

Career and Tech Agenda

1. Open with a quick summary and overview of our company.
2. Go over what an open web floor truss is:

A floor truss is a system of support that helps to keep floors level and sturdy. Truss systems of this type usually go beyond the simple floor joists that are common to all types of floors. The floor truss actually creates an interconnecting network between the joists, providing the flooring with a level of strength that would be hard to accomplish otherwise.

Using a floor truss system as part of the floor installation process may be more expensive, but the extra cost is worth it. This becomes readily apparent when the new flooring involves high quality hardwoods. The intricate network of truss systems helps absorb the vibrations caused as people walk over the floor. This helps ease some of the daily stress on hardwood floors allowing each section to remain sturdy for years, even under constant use. While there are several different floor truss designs in use today, two are more common than any of the others. One approach is called the open web truss. This design calls for the use of top and bottom chords that are attached to the joists with the use of metal connector plates. Steel webbing can also be used with this design. The benefit of this type of floor truss is that the open design makes it easier to run plumbing or wiring through the flooring if necessary, while not compromising the overall integrity of the floor.

Floor Trusses are manufactured in lengths up to 40 feet and depths up to 24 inches. They are a custom engineered solution for each application, providing the highest degree of design flexibility as compared to “off the shelf” solutions as conventional floor joists or EWP (Engineered Wood Product).

3. Go over what a roof truss is:

Talk about the differences between roof trusses and rafters.

Talk about the main shape used when building a roof truss.

A roof truss is a frame that supports loads by efficiently transferring its force to end supports. While stick framing might use larger 2x8, 2x10, etc. members (which are expensive and hard to find without going into old growth forests), and might require either additional beams or interior load bearing walls. Trusses can span longer distances without additional supports, while using less expensive and more plentiful 2x4 members, usually arranged in intersecting triangles. Trusses can span up to approximately 90', although very long truss spans are more challenging to deliver, erect, brace, and install properly. While longer trusses may be “wobbly” as they are lifted off the ground and onto a bearing wall, once they are properly braced, a truss system is extremely strong.

All types of trusses have the same basic components and structure. The name “Truss” describes a triangular design, which may range from a simple individual triangle to a large number of interconnected units. The **outside framing members** are known as **chords**, while the **smaller inside connecting members** are called **webs**. A point to which the truss rests on a load-bearing wall is known as a bearing point.

Roof trusses are used to support the weight of the roof deck or any finished material used to cover the roof. Sometimes the weight can be very significant. The **chords** support the roof while the webs brace and stabilize the chords, helping to distribute the load across the entire truss to the bearing walls on either side.

4. Go over how components offer a unique opportunity to teach about the many other factors that go into home building:
 - Angles
 - Calculating area and perimeter
 - Lineal board and square feet
 - Fractions
 - Length and width
 - Load capacity
5. Show Shelter System 360 degree video and explain the process:
<https://photos.app.goo.gl/dTEAJ3XvUR98qM9Z9>
6. Go over www.Bestwaytoframe.com.
7. Go out into the production area.
8. Go over truss design.
9. Talk about different parts of the truss (Overhang, Bearing, Webs, Top and Bottom Chords, Gusset plates).
10. Discuss how to read a measuring tape.
11. Break students into groups.
12. Build trusses.
13. Help with any questions.

Outline provided by Randy Rickels, Shelter Systems Limited

