

## The language of the lumberyard

BY STEVE SCOTT

**B**uying wood at a lumberyard is like ordering dinner in a French restaurant. For the unprepared, the choices are confusing, the menu offers scant help, and the waiter speaks a foreign language. Asking for what you want can be an intimidating and frustrating experience. On the other hand, the offerings in a French restaurant are richer and more varied than the average fast-food joint. Master a few key phrases, and you can eat like a king.

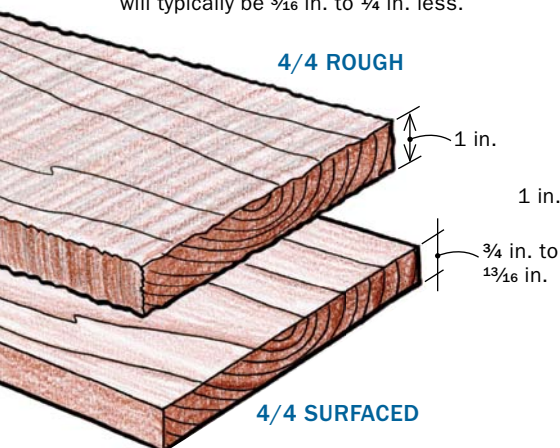
For the woodworker who usually buys stock from the home center, the lumberyard or hardwood retailer offers a similar step up in quality and variety. It gives you the chance to buy roughsawn stock and mill it to dimension yourself, freeing you creatively from the standard thicknesses of pre-surfaced material. Study the dialect of the lumberyard and you'll soon be making sense of the wide variety available there, choosing wisely and dealing confidently with the host (the person driving the forklift).

What follows is a kind of English-to-lumberyard phrase book. Study it and take it with you on your next trip to buy wood.

## How it's measured

### WHEN AN INCH ISN'T AN INCH

Lumberyards measure a roughsawn board's thickness in  $\frac{1}{4}$ -in. increments, so  $\frac{4}{4}$  (four-quarter) stock is 1 in. thick,  $\frac{8}{4}$  stock is 2 in. thick, and so on. If your project calls for finished pieces 1 in. thick, you'll want to buy  $\frac{5}{4}$  roughsawn stock to allow for losses as you mill them smooth. When you buy boards that have already been surfaced, the stated thickness will match the board's original roughsawn thickness. The actual thickness will typically be  $\frac{3}{16}$  in. to  $\frac{1}{4}$  in. less.



### Roughsawn:

Planks that haven't been squared or smoothed, and are still hatch-marked by the large blades at the sawmill.



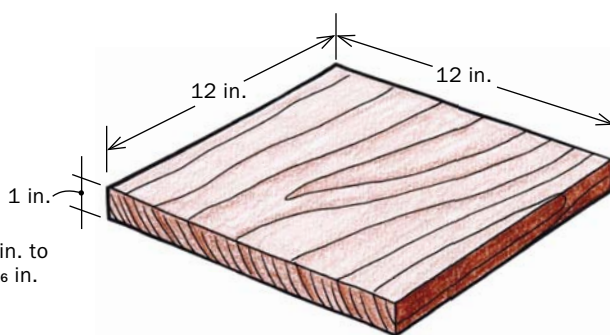
**S4S:** Surfaced on four sides. Both faces are planed smooth, and both edges ripped straight.

**Skip-planed:** A board that has been partially planed on one side to reveal some of the wood's grain and color underneath the roughsawn mill marks. Also called hit-and-miss planing.

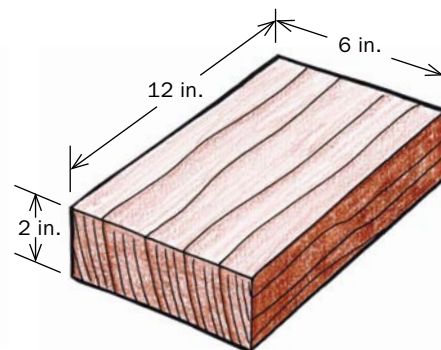
### WHEN A FOOT ISN'T A FOOT

Lumberyard operators say one of the biggest challenges new customers face is in understanding the **board foot**—the basic unit of measurement for roughsawn stock. The board foot (144 cubic in.) is confusing because it measures a board's volume, not its length. This means that a piece of stock 1 ft. long can contain more than 1 board foot of material. A good visual way to understand 1 board foot is to picture a board 1 in. thick by 12 in. wide and 12 in. long. Add an inch to the board's thickness, and you now have 2 board feet. To calculate a plank's board footage, multiply its thickness by its length and width (all in inches) and divide the result by 144.

In contrast, surfaced lumber is typically sold by the linear foot, a simple measurement of a board's length. The price per foot will vary according to the board's width and thickness.



12 in. x 12 in. x 1 in. = 144 cu. in.  
144 cu. in. = **1 board foot**

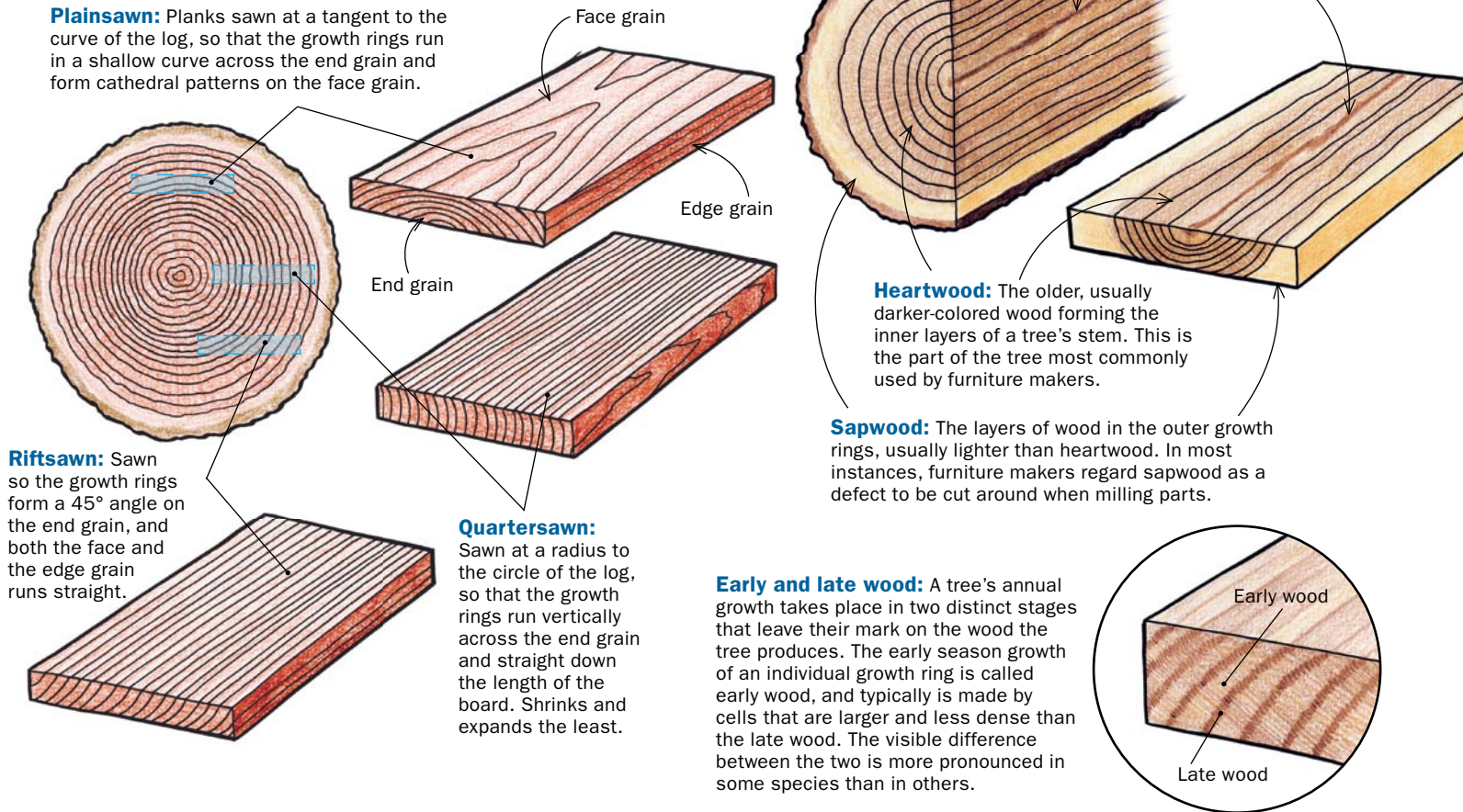


12 in. x 6 in. x 2 in. = 144 cu. in.  
144 cu. in. = **1 board foot**



# One board, many woods

A single log contains different types of wood, with very different properties and appearance, depending on how it is cut.



**Plainsawn:** Planks sawn at a tangent to the curve of the log, so that the growth rings run in a shallow curve across the end grain and form cathedral patterns on the face grain.

**Riftsawn:** Sawn so the growth rings form a 45° angle on the end grain, and both the face and the edge grain runs straight.

**Quartersawn:** Sawn at a radius to the circle of the log, so that the growth rings run vertically across the end grain and straight down the length of the board. Shrinks and expands the least.

**Pith:** A core of soft, spongy material at the very center of a tree's stem and branches.

**Heartwood:** The older, usually darker-colored wood forming the inner layers of a tree's stem. This is the part of the tree most commonly used by furniture makers.

**Sapwood:** The layers of wood in the outer growth rings, usually lighter than heartwood. In most instances, furniture makers regard sapwood as a defect to be cut around when milling parts.

**Early and late wood:** A tree's annual growth takes place in two distinct stages that leave their mark on the wood the tree produces. The early season growth of an individual growth ring is called early wood, and typically is made by cells that are larger and less dense than the late wood. The visible difference between the two is more pronounced in some species than in others.

## Hardwood lumber grades

Established by the National Hardwood Lumber Association, these grades are based on the percentage of clear wood, or wood that is free from certain defects like checks, knots, pitch pockets, and sticker stain (see description, opposite). The upper grades yield clear pieces that are longer and wider than those from the lower grades. Naturally, they also cost more. It's not crucial to memorize all the rules, but it helps to know which grades yield larger clear boards versus smaller ones. Knowing the lumber grades can help you figure out which pile to sort through, whether you need smaller stock for, say, a wall-hung cabinet, or larger, clear boards for a dining table.

FAS: At least 6 in. wide and 8 ft. long

Clear area, at least 3 in. wide by 7 ft. or 4 in. wide by 5 ft.

**FAS (First and Second):** Boards must be at least 6 in. wide and 8 ft. long, and each must yield clear pieces totalling 83% of the board's face. The clear pieces must be at least 3 in. wide by 7 ft. or 4 in. wide by 5 ft. Both faces of the board must meet these requirements to be graded FAS.

**F1F (FAS One Face):** A step down from FAS, in which the board's better face must meet all the FAS requirements and the opposite face must meet the standards for No. 1 common.

**Selects:** Essentially the same as F1F except that the minimum overall board size is reduced to 4 in. wide and 6 ft. long.

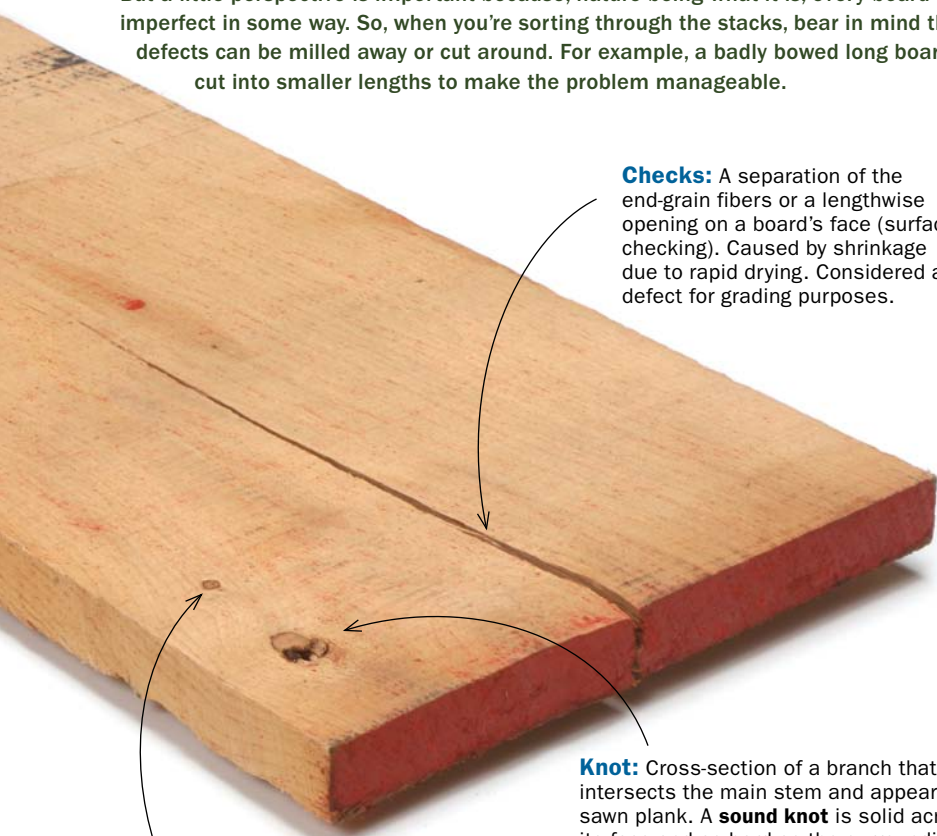
**No. 1 Common:** Sometimes called cabinet grade. Boards must be at least 3 in. wide and 4 ft. long, with clear pieces totalling between 66% and 83% of the board's face. The clear boards must be at least 3 in. wide by 3 ft. long or 4 in. wide by 2 ft. long. Both faces must meet these requirements to be graded No. 1 Common.

**No. 2A Common:** Sometimes called economy grade. Overall size requirements are the same as for No. 1 Common, but the clear cuttings need only total 50% of the original face. If either face of a board is graded as No. 2A, then the board's grade is 2A, regardless of the opposite face.



## What to look out for

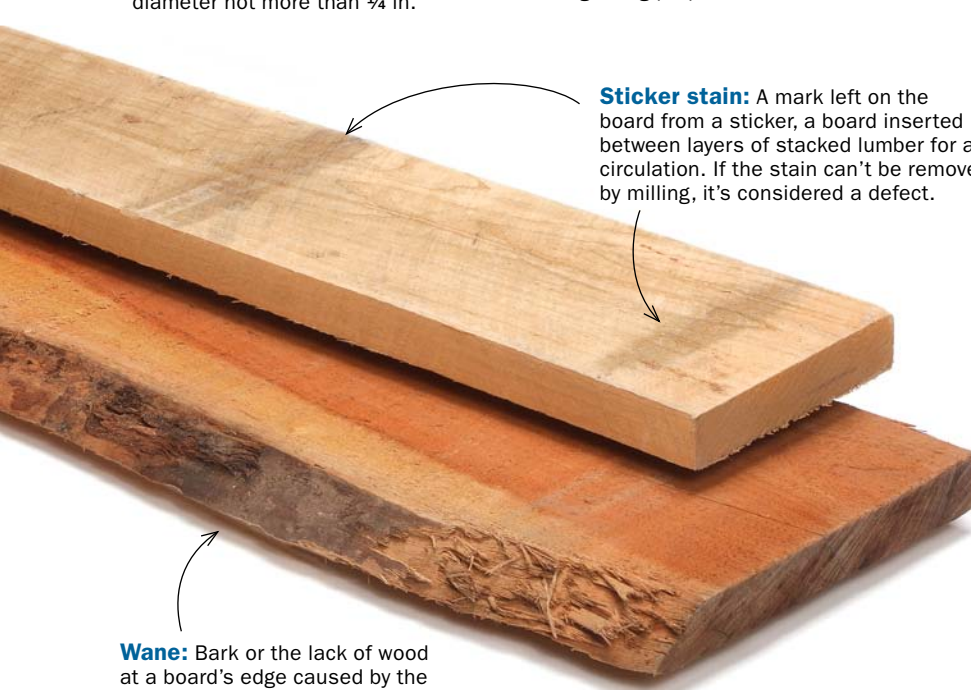
One of the best ways to ensure flat, square stock is to leave bad boards at the lumberyard. But a little perspective is important because, nature being what it is, every board is imperfect in some way. So, when you're sorting through the stacks, bear in mind that many defects can be milled away or cut around. For example, a badly bowed long board can be cut into smaller lengths to make the problem manageable.



**Checks:** A separation of the end-grain fibers or a lengthwise opening on a board's face (surface checking). Caused by shrinkage due to rapid drying. Considered a defect for grading purposes.

**Pin-knot:** A sound knot with a diameter not more than ¼ in.

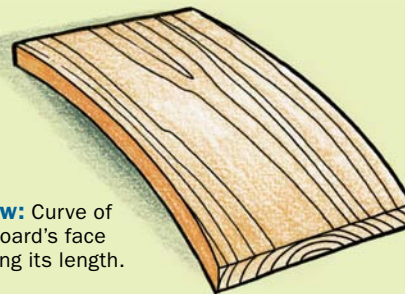
**Knot:** Cross-section of a branch that intersects the main stem and appears in a sawn plank. A **sound knot** is solid across its face and as hard as the surrounding wood. Knots are considered defects for grading purposes.



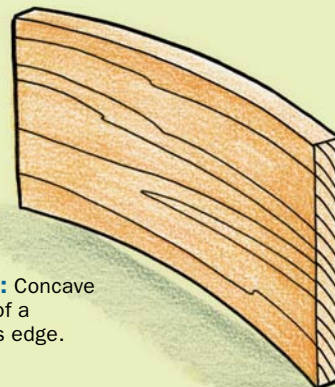
**Sticker stain:** A mark left on the board from a sticker, a board inserted between layers of stacked lumber for air circulation. If the stain can't be removed by milling, it's considered a defect.

**Wane:** Bark or the lack of wood at a board's edge caused by the round edge of the log. A defect, for grading purposes.

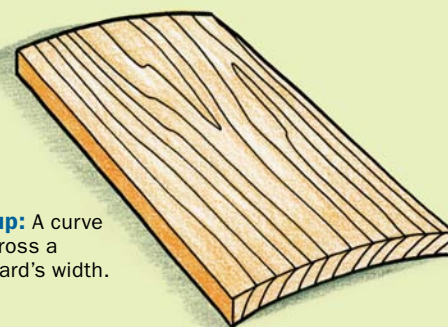
## Every warp has a name



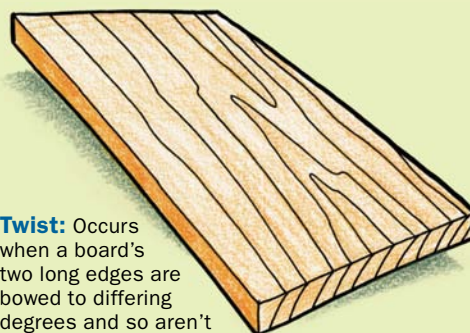
**Bow:** Curve of a board's face along its length.



**Crook:** Concave curve of a board's edge.



**Cup:** A curve across a board's width.



**Twist:** Occurs when a board's two long edges are bowed to differing degrees and so aren't parallel. Also called wind (rhymes with mind).



### LESS WASTE FROM WARPED STOCK

Cutting a board into shorter or narrower pieces reduces the severity of warp, meaning less stock must be removed to flatten each piece.