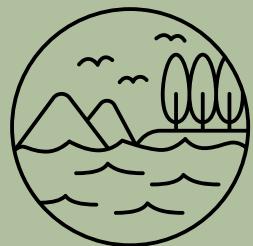
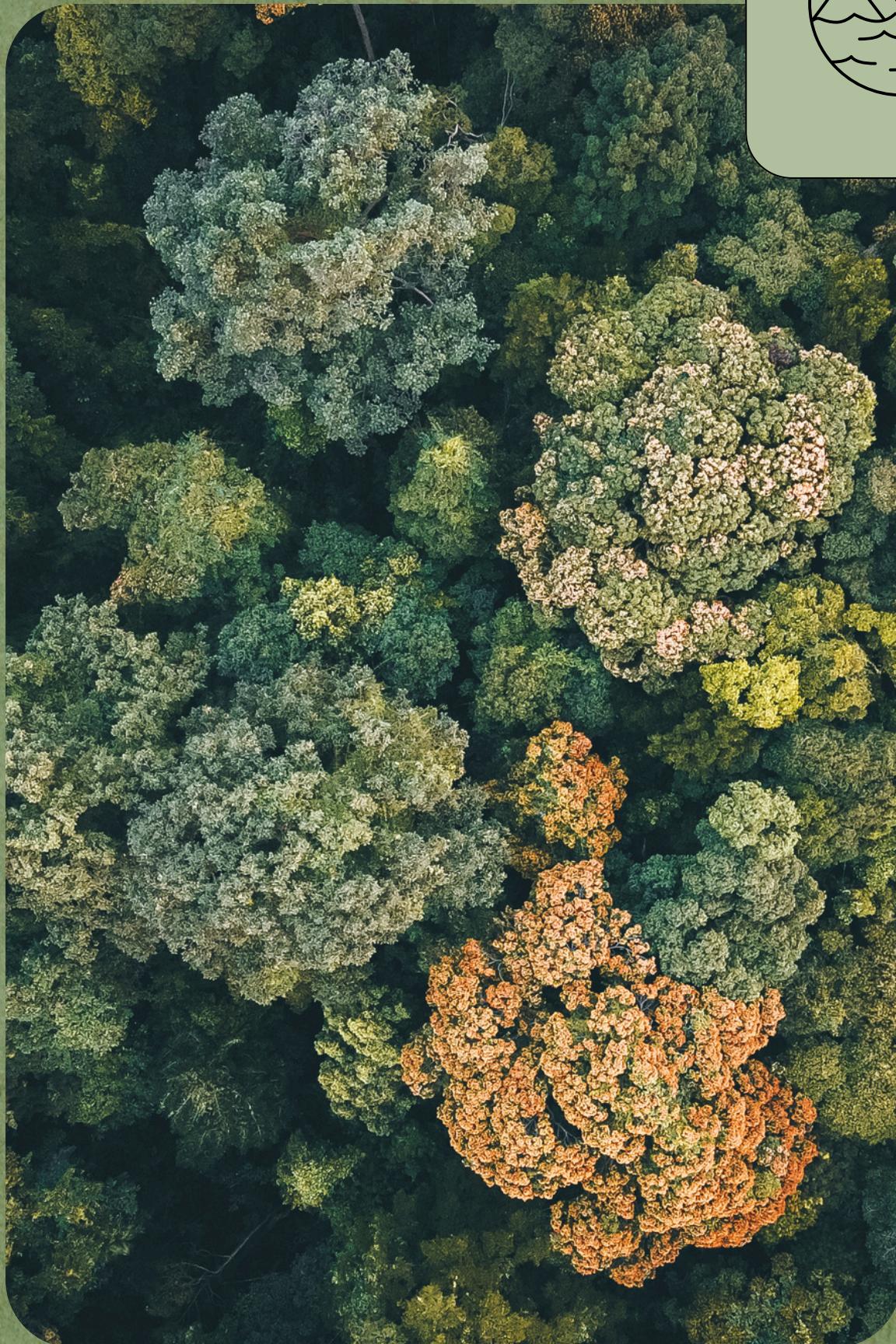


SUSTAINABILITY

GREEN BUILDING TECHNOLOGY

23C15A0105

UNDER THE GUIDENCE OF



Introduction

- Utilizes solar power, efficient lighting, and insulation to reduce energy use.
- Uses eco-friendly, recyclable, and locally available construction materials.
- Implements rainwater harvesting, low-flow fixtures, and greywater recycling.
- Promotes natural lighting, ventilation, and non-toxic materials for better air quality.
- Minimizes construction and operational waste through reuse and recycling.



What is sustainability?

- Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs.
- It focuses on balancing environmental health, economic growth, and social well-being.
- The goal is to use natural resources responsibly and ensure long-term ecological balance.



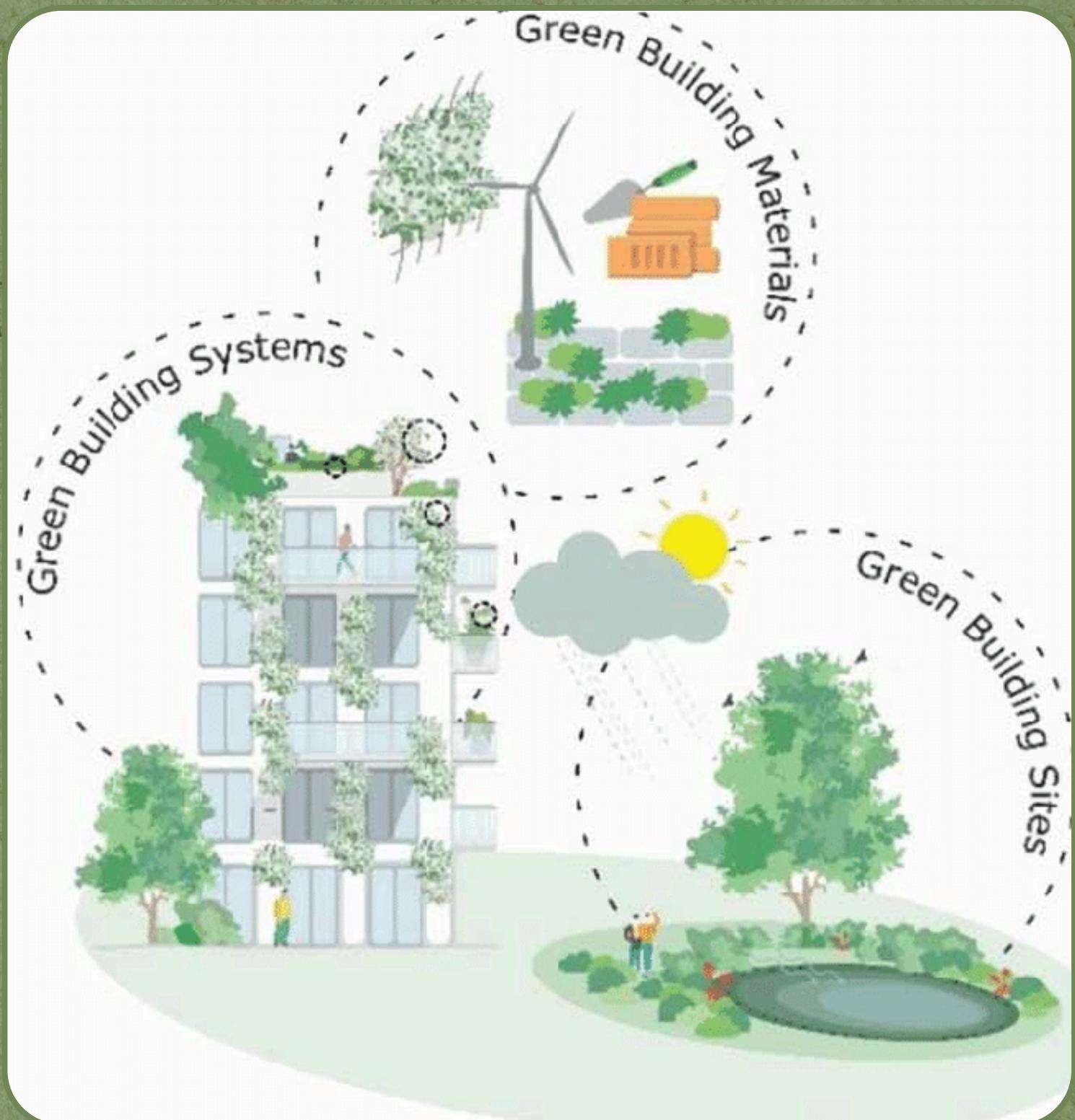
1.What are the key environmental concerns Related to Building construction

- High energy consumption and carbon emissions
- Depletion of natural resources like water and raw materials
- Generation of construction and demolition waste
- Reduction of biodiversity and ecosystem services



2. How does the built environment affect green cover?

- Urbanization reduces green spaces and forests
- Increases island effect due to lack of vegetation
- Decreases the natural water cycle and soil quality
- Reduces biodiversity and ecosystem services



3.What are the implications of using recycling materials in the construction?

- Reduces waste and promotes resource efficiency**
- Lowers the energy consumption and carbon emission**
- Decreases the environmental impact of material extraction**
- Encourages sustainable and circular construction practices**



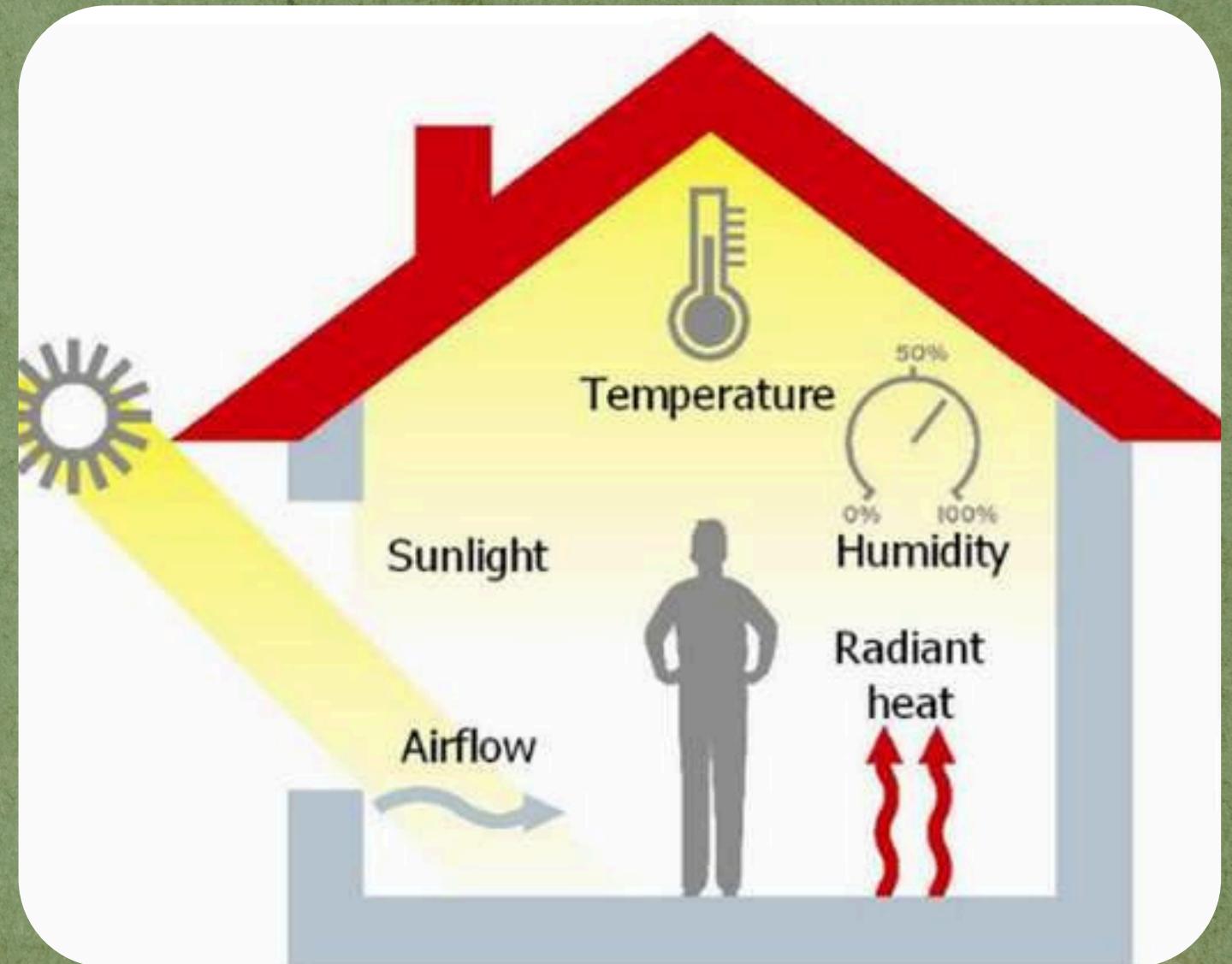
4. How can industrial waste be utilized in building construction?

- Fly ash and slag can be replaced in place of cement in concrete
- Recycled plastic used for insulation and lightweight structure
- Reduces landfill waste and environmental pollution
- Lowers the cost of construction materials



5.What are the key factors affecting heat transfer in buildings?

- Thermal conductivity of the building materials
- Insulation quality and thickness
- Air leakage and ventilation rate
- Solar radiation and shading



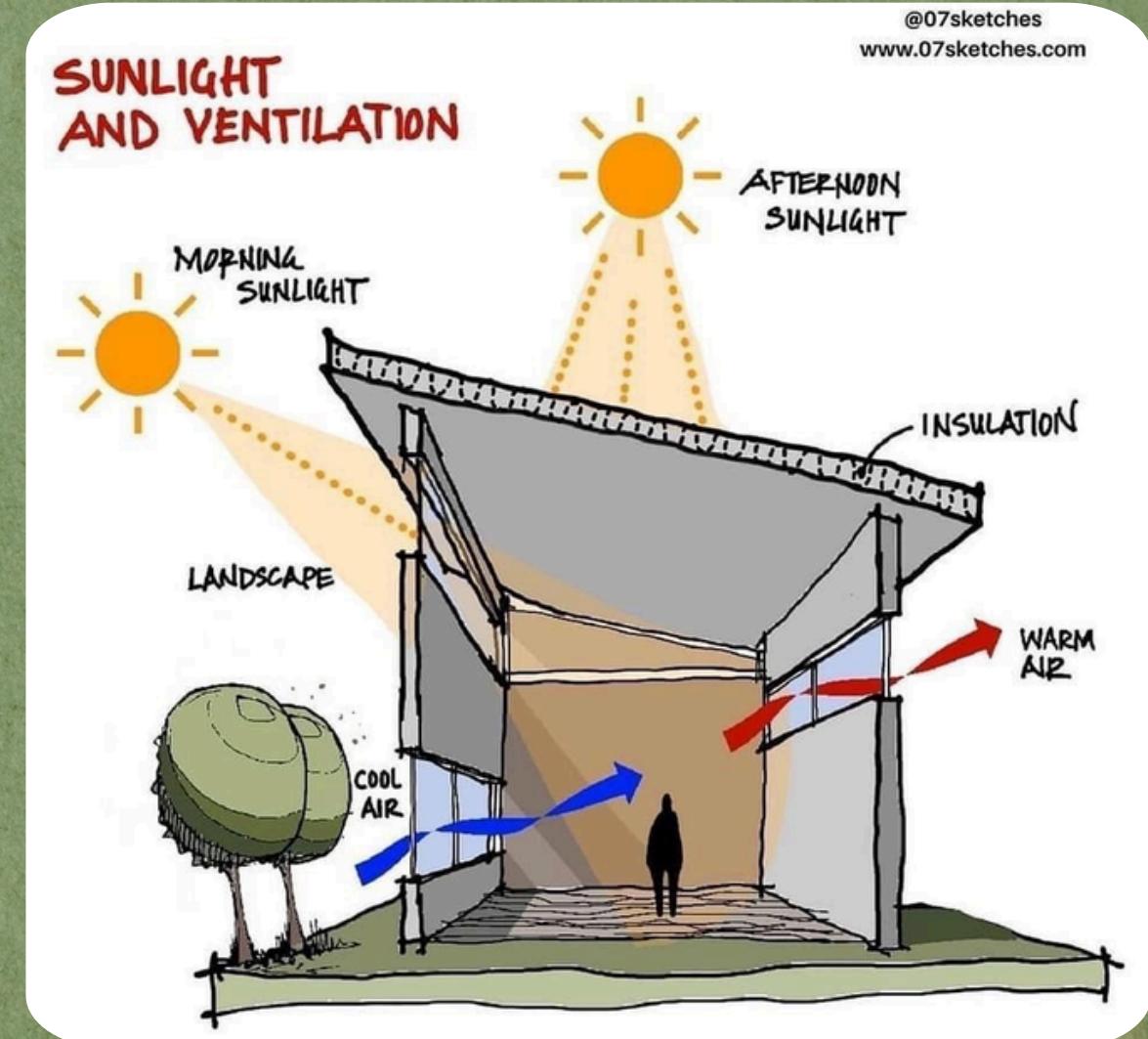
6. How does solar heat incident influence building energy consumption?

- Increases cooling load in warm climates
- Can be harnessed for passive heating in colder climates
- Affects the choice of building orientation and materials
- Impacts the design of shading and ventilation systems



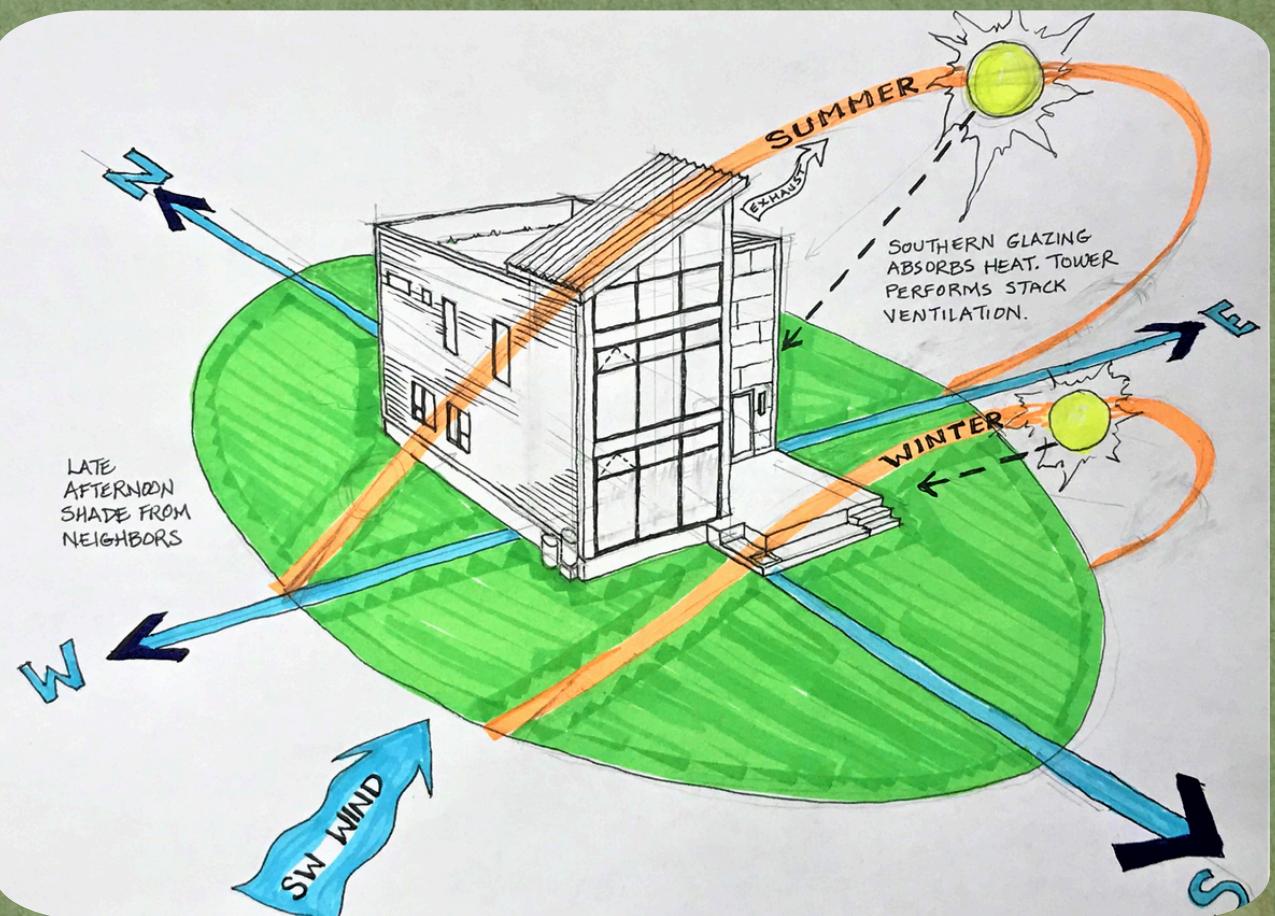
7.What is solar passive cooling in buildings?

- Solar passive cooling uses building design to lower indoor temperatures naturally.
- It involves features like cross-ventilation, shading devices, and reflective roofing.
- Thermal mass materials (like brick or concrete) absorb heat during the day and release it at night.
- It eliminates or reduces the need for mechanical air conditioning systems.



8. Name one benefit of using solar passive design in buildings.

- Reduces electricity bills by minimizing HVAC energy use.
- Enhances indoor comfort without relying on mechanical systems.
- Decreases carbon footprint and environmental impact.
- Increases building sustainability and long-term energy efficiency.



9.What are green composites in building construction?

- Green composites are eco-friendly building materials made from natural or recycled fibers and resins.
- They reduce the environmental impact of construction.
- Common examples include hempcrete, recycled plastic composites, and bamboo-reinforced materials.
- These materials are biodegradable, sustainable, and often lightweight.



10.What are some low-energy approaches to water management in buildings?

- Rainwater harvesting systems to reduce reliance on municipal supply.
- Use of low-flow fixtures to minimize water usage.
- Greywater recycling for gardening and flushing.
- Sustainable drainage systems (SuDS) to manage stormwater naturally.



THANK YOU

