

## SNOW CAVE CONSTRUCTION AND SAFETY

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1. Why a snow cave?
  - a. Excellent shelter from wind.
  - b. Warmer than a tent.
  - c. Roomy and comfortable.
  - d. Negatives
    - i. Time and energy to construct.
    - ii. Construction can leave you wet and cold.
2. Types of Snow Caves:
  - a. Dug cave.
  - b. Igloo
  - c. Quinzhee
3. Constructing a dug cave
  - a. Tools
    - i. Shovel 2x
    - ii. Saw (carpenter's saw will do)
  - b. Design
    - i. Half sphere.
    - ii. Sleeping shelf
    - iii. Foot well or cold well
    - iv. Entry
    - v. Ventilation hole
    - vi. At least 12" ceiling and 24" walls
  - c. Considerations
    - i. Domed ceiling.
    - ii. Consolidation.
    - iii. Smooth surface.
  - d. Construction
    - i. Chose area and mark perimeter
    - ii. Probe area for obstacles.
    - iii. Compress area, particularly perimeter.
    - iv. Excavate entry trench and vertical face; toss snow on top.
    - v. Compress area again.
    - vi. Wand for thickness
    - vii. Excavate T.
    - viii. Cut deep. Eventually establish the shelf, but focus on ceiling and extraction of snow.
    - ix. Cut or fill shelves to height.
    - x. Smooth ceiling.
    - xi. Cut cubbies,.
    - xii. Level shelf.
    - xiii. Poke ventilation hole
    - xiv. Fill T with blocks and cut entry.
    - xv. Move in.

4. Construction Attire
  - a. T-shirt and shell only.
  - b. Base layer and shell pants only.
  - c. Fleece gloves only. Assume they will be soaked and you'll not use them again.
  - d. Hat
  - e. Sleeping pad for insulation during construction
5. Safety
  - a. Site selection
    - i. Avalanche risk
    - ii. Accumulation and weight.
    - iii. Entry blockage
  - b. Collapse
    - i. Buddy system during construction. Only one inside.
    - ii. Domed ceiling.
    - iii. Proper thickness.
    - iv. Modest size
  - c. Sag
    - i. Domed ceiling
    - ii. High ceiling.
    - iii. Check caves during the night and abandon if sag is severe.
  - d. Entry blockage
    - i. Shovel inside.
  - e. Booby trap
    - i. Wand the perimeter.
    - ii. Dig the perimeter
    - iii. Collapse and fill on departure
  - f. Ventilation
    - i. Critical for cooking or candles.
    - ii. Clear it during the night with ski pole
6. Comfort
  - a. Adequate size.
  - b. Plenty of head space.
  - c. No plastic liner, just sleeping pads.
  - d. Bivy sack is nice.

Good references:

Step by step photos:

<http://www.flickr.com/photos/pablography/sets/72157604374163548/>

Mears BBC Video: <http://www.youtube.com/watch?v=XOJQPz1s-1c>