

# Heat Pump location



These visual aids support a learner understanding

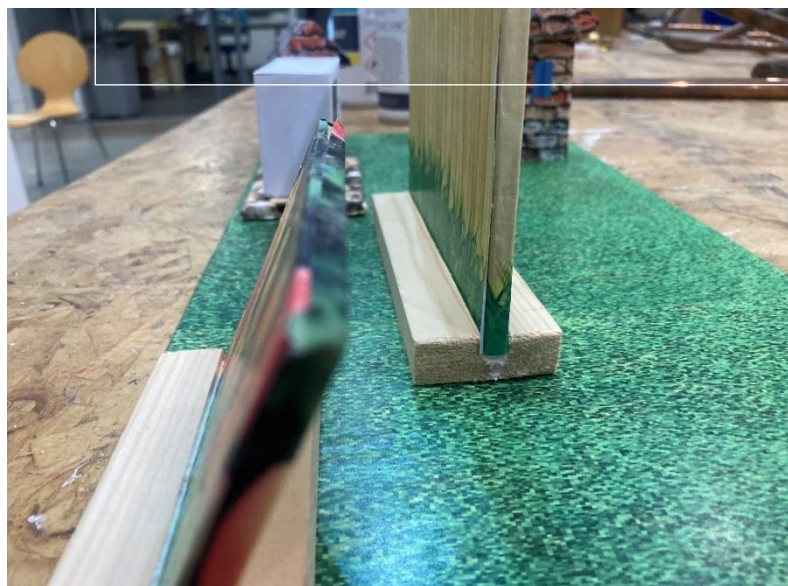
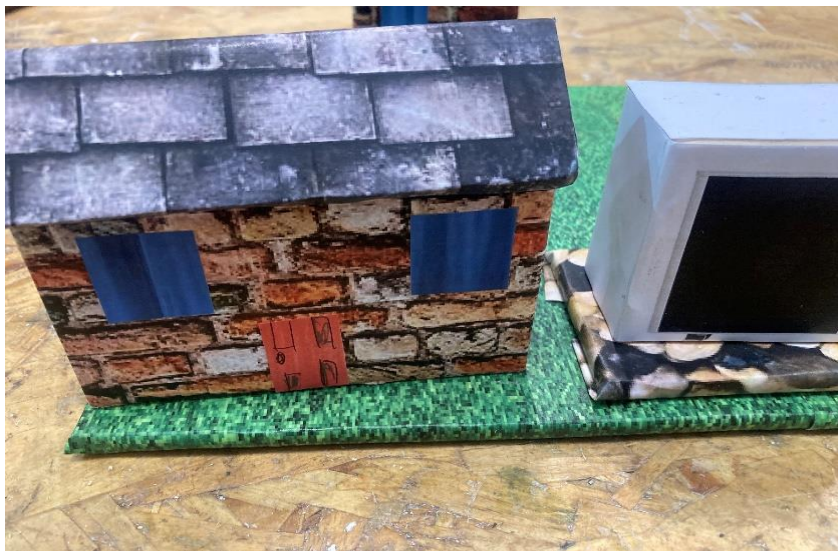
Heat pump locations and Q location factors;

- South facing
- Boundaries
- Insulation
- Electrical isolation
- Underfloor heating/LST radiators
- Q2, Q4 & Q8



10mm MDF with glued grass print cover for scenario

3 x 2 wood glued on printed brick work



## For this activity you will need;

- Feed & Expansion cistern
- Velcro (adhesive backed)
- Envelopes
- FoV
- Wood
- Byelaw 30 kit

**Cut cistern in half and place on flat wood with 2 x 2 to simulate loft installation, learner opens envelope and places label on cistern**



<b>Part 2 FoV</b>	<b>Screened Overflow</b>
<b>Secure lid</b>	<b>Overflow anti draft tube</b>
<b>30 Regulation kit</b>	<b>25mm Waterline from overflow</b>
<b>25mm from overflow to FoV</b>	<b>Service valve</b>
<b>Gate valve</b>	<b>150mm overhang clearance</b>
<b>25mm clearance from base</b>	<b>No insulation</b>
<b>350mm clearance above</b>	<b>Ventilation seal</b>
<b>Over a 1000litres warning pipe &amp; overflow should be installed</b>	<b>Coldfeed to Cylinder higher than cold supply</b>
<b>Whole of base must be supported with wood</b>	

## Ice breaker Balancing Nails trick

This activity always gets learners excited, engaged & forging relationships.

Materials required.

- 1 x Hammer
- 40 x 3" nails (flat headed)
- 3 x 3" x 2" plain sawn timber

### Stage 1:

Hammer nail into centre of wood



### Stage 2:

Place nail on table, rest nails on top, alternating head position like in photo



### Stage 3:

Place another nail on top base nail, opposite heads



### Stage 4:

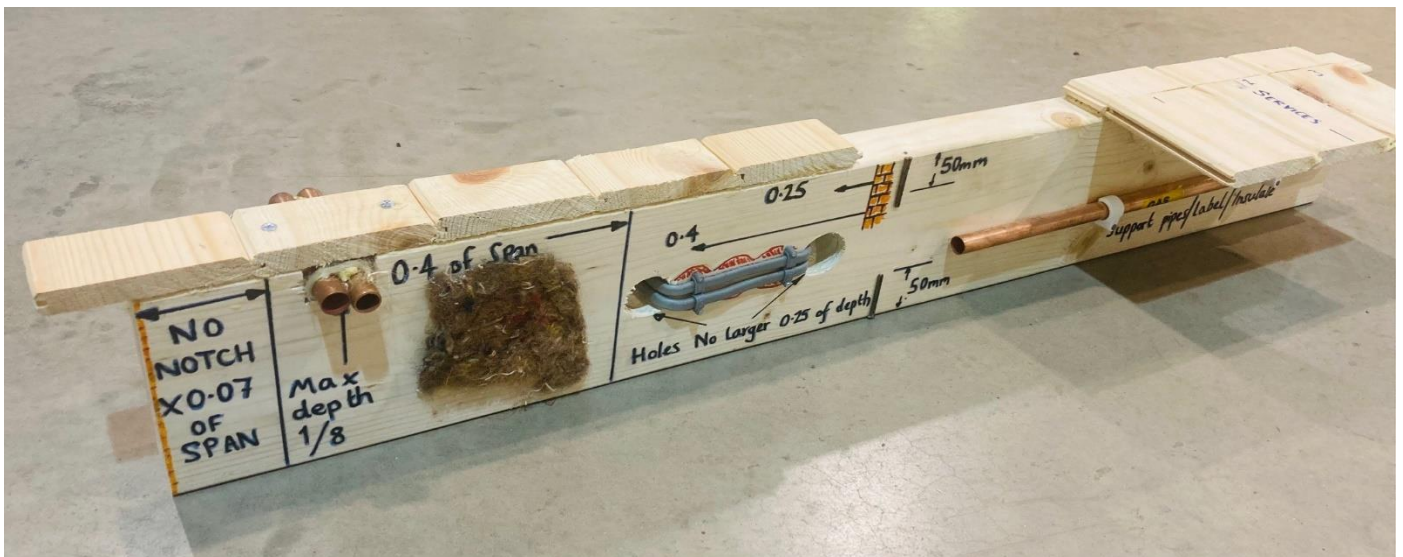
Lift nails holding the bottom single nail and balance on single nail head on base



# Joist tolerances & calculations

This task aids full time learners to understand joist calculations and explains,

- Notching locations
- Supporting floorboards
- Insulating pipes
- Electrical clearances
- Drilling allowances



<https://youtu.be/FyfugdyMubM>

## Key Plumbing Principles

These blocks consist of,

- 4 blocks with two sides displaying a material  
Water / ice / Lead / copper
- Top side has 1m<sup>3</sup> wrote on
- Other side has weight of 1m<sup>3</sup>

This activity explains relative density and materials compared to 1m<sup>3</sup> of water, hence ice floats



### Siphonage

Two cups & mini tube  
used to explain  
siphonage and below  
atmospheric pressure



# Unvented hot water

## Unvented control train displays components & order installed

- Isolation valve
- Line strainer
- Tee
- Pressure reducing valve
- Single check valve
- Pressure relief valve
- Temperature relief valve
- Immersion
- ECO
- D1
- Tundish
- D2





## Water main

This visual aid displays, incoming main displaying underground services & copper raising main incorporating meter & bib tap to promote water regs and continuity

- MDPE
- Philmac connector
- 2 x stop taps
- Water meter
- Earth continuity
- DoV
- Service valve
- Double check valve
- Wall plate elbow
- Bib tap



# Common Plumbing Processors

This display explains Part 1 - 4 of FoV

Components for servicing, bathroom & heating installations  
perfect for group discussions



## Combination boiler install

This visual aid establishes discussions regarding efficiency & system protection of install

- Filling loop
- Magnet filter
- Discharge safety
- Condense new regulations
- Possible by-pass
- Mini Shock arrestor
  - AAV
- 3amp fuse



The pipes were secured using screws through the plywood