



Introduction to Wilderness Survival

**Basic Mountain Operations Course
Law Enforcement Mountain Operations School
Okanogan Integrated Border Enforcement Team**

Targeted Learning Objectives



The students will:

- ▲ Understand and demonstrate the importance of prevention, awareness and attitude as keys to survival.
- ▲ Understand and demonstrate the importance of shelter; create one from natural materials and those items carried in their packs.
- ▲ Understand and demonstrate the importance of warmth; start a fire using natural materials and firestarters carried on their person.
- ▲ Understand and demonstrate the importance of hydration; boil water on their fire.

Reality Check



- Being lost or stranded doesn't necessarily constitute an emergency, *if* you are prepared.
- Nature is neutral, but unforgiving.
- Professionals in the wilderness can't merely survive; we must thrive.
- This course will **not** teach you everything you need to know. Gain and practice additional skills **before** you need them.

Preventing Problems



Plan ahead:

- **Mission**
- **Team** (not solo)
- **Weather**
- **Hazards**
- **Nav** (safety bearings)
- **Emergencies**
- **Trip Plan**



Preventing Problems



Prepare:

- **Mentally**
Trained
Focused
- **Physically**
Fit
Healthy
- **Equipment**
Appropriate
Maintained



Gear Selection



- ▲ Reliability – will it work
- ▲ Durability – will it last
- ▲ Versatility – many uses ...
- ▲ Effectiveness – does jobs well
- ▲ Redundancy – key items
- ▲ Training – know how to use
- ▲ Simplicity – motor skills
- ▲ Integrity – waterproof
- ▲ Sensitivity – heat & cold
- ▲ Maintainability – in field
- ▲ Standardization – item / batteries
- ▲ Affordability – life vs. \$
- ▲ Size – fit pockets
- ▲ Shape – comfy
- ▲ Safety – you & others
- ▲ Weight – carry it
- ▲ Noise – tactics
- ▲ Odor – animals
- ▲ Color – hide v. seek
- ▲ Reflectivity – signal
- ▲ Luminescence – find
- ▲ Lanyards – retain
- ▲ Legality – borders & flights

Gear Selection



- ▲ **Reliability** – will it work
- ▲ **Durability** – will it last
- ▲ **Versatility** – many uses ...
- ▲ **Effectiveness** – does jobs well
- ▲ **Redundancy** – key items
- ▲ **Training** – know how to use
- ▲ **Simplicity** – motor skills
- ▲ **Integrity** – waterproof
- ▲ **Sensitivity** – heat & cold
- ▲ **Maintainability** – in field
- ▲ **Standardization** – item / batteries
- ▲ **Affordability** – life vs. \$
- ▲ **Size** – fit pockets
- ▲ **Shape** – comfy
- ▲ **Safety** – you & others
- ▲ **Weight** – carry it
- ▲ **Noise** – tactics
- ▲ **Odor** – animals
- ▲ **Color** – hide v. seek
- ▲ **Reflectivity** – signal
- ▲ **Luminescence** – find
- ▲ **Lanyards** – retain
- ▲ **Legality** – borders & flights



Who has heard of the “Ten Essentials”?

Mental Health
You Plus 1

Extra Clothing
Shelter & Protection
Sharp Knives & Tools
Eats
Navigation & Travel
Tinder & Firestarters
Illumination
Aid Kit
Liquids
Signaling Devices

Building a Kit



Don't rely on your agency to adequately equip you.

Tailor your kit to the location, season and mission.

Practice with it.

Replace expired items.

Ruck discipline.

Carry it with you, always!



I'm just going...

3 Layers of Defense



1. What is attached to your body or in your pockets.

- **Fire starters***
- **Light**
- **Compass**



3 Layers of Defense



2. What is on your duty belt / tactical vest or in a small pack*.



3 Layers of Defense



3. What is with your vehicle / mount.



Situational Awareness



- ▲ Keep your head on a swivel.
- ▲ See the threat before it sees you.
- ▲ Stay hydrated, warm, and dry.
- ▲ Weigh every risk.
- ▲ Monitor your own and your partners' conditions.
- ▲ Monitor your partners' location (machines).
- ▲ Stop to fix things before they get worse.
- ▲ Navigate well; know your location and your exits.
- ▲ Be willing to change the plan (thoughtfully) or to bail out and go home.

Human Body Requirements



- 1. Positive Mental Attitude 3 seconds**
- 2. Oxygen 3 minutes**
- 3. Shelter 3 hours**
- 4. Warmth 3 hours**
- 5. Water 3 days**
- 6. Sleep 3 days**
- 7. Food 3 weeks**

Human Body Requirements



1. Positive Mental Attitude 3 seconds

- Oxygen 3 minutes

2. Shelter 3 hours

3. Warmth 3 hours

4. Water 3 days

- Sleep 3 days
- Food 3 weeks

Positive Mental Attitude



If the excrement collides with the rotating ventilation device:

Sit

Think

Observe

Plan

Positive Mental Attitude



- ▲ Be a strong (and positive) leader.
- ▲ If things go wrong, forget it and focus on doing the *next thing* correctly.
- ▲ Improvise, Overcome, Adapt: You can't change the environment, so change yourself instead.
- ▲ Think of family, your sense of pride, or anything that will motivate you to never give up.
- ▲ Pray or repeat out loud that you will survive!
- ▲ Be constructive, build tools, play games, sing.
- ▲ Laugh: it is contagious and helps relieve stress.

Shelter



In most situations, this takes priority over starting a fire.



Immediate Action

vs.

Long-Term



Shelter



Location, Location, Location

Look up, down and all around for hazards.



Shelter



Location, Location, Location

Consider comfort, resource availability, and visibility.



Construction Considerations



Objectives

Resources

Size

Insulation

Water Proofing

Ventilation

Orientation

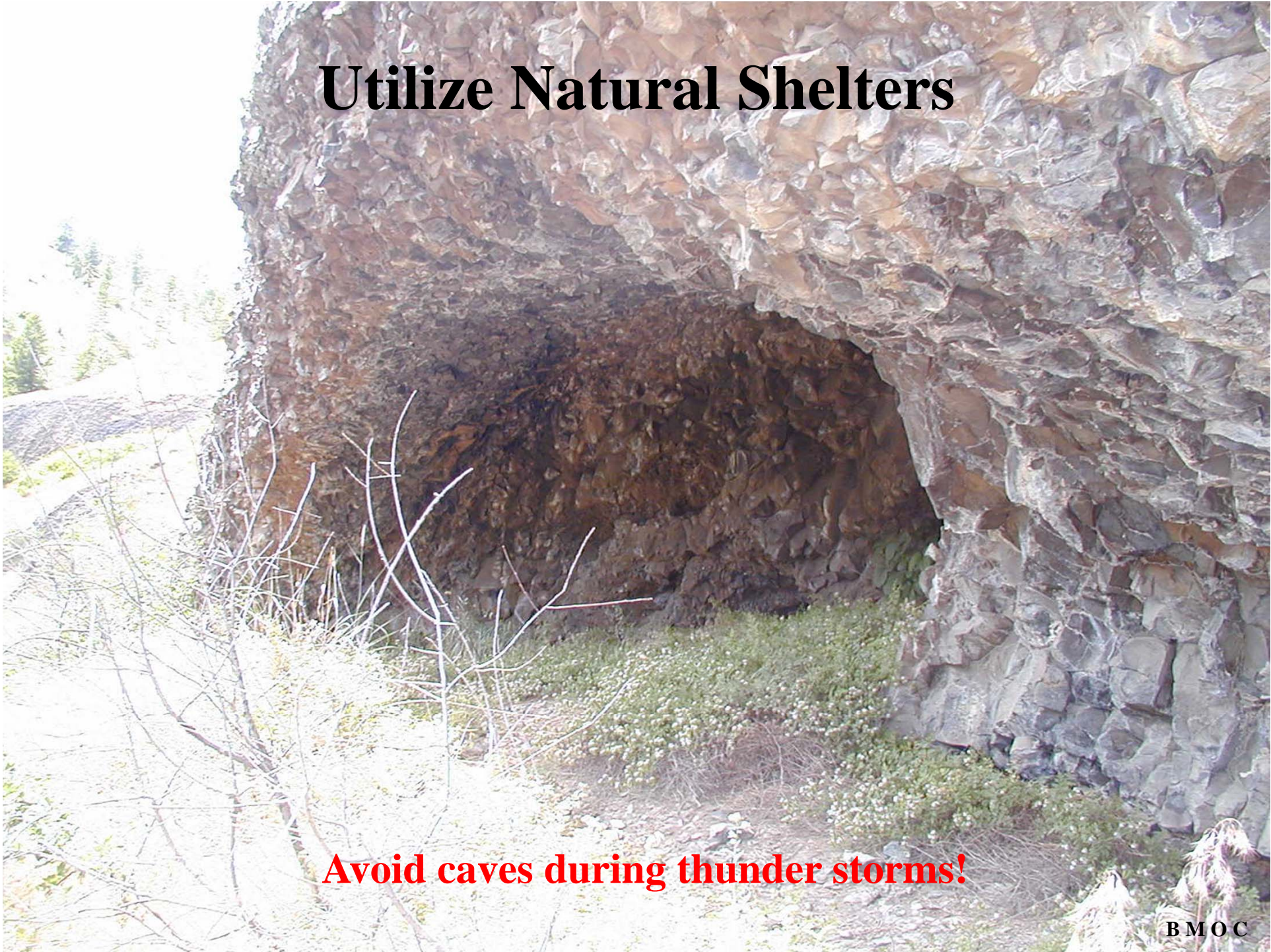
Visibility

It should provide the most protection for the least energy expended.
It should be just big enough.



Utilize Natural Shelters

Avoid caves during thunder storms!



Tarps



The biggest mistake in winter is to make it too big and too open.



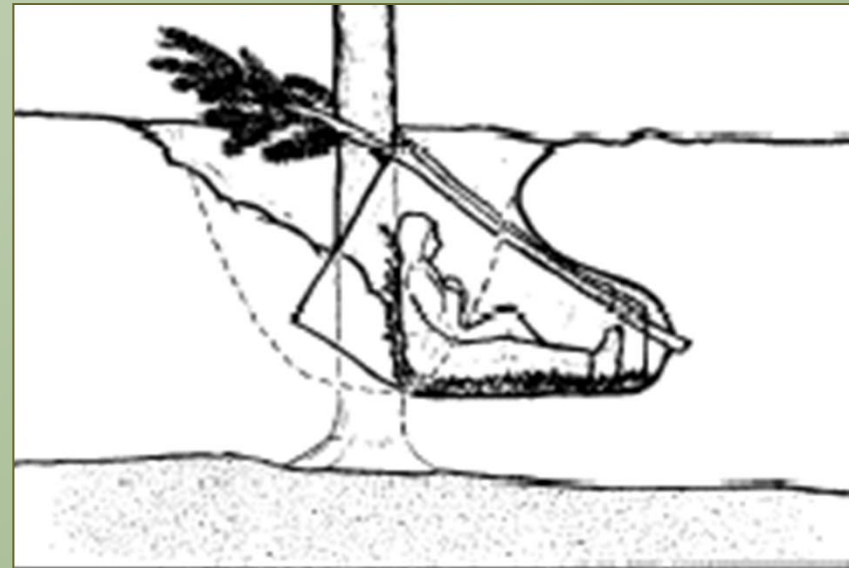
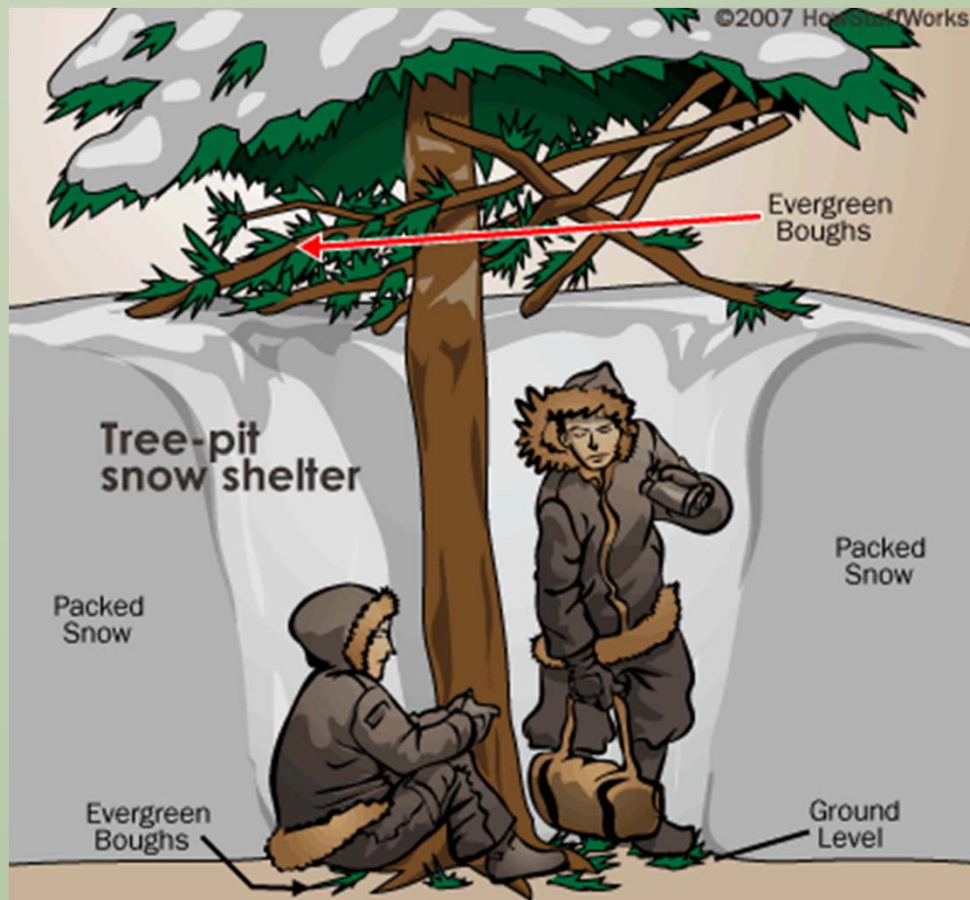
Tarps



Must be taut to keep from flapping and steep to shed snow.

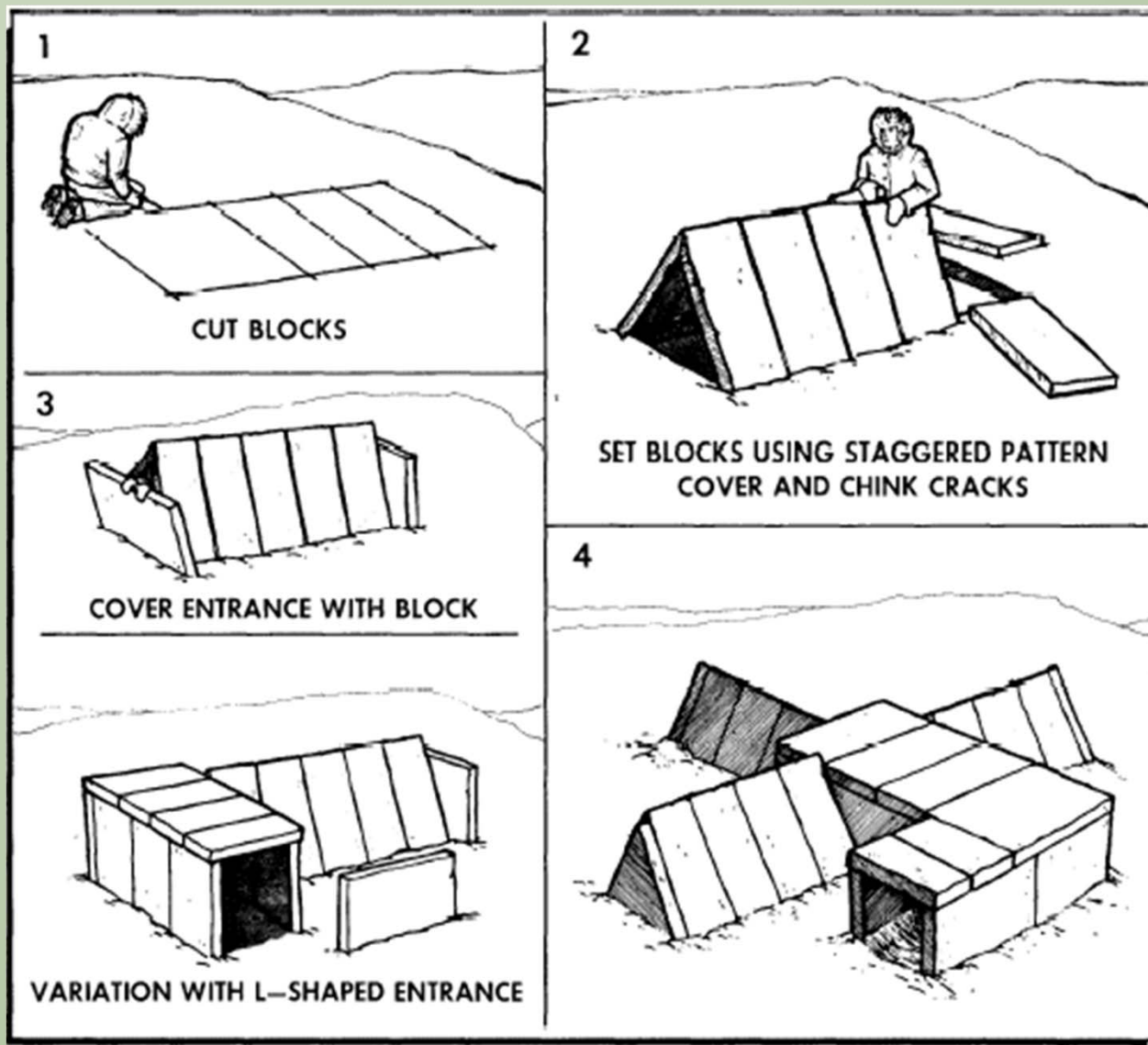
No insulation on their own.

Trees





S n o w T r e n c h



Position entrances 90° to the wind to avoid drifting.

Trench / Coffin



Beware digging down: cold air sinks.
However...

Thermalized A-Frame



By digging down to bare earth, it will be apx. 20°F (-7°C) inside,
if you seal it tightly to trap the radiant heat.



Thermalized A-Frame



Dig down to bare earth.

Lash the main supports together at crotch level.

- Ridge pole is height + 1'
- Bipod poles are chin high
- Front poles are eye high
- Opening is knees + fists

Thermalized A-Frame



Add “headache log” at mid-thigh and other framing about 8” apart.

Thermalized A-Frame



Cover it with tarp or boughs.
Add kick-out logs and make plug.

Thermalized A-Frame



Cover with at least 8" of snow.

A-Frame Video



Snow Cave



1 DIG ENTRANCE TUNNEL 18"
WIDE AND CHEST HIGH



2 REMOVE RECTANGULAR
PORTION OF SNOW
CROSSWAYS TO ENTRANCE,
THEN DIG UPWARD IN ALL
DIRECTIONS
LEAVING
SLEEPING
FLOOR FLAT



3 EXTEND ENTRANCE IN
ABOUT 2 FEET AND
DOWNWARD ABOUT A
FOOT



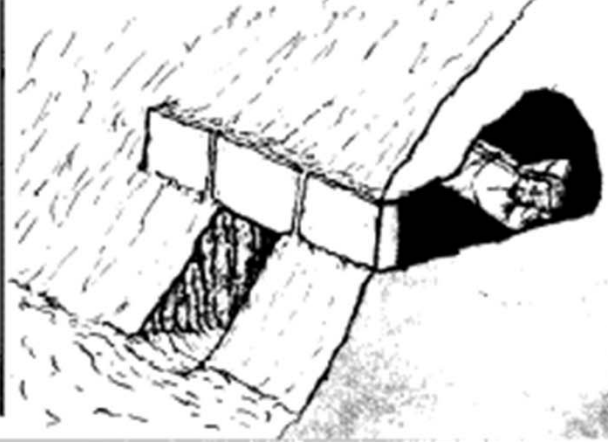
4 CUT ENTRANCE BLOCKS
AND PLACE ACROSS
ENTRANCE



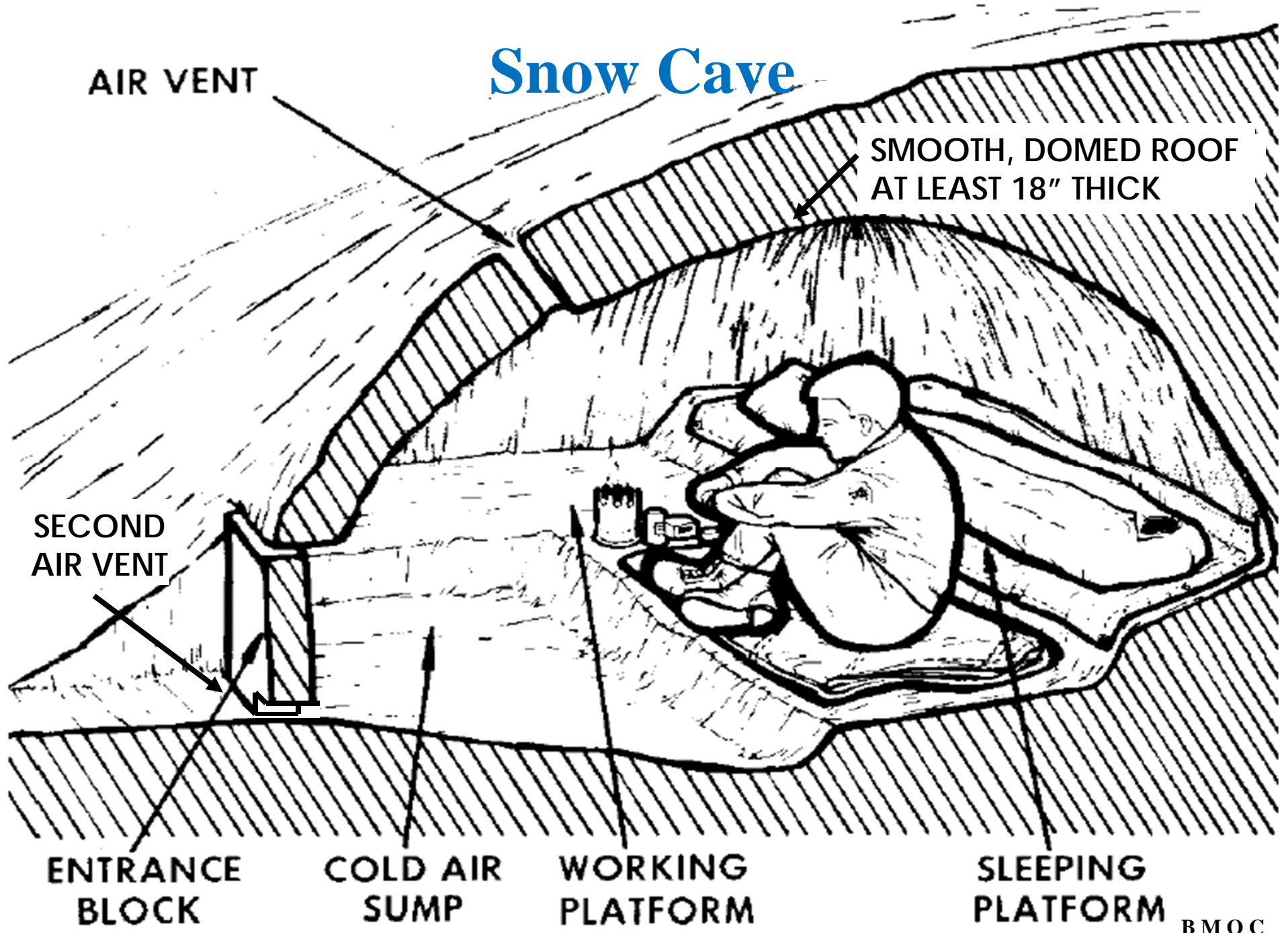
5 FILL CRACKS BETWEEN
BLOCKS WITH SNOW



6 CROSS SECTION OF
COMPLETED SHELTER



Snow Cave



AIR VENT

SMOOTH, DOMED ROOF
AT LEAST 18" THICK

SECOND
AIR VENT

ENTRANCE
BLOCK

COLD AIR
SUMP

WORKING
PLATFORM

SLEEPING
PLATFORM

Quinzee



Pile snow and insert sticks at least 12" long.

Pre-Fabricated Shelters



Warmth

Remember the “Eds”

1. **Head (covered)**
2. **Dead*** (air space)
3. **Shed*** (water & stay dry)
4. **Bed*** (crawl into one)
5. **Red (fire)**
6. **Fed (eat & drink)**
7. **Tread (exercise)**

Head & Neck Covered



- ▲ **Highly vascular = lots of heat loss.**
- ▲ **Take a wool or fleece hat**
 - **Even during summer**
 - **Good weight to warmth ratio**

Dead Air Space



- ▲ Windbreaks and other shelters.
- ▲ Improve with dry insulation.
- ▲ Don't neglect your hands & feet!





Shed Water Bed Down _____

1. Don't sweat!

- Ventilate / Layer Down

2. Shelter / Raingear

3. Powder snow

1. Sleeping bag

2. Sleeping pad

3. Hot water bottle

4. Cuddle

Red Fire



Fire Tripod

1. Fuel

- Dead
- Dry

2. Oxygen

- Enough
- Not too much

3. Heat

- Ignition
- Conservation



Fire Site Preparation



Location

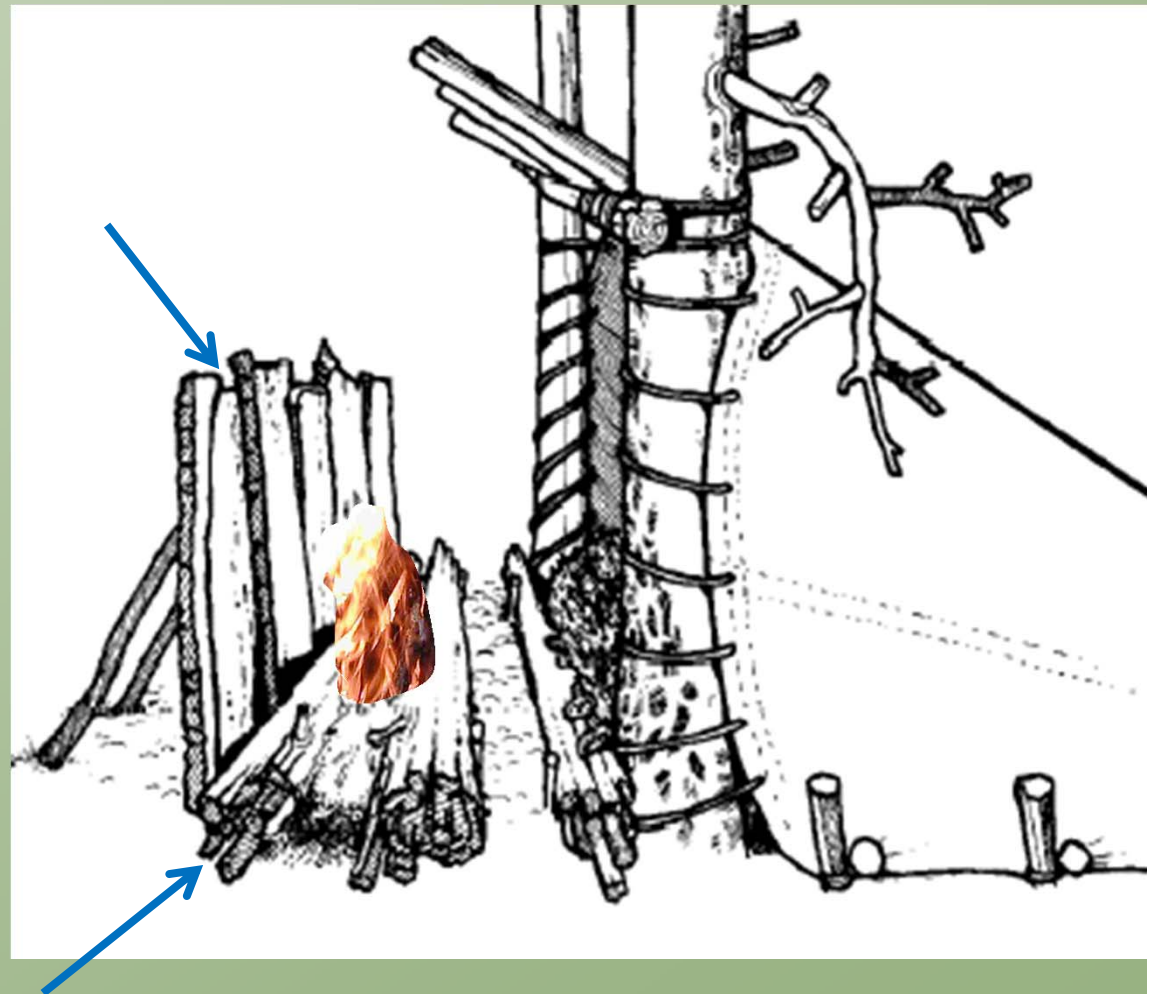
- Near shelter?
- Look up

Clear ground

Base

Brace

Reflectors



Gathering Quality Wood



This is the hardest part, so take your time and do it well.

Dead: no leaves attached; top intact & bark on (or off).

Dry: shave wet exterior or split to get at dry heart wood.

Ideally off the ground & sheltered from the rain.



Gather 3x what you expect to need before lighting!

Fuel & Kindling Preparation



Sort By Size

Large (Thumb - Wrist)

Medium (Pencil - Thumb)



Small (Pipecleaner – Pencil)

Tiny (Toothpick – Pipecleaner)

Snap Test

Structure



It is better to sit close to a small fire than far from a big fire.

Verticality!



Log Cabin Tipi

Tinder Preparation



Dead

Dry

Surface Area

- Shave
- Shred
- Pound

Mixture

- Fast
- Slow

Protect

Gather constantly



Ignition



It should only take a spark.
Blow gently, if needed.



Feeding the Flames



Cotton Balls & Vaseline



Quite possibly the best tinder you can carry.

Local Sources



Birch bark burns, wet or dry.

Fire Video





Stay Well Fed Tread (Exercise)

1. Eat carbs & fats*

2. No nicotine

3. No caffeine

4. No alcohol

1. Isometric

2. Aerobic

❖ Don't sweat!

Other

1. Heat packs

2. Sunlight

Water

Dehydration is a gateway illness to many other problems.

Maximize Ins

- ▲ Sip often, 8 - 16 oz (250-500ml) / hour.
- ▲ Drink before you're thirsty.
- ▲ Don't eat if water supply is limited.

Minimize Outs

- ▲ Ration your sweat.
- ▲ Monitor your urine; it should be clear and copious.
- ▲ Prevent diarrhea.

4-6 Quarts (Liters) Per Day



It sounds like a lot... and it is.



Water Safety



▲ Utilize all safe sources:

snow v. ice

rain

dew

lakes (top best) & rivers

▲ Boil*, filter, or purify if you can.

chlorine dioxide

iodine

bleach

▲ Wash your hands!



Summary



- ▲ Proper prevention and a heightened sense of awareness will help to keep you out of trouble.
- ▲ If you do run into problems, STOP and master a positive mental attitude.
Then find or make shelter, warmth, and water to keep you alive.



Any
Questions?

Go Far – Go Safe – Go Home

Practical Exercises

- 1. Mix 6 cotton balls with enough petroleum jelly to coat (but not saturate) them. Massage and store in a plastic bag.**
- 2. Review the info in the Field Guide.**
- 3. Ensure your pack and pockets are ready for tomorrow.**
- 4. Get some sleep.**

End of Slideshow.

This presentation contains copyrighted material.

For other than LEMOS uses, contact:

Matt Smith

flotsam_jetsam@hotmail.com

Revised: 1 February 2013