

Hand lens key for identifying woods in the Tennessee 4-H Forestry Judging Contest.

1. Wood without pores-softwoods.....2
2. Wood with pores- hardwoods.....3
 2. Resin canals present, transition from early to latewood abrupt, heartwood with a yellowish tinge, wood often has a turpentine-like odor.....**Southern Yellow Pine**
 3. Resin canals absent, transition from early wood to latewood gradual, heartwood red, orange red to reddish-brown, wood with a distinct "cedar box" smell.....**Redcedar**
4. Wood ring-porous.....4
3. Wood diffuse-porous.....10
 5. Large oak-type rays present.....**Oak**
 4. Large oak-type rays absent.....5
6. Change in size of pores from earlywood to late wood abrupt, wood definitely porous.....6
 5. Change in size of pres from earlywood to latewood gradual, wood semi-diffuse porous.....17
 6. Latewood pores arranged in a wavy pattern.....7
 7. Latewood pores not in a wavy pattern.....8
8. Earlywood pores found in a single continous row, tyloses absent, rays difficult to see.....**Elm**
7. Earlywood pores forming a band 2 to 3 cells wide, earlywood pores completely filled with tyloses, rays generally visible with a hand lens.....**Black Locust**
9. Fine light colored lines in the latewood arranged tangentially

- and independent of the pores; appears like a spider web in combination with rays.....**Hickory**
8. Latewood pores surrounded by patches of light material, may connect two or three pores together.....9
9. Earlywood pores completely filled with tyloses, wood dark brown.....**Black Locust**
9. Earlywood void of tyloses, wood pale yellow to light brown.....**Ash**
- 10 No noticeable change in size of pores between earlywood and latewood.....11
10. Change in size of pores from early to latewood gradual wood semi diffuse porous.....17
- 11 Wood rays of two sizes; wide rays can be seen with naked eye; narrow rays visible with hand lens.....12
11. Wood rays narrow, of about the same size.....13
- 12 Larger rays are irregularly spaced and distinct even without a lens; rays do not appear crowded on tangential surface; heartwood with reddish tinge.....**Beech**
- 12 Larger rays numerous, fairly regularly spaced and appear about the same size; large rays appear as crowded flecks on tangential surface; heartwood without reddish tinge.....**Sycamore**
13. Wood light-yellow, through shades of green to dark olive-brown, may have streaks of purple or blue; distinct light-whitish line at edge of growth ring.....**Yellow-Poplar**
- 13 Wood without light colored line at edge of growth ring; no greenish tinge in latewood.....14
- 14 Pores small and numerous under a hand lens; pores at the beginning of the growth ring somewhat more crowded, in a row and distinct, appear larger; rays visible without hand lens; heartwood reddish in color.....**Black Cherry**
14. Pores not crowded in a row at the beginning of growth ring.....15
15. Pores and rays appear crowded together, numerous and fine when observed through a hand lens; rays appear to occupy half the surface area.....**Gum**

15. Pores and rays numerous but do not appear crowded.....16
16. Rays slightly fluctuating in size with the widest rays about the same width as the largest pores.....Maple
16. Rays usually indistinct except with a hand lens; widest rays still much narrower than the widest of the width of the largest pores; pores appearing as white dots to the naked eye.....Birch
17. Fine light colored lines in the latewood arranged tangentially and independent of the pores in the latewood; heartwood chestnut-brown to chocolate- or purplish brown.....Walnut
17. Light colored lines not present or if present appearing as patches of light material around and sometimes connecting two or three pores together.....18
18. Rays plainly visible to the naked eye.....Cherry
18. Rays indistinct to the naked eye.....Cottonwood