

CADETTE WOODWORKER BADGE – MEETING 1

Badge Purpose: When you’ve earned this badge, you’ll know how to use some basic tools to make simple woodworking projects.

Activity Plan Length: 1.5 hours

Time	Activity	Materials Needed
10 minutes	Getting Started + Safety First <ul style="list-style-type: none"> Begin the meeting by reciting the Girl Scout Promise + Law. Review the safety guidelines before you begin working on your badge. 	<input type="checkbox"/> (Optional) Girl Scout Promise and Law poster
15 minutes	MC Hammers <ul style="list-style-type: none"> Learn about different types of hammers, then practice using one. 	<input type="checkbox"/> Different types of hammers (curve claw, straight claw, framing, joiner’s mallet, etc.) <input type="checkbox"/> Scrap wood <input type="checkbox"/> Nails
10 minutes	Loose Screws <ul style="list-style-type: none"> Practice using a screwdriver. 	<input type="checkbox"/> Screwdriver (regular or power) <input type="checkbox"/> Screws <input type="checkbox"/> Hammers <input type="checkbox"/> Scrap wood (from Activity #1)
25 minutes	Initial Project <ul style="list-style-type: none"> Use your hammering skills to create string art. 	<input type="checkbox"/> Wood (one 11” x 11” square per girl) <input type="checkbox"/> Paper (same size as your pieces of wood) <input type="checkbox"/> Ballpoint pens <input type="checkbox"/> Nails <input type="checkbox"/> Hammers <input type="checkbox"/> String <input type="checkbox"/> Scissors
10 minutes	Level-headed <ul style="list-style-type: none"> Learn how to use a spirit level, then check its accuracy. 	<input type="checkbox"/> Spirit level <input type="checkbox"/> Wood <input type="checkbox"/> Two nails <input type="checkbox"/> Hammer
10 minutes	Snack Chat <ul style="list-style-type: none"> Enjoy a healthy snack and discuss your woodworking experience. 	<input type="checkbox"/> Healthy snack
10 minutes	Wrapping Up	<input type="checkbox"/> (Optional) Make New Friends lyrics poster



Getting Started + Safety First

Time: 10 minutes

Materials Needed: (Optional) Girl Scout Promise and Law poster

1. Welcome everyone to the meeting, recite the Girl Scout Promise and Law.
2. Before you dive into your woodworking projects, review some safety guidelines:
 - **Wear appropriate attire.** Remember that you'll be working with tools and machines that, when not used correctly, can cause a lot of harm. Don't wear loose clothing or dangly jewelry. Keep long hair tied up. Wear closed-toed shoes (hammers and flip flops don't mix well!)
 - **Wear safety equipment.** Safety glasses will protect your eyes from any flying debris or corrosive substances (like wood stain, oils, etc.). If you're going to be using a power saw or other loud equipment, wear ear muffs.
 - **Follow directions and pay attention.** The number one cause of accidents is not paying attention. Stay focused on the work that you're doing, and don't distract someone else while they're working.

NOTE: It's best to complete this badge under the supervision of someone with woodworking skills. Try your shop teacher at school, a local carpenter or contractor, or a friend or family member knowledgeable in woodworking.

Activity #1: MC Hammers

Time: 15 minutes

Badge Connection: Step 1 – Swing a hammer

Materials Needed: Different types of hammers (curve claw, straight claw, framing, joiner's mallet, etc.); scrap wood; nails

1. Review the different types of hammers available. Review the different jobs for each hammer.
 - **Curve claw hammer:** Used for general carpentry like driving and removing nails. The curved claw provides extra leverage for pulling nails.
 - **Rip (straight claw) hammer:** Used for general carpentry like driving and removing nails. Can also be used to rip apart wood that's been nailed together.
 - **Framing hammer:** Used for heavy carpentry work, like driving and removing large nails. Usually heavier than a curve claw hammer.
 - **Joiner's mallet:** Used for more fragile carpentry work, like assembling dovetail joints or hammering dowels or chisels.
2. Practice and get comfortable using a hammer. Woodworkers recommend a 16-ounce curve claw hammer for general use. Remember to always wear safety glasses when using any type of hammer.
3. Grab a piece of scrap wood and a few nails.
 - Grasp your hammer near the end of the handle (there should be a curve or depression for your hand). Swing from your wrist for control (for instance, when you're starting a nail) and swing from your elbow for power.
 - To start a nail, put the nail where you want it. Hold your nail near the top with your thumb and forefinger. This is really important—if you hold the nail near the bottom, you risk crushing your fingers against the wood with your hammer if you miss the nail. Then, lightly tap the nail until it sinks into the wood enough that it stands on its own.
 - When hammering, you want to hit the nail squarely on the head. A good trick to hit the nail directly every time is to focus on the nail itself, not your hammer. Remember to swing from your elbow now since you want the mass of your hammer to come down and do most of the work.
4. Continue until you've hammered in at least five nails.

Note: You can also take a trip to the local hardware store and review common woodworking tools. While you're at the hardware store, pick up the materials you'll need to complete the other projects for this badge.



Activity #2: Loose Screws

Time: 10 minutes

Badge Connection: Step 3 – Use a screwdriver

Materials Needed: Screwdriver (regular or power); screws; hammers; scrap wood (from Activity #1)

1. Now that you've practiced hammering in nails, it's time to practice screwing in screws.
2. Nails and screws—what's the difference? And when do you use a nail vs. a screw? It's pretty easy to tell the difference between nails and screws because nails have smooth shanks while screws have threads (the ridges). Nails are mostly used in light construction for projects that don't need a super amount of holding power (like a children's step stool), while screws are used for heavier construction projects (like a deck for your house).
3. Grab a screwdriver (either a regular or power one) and some screws. You'll also need your hammer and scrap piece of wood from the previous activity.
4. Before you screw in your screw, you'll need to make a pilot hole, a small hole that's drilled before driving the screw into the piece of wood that acts as the "guiding" hole. The nail you use to make the pilot hole should be smaller than the screw you'll be screwing in. Tap the nail into the piece of wood, hard enough to make a hole, but not so hard that the nail goes all the way through the wood. Remove the nail, insert the screw, and use your screwdriver to screw it all the way in. (If you're using a power screwdriver, use a small drill bit to drill in the pilot hole.)
5. Then use your screwdriver to remove the screws. Use "righty tighty, lefty loosey" to remember which way to screw and unscrew your screws.
6. Continue until you've screwed and unscrewed five screws.

Activity #3: Initial Project

Time: 25 minutes

Badge Connection: Step 1 – Swing a hammer

Materials Needed: Wood (one 11" x 11" square per girl); paper (same size as your pieces of wood); ballpoint pens; nails; hammers; string; scissors

Prep Needed:

- Your wood pieces can be as small or as large as you'd like; just make sure the paper you'll be using to draw your initial design is the same size as your wood pieces.
 - Make sure your nails have large enough heads to prevent the string from popping off.
1. With just a few materials, you can create a unique and stunning piece of art for your room.
 2. Draw the initial of your first name on the piece of paper. Once you're satisfied with your design, lay the piece of paper over your piece of wood. Use a ballpoint pen to trace the initial. You'll need to press firmly so that it makes an indent in the wood—this will be the outline to show you where to nail in your nails.
 3. Decide how many nails you'll want to use; you'll need nails wherever there's a corner to make sure you have a sharp edge. You'll also want to use enough nails so that they're strong enough to withstand the pulling of the string.
 4. Lay out the nails along the outline, then hammer them in one-by-one.
 5. When you've finished hammering in the nails, you can move onto stringing! Tie a knot around one nail, then string away! You can string just the outline of the nails, or weave in between the nails—it's up to you.
 6. Once you've finished stringing, tie a knot around a nail, and cut off the string.

Activity #4: Level-headed

Time: 10 minutes

Badge Connection: Step 2 – Keep it level

Materials Needed: Spirit level; wood; two nails; hammer

Prep Needed:



- Your piece of wood should be longer than your spirit level.
1. When you're working on a project, you want to make sure that your work is level (straight, horizontally) and plumb (straight, vertically). Woodworkers use a tool called a spirit level to indicate how parallel or perpendicular a surface is relative to the earth. The term "spirit level" comes from the mineral spirit solution (the colored liquid in the glass or plastic vial) in the level.
 2. Reading a spirit level is pretty simple—follow these easy steps to practice using one.
 - **Prep your spirit level.** Wipe your level with a clean cloth to remove any dust or grime that can affect an accurate reading. You should also wipe off the object that you are checking.
 - **Use the level.** Place the level on the surface of the object. The spirit tube (the vial with the liquid) should be parallel to the surface of your object. Give the bubble in the tube time to settle. To check for true plumb, hold your level vertically against the surface of the object you want to check. The spirit tube should be vertical to the surface of your object.
 - **Read the level.** If the bubble is perfectly centered between the two lines, the object is level. If the bubble veers to one side, then the object is slanted.
 3. Spirit levels can become inaccurate over time. Perform the following check to see if yours is still measuring accurately:
 - Hammer two nails into a piece of wood, about an inch in from each end of the level.
 - Put your level on top of the nails and check whether the nails are level. If they're not, use a hammer to adjust the nails until the bubble in your level is perfectly centered in between the two lines.
 - Turn your spirit level 180 degrees, put back on top of nails, and check your level again. If the level is accurate, the bubble should still be perfectly centered in between the two lines.

Activity #5: Snack Chat

Time: 10 minutes

Badge Connection: Questions link to multiple badge steps

Materials Needed: Healthy snack

1. While enjoying a healthy snack, discuss:
 - Have you ever built anything out of wood before (assembling furniture on your own or with your family counts!)? If so, what did you build?
 - If you could build anything, what would you make?
 - Do you have old(er) furniture in your house, like a family heirloom or antique? Do you notice any differences in how that furniture is constructed versus furniture you might get at a big box store like Target or Ikea?

Wrapping Up

Time: 10 minutes

Materials Needed: (Optional) Make New Friends song lyrics poster

Close the meeting by singing Make New Friends and doing a friendship circle.

More to Explore

- Field Trip Ideas:
 - Visit a lumber yard to learn about the different types of wood and which ones are best for which projects.



- Find and take a class at your local workshop (The Minnesota Woodworkers Guild has a list of classes: www.mnwwg.org/classes.html).
- Speaker Ideas:
 - Invite a woodworker to your meeting to talk about their craft. Ask them to bring along some special hand tools that they use.
 - Invite an artist who uses wood to your meeting to learn about how they incorporate wood into their art.

