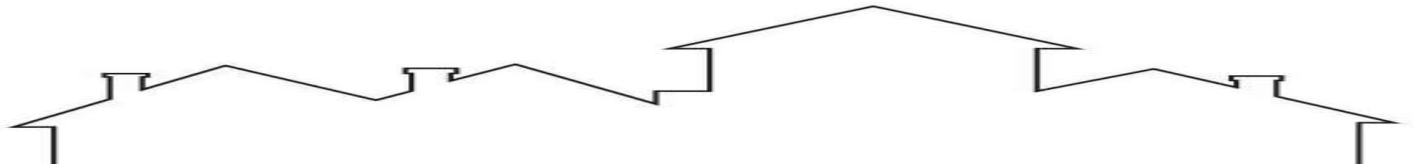
ANSWER KEY

Directons: Work with your group to describe the component, explain how it relates to the other components, and how you will install it using the scenario provided. Your group will share with the class. See the examples provided below.



Framing Assembly Component	Describe component, relate to other components, choose what to install
Framing Group 1	**Describe component:** • Framing Methods: 1) balloon framing method- includes upright studs that extend from the foundation sill to the rafter plate. A ribbon supports the second floor joists. This method is not used in new construction. 2) platform method - floor joists of each story rests on the top plates of the story below, and the bearing walls and partitions rest on the subfloor of each story. Both these methods contain joists, studs, plates, and rafters and nominal 2" thickness material. 3) post and beam - loads are carried by a frame of posts connected with beams, eliminating the need for load bearing walls. Heavy structural members are at least 4" thick. **Relate to Other Components:** • The frame is installed on top of the foundation and other components are added on top of the frame. **Scenario:** You are building a new house. The plans call for an open floor plan with very few wall. Which framing method do you choose? Explain why. • **We will use the post and beam method because it eliminates load bearing walls and allows for an open floor plan.**
Sill	**Describe component:** • Wood member attached by bolts or other metal fasteners embedded in the foundation and supports the frame. Building codes specify that a sill must have a minimum level of protection against termite and decay damage. Location of the sill on the foundation depends on the type of exterior covering the building will have. Sills are usually 2×6 lumber. Use sill sealer to protect against moisture. **Relate to Other Components:** • The sill is installed on top of the foundation and all other components are installed on top of the sill. **Scenario:** You are repairing a home in Florida. How should sills be installed? Explain why. • **We will use a sill sealer to protect against moisture. The 2x6 lumber is fine for our use in the hot climate of Florida. However, we have to add termite shields because this southern state location is prone to termites.**
Girders Group 2	**Describe component:** • Girders are beams used to support other beams or ends of joists. Laminated-veneer lumber (LVL) or laminated-strand lumber (LSL) is frequently used for girders because of its ease in installation and strength. In some locations, a steel beam is used. The W-beam (wide flange) is generally used in residential construction. For girder and beam support, steel posts are usually used. **Relate to Other Components:** • Girders are installed after the foundation and frame. They support floor joists that are installed later. **Scenario:** You are building a house in Vermont where there is heavy snowfall for several months during the year. Which girders do you choose? Explain why. • **We will use steel beams which can carry the weight of heave snow on.**

Floor Joists Group 3	**Describe component:** • Joists are framing members that carry the weight of the floor between the sills and girder. Joists must not only be strong enough to carry the load that rests on them, they must be stiff enough to prevent bending or vibration. Building codes typically specify allowable span distances for floor joists based on the size of the joist and the species and grade of wood. Joists can be directly laid out on the sill to position them. Joists are doubled where extra loads must be supported and around openings in the floor frame for stairways, chimneys, and fireplaces. **Relate to Other Components:** • Floor joists are installed on top of the foundation, frame, sill, and girders. **Scenario:** You are building a 6,000 square foot home. The plans call for 5 bathrooms, basement, and two kitchens with many appliances. Which types of joists do you choose? Explain why. • **We will use the open-web trusses for floor joists to provide space for electrical, piping, and HVAC installations. This will allow easier installation of the plumbing for the 5 bathrooms, the multiple HVAC units needed for cooling and heating, and the many electrical and plumbing installations required for appliances for the 2 kitchens.**
Bridging	**Describe component:** • Bridging is wood or metal pieces fitted in pairs from the bottom of one floor joist to the top of adjacent joist and used to distribute the floor load. Bridging may be eliminated if joists are properly secured at the ends and subflooring is adequate and carefully nailed. Some building codes require bridging. Bridging should be installed at intervals of no more than 8'. • Types: 1) Cross bridging, is composed of pieces of 1×3 or 2×2 lumber diagonally set between the joists to form an X. It keeps joists in a vertical position and transfers the load from one joist to the next. 2) Solid bridging consists of solid pieces of framing lumber installed between the joists and is easier to cut and install when there are odd-sized spaces in cross bridging. 3) Steel bridging can be installed quickly. **Relate to Other Components:** • Bridging is installed after floor joists. **Scenario:** You are building a home where local building codes require bridging. What type of bridging do you choose? Explain why. • **We will use cross bridging, unless there are odd sized spaces. Then we will use solid bridging.**
Subfloor Group 4	**Describe component:** • Subflooring is the final step in completing the floor frame. Subfloors are made of either OSB or plywood. Subfloor serves three purposes: Adds rigidity to the structure, provides a base for finish flooring material, and furnishes a work surface where a carpenter can lay out and construct additional framing. OSB is more resistant to moisture than plywood. During installation, joints are staggered for added strength. **Relate to Other Components:** • Subfloor is the last component installed after all other framing components are already in place. Other components that are installed later such as wall will sit on the subfloor. **Scenario:** You are renovating a home in Louisiana. The home has previous water damage due to flooding, which was repaired a few years ago. Which subfloors do you choose? Explain why. • **We will use OSB flooring because Louisiana is prone to high moisture and the house has already been flooded. OSB flooring is more resistant to moisture than plywood and is the best choice.**