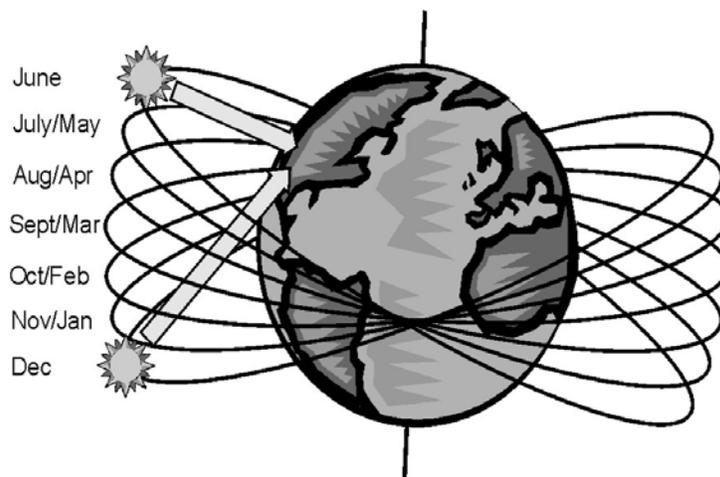


The Sun and Your Home

Everyone knows that sunshine warms the earth, us and our homes. A properly designed home will take advantage of the sun's energy to light as well as heat the home. However, a poorly designed home may gather too much energy from the sun during the summer months, making it uncomfortable and causing the air conditioning system to work too hard, wasting energy and money.

Several factors concerning the design and orientation of a new home will require thought and even a few compromises. It may be difficult when all you have is bare ground, but start looking at your site and the surrounding area, then consider how you want your home to be when it's completed. It is important that you understand your options so you end up with the best possible solution for you and your family.

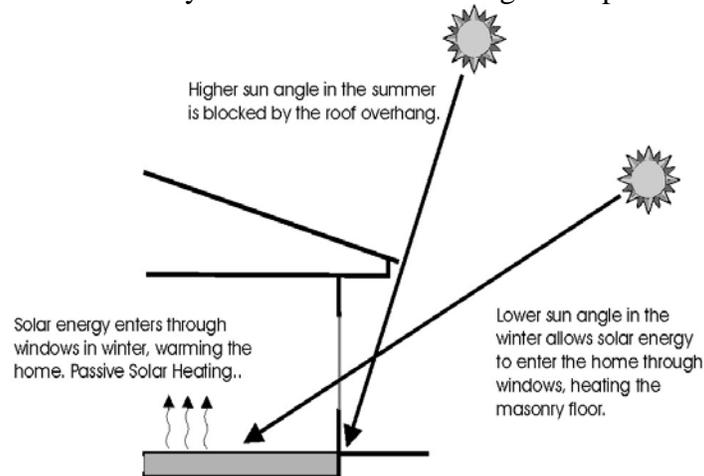
You need to decide what direction the house will face, north, east, south, or west. When deciding this, you should consider fluctuations in the local climate and the orientation of the home to the sun. The angle at which sunshine strikes the earth changes during the year. During the summer, sunshine strikes the northern hemisphere at a more direct angle while during the winter sunshine strikes the ground at a less direct angle.



In the summer, when the sun is more directly overhead, more of the heat energy is absorbed. As you know, this also affects your home. If your home has many windows and little shade, direct sunshine through your windows during the day will force your HVAC system to work too hard to keep things cool. A good design can reduce this problem. By limiting or shading windows on the east and west sides of your home, you can greatly reduce the heat energy absorbed during the mornings and afternoons. This is more of an issue on the west side of the home because afternoon temperatures are generally higher. For the east and west sides of your home, you can utilize awnings or shades to block excess sunshine and/or take advantage of natural shading such as trees when designing the home.

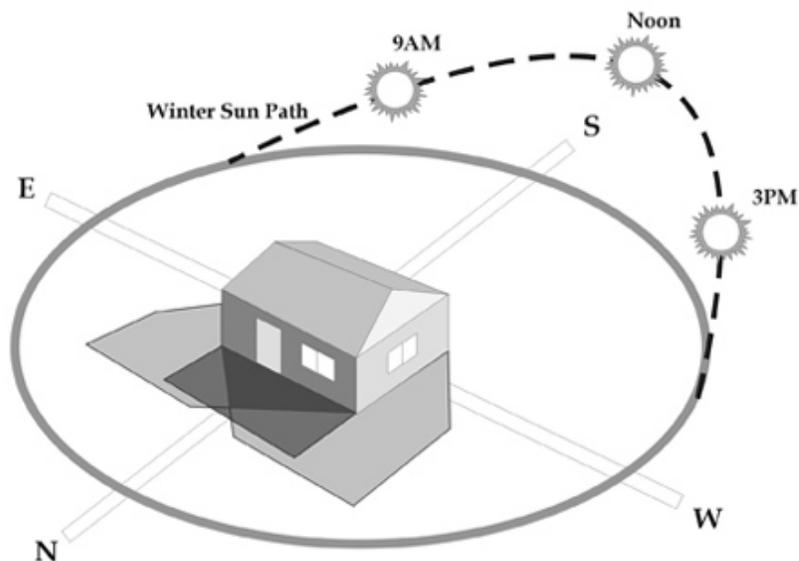
Windows on the south side of the home can be effectively shaded during the hottest part of the day by proper design of the roof overhang. During the summer, the sun is more directly overhead

at noon. The design of the roof overhang should block the summer sun during the hottest part of the day. In the winter when the angle of the sun is lower, sunshine is allowed to enter the home directly through the windows, passively warming the home. The length of the roof overhang varies dependent on the latitude of your location and the height and placement of your windows.



South facing windows

In the winter, the sun rises in the southeast and sets in the southwest, following a shallow arc across the sky. This is an important issue if you live in a climate where winter snow and ice are a possibility. Because of the sun angle in the winter, your home will receive sunshine on all sides except north while the ground on the north side will continually be shaded by the home. If your driveway and public entrance are on the north side of your home, ice and snow will have little chance to melt naturally because of this shading. If these areas are located on any other side of the home, at some point during the day they will receive direct sunshine, helping to melt ice while making access to the home easier and safer.



If you intend on taking advantage of passive solar heating of the home during the winter, you will want to orient your home as close to due south as possible in order to capture the most solar energy. If used in conjunction with a well insulated and sealed home, passive solar heating can save a considerable amount of your winter heating costs (20-40%), yet adds virtually no cost to the construction of the home.

When considering the landscape on which you intend to build, besides conforming to local building requirements such as setback distances (the distance that must be allowed between a structure and property lines), you should also consider how you can orient your home to optimize its livability. Doing so will greatly improve your satisfaction with your new home.

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