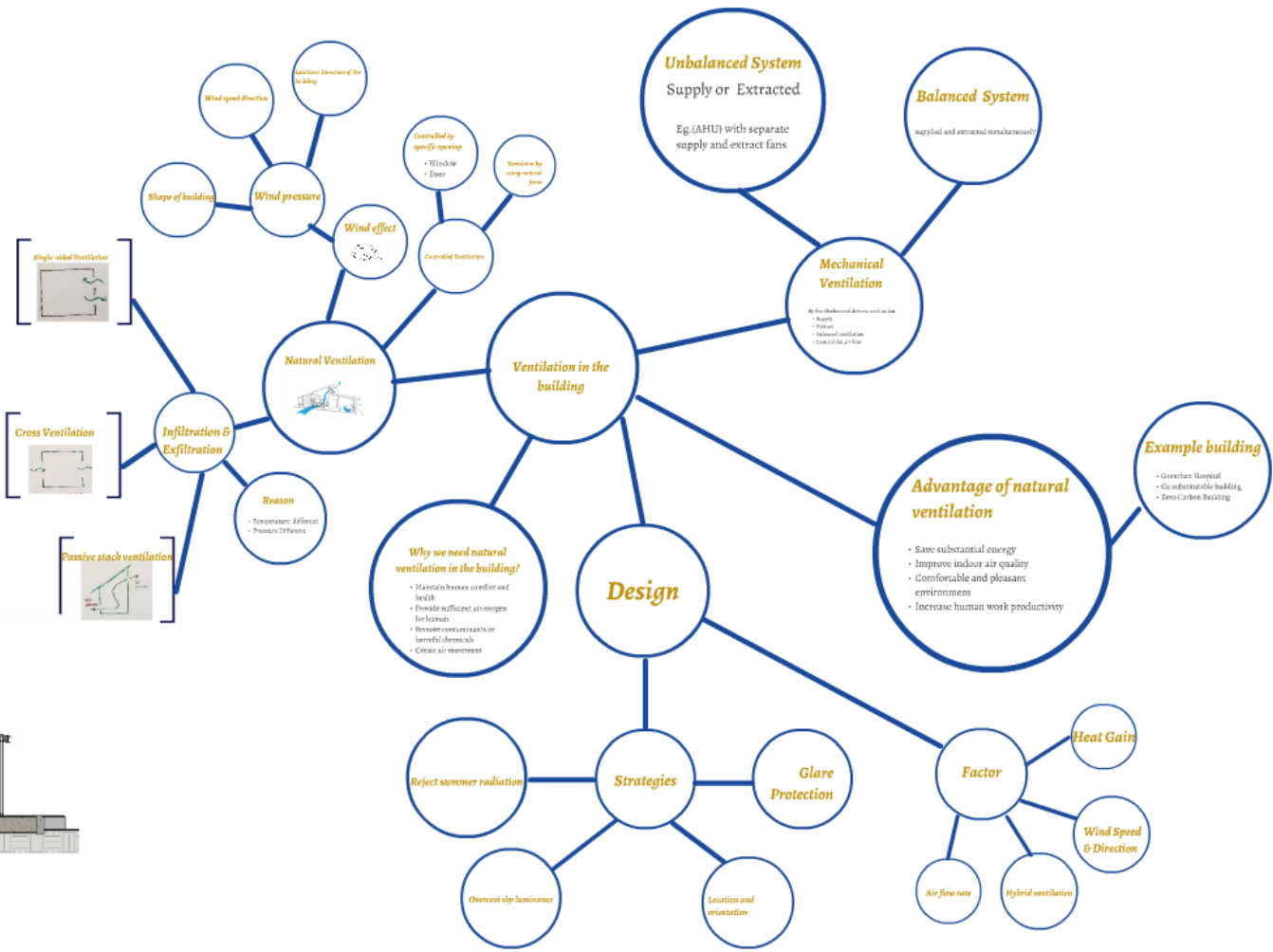
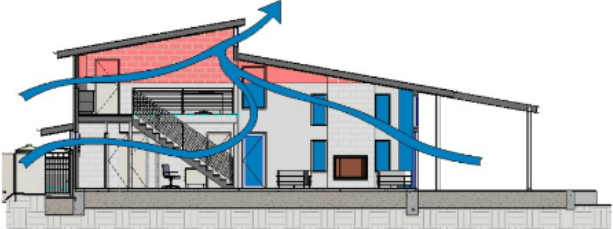


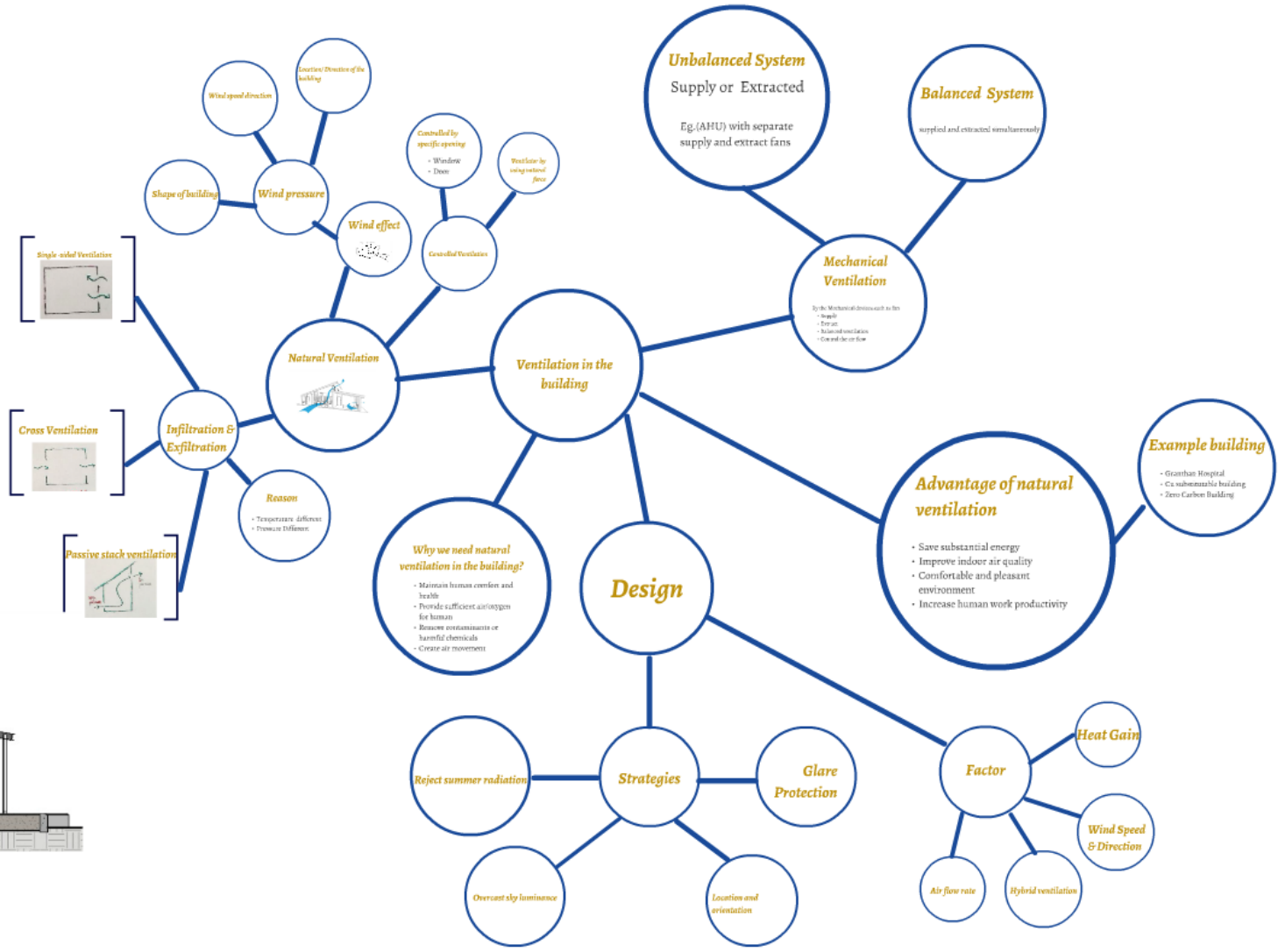
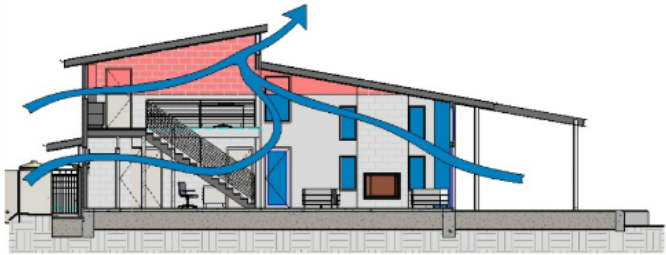
Ventilation in the building

Lau Kin Long
Kung Tan Ying
Ho Chui Hin
Poon Tsz Ching



Ventilation in the building

Lau Kin Long
Kung Tan Ying
Ho Chui Hin
Poon Tsz Ching





*Ventilation in the
building*

Why we need natural ventilation in the building?

- Maintain human comfort and health
- Provide sufficient air/oxygen for human
- Remove contaminants or harmful chemicals
- Create air movement

Advantage of natural ventilation

- Save substantial energy
- Improve indoor air quality
- Comfortable and pleasant environment
- Increase human work productivity

Example building

- Grantham Hospital
- Cu substitutable building
- Zero Carbon Building



Mechanical Ventilation

By the Mechanical devices such as fan

- Supply
- Extract
- Balanced ventilation
- Control the air flow

Unbalanced System

Supply or Extracted

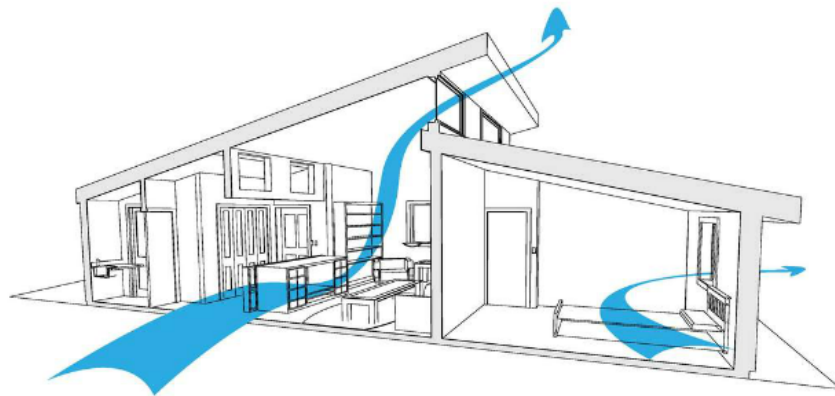
Eg.(AHU) with separate
supply and extract fans

Balanced System

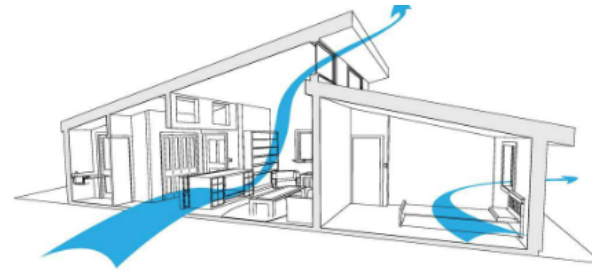
supplied and extracted simultaneously

***Mechanical
Ventilation***

Natural Ventilation



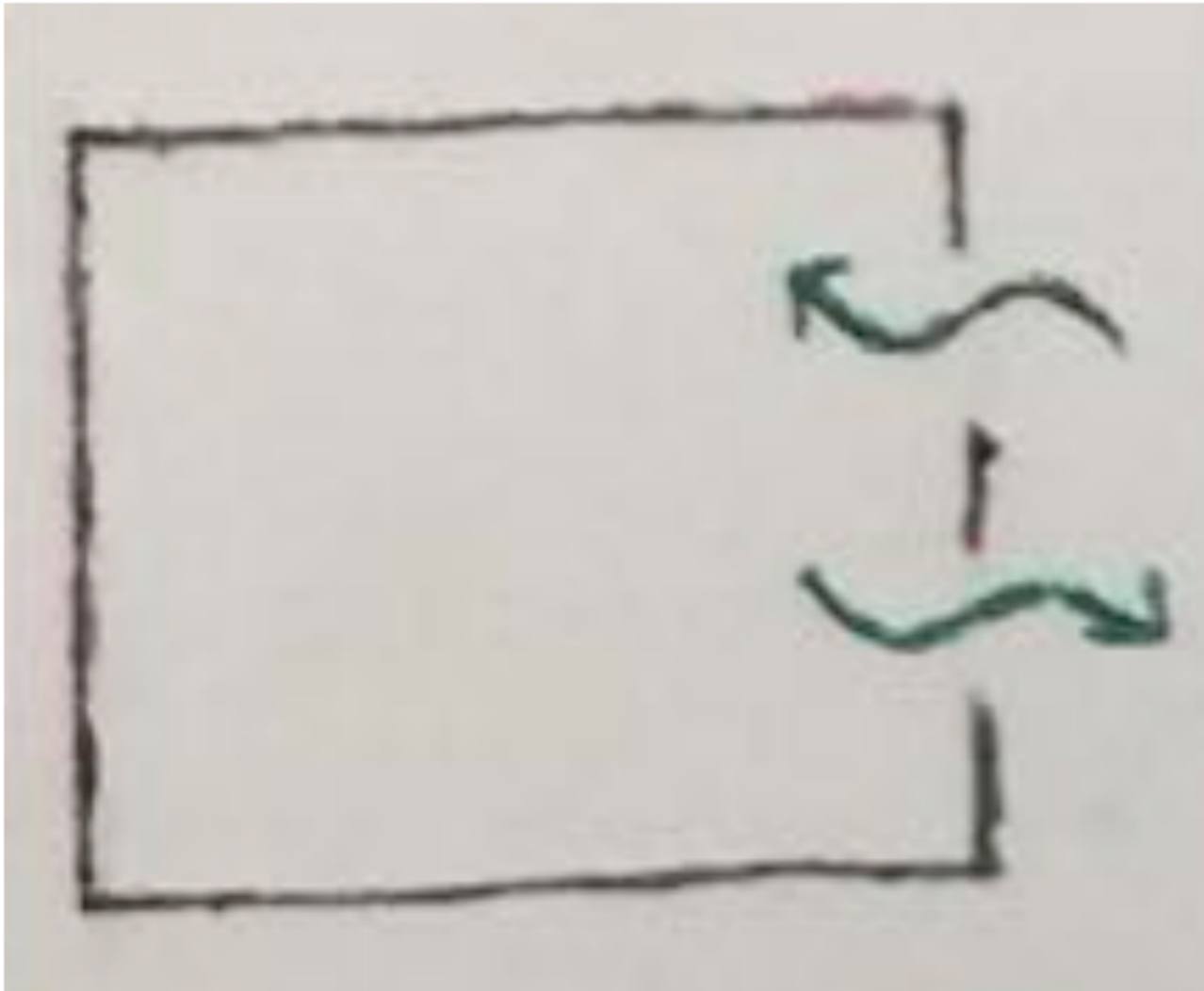
Infiltration & Exfiltration



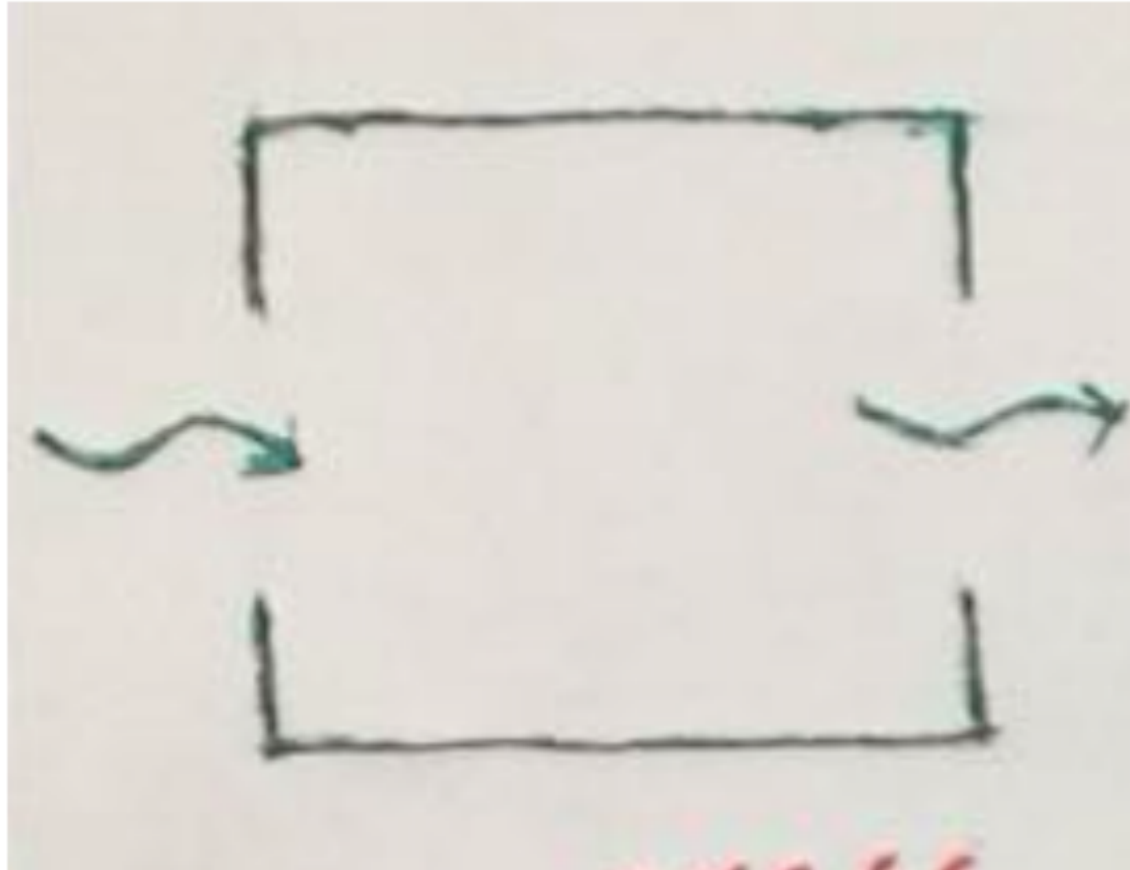
Reason

- Temperature different
- Pressure Different

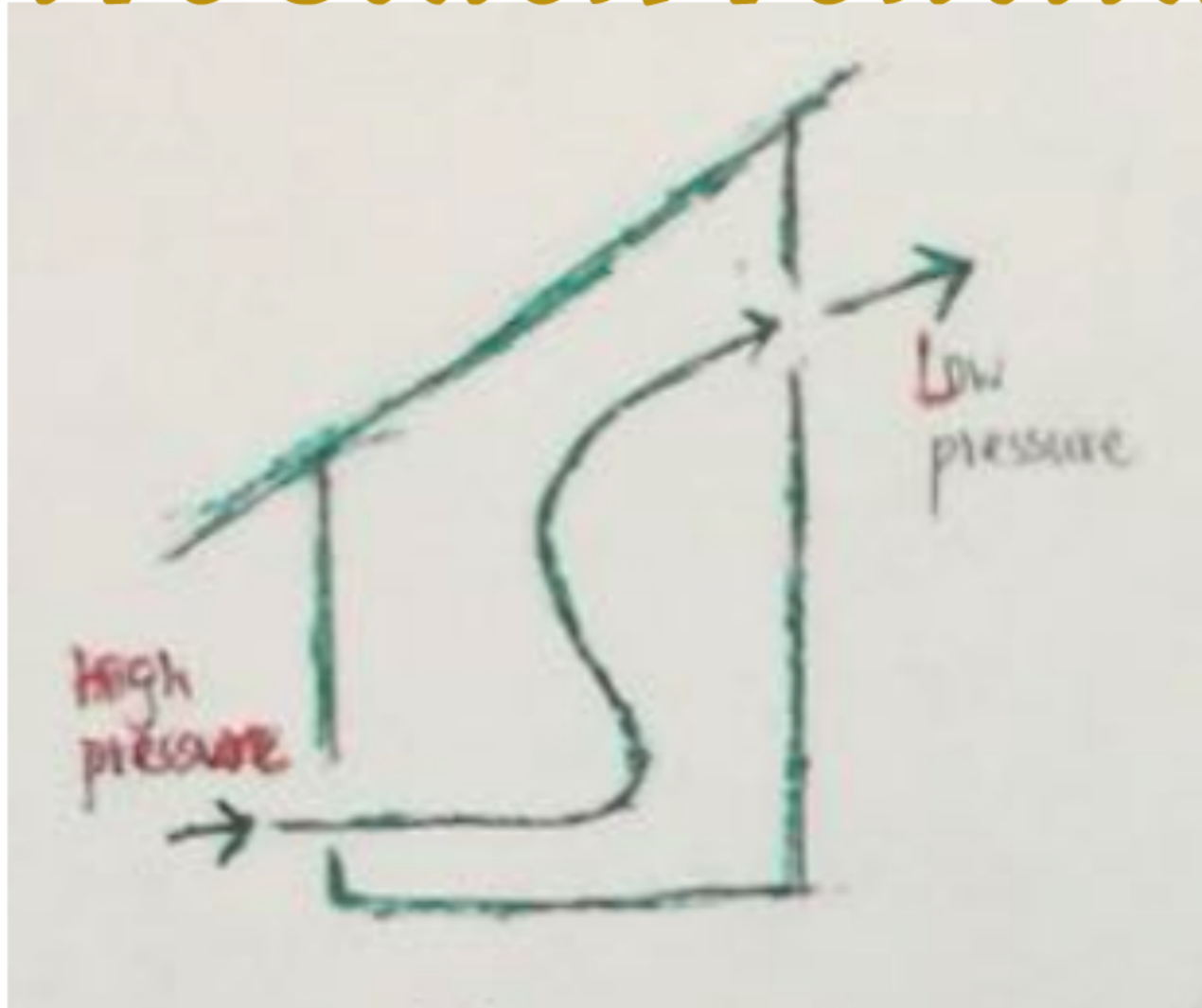
Single -sided Ventilation



Cross Ventilation



Passive stack ventilation



Controlled Ventilation

*Controlled by
specific opening*

- Window
- Door

*Ventilator by
using natural
force*

Controlled Ventilation

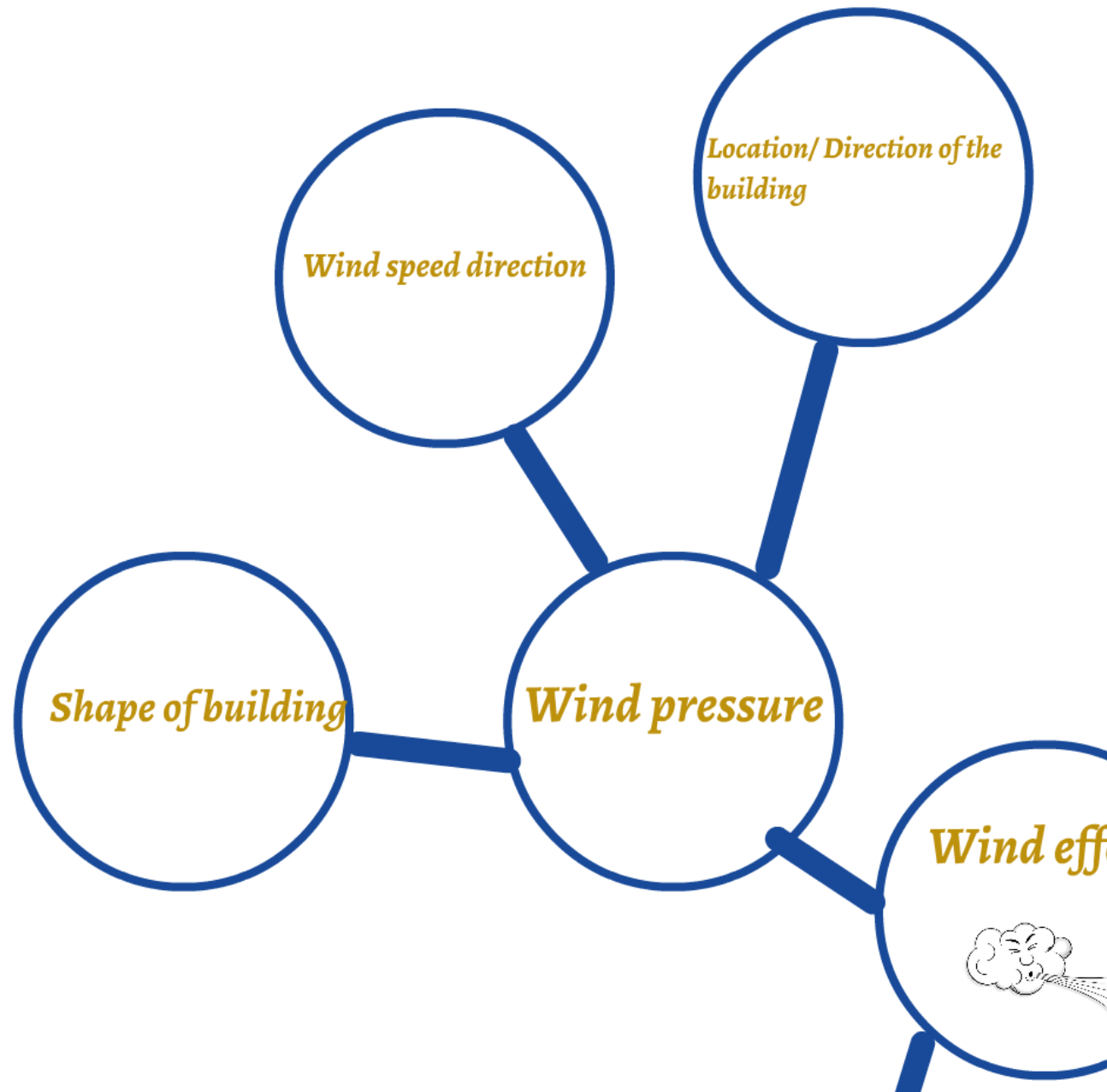
Su

Eg

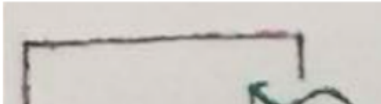
SU

Wind effect





Single-sided Ventilation



A large blue magnifying glass graphic is centered on the page. The word "Design" is written in a bold, italicized, gold-colored serif font within the circular lens of the magnifying glass. The handle of the magnifying glass extends to the right and slightly downwards.

Design

Why we need natural ventilation in the building?

- Maintain human comfort and health
- Provide sufficient air/oxygen for human
- Remove contaminants or harmful chemicals
- Create air movement

Design

Reject summer radiation

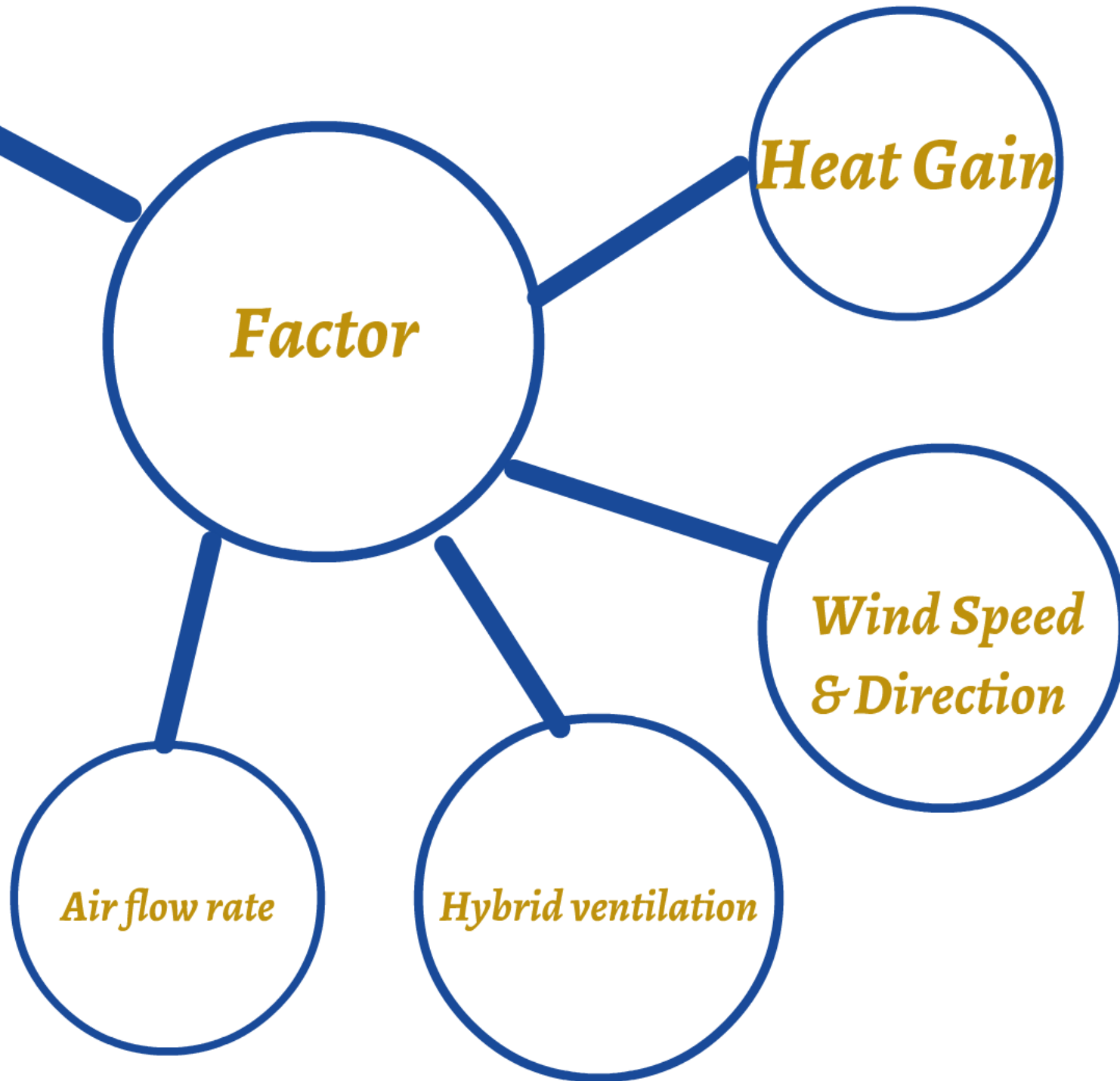
Strategies

Glare Protection

Overcast sky luminance

Location and orientation

Factor



Ventilation in the building

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