

Shelter, Clothing, Sleep Systems

*There is no such thing as
inclement weather, just
inappropriate equipment or
clothing!*

Shelter Systems

Types of Shelter Systems:

1. Tent
2. Snow Mound or Cave
3. Snow Covered Trench

Shelter Systems - Tents

Ground Insulation

- ◆ Cardboard
- ◆ Plastic sheet
- ◆ Reflectix

Ventilation & Vapor Barrier

Anchor Systems

- ◆ Deadman Stakes
- ◆ Screws

Clothing Systems

W-W-W

- ◆ Wicking
- ◆ Warmth
- ◆ Weather

Avoid Cotton – “Cotton Kills”

- ◆ Holds water
- ◆ When cold - sucks heat out of the body

Clothing Systems

Wicking Layer

- ◆ Thin polypropylene ("poly-pro") underwear
- ◆ Wool
- ◆ Smart Wool

Avoid Cotton – “Cotton Kills”

- ◆ Holds water
- ◆ When cold - sucks heat out of the body

Clothing Systems

Warmth Layer

- ◆ Synthetic, wool, or non-cotton shirt
- ◆ Fleece or wool top
- ◆ Optional sweater to go over underwear

Avoid Cotton – “Cotton Kills”

Clothing Systems

Weather Layer

- ◆ Breathable or water proof shell
- ◆ Wind proof shell in dry windy conditions
- ◆ Down or synthetic-insulation-filled garment in camp and during rest stops in cold weather
- ◆ Wet and Cold Weather: another pile or fleece jacket could be substituted for the down garment under the outer shell

What about cotton?

Clothing Systems

Protect where the body loses heat:

Head and neck

Back of the hands

Back of the neck

Inner leg

Clothing Systems

**Water Proof
versus
Water Resistant**

And....What about cotton?

Sleep Systems

- Terminology
 - ◆ Layers
 - ◆ C-O-L-D
- Ground Insulation
- Sleeping Bags
- Sleep Clothing

Sleeping **COLD** to be Warm

- **C-O-L-D**, the key to staying warm, is as important with bedding as it is with clothing.
 - ◆ **C:** *Clean*
 - ◆ **O:** *Overheating*
 - ◆ **L:** *Layered*
 - ◆ **D:** *Dry*

Sleep Systems

Loss of body heat 5 ways as we sleep:

- 1. Radiation**
- 2. Respiration**
- 3. Convection**
- 4. Conduction**
- 5. Evaporation**

Sleep Systems - Layers

Sleeping should be a *layered system*

Sleep clothing

Sleeping bag

inner layer - liner

Insulating layer

outer layer – cover

Ground insulation

Tent or shelter/structure

Ground Insulation

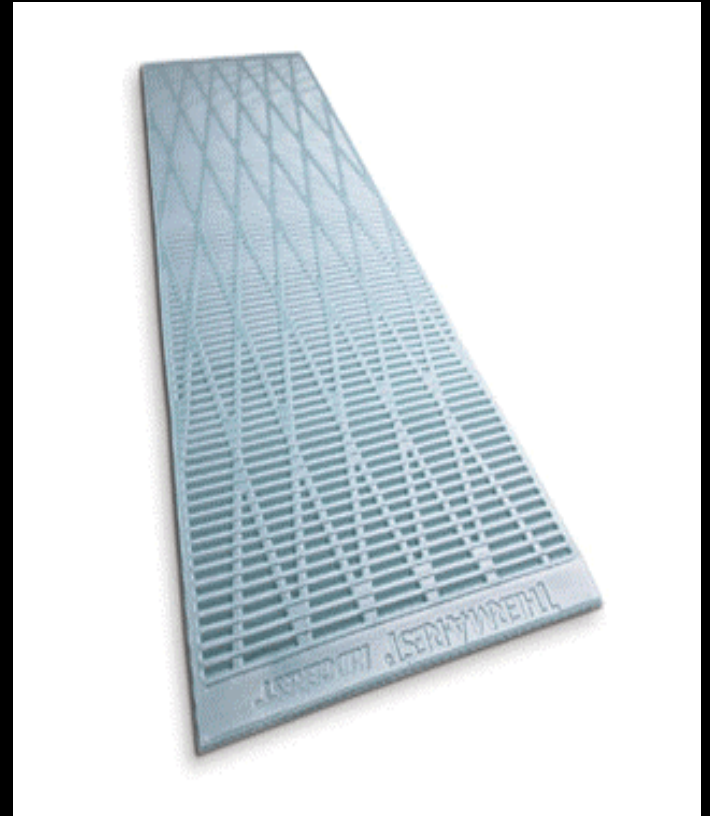
The ground will suck heat from the sleeper.

Reduce the conductive heat loss to the ground

NO open cell insulation

Only closed cell

Open celled can absorb & hold moisture



For a Good Nights Sleep...

- **Snack before sleeping**
- **Bathroom 30 minutes before**
- **Bathroom just before going to bed**
- **Change into clean, dry sleep cloths**
- **Open up boots so easy to put on**

Shelter, Clothing & Sleep Systems

Questions?

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Internet Resources:

<http://www.inquiry.net/outdoor/winter/index.htm>

<http://www.wintercampers.com/>

Thank you!