

COOLTEK

our energy efficient home



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350 Jalan Woodland, Tiara Melaka Golf Club



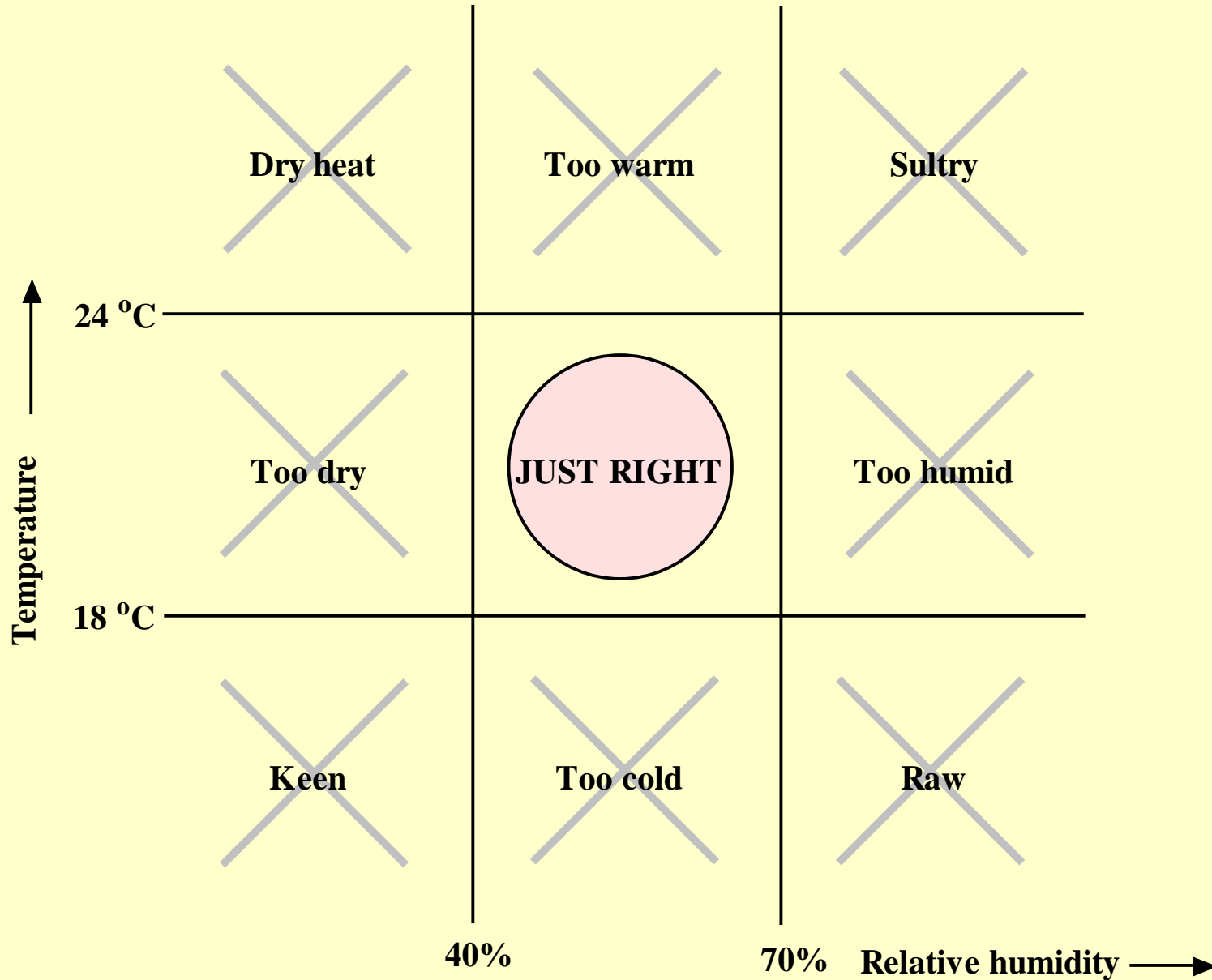
Woodland 3



Woodland 5



Comfort zone



COOLTEK design features

1. Protection
2. Orientation
3. Insulation
4. Ventilation
5. Investigation

1. PROTECTION

Surrounding vegetation



White Roof



White walls



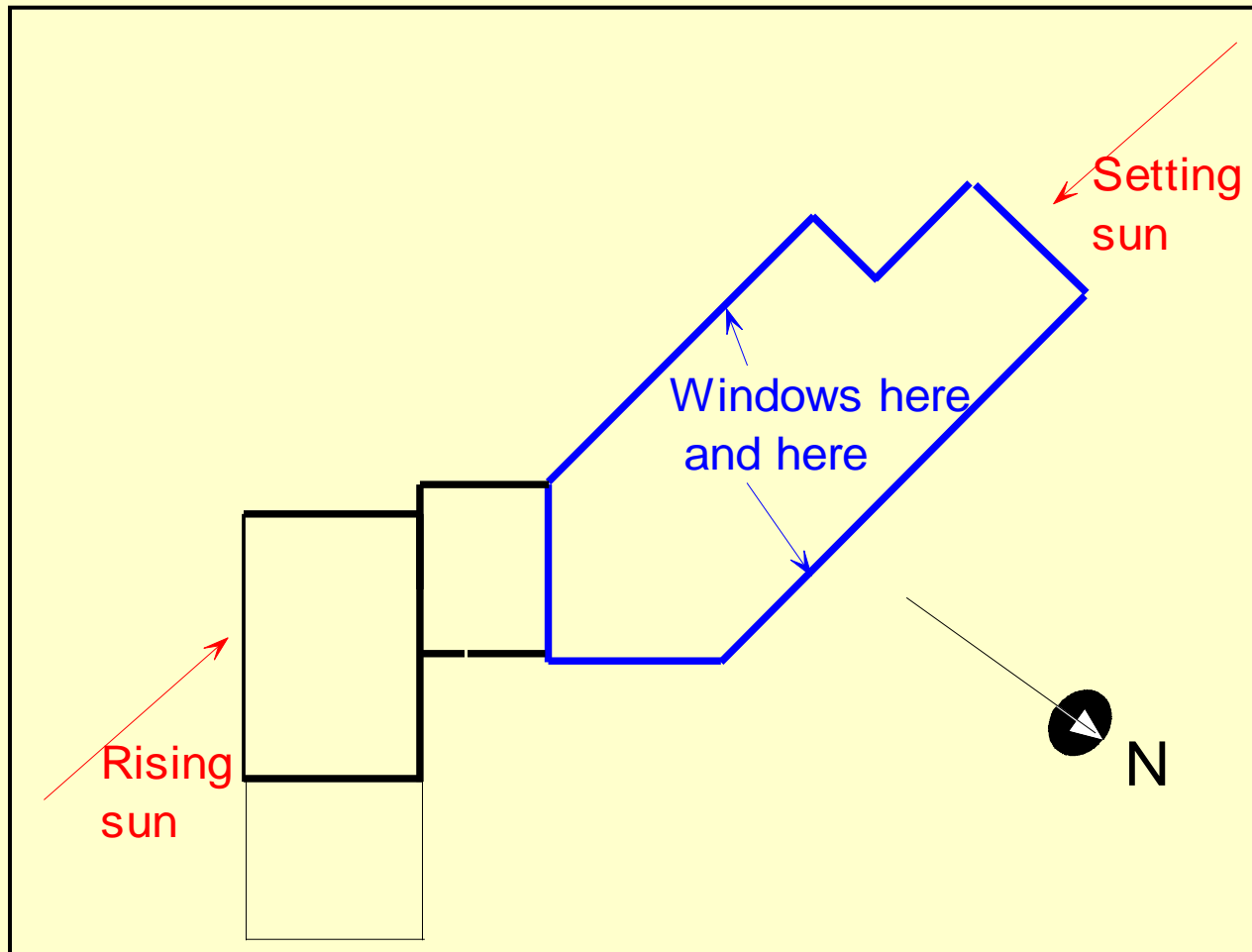
Roof overhang



Inset windows



2. ORIENTATION



3. INSULATION

INSULATION

Aerated Lightweight Concrete walls



Load bearing walls



ALC blocks laid with Thin Bed Adhesive



ALC lintels



Double glazed Windows



- low-emissive coating
- argon gas filling
- clear glass



Rockwool Insulation above the ceiling



Above ceiling insulation



Polyurethane below the flooring



PU laid

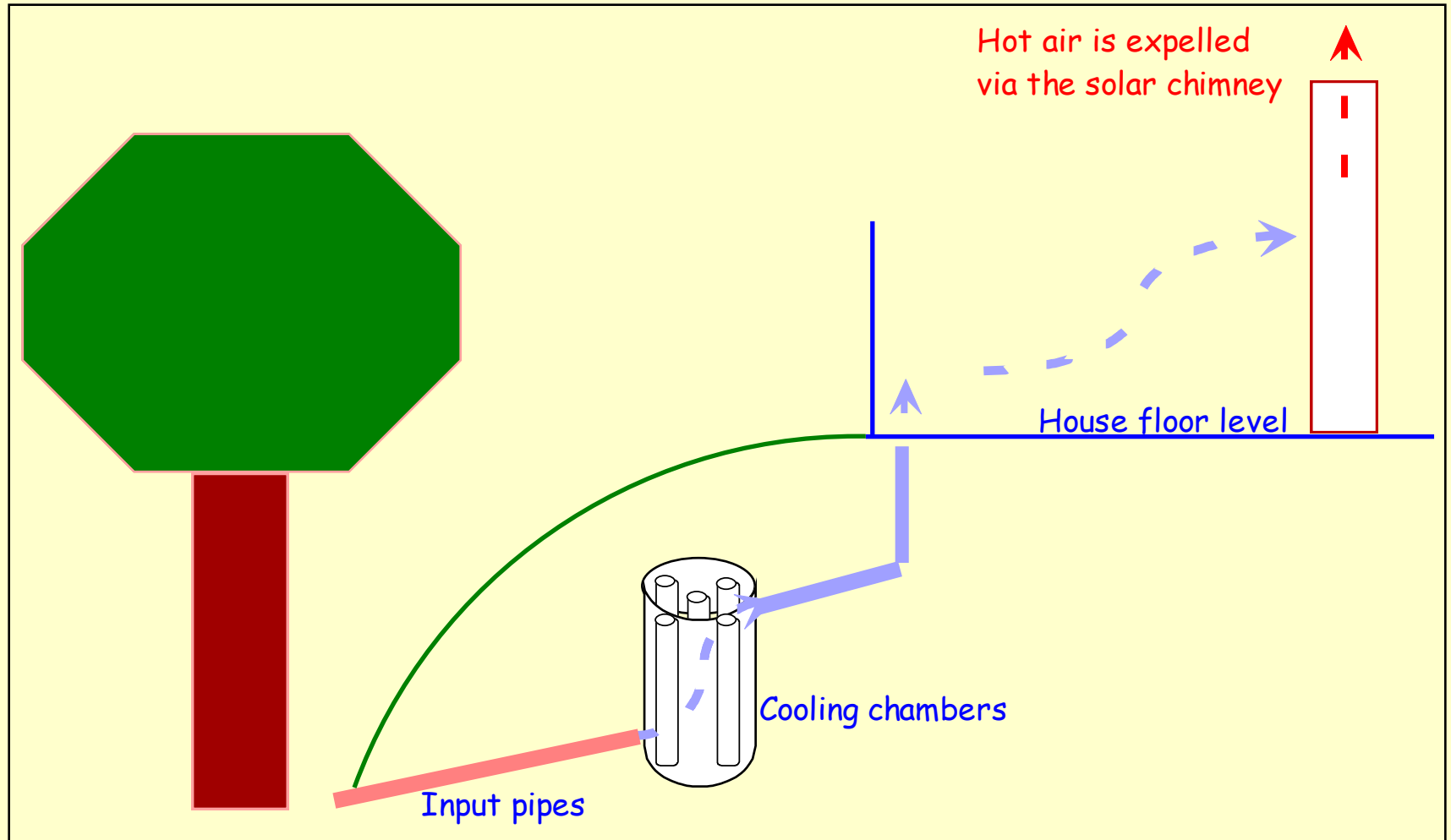


Flooring being laid



4. VENTILATION

4. COOLTEK ventilation



Finished slab



Output pipe in slab



Vent pipes build



Inlet pipes being laid



Cooling chamber baffles



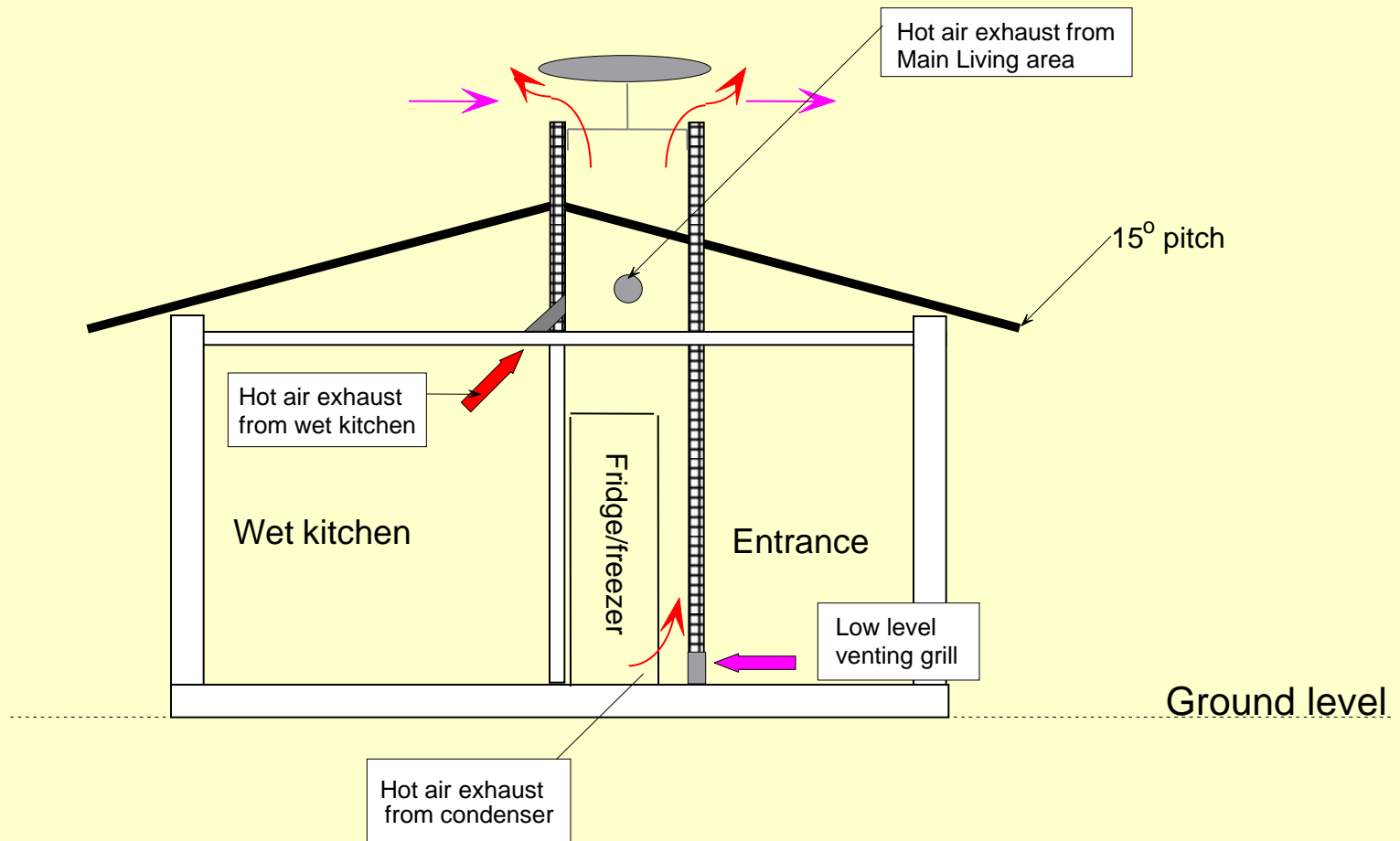
Cooling chamber lids



Chimney above roof

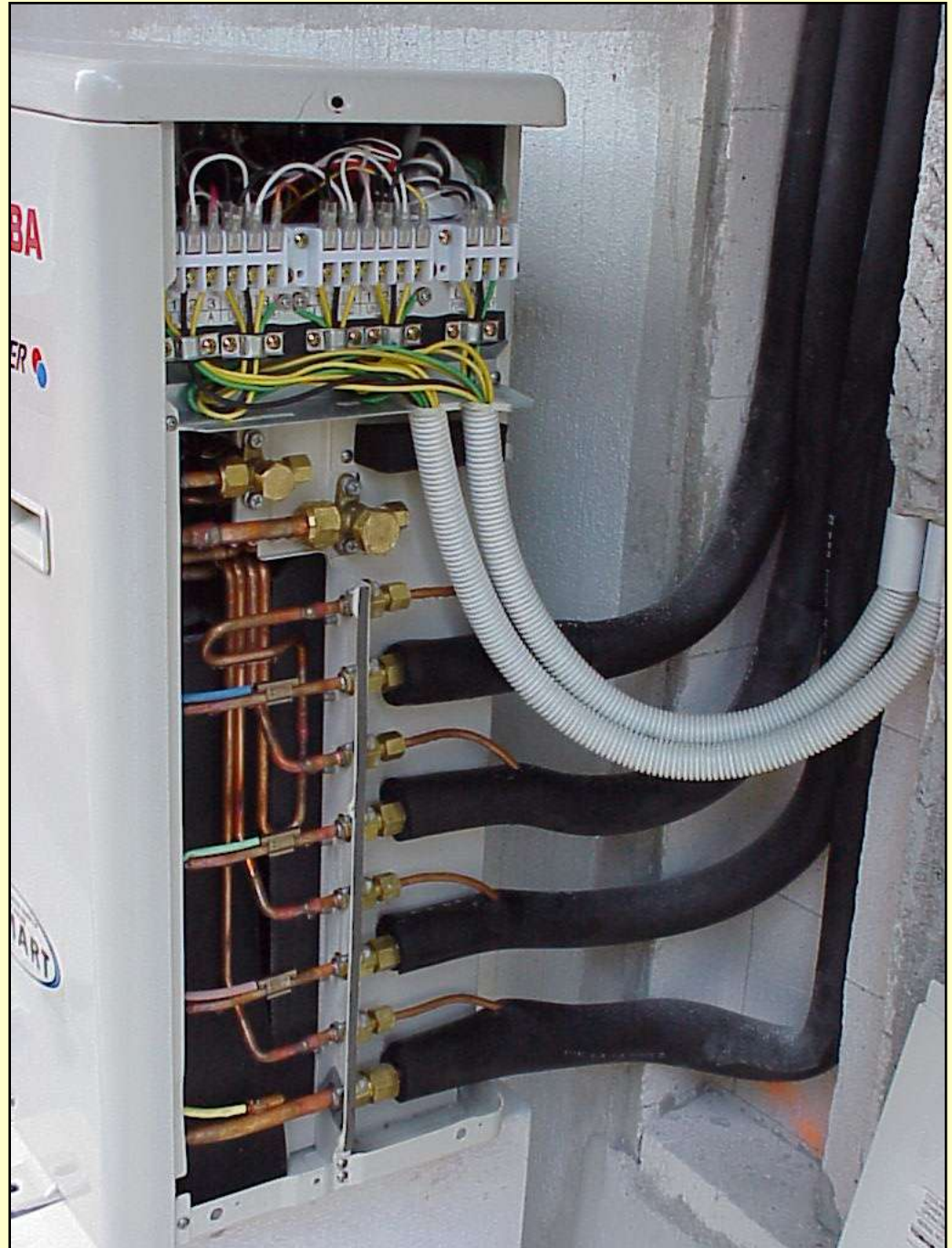


Thermal chimney



5. INVESTIGATION

Multi split
air con unit,
with R410A
refrigerant



Energy Efficient Lighting



LIVING ROOM

- compact fluorescent light bulbs
- mirror reflector



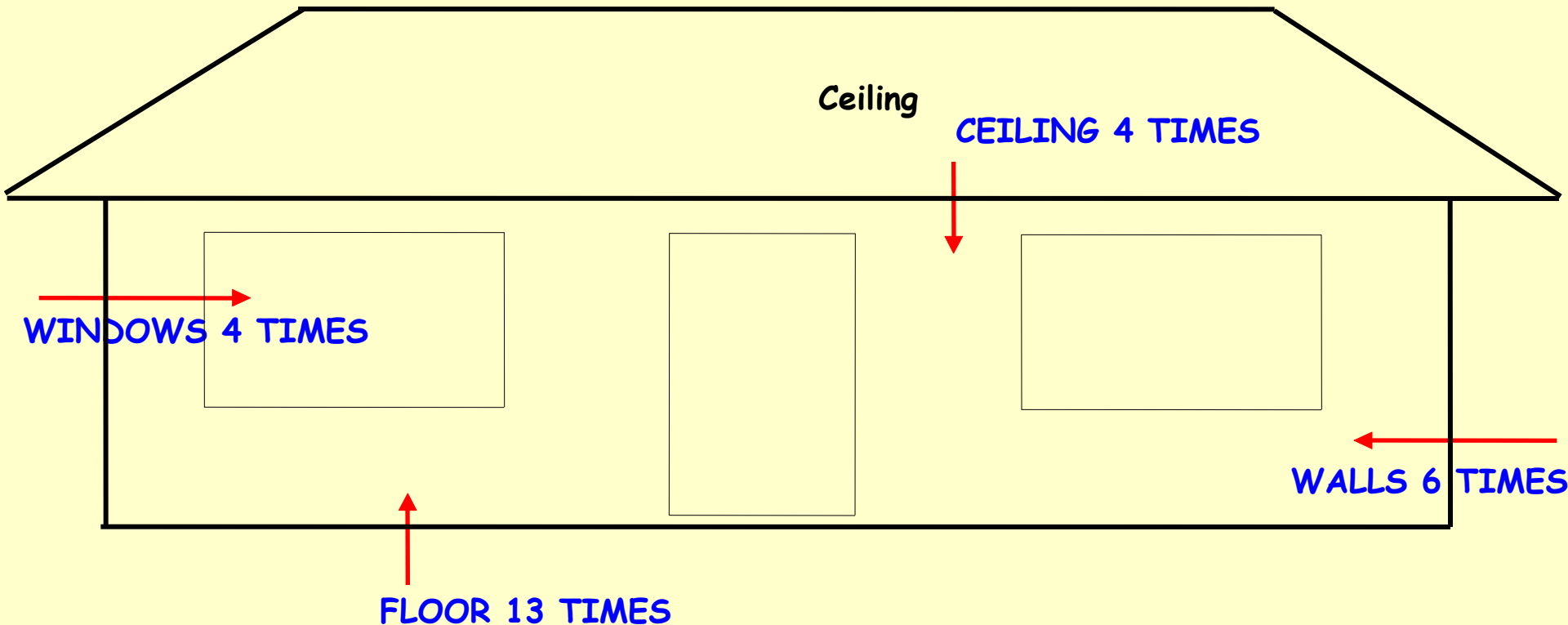
GARAGE

- fluorescent T8 tubes
- electronic ballasts
- daylight glass wall blocks

Solar water heating



COOLTEK EFFICIENCIES at resisting heat gain



COOLTEK friends

Praying mantis



Fivebar swordtail



Large tailed nightjar



Stork billed kingfisher



Whose golf course is this?



Spectacled Langur





Thank you and
any questions

ROOF

- white metal sheets (15° pitch)
- aluminum foil (radiant barrier)
- 50 mm hard rockwool (insulation)
- aluminum ceiling (2.5 m height)
- large eaves (> 1 meter)

WINDOWS

- double pane
- low-e
- argon gas
- non openable
- north/south orientation

VENTILATION

- ground cooled intake
- no regulation



SOLAR CHIMNEY

- fridge/freezer 'exhaust'
- 'pulls' exhaust air out



WALLS

- 250 mm aerated concrete
- load bearing walls
- white

DOORS

- double pane
- double seals (air tight)

AIR-CON

- 4 units
- shared condenser
- variable speed drive
- COP = 3.2

FLOOR

- 50 mm polyurathane insulation
- vapour barrier

