

WOODEN UTENSILS



AT THE
**STATION NORTH
TOOL LIBRARY**



FIND YOUR FORM!

Are you ready to come to Open Shop and make some more utensils? We're happy to have you!

This guide is intended as a reference for what we covered in class, but you are always encouraged to ask the shop monitors for help and advice!

While you're here, please remember to be safe, and be a good steward of our space. Wear safety glasses when operating any power tool. Use ear protection and dust masks if desired. Re-set tools, pick or sweep up your scraps (solid wood can go in the burn bin!) and vacuum sawdust.

MATERIALS:

- a piece of wood
- 4-5 grits of sandpaper
 - 60-80 (medium)
 - 100-120 (fine)
 - 150 (fine)
 - 220 (very fine)
 - 400 (super fine)
- mineral oil or board butter

TOOLS:

- band saw
- gouges and scrapers
- bench vice
- bench sanders
- (and if you want to make a slotted spoon, the drill press!)

CHOOSE YOUR WOOD

When choosing a piece of wood for your project, consider the following:

WHAT'S THE HARDNESS?

Hardness is a spectrum, but usually deciduous trees are hard wood, and evergreens are soft wood. Use **hard wood** for your utensil.

HOW TIGHT IS THE GRAIN?

Remember, a tree is made up of a “bundle of straws” (capillaries) that move water through it. A **tight grain** means these straws are larger. Look at the end of the piece and see if you can see the capillary openings.

WHAT'S THE DENSITY?

In two pieces of wood of the same size, a more **dense wood is heavier** than a less dense wood. Denser wood is sturdy, which also makes it harder to carve.

IS IT FOOD SAFE?

Most North American hardwoods are, so if it grows in NA and it loses its leaves in the winter, it's likely safe. **Fruit and nut trees** are a good bet unless you have an allergy. Visit the [toxicity chart from wood-database.com](http://toxicity-chart-from-wood-database.com) to double check!

FINALLY... WHAT DOES IT LOOK LIKE?

HOW THICK AND LONG IS IT?

Look for a piece that is a bit **larger** than what you want your final utensil to be – you'll lose material when you sand it, so it's always better to start bigger.

DOES IT HAVE KNOTS?

Knots can be **hard to saw and carve** through. They may also be a hint of internal cracking. But they can also be a **cool design feature** if you leave them intact!

IS THERE ANY CHECKING (CRACKS OR GAPS)?

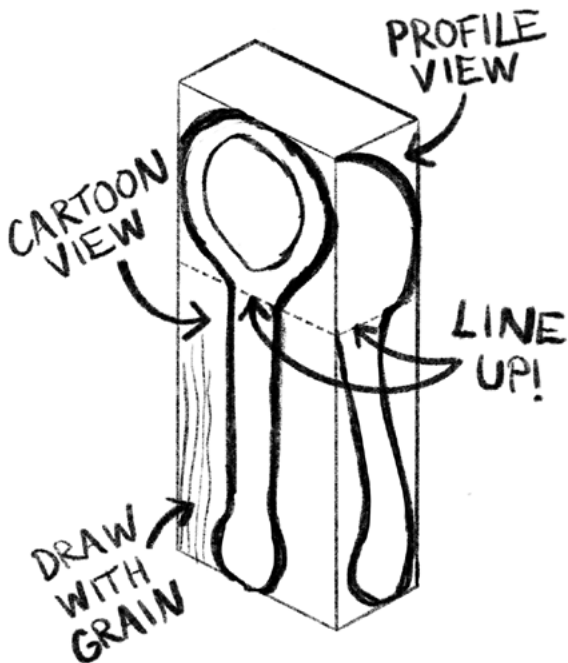
You'll either have to **work around** or **integrate them** into your design. Visible cracks can sometimes mean that there are more hidden inside. Using cracks in your design is not ideal if you want a functional utensil, but can be visually interesting in decorative objects.

DOES IT LOOK RAD?!

The **color** is one of the first things you may notice, but look for other elements like **spalting** (that cool fungus pattern, usually in maple), **chatoyancy** (the shimmer of the grain), and **figuring** (decorative swirls and patterns in the grain).

DESIGN YOUR SHAPE

Remember, you're making a 3D shape by sketching 2D shapes in two different planes. Sketch your **cartoon view** on the face of the wood, and your **profile view** on the side.



KEEP IN MIND...

- Use **dotted lines** to match up where your shape needs to change together (e.g. the neck to the bowl of a spoon).
- Design **with the wood grain**, not against it. You want to cut your handle parallel to the “bundle of straws” instead of cutting them in half.
- Draw **bigger and longer** than you want your shape to be – again, you’ll lose material when you sand and it’s always easier to go smaller.
- Think about **what hand will hold it**. You can include asymmetrical features like a pouring ladle or grooved handle, and that will differ based on handedness.
- It can be wide or tall, but plan to make the **neck at least 1” thick** in at least one direction. If it’s too thin, your handle could break off.
- The **complexity** of your design should be informed by the **precision** of your band saw skills.

**WHAT WILL YOU MAKE THAT YOU
COULD NEVER FIND IN A STORE?**

BAND SAW ROUGH CUT

Cut your shape in two stages: the profile view, then the cartoon view. It's easiest if you cut the profile view, carve any concave surfaces, then cut the cartoon view.

KEEP YOURSELF SAFE

- Use **a piece of wood, not your hands**, to push off-cuts from the working surface. This is regardless of whether the machine is on!
- Use the **brake pedal** to stop the machine **quickly**.

KEEP THE TOOL SAFE

- **Take curves gently** and **use forward motion** to avoid twisting the blade.
- **Use relief cuts.** When you hit a relief cut, extra wood will fall away and open up the space.
- If you're having trouble, **"bail out"** by gently curving out of your design to exit the wood.

SET YOURSELF UP FOR SUCCESS

- Leave **more material** rather than take off too much. You **won't** get a perfectly smooth shape from the band saw.
- **Save your off-cuts!** Tape them back on when you do your next cut to give yourself a flat surface.

CARVE YOUR BOWL

Carving concave surfaces before your cartoon cut gives you flat sides to clamp into the bench vice. Secure the vice with a *strong* push.

KEEP YOURSELF SAFE

- Hold the gouge with your **dominant hand**.
- Keep your non-dominant hand **behind the gouge**. You can use it to brace your dominant hand.

KEEP THE TOOL SAFE

- Do not use mallets on hand gouges!
- Always use a wooden mallet, not metal, on wooden tool handles.

SET YOURSELF UP FOR SUCCESS

- Draw the lip of your spoon - say it with us - **a little bit bigger** than you want to end up with.
- Start with the **largest tool** appropriate.
- **Begin at the edge** with the gouge at a 45-55° angle. Once you're in, smoothly lower the angle and **exit in the center**. If you go all the way across in one movement, you may split the wood.
- **Feel for ridges** to even out with hand gouges.
- **Refine the surface** with the gooseneck scraper, then sandpaper.

BENCH SAND TO SHAPE

Bench sanding will help further refine your rough band saw cut. You still won't get a perfectly smooth surface - don't take off too much material trying to.

KEEP YOURSELF SAFE

- Keep a **firm grip** on your piece.
- **What direction does the tool want to move?**
Work with it, not against it. See: wheel sander!

KEEP THE TOOL SAFE

- **Open the door** on the vacuum system before you start, and close it when you're done. This will suck up as much sawdust as possible!
- Use **light pressure**, and **keep the piece moving** - this will prevent your piece from wearing uneven grooves into the paper.
- **Don't angle** edges or corners into the belt - this can tear the paper.

SET YOURSELF UP FOR SUCCESS

- Leave **more material** rather than take off too much. You **won't** smooth every single bump yet!
- To make a rounded shape, **use rounded movements**. You cut the piece out in 2D, and are now sanding to shape it in 3D.

WHICH SANDER SHOULD I USE?

Probably all of them in combination!

VERTICAL BELT

The **flat plane** is good for handles and for sharpening the edge of spatulas. The **curved top** is good for rounding out necks. **Mind the gap** between the belt and the bottom plate so your object doesn't get stuck.

WHEEL

Good for taking off **a lot of material quickly**. It spins faster at the outer edge and slower in the middle. **Only use the downward-pushing side** of the wheel. The upward-pushing side will throw your piece in the air and you can hurt yourself.

SPINDLE

Good for **rounding out** necks and decorative curves. You don't have to - but can - move your piece around on it. You can **change the spindle size** - ask the shop monitor for help!

HORIZONTAL BELT

Similar to the vertical belt, but it may be a better angle depending on what you're doing.

SAND AND OIL TO FINISH

Hand sanding lets you get into nooks and crannies and smooth out remaining bumps you can't get to with a bench sander. Use each and every grit, in order, in this series of increasingly finer papers.

SAND (ALL OF THEM! IN ORDER!)

- **60-80** is coarse to medium and the same grit on the bench sanders. **Fully remove** lumps, bumps, and edges you don't want in your final piece.
- **100-120** is fine, and will transition to a slightly smoother surface for you to build upon with the still finer papers.
- **150** is fine, and is helping to further transition to smoothing with a finer grain.
- **220** is very fine and will allow you to finish to a comfortable feel. (You can stop here if you want.)
- **400** is super fine. This is **buttery**, baby.

After you use your final grit, wash it in extra hot water, and then... what gives? It's fuzzy again! Let it dry, then use the finest paper to sand over it once more.

OIL

Apply mineral oil, let it soak in, and use a clean cloth to wipe off any excess. Let sit for a bit and repeat for as many layers of oil as the wood will absorb.

USE AND MAINTAIN!

Your utensil is ready to use! By you, or **the very lucky person** you are giving it to.

With use, it will occasionally start to feel dry and/or fuzzy. That's an indication that it's time to re-oil it.

JUST KINDA DRY

Apply **mineral oil** in the same manner as when you originally finished it. Do as many layers as it'll soak up!

DRY AND FUZZY

If it feels particularly fuzzy too, you can first **lightly sand** the surface. Use a very fine grain sandpaper (220 or 400 - the last in the series). Then apply mineral oil as usual.

**YOU TOOK THE CLASS, AND THEN
YOU DID THE THING AGAIN ON
YOUR OWN! YOU MADE AN AMAZING
WOODEN OBJECT! WAY TO GO!**

RESOURCES

Now that you're obsessed with making wooden utensils and other objects, here's some further references and resources.

- [**Wood Database Filter**](#): Help with identifying your wood based on photos and descriptions, plus species information like grain and hardness.
- [**Wood Allergies and Toxicity Chart**](#): Reference list for woods that are unsafe to use for things that will touch your mouth (and other things, like your skin, eyes, and lungs!).
- [**Heartwood vs. Sapwood**](#): Understanding the differences between the heartwood and sapwood of a tree, and how to identify and use them.
- [**SNTL Open Shop**](#): Book Open Shop hours to work on personal projects with supervision and assistance from shop monitors.
- **Our Librarians and Shop Monitors!** We are happy to answer questions and offer guidance. Just ask!

HAPPY MAKING!

**“IT'S IN THE ACT
OF MAKING THINGS
THAT WE FIGURE
OUT WHO WE ARE.”**

— AUSTIN KLEON

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