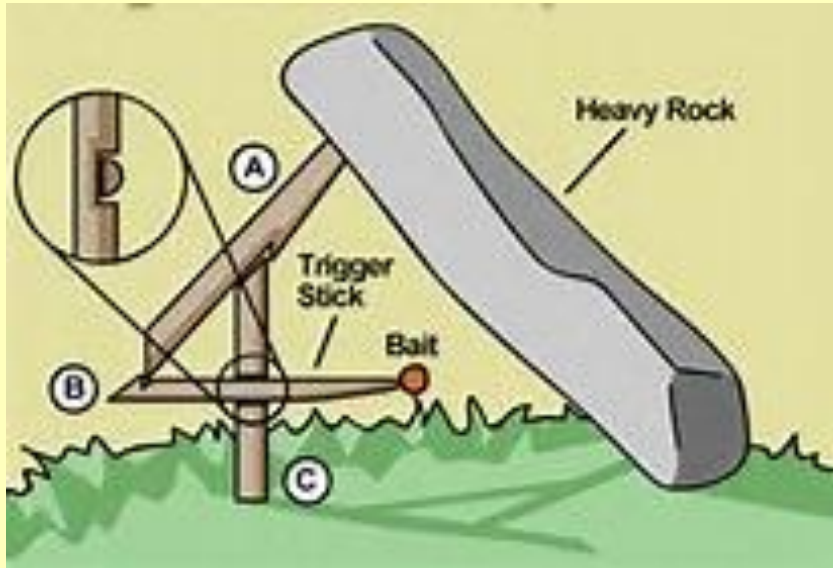
Minimize smoke and aroma during preparation.

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

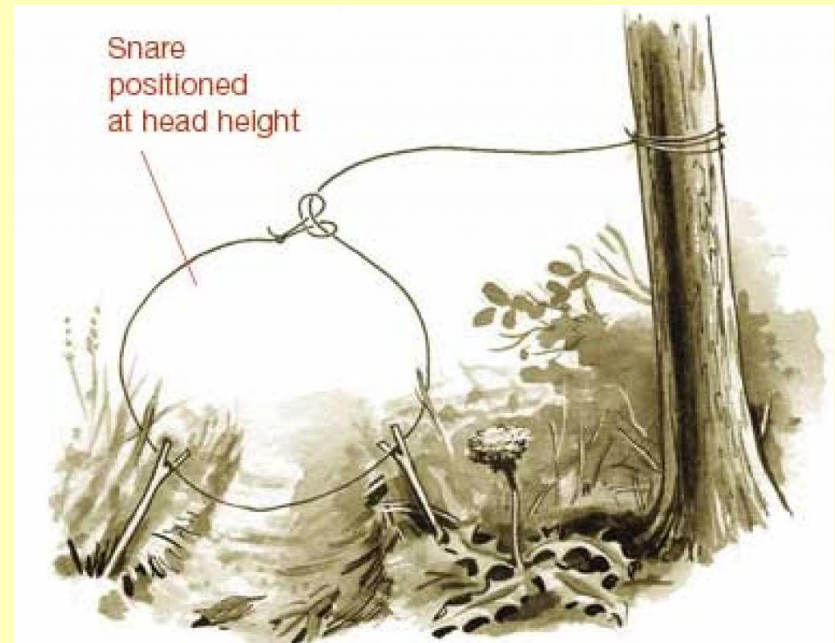
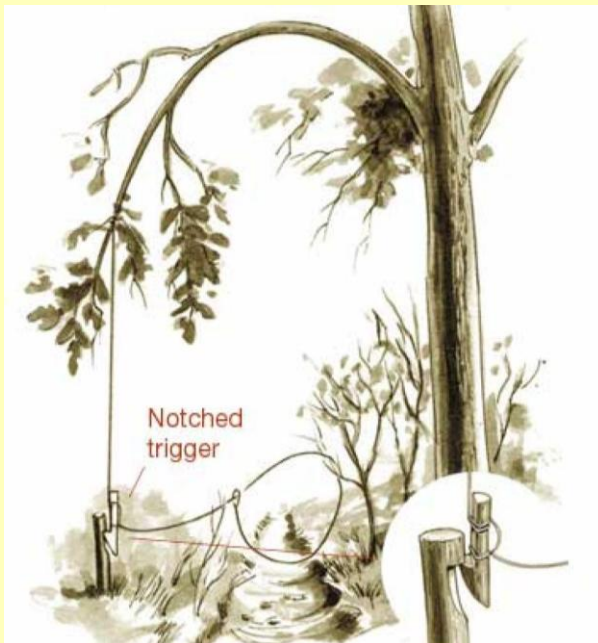
5. FOOD ACQUISITION - Dead-Fall Trap

(In case you didn't stock enough.)

Dead-fall Traps

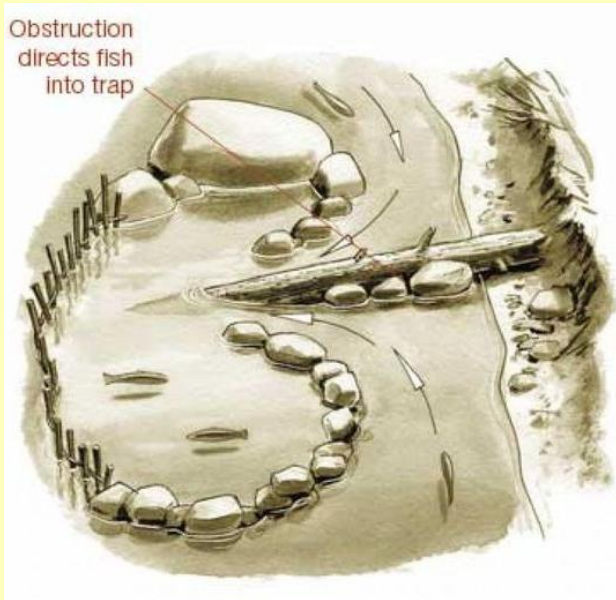


Snares



5. FOOD ACQUISITION - Fish Traps

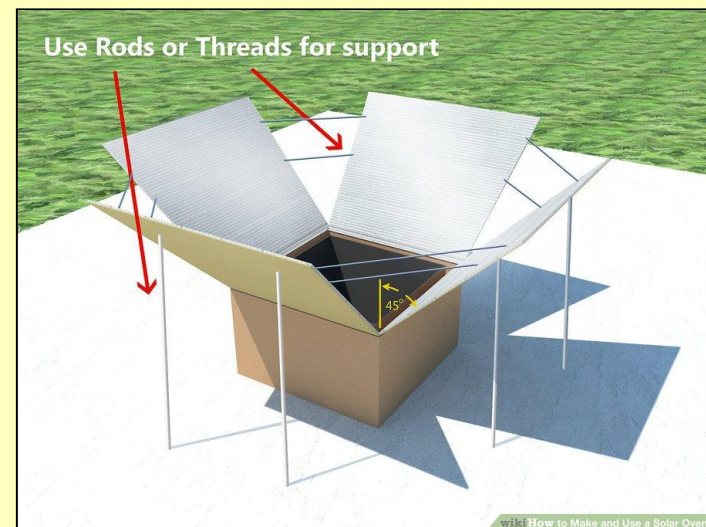
Obstruction
directs fish
into trap



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 keep sun's rays reflected onto pot.
9. Cook twice as long as usual.

(Minimizes smoke & odder)



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

7. Sanitation*

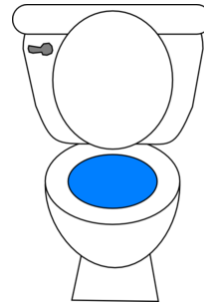
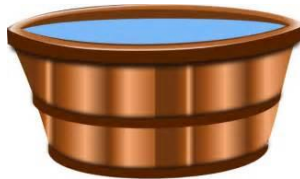
If Flow, Flush!

(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.)

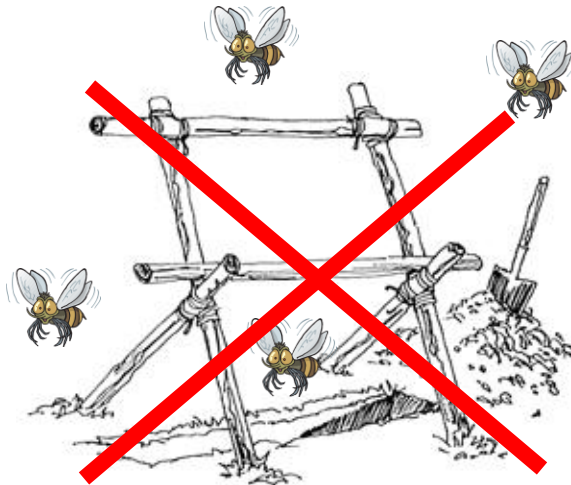


Unlucky, use Bucky!

(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 of:

- **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 damage & Stopping Power.

Revolvers more reliable than Semiautomatic Pistols.

Double-action faster than Single-action.

Laser Sighted best in panic.



Home, Food & water defense,
1 shotgun,

Pump-action cheaper, more reliable than automatic.

20 gauge minimum.

Bird shot. Short carry but still Loud.

Short Stock & 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.

80% of all rescues are made in first 24 hours.

But 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!

67% of rescues in Japan are made by trained civilians.

(13% by Fire, 10% by Police, 5% by Military.)

**A Neighborhood Emergency Response Team
is your best chance of rescue,
if you train one NOW!**

NERT Training

Includes:

- Neighborhood Command Center Operation.
- 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