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Chapter 2: Basic Tools

Before you begin building your tree house, you will need to gather all of the tools that you will need. These tools will be used to connect your materials to one another. Selecting the right tools will make your tree house building experience easier and less frustrating. You can also consider the quality of the tools you get, because safety comes with the quality. If you decide to go the cheap route you might be dooming the future of your tree house.



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Safety Tools

The first set of tools you must equip yourself with is a very good pair of gloves. The entire time that you will be working on the tree house you are going to be working with wood, and injuries can happen if not careful. The style of work gloves vary from what every activity you will be doing. There are leather, cotton, cut resistant, and lifting gloves just to name a few. You are going to want to purchase a couple different pairs for the different types of jobs you will be doing in building your tree house.



Traditional Work Gloves like the pair pictured above will protect your hands from injury and give you a better grip on your tools. These are essential for building your tree house. There are

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many brands to choose from, as well as different materials that they are made of. When purchasing your work gloves, try them on. Make sure they fit your hands snugly and are comfortable and flexible enough to allow you to perform tasks like hammering and carrying materials.



When you are cutting wood you should own a pair of cut resistant gloves like the pair pictured above to protect yourself. The cut resistant gloves are made with flexible Kevlar fibers that protect your hands from cuts and abrasions. Don't worry if these gloves are going to be heavy and bulky, because they are made with a lightweight Kevlar material. When you are ready to transport your wood to your building site you should have a pair of lifting gloves. They will help

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not only keep you safe from splinters, and keep your wrist safe from spraining or even braking.

Having these two pairs of gloves will insure that you are going to keep your hands safe from injury.



Another tool that should be picked up to help keep you safe is a pair of safety glasses. Safety glass or goggles style have changed since the big bulky ones from our past, so don't worry about looking like your grandfather while working. There are many types of goggles and glasses to use, and if you wear glasses you can purchase goggles that will fit right over your glasses.



Dust masks are also an important part to your safety

while building your tree house. While you are cutting and sometimes hammering on wood, dust and small wood particles will accumulate in the air. You can breathe these particles in and cause harm to yourself.



Once you begin working on your tree house, a hard hat is an important piece of safety equipment. You are going to be climbing into a tree and climbing out of a tree and things could fall. You will also be hammering overhead and building things that could be a potential safety hazard in the initial stages of construction. A hard

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hat could save you from severe injury.



Another safety tool is a first aid kit that has everything in it. First aid kits have the essentials in them to take care of almost any minor medical emergency. Inside the kit you will find bandages of different sizes and types, scissors, tape, alcohol swabs, and various other items depending on the kit you purchase. Keep the first aid kit near your work site at all times so that it is easily accessible if you need it. Just in case an accident happens you want to be safe.

Make sure everyone that is either working with you or around the area you are working in is protected with these safety tools. Remember there is no price on safety, so do not cut the cost on your safety equipment.

Basic Tools

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When building your tree house, you are going to need a set of tools that will help you during the building process. Your basic tools include:

Framing Hammer - This tool is typically used for framing wood houses, like a tree house. These heavy duty hammers usually have heads that weigh 20 to 32 ounces for a steel head and around 12 to 16 ounces for a titanium head. For building your tree house, it is best that you use a longer hammer handle and heavier face for hammering longer nails.



Nails and Bolts - For tree house building, use roofing nails and galvanized bolts to ensure that your structure will be strong and safe. Lag bolts are good to use when filling in pre-drilled holes.

Wrench - You will use the wrench to tighten bolts and nuts. Purchasing an adjustable wrench will save time and money. You will not have to buy an entire set of wrenches for each size, and you will not have to search for the right size each time. Simply adjust the wrench to fit any job.

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Tape Measure - This tool is a flexible form of a common ruler. You will need at least a 25 foot tape measure for building a tree house. This will be long enough for measuring lumber for the tree house as well as the ladder if you choose to make one from wood.

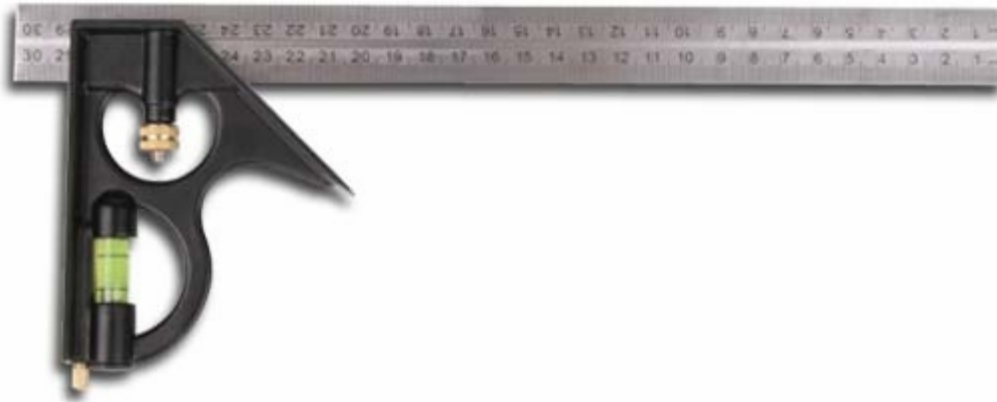


Combination Square - This tool measures 90° and 45° angles. You will need this tool when measuring the angles on your tree house. Having the correct angles is extremely important when building any type of structure, but especially one that will hold your children several feet in the air.

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Carpenter's Level - Carpenter's level is a metal frame with a spirit in the middle. A spirit is a liquid that once what you are working on is level, will be centered between two lines marked on the level.



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Chapter 5: The Building Process

Now that you have gathered all of your tools and taken all of the safety precautions, it is time to start the planning and building. Like anything you are going to do, the best approach to it is having a good plan. Planning and following through with it will make any project a successful one. Your plans will also help you determine the amount of materials you will need, and if more man power will be required. The amount of money you will spend can also be figured out. Planning can organize everything you have to get done and keep you safe from over working yourself. The weather can also be factored into the plan. If you know that it is going to rain on the third day then you can add it into your plan to skip that day and build on the inside. This is just an idea.

During the planning process you will have to come up with a design to follow during your tree house building. Make sure while you are designing that you have a very good understanding of how to use all your tools and that you have a basic understanding of working with wood and your other materials. Make sure to set a deadline and goal for yourself for each day that you will be working. Working with wood sometimes extends the time of your work. Adjust your deadlines and goals as needed, but do not ever put off a step because it could affect you later. Pay close attention that during your design, you add in the cost and time it will take to create the interior. Another helpful tip during design is to have extra help if needed. To make your tree

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house faster and easier, build in sections on the ground first and use that extra help to raise the sections to their position in the tree.

Before building you must also consider the legal troubles that could come from building a tree house. Earlier we talked about checking with your city and neighbors to make sure that it is okay to build a tree house on your property. You have to also look into keeping the size and design restricted, because it has to seem that the tree house is a temporary structure. If it is noticed that the tree house is not a temporary structure, you will have to then file for a building permit. Building permits are not easy to get by yourself, because you can not professionally tell the strength of your design. You will have to hire a professional structural engineer to show that your design will function properly and hold up while in the tree. You want to stay away from using fitted plumbing and electricity, because you do not want to give off the idea that someone is living in the tree house. Once again this will bring you legal troubles. The best way to avoid any trouble is to simply run everything from your home to show that the tree house is a temporary structure.

Building the tree house

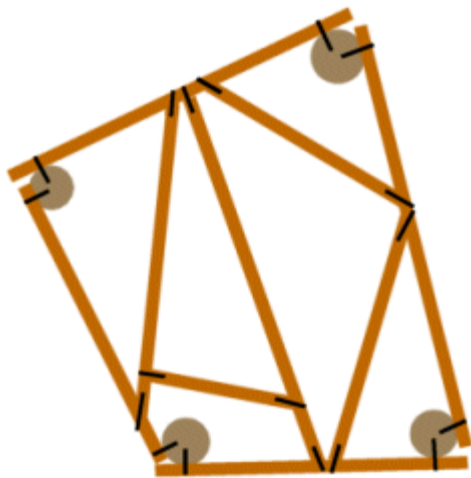
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Day One

As I am sure you already know, trees move. This could cause a problem during the building process and dictating the strength of the tree. Flexible joints will hold your support beams and still allow the tree to move relatively to your tree house. When the wind blows against a tree, it creates small but powerful movement to a tree. These powerful movements can cause damage to your tree house if you do not support your tree properly. Flexible supports allow the tree to move without causing harm to your tree house. Know that keeping it simple is the safest way to go about building your tree house. Small nails and screws are not going to be idea when it comes to building your tree house. Bolts or large roofing type nails are best for this job.



You will want to make a rigid frame for your tree house. It will support the stress added from the movement of the tree, and won't allow the joints to brake. When creating your rigid frame follow these steps:

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1. Design your frame with triangle arrangements. Triangles are considered to be the most rigid building shape.

2. Your beams will have to be 6 x 2 or 6 x 3 to help with the resistance of the wind.

3. Make sure that your bolts measure no less than 8/4" thick. Lag bolts are a suggestion to use because they go right through what you are connecting it to for greater support on the beams.

4. Use the lag bolts to secure the beams together, and connect with joints.

5. Now that your beams are connected lay down whatever flooring you selected. Plywood is probably your best bet, because it is resistant and helps distribute the movement of the tree.

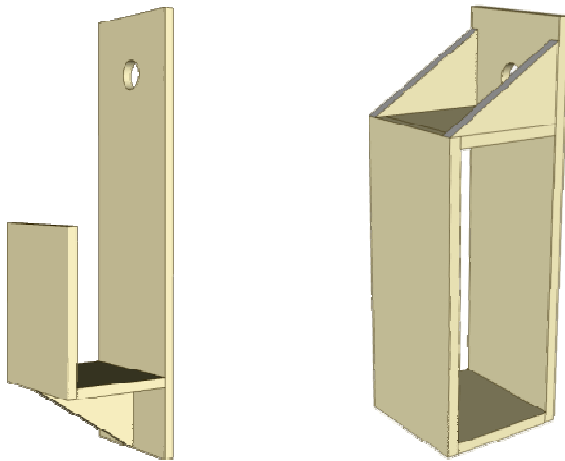
6. Use nails or screws to connect your flooring to the rigid beams you have connected as your frame.

7. Use heavy objects to test the weight your flooring can handle. Bags of sand, rocks, or barrels of water will do. You want to at least make it 150% of the weight that will be inside the tree house. If needed, add beams to increase the strength of your floor.

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Once you have created your flooring, you are ready to add your metal brackets. Metal brackets are used for flexible joints and fixed joints. These brackets help fix beams that are connected. When using these brackets only use one bolt to prevent within your tree. Lag bolts are good enough to secure the brackets as long as they are 8" long and can exert the stress put on it. Two types of metal brackets are best for your tree house building job. The J bracket allows you to drop your beams into place after connecting the bracket to the tree. Although stronger, the Box bracket is more difficult because instead of just having to drop them into the slot of the bracket, you have to get it fitted for the wood you are using.

Day Three

After a night of rest, it is time to close in the frame that you have built. Using pieces of 3/4' thick plywood, place the first piece against what is going to be your front of the tree house. Take a 2' screw and connect the plywood to the frame. Your frame may seem to not be as sturdy as you would think, but don't worry. Once you place all the walls the tree house will become stronger.

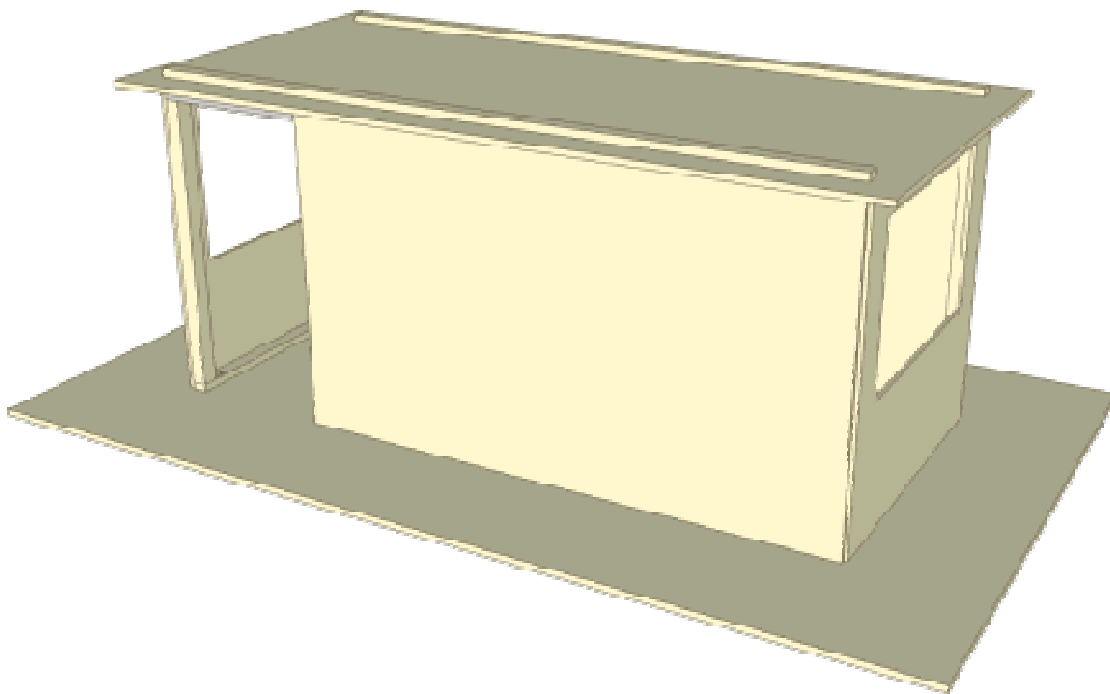
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Now remember this is an example, so your walls may be a bit harder to place depending on your design.

Next we will add the roof of the tree house. Cut your plywood to have a little hanging over to shed off rain fall. Add a couple layers of felt to assist the roof with shed off water. Drill in 2' screws to connect them all together. Once you have everything connected, use a thick tarry paint to fill in any imperfections your roof may have. If this type of roof does not fit your needs, you can use a pitched roof instead, shown below.



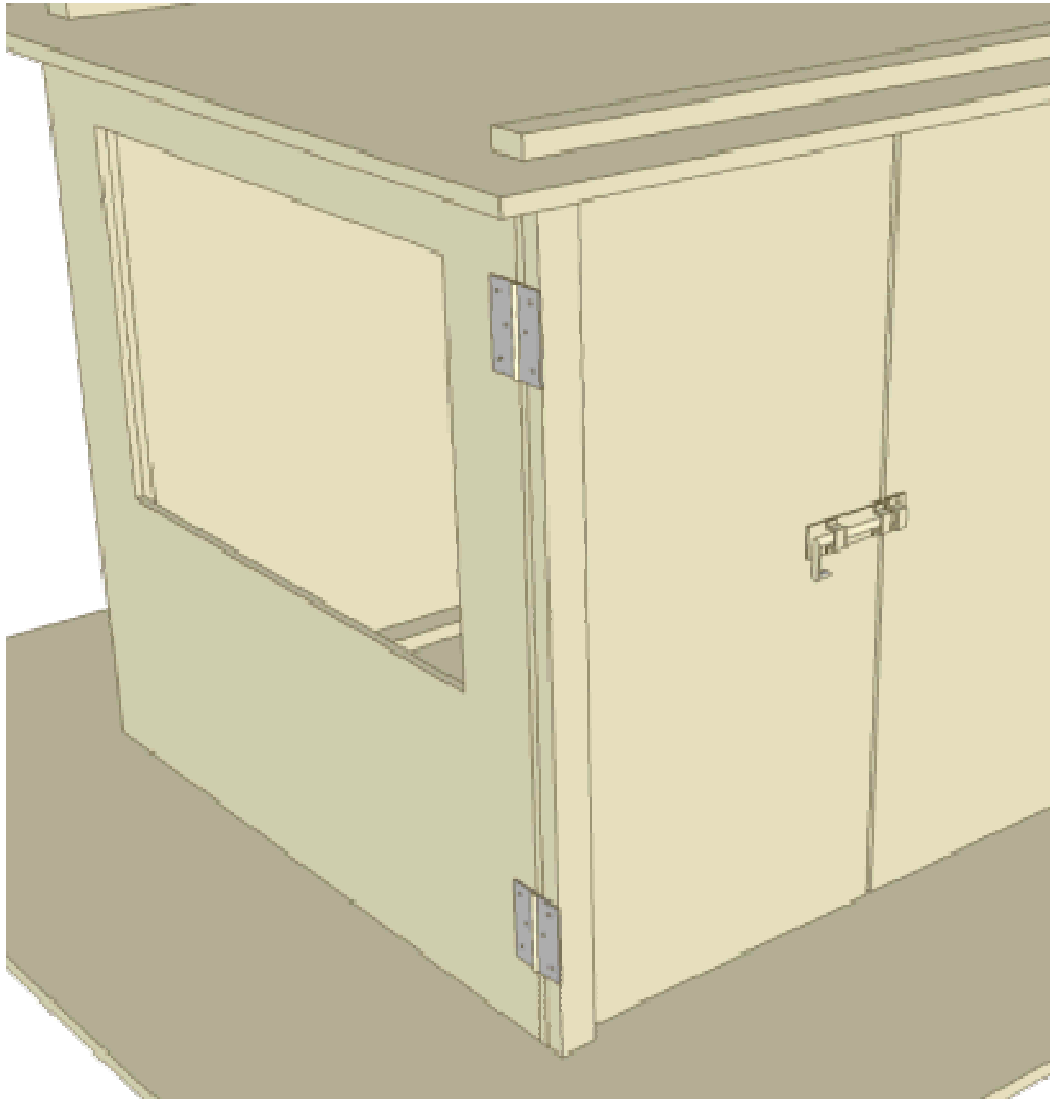
Day Four

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Now that the structure is complete, you are ready to add your door. First, attach you hedges to the door and line them up with the frame of the tree house. This is usually a two person job, so make sure you do not go at it alone. When you are placing the bolts on your door, you want to make sure and do it from the inside so that no one can tamper with you tree house.



Now that you have completely finished the structure of your building, you are ready to either stain or paint your tree house. Water proofing your tree house is also a great idea, because your

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tree house is outside and you do not want water damage done to your tree house. We go into

detail of all this in the next chapter.

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It is a good idea to begin with a primer. Primers are used as the first coat on plaster and wood walls and usually have a varnish or synthetic resin base. They coat and flow into the uneven surface, filling in the tiny holes and cracks to allow the next layers of paint to be smoothed across without soaking into the wall.



The next step in this process is planning what colors to make your tree house. Some tree houses are painted bright colors while others are left with the natural wood look. This part is up to you

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and your children. If you all prefer a plain wood tree house you might be better off using a clear polyurethane sealant that will give your tree house a glossy look while protecting it from the elements of wind, rain, snow, and sun. All of these elements can cause your tree house to deteriorate, so it is important that you take the proper steps to protect your creation in all types of weather. You can find clear polyurethane at your local hardware store or at any home improvement retailer. You can also find products such as water sealants and weather proofing agents. Keep these in mind when you are choosing what is best for your tree house. Keep climate in mind and plan accordingly.

If you decide that you would like to paint your tree house, consider allowing your children to choose the colors. As we talked about before, children will be excited that they get to help decorate and paint their own tree house. Painting can be messy, so when you go to the store for paint and materials, remember to buy drop cloths and plenty of paint remover for clothing and shoes. A better idea would be to put your children in play clothes and shoes that you do not mind if they mess up. The likelihood that they will get paint on their clothes is pretty high, so expect this going into it. A good idea also is to have them wear long pants and long sleeves. This will keep them from getting paint on their skin as well. They are going to make a mess, so prepare yourself for it. They will have a great time though, so try not to be too hard on them for the mess they will undoubtedly make.