

## SUN PATH DIAGRAM

Reference guide for solar orientation and passive design. Use the blank diagram on page 2 to sketch your own sun path analysis.

### PASSIVE SOLAR PRINCIPLES

#### Orient Long Walls South

Maximize winter sun exposure on the longest facade.

#### Thermal Mass on South

Concrete, stone, or tile floors absorb daytime heat and release it at night.

#### Design Overhangs

Shade south windows in summer (high sun) while allowing winter sun (low angle) to enter.

#### Minimize West Glass

West-facing openings cause overheating from harsh afternoon sun.

### DIAGRAM CHECKLIST

- Summer sun arc drawn high overhead
- Winter sun arc drawn low on horizon
- Window sizes vary by orientation
- Overhang depth noted on south face
- North arrow included

### GLAZING STRATEGY BY FAÇADE

#### South

Largest windows – consistent, manageable sun. Easy to shade with overhangs.

#### North

Soft, even light without direct sun. Ideal for studios and offices.

#### East

Morning light – generally welcome, easy to manage.

#### West

Caution – low, hot afternoon sun. Use small windows or exterior shading.

### KEY NUMBERS

#### Summer Sun Angle (40°N)

·73° at noon – sun is nearly overhead, easy to shade with short overhangs.

#### Winter Sun Angle (40°N)

·27° at noon – low angle, penetrates deep into rooms through south-facing glass.

#### Overhang Rule of Thumb

For south windows, overhang depth  $\approx$  window height  $\div$  4 to  $\div$  3 blocks summer sun while admitting winter sun.

## YOUR SUN PATH SKETCH

Sketch your home in plan view below. Mark north, draw the summer and winter sun arcs, and annotate window sizes and overhang strategies for each facade.



Notes:

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