

## Chapter 21: Passive Design

1. Define *geographical latitude*.

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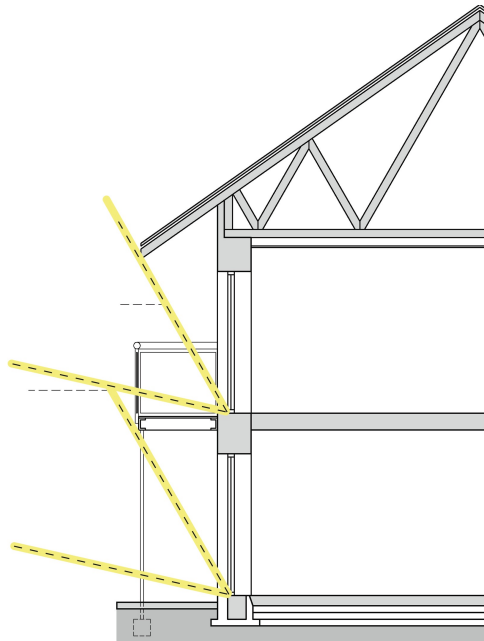
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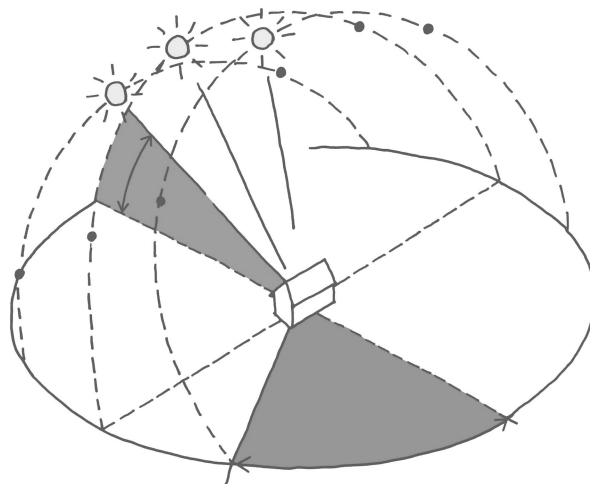
2. Complete the following sentence:

The intensity of solar radiation \_\_\_\_\_ as latitude \_\_\_\_\_ and the angle at which the solar radiation strikes the earth's surface \_\_\_\_\_.

3. Label the drawing to indicate the range of values for the maximum and minimum sun angles in Ireland.



4. Label the drawing:



5. The maximum sun angle in Co. Cork is greater than the maximum sun angle in Co. Donegal. State whether this statement is true or false and explain your answer.

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6. Calculate the maximum sun angles (winter, spring/autumn, summer) for your home. (*hint: use google earth or www.gps.ie to find the latitude of your home*).

7. State four simple facts about the sun's movement.

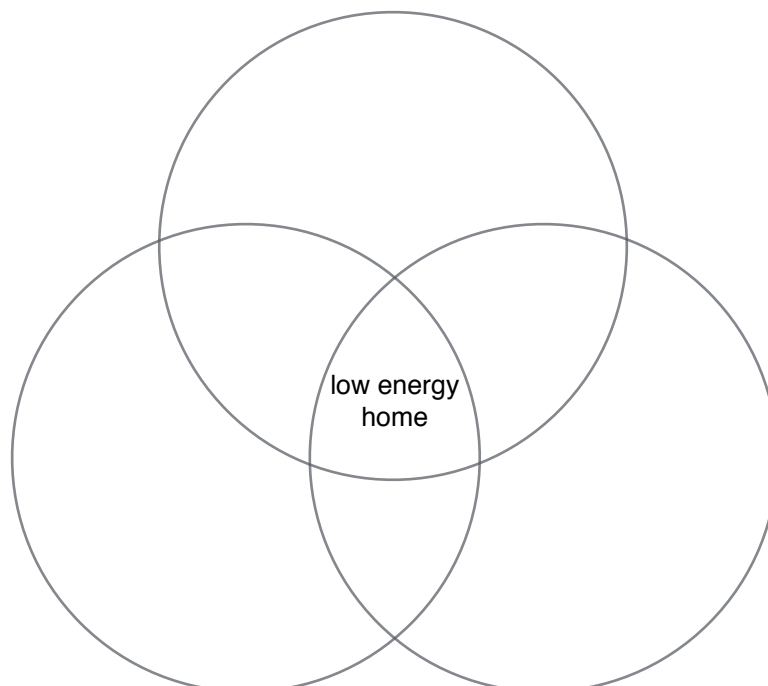
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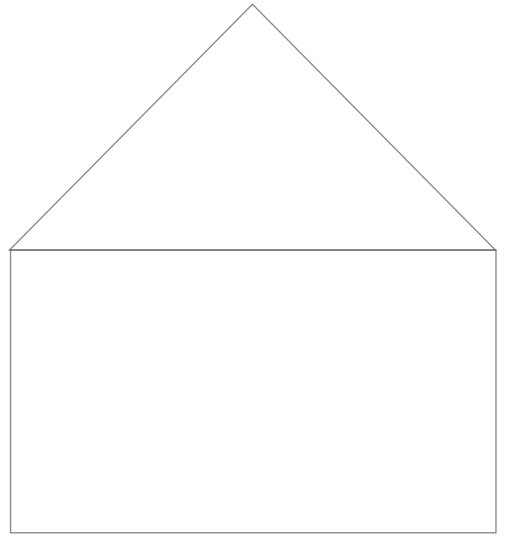
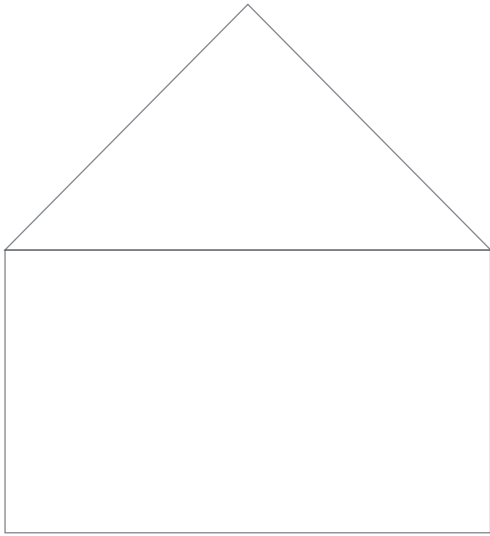
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8. Complete this diagram about low energy building design.



9. Generate a neat annotated sketch that highlights the difference between active and passive design.



10. Explain *solar gain*, using notes and a neat annotated sketch.

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