Building Capacity
with Inuit Know How

Making a house is not so different than making a clothing piece: anorak, pants or even shoes. Of course, materials are somewhat different, but the objectives are quite similar: protect from winds, dampness and preserve warmth, thus keeping the "inside" in a relative comfort zone.

A frame is also required to give the house its form. While there is less resemblance with clothing, there are structural principles we can retrieve in kayak and tents.

In all Inuit communities, the basic knowledge to do these things still exist. We think highlighting the similarities between this know-how and the process of making houses for Nunavik could contribute to weave back the gap between house and Inuit culture.

In this chapter, we imagined a cycle of formation that could appeal to young Inuit wanting to integrate the principles of a well-built house for the north by hands-on experience. Declined in steps that are logical and of gradual complexity, the cycle is based on the following principles:

Anchoring is the way the house meets the ground. It involves planning and choosing a technical solution according to the concern ground.

Spanning is the building of a platform to become a floor while protecting the fragile land/permafrost. It involves laying down and tying beams, like in sleigh building.

Framing and bracing is the action of erecting what is needed to support the roof overhead so it can be both solid and stable to resist high winds. It involves vertical wood pieces and their tying, much like in kayak and tent building.

Bracing is the action of solidifying the vertical structure so can resist sideway movements. It involves horizontal or diagonal additional support pieces, much like kayak-building.

Sheltering is the basic protection applied to a frame house to repel water and snow. It involves impervious materials closely fitted and precise joinery, much like in clothing and kayak-building.

Weatherproofing is the shell around the house to protect from all severe weather occurrences including heat loss. It involves multilayered protection, thermal insulation and overlapping of components, much like in clothing.

Cladding is the solid shell around the house to protect all the underlying sheltering layers. It involves resistant materials tied to the framing and organized so it can resist to high winds and other forms of abuse.

Services are the means to provide lighting, heating, water distribution and dispose of waste. It generally involves technical knowledge that puts this learning activity in the more advanced stages of formation.

Finishing is the treatment of the inner surfaces of the house to achieve a enjoyable contact to touch and durability in time. It involves a variety of materials applied to floors, walls and ceiling of the house.

1. ANCHORING

WHAT ?
- A grid of stable points of support between land and building

WHY ?
- To create a levelled surface
- To avoid contact between wood and soil
- To better understand the ground's behavior
- To preserve pergelisol from thawing
- To minimize the contact with the land to preserve its nature

Learning activities

1.1
- Planning a structural grid
- Set down jacks on a stable ground

1.2
- Boring holes into bedrock
- Inserting steel posts and securing them with concrete

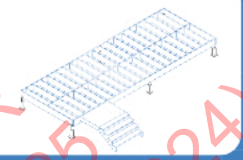
2. SPANNING

WHAT ?
- A horizontal structural assemblage over the grid and tied to the points and support

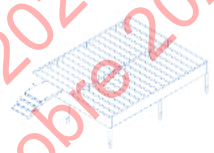
WHY ?
- To create a working platform larger than the underlying grid
- To create a base later used as a floor
- To create a void for future insulation and services
- To protect spaces placed underneath

Learning activities

2.1
- Planning a space plan
- Assemble a wooden structural platform with joists, plywood and planks
- Tying the platform to the underlying jacks



2.2
- Planning a space plan
- Assemble a wooden platform with beams, joists and subflooring
- Tying the platform to the underlying anchoring grid



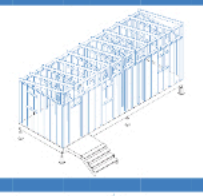
3. FRAMING

WHAT ?
- A vertical structural assemblage supporting overhead horizontal structures

WHY ?
- To define the shelter
- To create a strong frame to build on
- To create a safe environment

Learning activities

3.1
- Planning wall's openings
- Assembling a wooden structural wall with studs
- Tying the walls to the underlying floor
- Tying the roof structure to the walls



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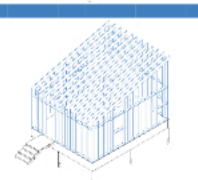

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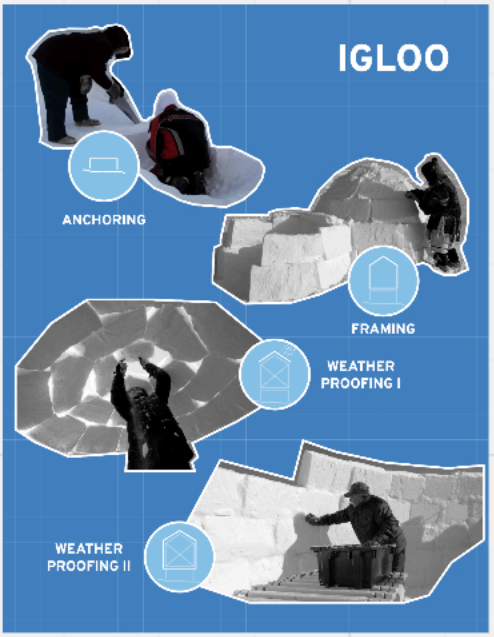


CLOTHING

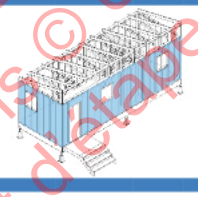
4. BRACING

WHAT ?
- Sheating on walls and roof
- Reinforcing surfaces creating sheerwalls

WHY ?
- To resist lateral deformation and avoid cracks and leakage
- To create sheerwalls capable of resisting high wind and snow loads
- To create a surfaces on which to add the next layers

Learning activities

4.1
- Assembling sheating materials over the framing of the walls and roof
- Creating shearwalls resisting to wind forces
- Creating flat continuous surfaces



4.2
- Assembling sheating materials over the framing of the walls and roof
- Creating shearwalls resisting to wind forces
- Creating flat continuous surfaces

5. SHELTERING

WHAT ?
- Basic watertight protection over the roof's surface and of the exterior walls

WHY ?
- To protect interior space from wind-driven rain and snow
- To keep the interior dry

Learning activities

5.1
- Apply waterproofing material over sheating to provide protection from rain, wind and snow
- Inspect all joints to avoird any discontinuity in the protection

5.2
- Apply waterproofing material over sheating to provide protection from rain, wind and snow
- Inspect all joints to avoird any discontinuity in the protection

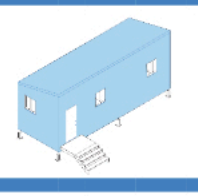
6. WEATHER PROOFING

WHAT ?
- Airtight and waterproof membranes
- Continuous thermal insulation

WHY ?
- To keep the inside dry and warm
- To avoid the presence of water in the walls and roof
- To avoid condensation and mold

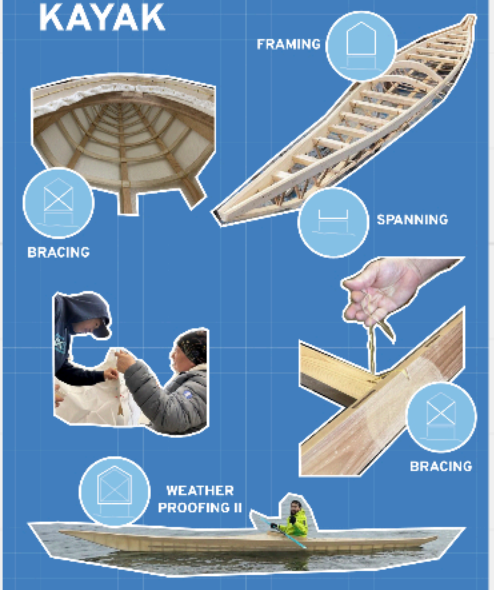
Learning activities

6.1
- Installing waterproof and air tight membranes continuously on the exterior surfaces
- Tucking the membranes around each opening



6.2
- Installing wool or batten insulation
- Installing waterproof and airtight membranes
- Installing drip edges and flashing to protect from water

KAYAK



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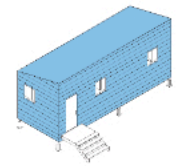
7. CLADDING

WHAT ?
- Exterior strong material covering and closing off all the underneath layers

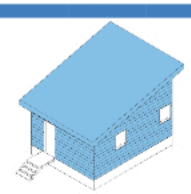
WHY ?
- To protect what is underneath from physical abuse
- To make the walls look nice
- To weatherproof a bit more

Learning activities

7.1
- Installing nailing stricps on outside surfaces
- Installing cladding material on surfaces
- Covering every gap at jonctions
- Installing flashing toward the exterior to shed water at cladding gaps



7.2
- Installing nailing strips on outside surfaces
- Installing cladding material on each surfaces
- Covering every gap at jonctions
- Installing roofing material



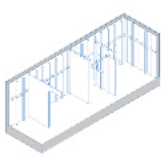
8. FINISHING

WHAT ?
- Installation of interior partitions
- Covering of interior surfaces
- Installation of integrated furniture

WHY ?
- To create sub-spaces within the house
- To improve resistence to wear
- To offer an agreable contact between users and house parts

Learning activities

8.1
- Assembling non-bearing partitions to create and interior porche
- Installing interior wall panelling
- Preparing and painting interior surfaces



8.2
- Installing an interior door in a partition
- Installing wall flooring
- Installing raised platform, cabinets and shelves
- Assembling and finishing partitions to create an airtight and soundproof interior mechanical room

9. SERVICES

WHAT ?
- Distribution for water, electricity, heating, fresh air

WHY ?
- To accomodate basic human functions
- To create a comfortable warm and lit environment

Learning activities

9.1

Activities begin at 9.2

9.2
- Installing a dry toilet
- Planning and installing a basic wiring network for lighting from a generator
- Planning an interior mechanical room