

arch 1100 + 1140

learning community

arch 1140

professor Montgomery

autumn 2011



SUBJECT

WOOD

light frame construction

chapter 5

DATE

AUTUMN 2011

PROFESSOR

MONTGOMERY



WOOD

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light frame construction

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this week

objective:

overview of the nature of light wood frame construction and the sequence and details of the assembly of a light wood frame structure



- * transition from heavy timber
- * inherent advantages
- * platform vs balloon

- * framed walls
- * lumber and connections
- * foundations
- * building the frame



HEAVY TIMBER CONSTRUCTION

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structural frame

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HEAVY TIMBER CONSTRUCTION

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connections

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connections

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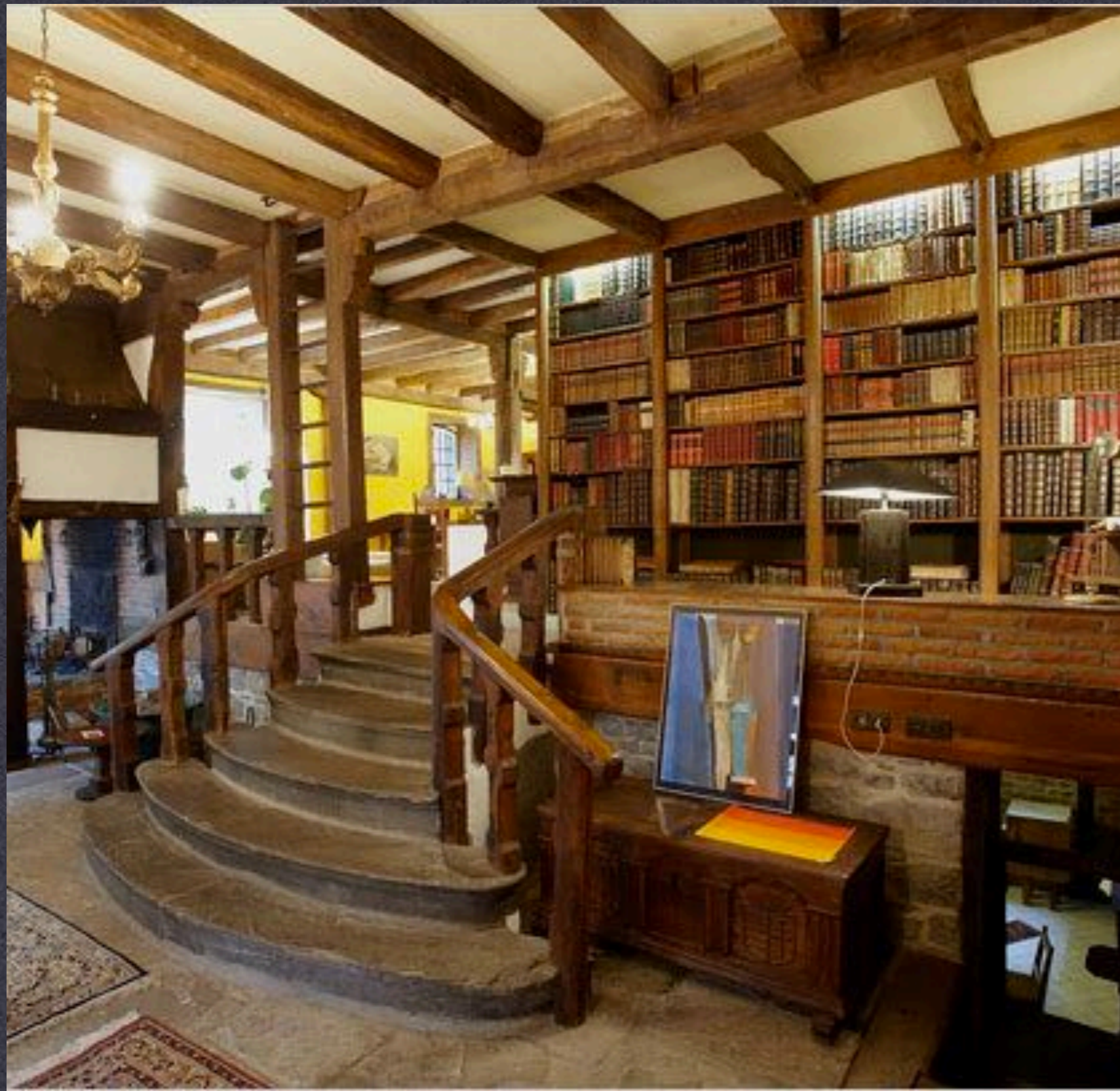


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TRANSITION

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to light wood frame construction

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TRANSITION

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advantages of light wood construction

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BALLOON FRAME CONSTRUCTION



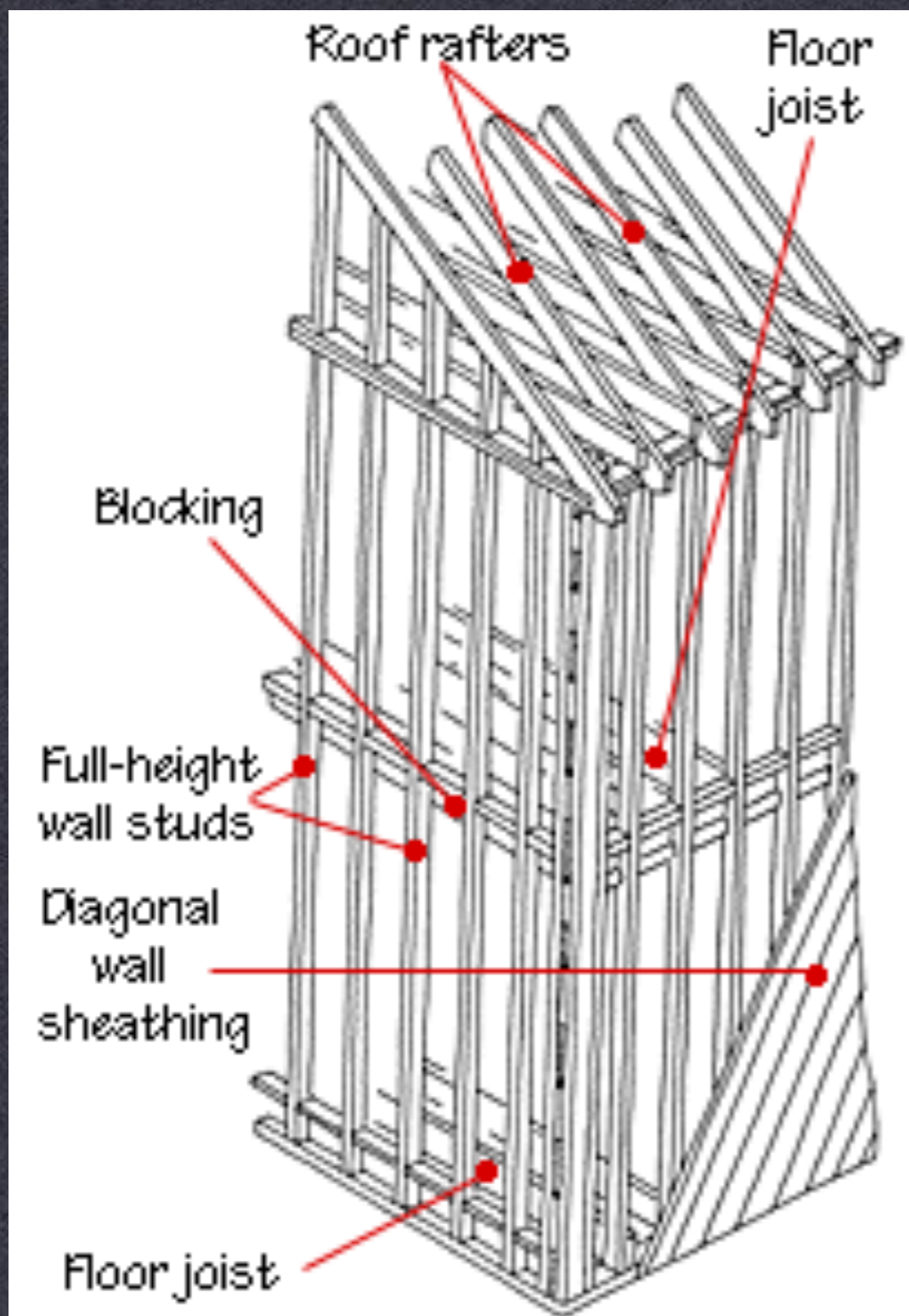
PLATFORM FRAME CONSTRUCTION

WOOD

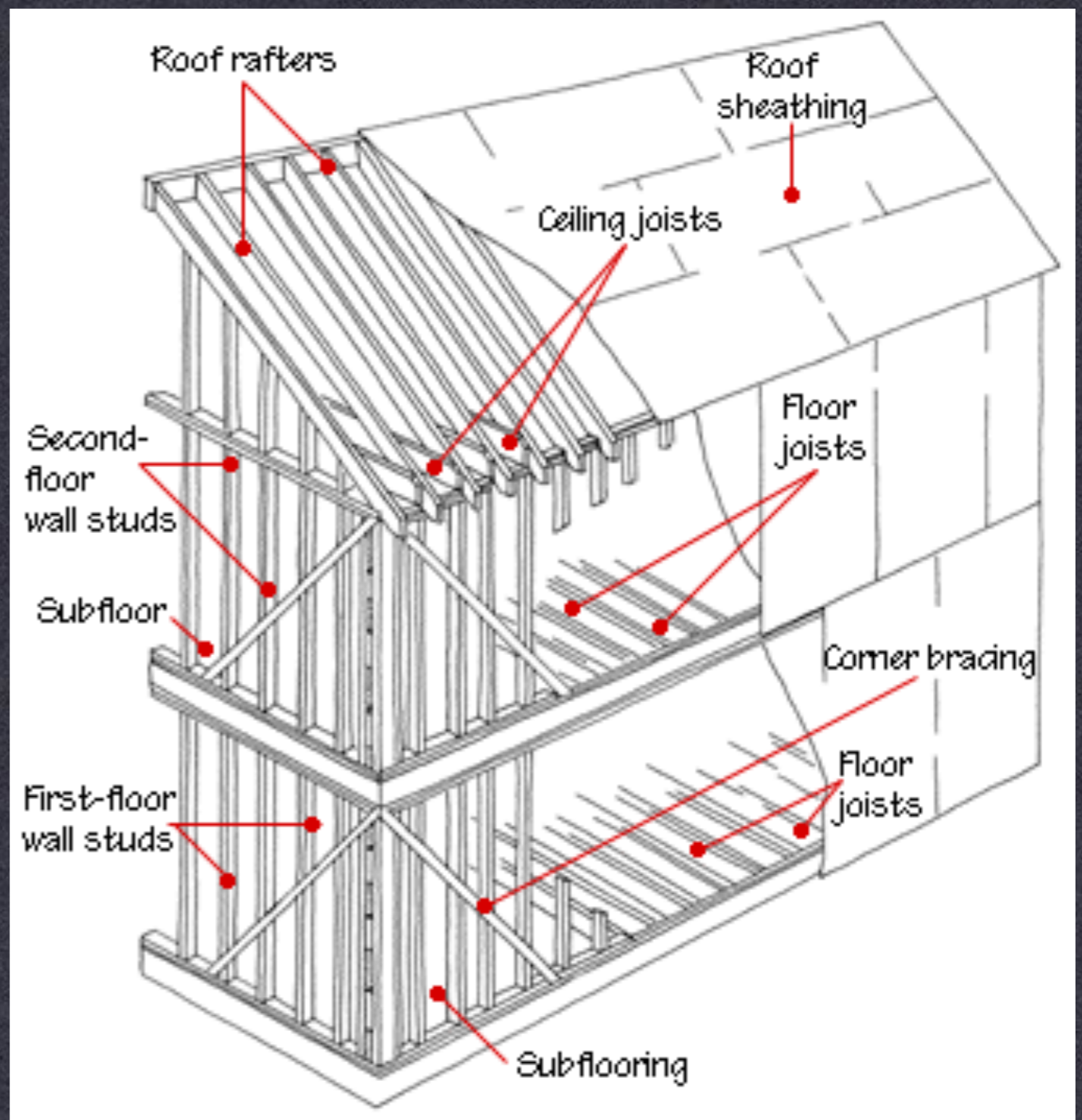
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BALLOON FRAME



PLATFORM FRAME

WOOD

types of light wood frame construction

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* PLATFORM FRAMING ADVANTAGES:

* SHORT STUD LENGTHS

* FIRESTOPPING BETWEEN
FLOORS

* WORKING SURFACE
DURING CONSTRUCTION

* PLATFORM FRAMING DISADVANTAGES:

* VERTICAL SHRINKAGE
WITH MOISTURE LOSS



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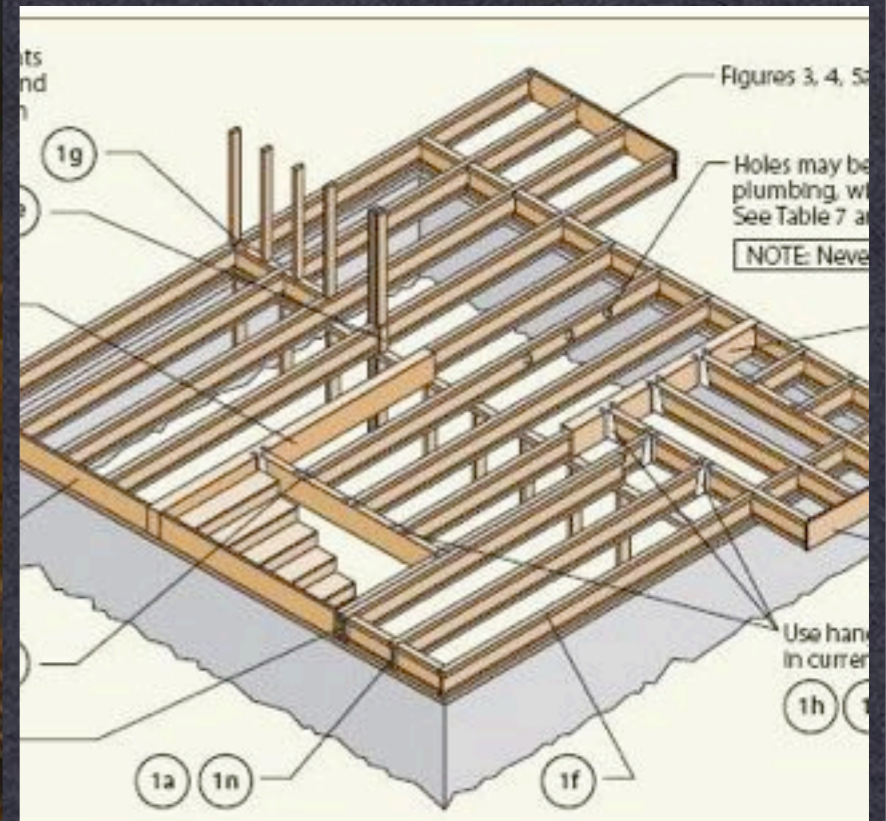


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LIGHT WOOD FRAMING

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building the frame _ floors

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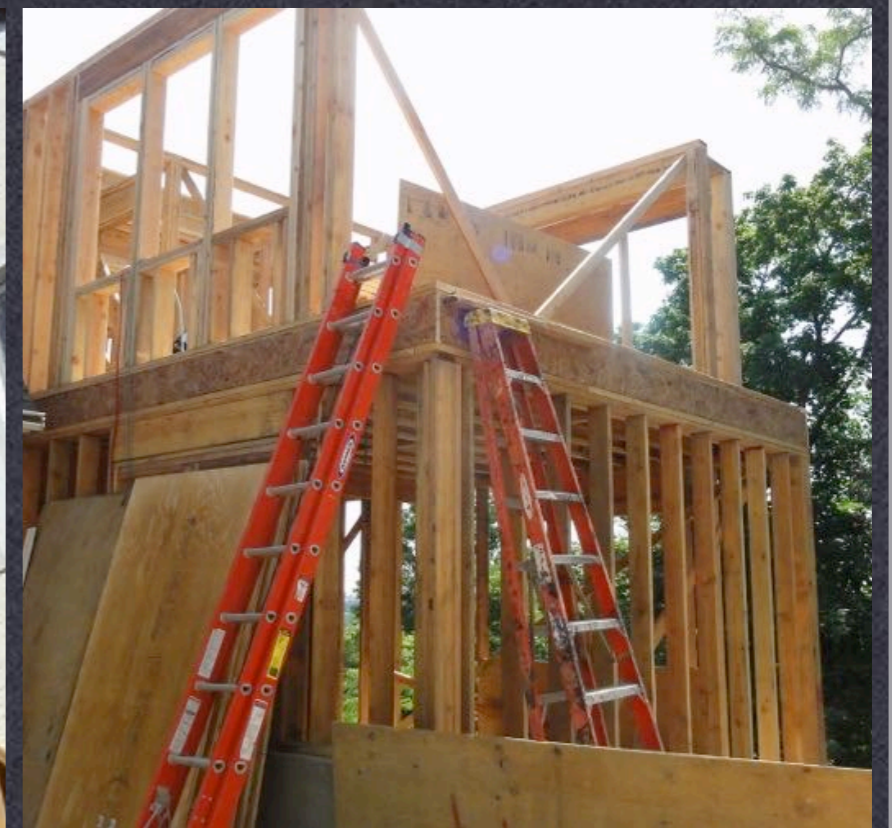


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floor openings

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LIGHT WOOD FRAMING

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framed walls

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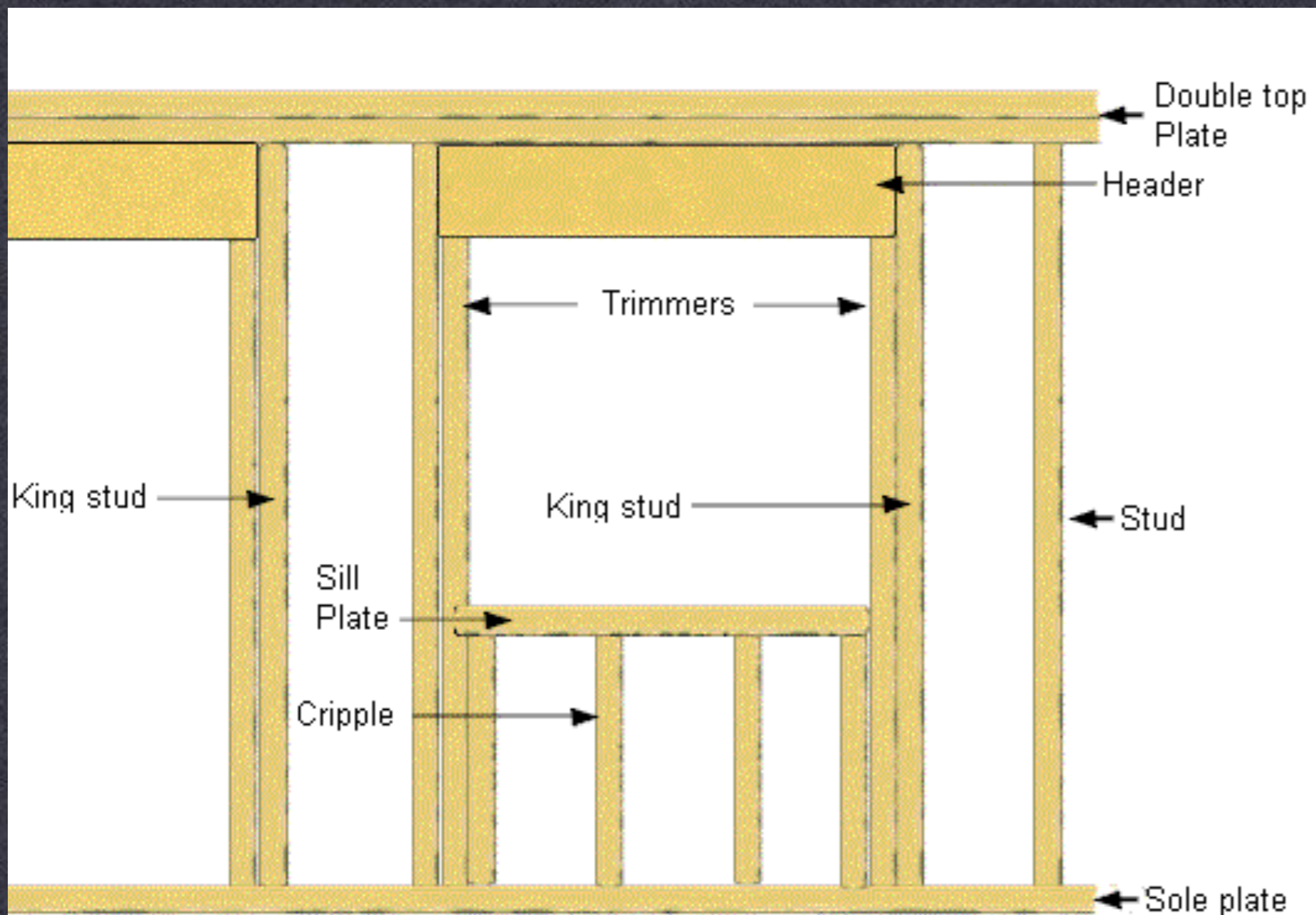
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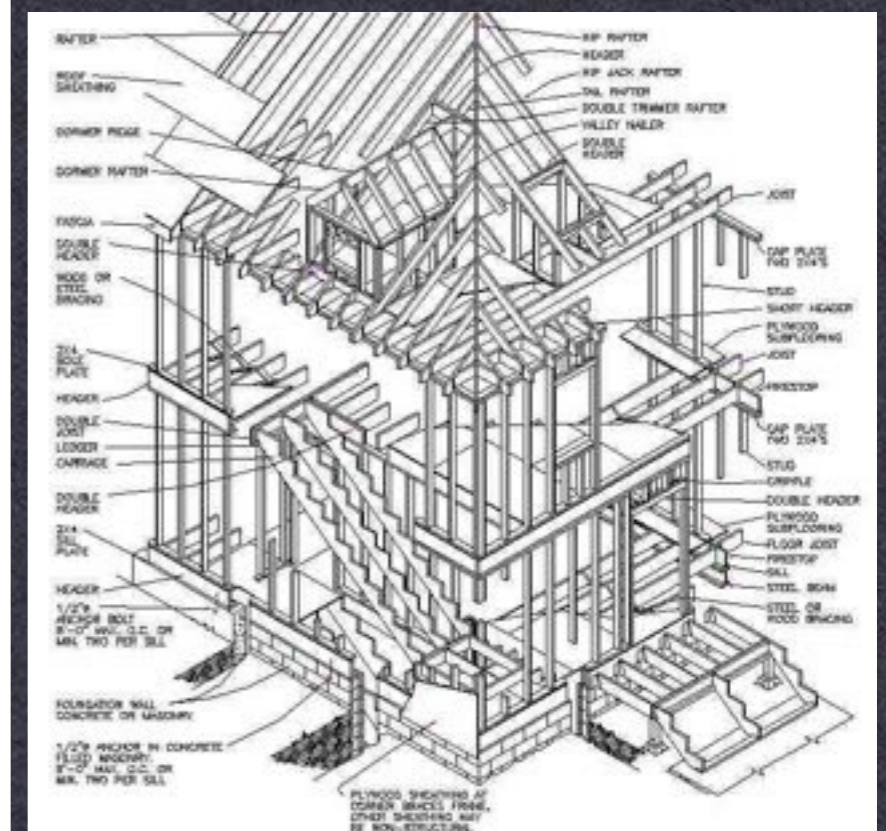
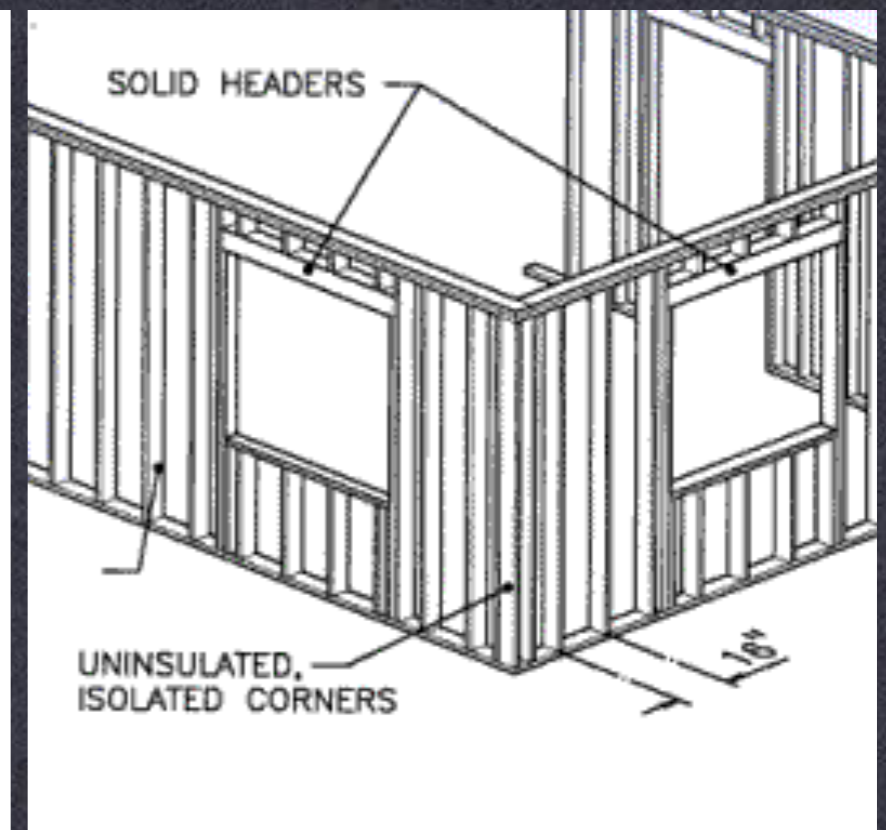


framed walls

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Components of a framed wall
Showing rough door and window openings



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framed walls

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openings in framed walls

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connections

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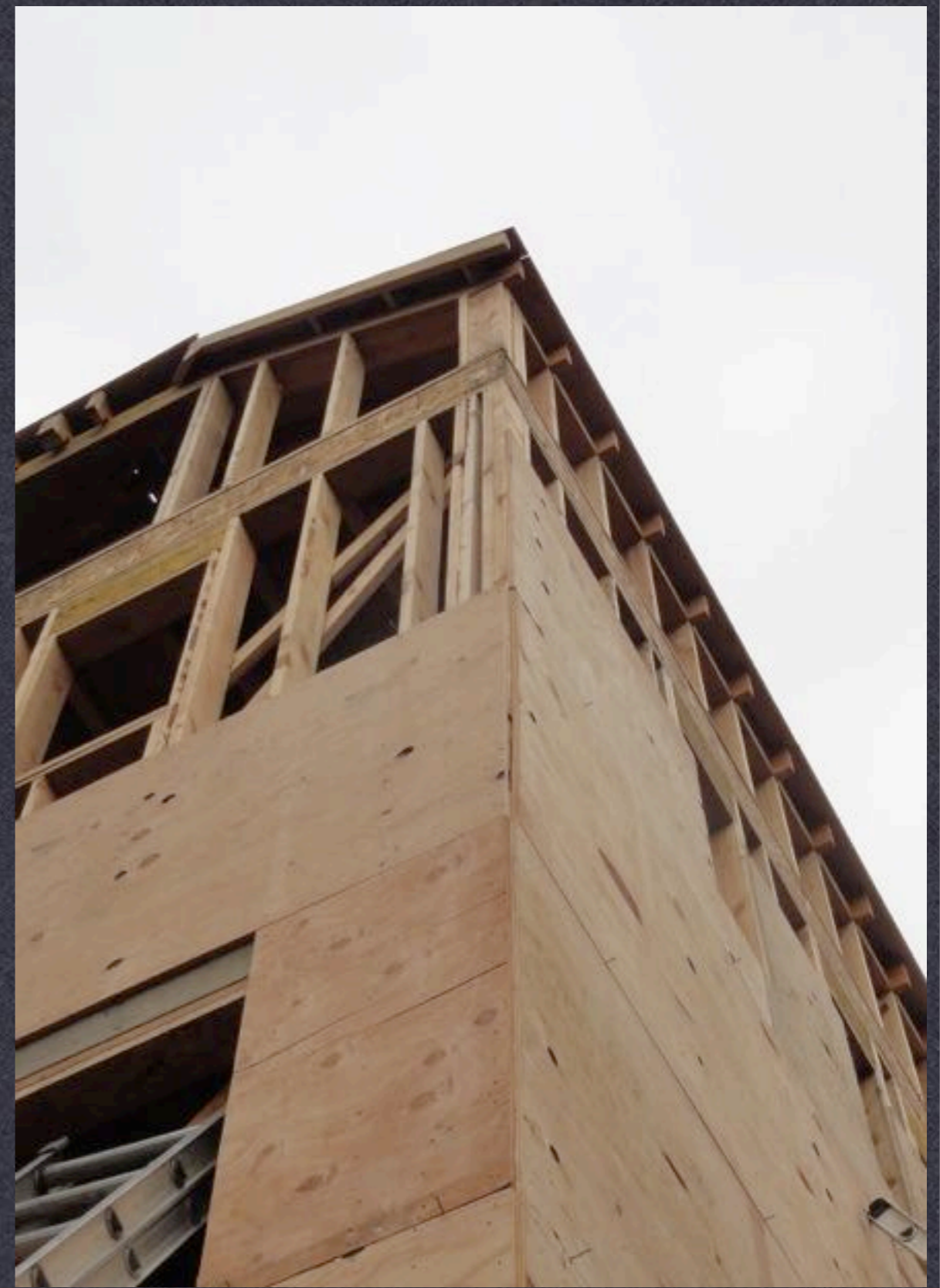


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building the frame _ stairs

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building the frame _ sheathing

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LIGHT WOOD FRAMING

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building the frame _roofs

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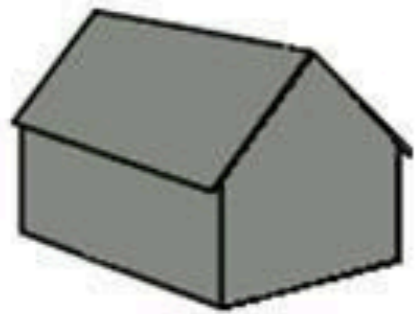


LIGHT WOOD FRAMING

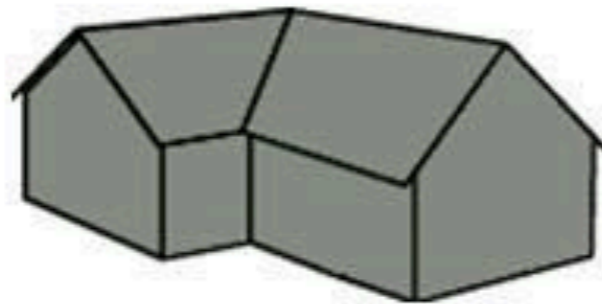
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building the frame _roofs

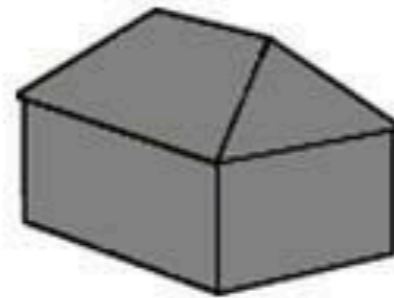
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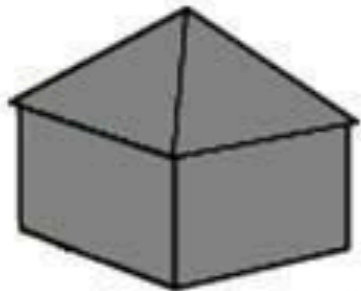
Gable Roof



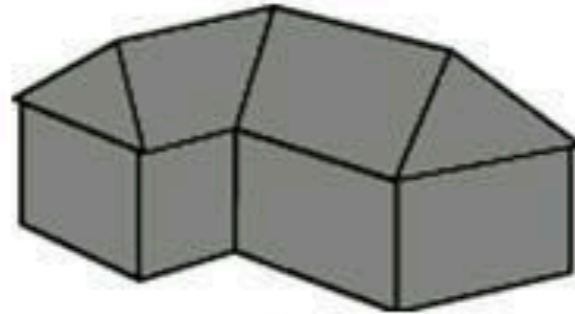
Cross Gabled Roof



Simple Hip Roof



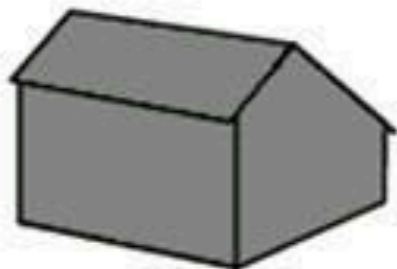
Pyramid Hip Roof



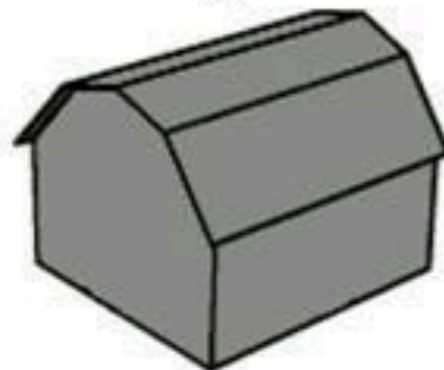
Cross Hipped Roof



Mansard Roof



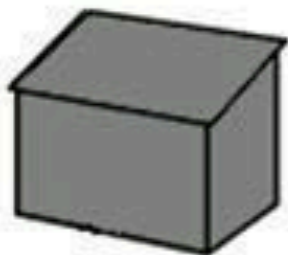
Saltbox Roof



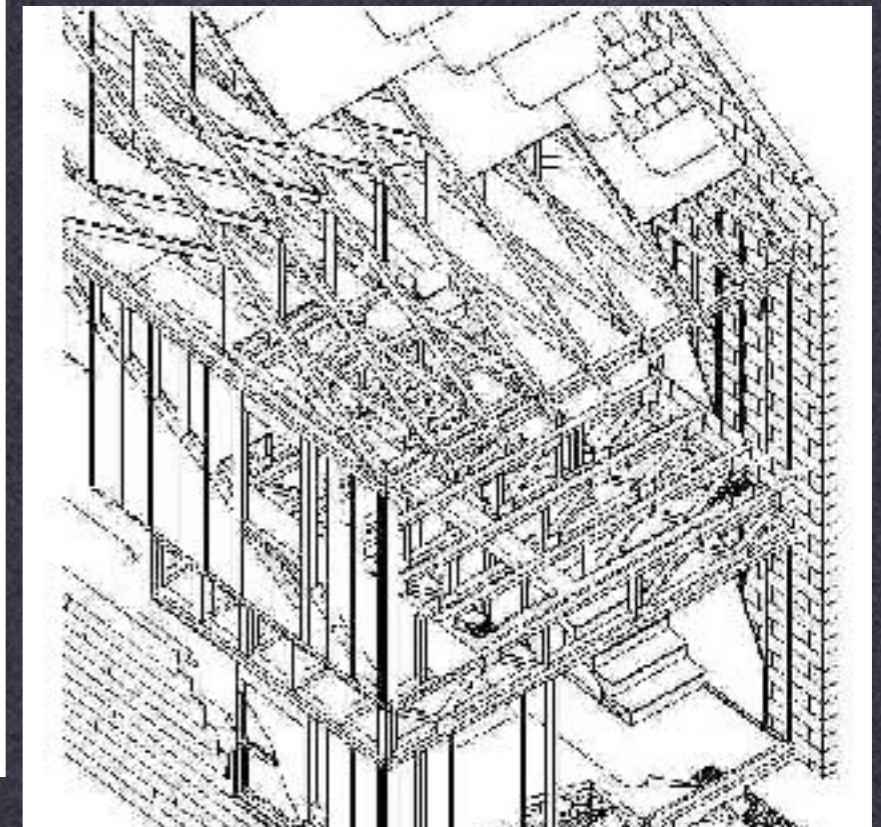
Gambrel Roof



Flat Roof



Shed Roof

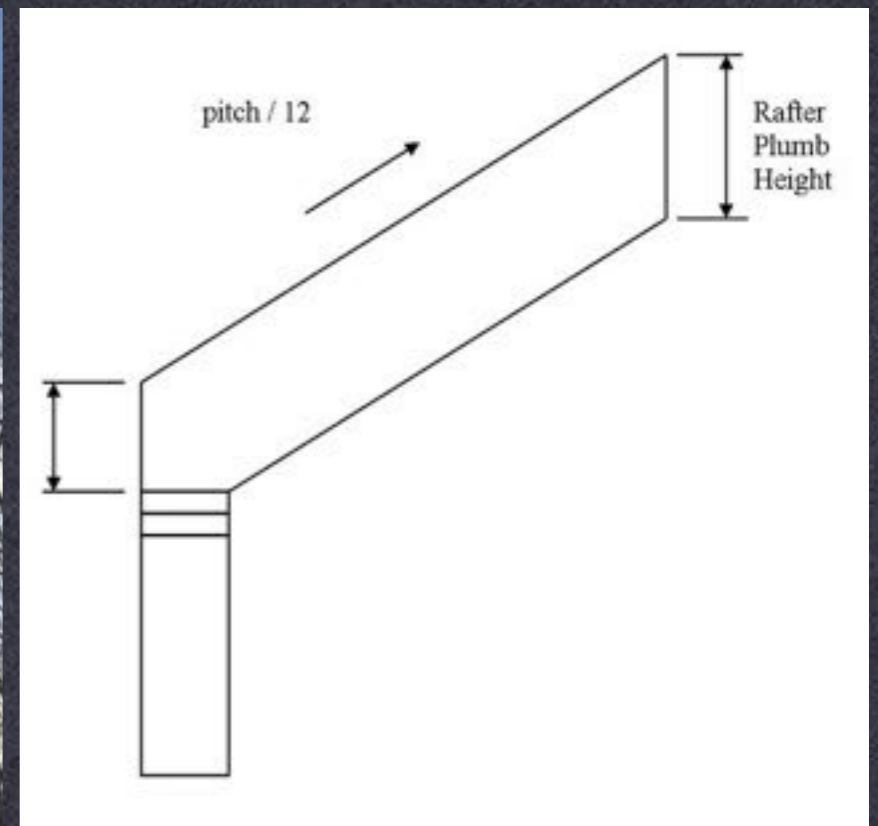


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wrap up

LIGHT WOOD FRAME CONSTRUCTION IS BY FAR THE MOST POPULAR FORM OF CONSTRUCTION IN THE US



- * simple tools and techniques
- * light members
- * quickly assembled
- * from a renewable source
- * durable when protected
- * only limits are the carpenter's imagination and ability