This badge is about building big things. Build experiences with several styles of natural building that work in a cold climate, with the grand finale being a wofati.

brainstorming bits and bobs ….

cob wall
cob bench
outdoor cob structure that can handle rain
tipi poles?
thatch roof
wattle and daub
adobe bricks
compressed earth block
rammed earth
lath and plaster
natural paint
green roof stuff
reciprocating roof on a dog house or small shed
reciprocating roof on an outdoor classroom
cedar shake roof on round wood
dry stack foundation
rubble foundation
passive solar
glass bottles with cob
building a shower
creating clay tiles
log building
tiny house on a trailer
natural insulation material
Slip straw

building with pegs
building with lashing
Use adobe bricks to build small structure.

Build a small cob bench with a roundpole construction roof.

- Think about the intent of this bench. When will it be in use and why? Is it a place to read in the shade on a hot afternoon or is it a perfect location to view sunsets? Should it be cool and shady or warm in the evening?
- Orient the build to the sun. Whether the intent is to provide shade or capture heat, arrange the pieces so it will accomplish this passively.
- Provide notes with images of the bare site, why you chose it and what you hope to do there.
- Show images of each stage of the building process: foundation, cob work, roofing.
- How will this roof shed weather to protect the cob? Will it have a snow load, how will you deal with that? Show images of overhangs or gutter/downspout details.
- Show images of ground works and site drainage. Is the bench susceptible to surface water problems? How will you deal with this?
- Create a plan for maintenance.

Build a pallet house/shack

- Must be at least 80 square feet
- Must be tall enough for Paul to stand up in
- Must be insulated with lightstraw, wool or brush fill
- Must be earth plastered
- May have an earthen or wooden floor
- Must have window and door
- Must have a roof and be weatherproof
- Must have groundworks/drainage (can be simple)

xxx notes from other badges

woodland.wood

small bermshed

woodland.iron

2 skiddable structures
big bermshed

roundwood.wood

skiddable shed for woodworking stuff

roundwood.iron

skiddable structure with a swinging bench

dimensional.iron

skiddable lumber storage
pick one:
tool shed
sauna
hammock hut
outdoor kitchen
small, rough porta cabin
larger, nicer porta cabin

sand badge

(“lloyd list”) do 3 of the following:

- create 12 adobe bricks 12x6x3
- make a natural paint and paint a 4x8 area
- use low grade cob to fill between logs in a wofati - 20 feet
- create a rock foundation under a skiddable structure
    - to level the structure
- add 25 square feet of roof (cedar shakes or similar style of wood roof) to a skiddable structure

straw badge

35 points required

complete remaining BBs in the “lloyd list” - 1 point each

Find and assess clay sub-soil for making cob/adobe bricks - 20 points

- Test them to destruction (smash with hammer, toss in fire, etc), choose best mixes.
- Try at least 2 different kinds of clay subsoil
- Try at least 2 different kinds of sand
- Document at least 12 different individual experiments (adobe bricks). Show your notes.
- Document your process, how much sand of what type, how much soil of what type?
- Show shake test results, show mix results. Explain your thinking for the selection process.
- Make 50 adobe bricks from your best candidate mix.
- Make 6 minute video detailing your process and showing your final product.

build a tiny shed on skids - 12 points

6 feet wide and 3 feet deep

- hold one garbage can
- hold one sand barrel (for winter traction)
- hold one recycling can
- maybe a shovel or two
- maybe offer power and/or water
- has a bench built in to the back side so people can sit under the roof

Build a cob sink - 8 points?

- Plaster with earthen plaster
- Include drain pipe and plumbing/faucet
- Oil with drying oil (linseed, tung, hemp, etc) and burnish till glossy
- When dried, it must hold water overnight without becoming soft or muddy
- Provide images of your process, stages of the build
- Provide video of inspecting the sink after holding water for a minimum of 12 hours. Show edge details, show that water has NOT seeped under or into the sink body.

(Donkey's list) complete 2

tree stand - 4 points

- 15 feet up minimum
- 1 foot by 2 feet seat
- Ladder going up

Build a solar finder, locate true solar south and leave a permanent marker - 2 points

- Photograph the site before building your solar finder
- Photograph your finder on the site and prepared to mark
- Photograph your morning marks and your afternoon mark, as you make them
- Photograph the resulting marks that indicate Solar South
- Repeat this process 3 separate times on the same site and finder.
- Correct for errors and permanently mark the site for true Solar South (pictures!)
    - permanent marker can be dry stack or something else weather resistant

Hang a door using handmade wooden hinges - 4 points

- includes making the wood hinges
- if you think of making this like a metal hinge, the job becomes three times bigger

Build garden gate from found or harvested objects - 4 points

- Must not sag
- Can be round or square wood
- Can use metal parts or be entirely metal

- Must be large enough to push a wheelbarrow through, without barking knuckles.
- Must be deer and dog proof
- Hang it! (can be on garden fence or wall)

Earth plaster a wall, with varying patterns and color - 16 points?
- Minimum of 7 feet tall
- Minimum of 10 feet long
- Must use at least 2 different colors
- Must make your own plasters/paints
- Must have a pattern, stamped or sculpted into the wall

dirt and linseed oil floor - 8 points?
- at least 100 square feet

Fill Slip/straw (slip/fill) wall - 16 points?
- Must be minimum 7 feet tall
- Must be minimum 8 feet long
- Must be Minimum 8 inches thick

Build short, dry stack rock foundation - 16 points?
- 18 inches above grade
- 18 inches below grade
- 18 inches wide
- 6 feet long

Build adobe brick and cob bench - 12 points?
- Must be comfortable sitting height or include foot rest
- Must have backrest
- 2 butts wide minimum
- Roof not required, but helpful (makes for a larger project)
- Plasters not required, though nice sitting surface is.

Clay paint a room or rooms - 16 points
- Minimum 80 linear feet of wall (equivalent to 20X20 room, all walls)
- Make the paint
- May require adhesion coat on surfaces like wood

wood badge

180 point required
Up to 50 points of duplication allowed (Straw and Wood)

Finish the Donkey list - 66 to 92 points

Build operating window, including frame from scratch - 12 points

- Must open/close
- Build all pieces from wood, cut and fit
- Install glazing (glass, single or double is good; waxed paper or oiled animal skin is good too.)
- Window sill must shed water aggressively

straw bale wall in a wofati - 40 points?

- at least 10 feet long
- at least 8 feet tall
- 3 layers of plaster, both sides
- wall is “mouse tight”
- includes at least one door or one window

home made wood ash cement - 8 points?

- https://www.youtube.com/watch?v=DP0t2MmOMEA
- build one of the following:
    - 5 gallon plant pot
    - 5 gallon water trough
    - combination bird bath and insect watering station
    - 3 flow form water aerators

Build freezer wofati - 160 points?

- at least 100 square feet of freezer space
- at least 100 square feet of root cellar space
- wall with door between freezer space and root cellar space - slip straw
- exterior uphill wall with door - slip straw

complete one

Cob floor - 40 points

- at least 100 square feet
- Show images of the build phases; underlayment, drain layer, insulation (if any), road base and top-coat.
- When the top coat is dry, oil the floor using a drying oil (linseed, tung, hemp seed, etc.) until the floor is full and ready to rest.

wattle and daub wall for a berm shed - 40 points?

- at least 8 feet wide
- at least 7 feet tall
- can include a door and a window

- Finish Plaster (both sides)

Lime plaster a wall or set of walls - 20 points?
- At least 16 feet long (total)
- At least 7 feet tall
- Must have door and window (doors and windows increase difficulty)
- All 3 major coats (Scratch,brown,finish)

tree house - 80 points
- Must have sleeping space
- Must have space to store gear
- Must average 10 feet off the ground or above
- Must be a minimum of 70 square feet
- must have a head clearance inside of 7 feet
- Does not have to be insulated
- Must be mouse-tight

Build a cob bench with a roundpole construction roof - 32 points?
- Think about the intent of this bench. When will it be in use and why? Is it a place to read in the shade on a hot afternoon or is it a perfect location to view sunsets? Should it be cool and shady or warm in the evening?
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- Create a plan for maintenance.

Build adobe doghouse (or faerie house) with Nubian vault roof - 40 points?
- Waterproof top, using earthen plaster (no plastic)
- Linseed or lime mixes acceptable for roof
- Provide proper downspouts
- Drystack stone foundation

Cob sun trap - 120 points?
- Wall minimum length, 15 linear feet
- Minimum height, 6 feet tall
- Proportion of 1 thick to 6 tall

- Include gravel drainage trench below foundation with drain to daylight
- Include rock foundation at least 18 inches tall
- Include arched passthrough, hang a door or gate
- Include sculpted niches for flowerpots and/or tools
- Include roofing to protect wall
- Include sitting area and room for plantings/trees
- Black plaster and weatherproof

a piece of an outdoor classroom with a rumford fireplace - 120 points

- cob bench with roof over the bench
- 15 linear feet
- Rumford must include chimney
- Rumford must heat persons, seated on the cob bench.
- Firewood storage, minimum of 4 feet cubed, under cover.

Simple wofati
Wofati with single poly layer
Experimenting with birch bark as waterproofing layer on something?

iron badge

build a wofati and live in it for a winter

- sleeping space (twin size or larger)
- rocket wood cook stove (rocket badge)
- rocket oven (rocket badge)
- a sink-like place to wash dishes
- place to store food and related kitchen gear
- area on top of wofati is fully planted
- place to sit and eat for four people (from woodworking badges)
- willow feeder can be a separate structure (willow feeder badge)
- minimum of 200 square feet interior
- cob floor
- one magnificent thing
    - round door
        - well insulated (so, at least 8 inches thick)
        - at least 6 feet in diameter
        - hinge point is outside of the door
        - latch mechanism is in direct center of door
    - taller structure with a magnificent loft space
    - working with art and/or oddly shaped round wood

            - the amount of work is clearly as much (or more) than making a magnificent round door
            - “art” is difficult to measure. good chance that the evaluator might say “more”
        - 600 square feet
        - double deck
            - 10 foot eave instead of 5 foot eave
        - indoor bathroom
            - shower
            - willow feeder
            - sink
- must be a door and window on the uphill side, and another door and window on the downhill side
- mouse tight (mice cannot get in)
- doors have wood hinges
- uphill and downhill walls are super insulated
    - straw bale
    - slip straw
    - double wall
        - possibly with one or more bee hives
- structure must be 100% complete by october 15. “live in it for a winter” means october 15 to march 20 with being gone for no more than 7 days. (online daily selfie photo journal including inside and outside temp?)

xxx skiddable shelter/shed