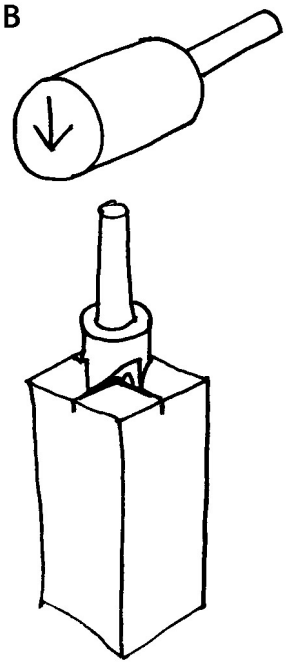
Spindle-Turned Form

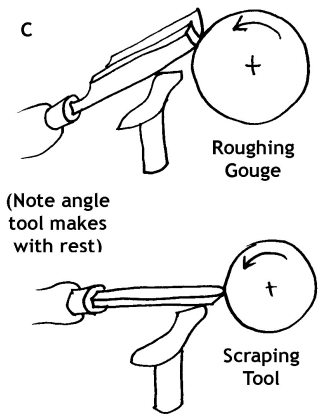
Materials | Any wood you choose, sandpaper and any finish you choose.

Tools | Pencil, drill press, drill bits, drill press vise, band saw, mallet, lathe, lathe tools and lathe accessories.

Method

1. Decide on an spindle-turned form to make. You can make any form you wish. Interpret this with considerable freedom, creativity and fun. I advise keeping your form small and simple, especially if this is your first turning. Complex designs and large pieces are not easy and can take a long time.
2. Choose a piece of wood once you have a plan for a form. Ask me if you want help deciding on a piece of wood or help finding the type you want. One suggestion is to begin with a 2" x 2" piece of wood about 6" to 9" long. The block does not have to be perfectly square but the more square it is (ie less rectangular), the better.
3. Measure the size of piece you chose and calculate the cost. Then deduct the cost from the remaining balance in your wood shop account.
4. Prepare the block by making two saw cuts 1/8" deep at ninety degrees to each other crossing the centre into one end of the work (fig. A). Use the band saw or a hand saw.
5. Using a wooden block or a mallet, tap a spur centre into the end of the work with the spurs matching up with the saw cuts (fig. B).
6. Mount your work on the lathe by installing the spur centre in the lathe headstock and supporting your block between the spur centre and the tail stock ball bearing centre. Make sure everything is clamped and secure (two clamps on the tail stock and two clamps on the tool rest support.
7. Begin turning using the large roughing gouge. Once the work is a smooth cylinder, switch to scraping tools. Each of these two types of tool meet the workpiece at a different angle (fig. C). The round nose scraper is often the most versatile and useful tool shape. Use heavier cuts to rough out your form. Use lighter and lighter cuts as to approach your final surface. Sharpen your scraping tool often. Increase the speed of the lathe to complete the form and take very light final passes leaving the smoothest possible surface
8. Sand your work starting with the coarsest papers and ending with the finest. Remove all the scratches and tear marks left by the scraping tool with the coarsest sandpaper (usually 80 grit) before moving on to the finer papers. **Don't forget to take the tool rest away from the work before you sand.**





9. If appropriate, apply some finish and/or colour to your turning. Polish for a smooth lustre. When using any finish, always read the instructions and the safety precautions on the product label before using.

Guidelines

1. Keep it simple.
2. Keep it small.
3. When you want a hole at the end of your work (as in a candle stick) or through the centre of your work (as in a tube or pipe) it is usually easier to drill the hole in your block before you begin turning and then grip the work with the lathe centres by the hole. This will centre the hole perfectly in your work.
4. When turning a spinning top, you can save time and material by beginning with a block made by gluing a 1/2" dowel through a hole in a larger dowel, say 1 1/2". Grip the work in the lathe using the Jacob's chuck.
5. A quick dash of colour can be added to your work using ordinary pencil crayons
6. Carefully consider the strength requirements of your implement. Remember that hard woods are stronger in more delicate profiles than softer woods, which may have to be bulkier to have sufficient strength. The direction of the grain is also critical to strength. To avoid short grain breaks, try to always align the grain along the length of slender sections.

Grading Criteria

I will be looking for:

1. Completeness and resolution of form and details
2. The quality of finish and surface
3. Your use of the tools and machines safely, carefully, and properly.
4. Bonus marks for innovation, creativity, and/or humour.

Assignment Learning Outcomes

After making a wooden implement you will be able to:

1. Produce a spindle turned work sanded smooth and free of scratches and tear-out.
2. Select wood of suitable type and strength for a spindle-turned form appropriate to specific functions and uses.
3. Operate a wood lathe safely while completing a simple spindle turning.
4. Explain the difference between spindle turning and faceplate turning by describing which process is most appropriate for various types of form.

Course Learning Outcomes

1. Students will understand the properties of wood
2. Students will learn how and when to use wood
3. Students will become familiar with wood workshop techniques
4. Students will develop ability to present ideas in verbal, model, and drawing form

Course Learning Objectives

1a), 1c), 2a), 2b), 2c), 3a), 3b), 3c), 4a), 4b)
(see course outline for details)

Key Topics

1) Safety, 2) Fabrication, 3) Finishing, 5) Equipment

Due Date	Please refer to your Course Outline or Course Schedule for specific Due Dates	**Value**	As "Turning" assignment option - 10% of Final Mark