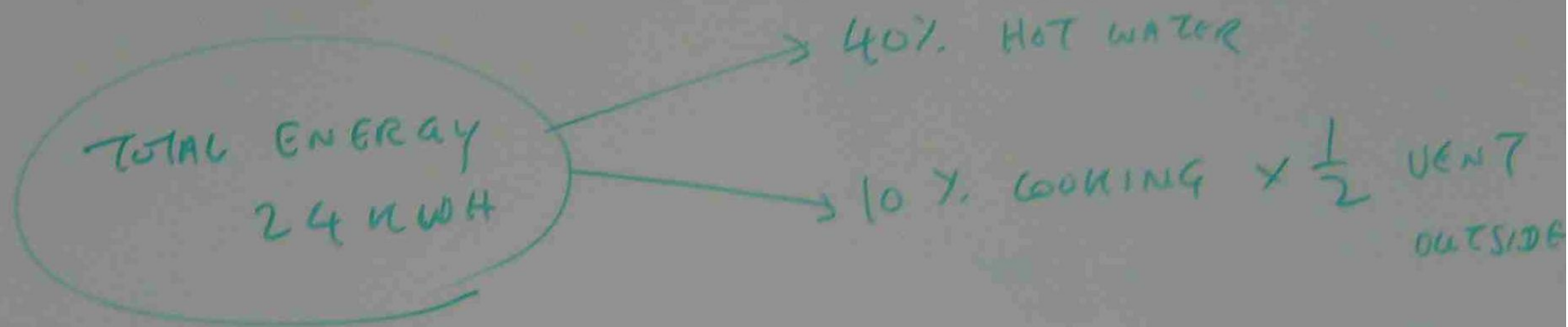


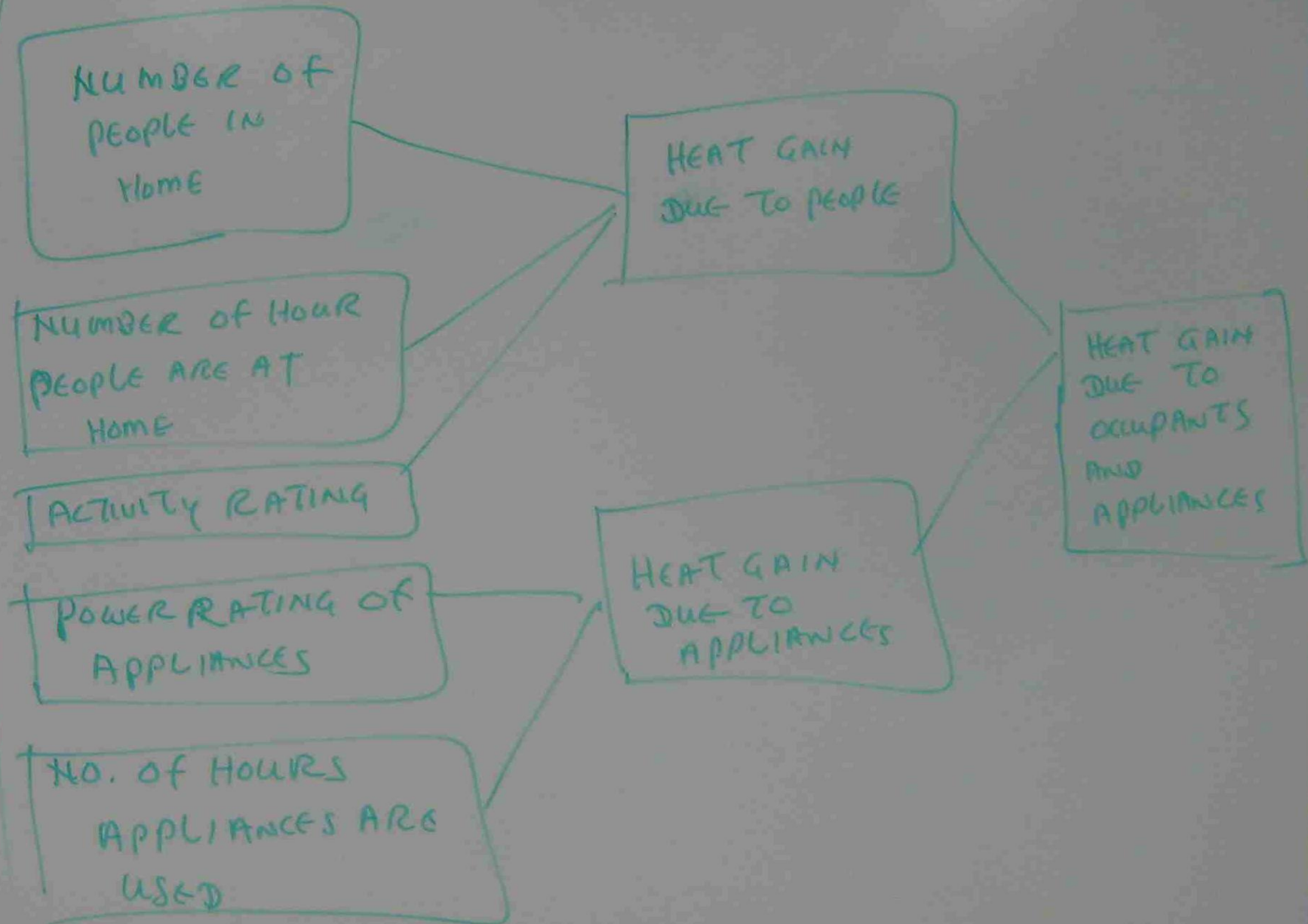
Pb

AN ALL ELECTRIC HOME MAY USE 24 KWH / DAY IN TOTAL.
40% BEING USED FOR HOT WATER. IF COOKING CONSUMES
10% AND HALF OF HEAT IS VENTED OUTSIDE WITH A RANGE
HOOD. FIND TOTAL HEATING EFFECT OF APPLIANCES PER MONTH

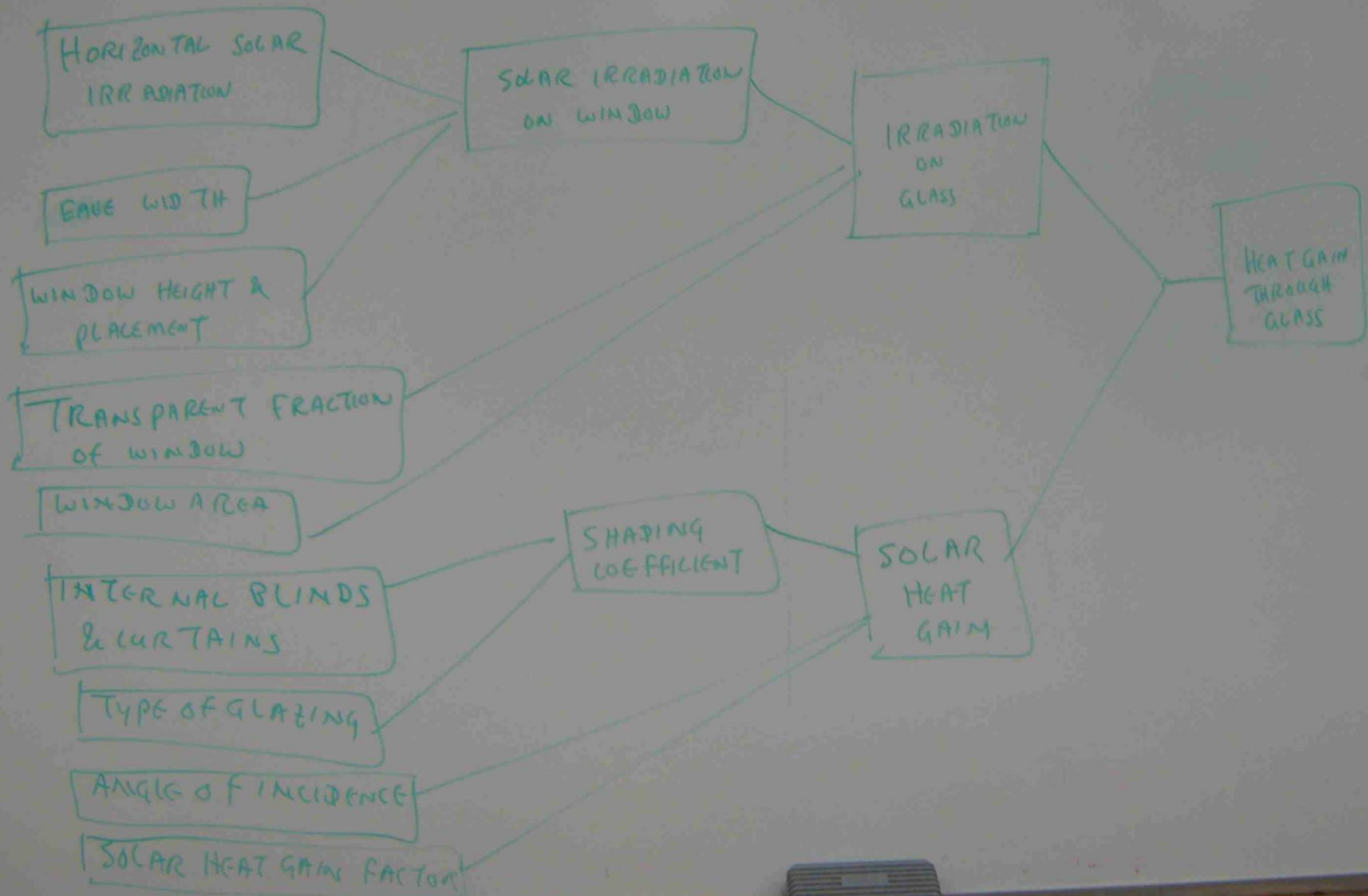


$$\begin{aligned}\text{TOTAL HEATING EFFECT} &= 24 \times \left[0.4 + 0.1 \times \frac{1}{2} \right] \times 30 \\ &= 324 \text{ KWH}\end{aligned}$$

CALCULATION OF HEAT GAIN VIA OCCUPANTS



SOLAR GAIN THROUGH WINDOW



HEAT ABSORPTANCE

BRICK 0.26 \rightarrow 0.68

CONCRETE 0.05

CALVANIZED
IRON 0.3 \rightarrow 0.75

CEMENT 0.45 \rightarrow 0.75

PAINT 0.18 \rightarrow 0.9

COM. FRT / TEMPERATURE ZONE = 22 \rightarrow 28 C

TOTAL HEAT TRANSFER

$$P_{\text{TOTAL}} = P_{\text{TEMP. DIFF}} + P_{\text{GLAZE}} + P_{\text{WALL}} + P_{\text{ROOF}} + P_{\text{PEOPLE}} + P_{\text{APPLIANCE}} + P_{\text{RAVE}}$$

$P_{\text{TEMP. DIFF}}$ = HEAT TRANSFER DUE TO TEMPERATURE DIFFERENCE

P_{GLAZE} = SOLAR HEAT GAIN THROUGH GLAZING

P_{WALL} = SOLAR HEAT GAIN THROUGH WALL

P_{ROOF} = SOLAR HEAT GAIN THROUGH ROOF

$P_{\text{people}} = \text{BODY HEAT FROM PEOPLE}$

$P_{\text{appl}} = \text{HEAT GENERATED BY APPLIANCE}$

$P_{\text{aux}} = \text{HEAT OR COOL GENERATED BY}$
 $\text{HEATING} \mid \text{COOLING PLANTS.}$