Passive Solar Design

Energy

INTRODUCTION

The most convenient time to incorporate solar design into your home is during the initial design and planning phase. A well-designed home can take advantage of the sun's orientation in order to light, heat and cool itself naturally.

PASSIVE HEATING

DIRECT GAIN WINDOWS: These windows face south and allow the sun to enter directly into the house. Overhangs allow winter access while blocking the hot, summer sun.

SUN SPACES: Sun spaces may be isolated from the house, and contain windows and doors to regulate how much heat from the sun space enters the house.

PASSIVE COOLING

REDUCING SOLAR GAIN: The less sun entering your home, the lower the temperature will be. Therefore, shading from trees, awnings or blinds, outside or inside your home may be effective for reducing solar gain.

VENTILATION: Properly placed vents at the top and bottom of walls allows warm air to leave at the top, and simultaneously draw cooler air in to fill the void.

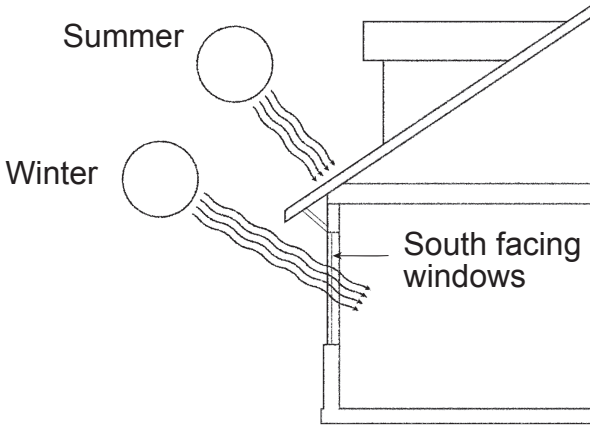
RADIANT COOLING: If walls and sun spaces are completely shaded during the day, then at night the cool walls will radiate the warmer house air to the outside.

CONTACT

- California Energy Commission, www.energy.ca.gov
- American Solar Energy Society, www.ases.org
- Pacific Gas & Electric, www.pge.com

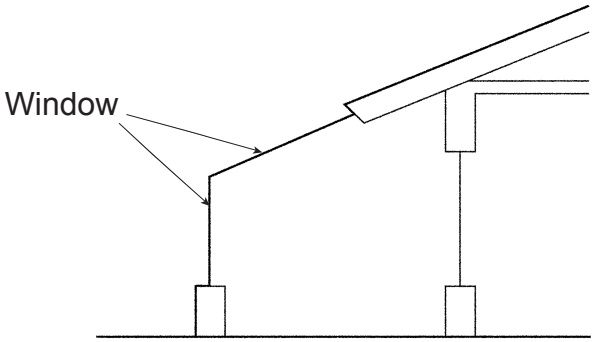
[Source: County of Marin Community Development Agency]

DIRECT GAIN WINDOWS



Summer and Winter Sun. South facing direct gain windows allow the sun to enter directly in the winter, while overhangs block its heat in the summer.

SUN SPACES



Direct Gain Rooms. Sun spaces function like large-scale direct gain windows allowing residents to control how much heat enters the home.