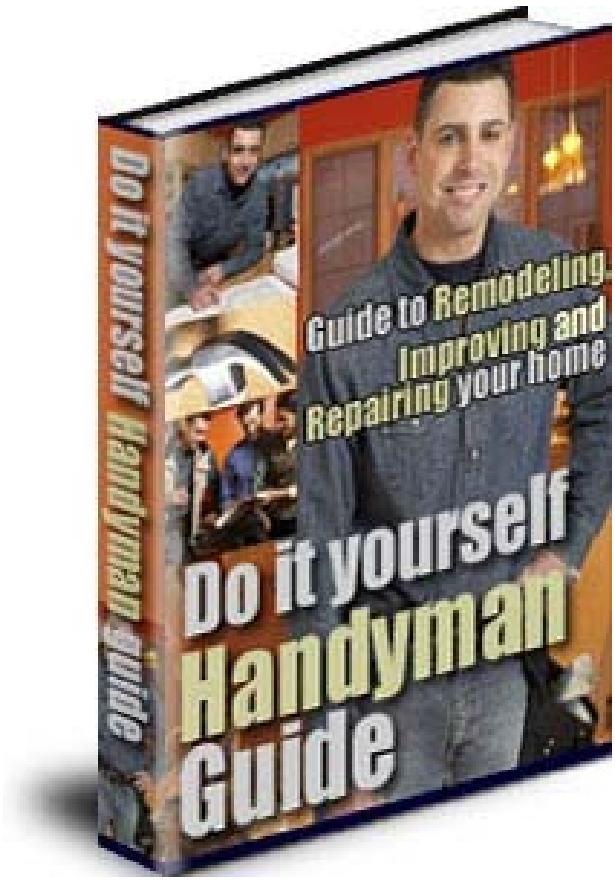
Do it Yourself

Handyman Guide



By: Fred's Handy Man

Introduction

Don't Fear the Hammer

As you wake up in the morning, you feel a drop on your face: the ceiling's leaking. You stumble down the stairs for your morning paper, glance at a typically morbid headline, and turn back inside, only to find that no, the old wooden front door won't shut. As you sit at the kitchen table reading your daily dose of bad news, you glance out the back window to see your five-year-old, who's been playing on the back deck, suddenly disappear. You open the back door (the lock mechanism sticking hard) only to find a broken section of rotted deck, your child lost somewhere in the unknown realm of giant spiders below.

You walk back inside, shaking your head. "Well, it will be an adventure for him--a good learning experience," you think. "Besides, I haven't had my coffee yet." But as you sit down in the living room, you're distracted by a few dozen holes in the walls left by years of nails and screws. Your reading is further disturbed by the sound of water dripping from your leaky kitchen faucet. *Ploop…ploop…ploop*--each one is louder than the last. So you run to your upstairs "study" for shelter, only to remember, as you sit at your desk, that the windows in this room haven't opened for months, making it more like a cloistered oven than a den.

As you sit there, fat droplets of sweat rolling off your face and onto the depressing newsprint below, you hear your wife somewhere shouting that your son's being eaten by a giant spider…

Does this exaggerated scenario sound familiar? If you're a homeowner, it may now. Many such people have nightmares about home repair, where everything is broken at once. Consider it a form of healthy anxiety.

You know these people, everyone does: any activity that requires a tool and some know-how immediately sends them scurrying away to a panic room that usually contains a TV or computer. Calling the necessary army of plumbers, carpenters, and electricians in to help seems to them daunting and forbidding--almost like inviting invasion. Some of my dearest family members are this way. This book is for them, to help clear up the mystery that surrounds building, fixing, and tools--and for anyone you know like them (wink-wink).

Armed with some basic knowledge, anyone can begin making easy repairs. Once you get your foot in the door, it can be hard to stop. Once you've mastered a hammer, can a stud finder be far behind? And once you know the stud finder, it will just seem natural to hold a power drill in your hands. Then you'll see the beauty in an orbital sander, and from there, who knows--maybe you'll find yourself one day armed with a rented nail gun attached to an air compressor, wondering at the road that took you from your eight-ounce claw hammer to a contractor's heavy-duty nailing machine.

It can happen; does happen, all the time. The key is to acquire knowledge bit-by-bit, which will begin to clear up many of the mysteries surrounding the shelter you call home. Once you know what your walls are made of, it won't be too hard to patch them. As you learn more and more, you'll look to ever-bigger projects, until you're able to fix most of the mundane things that come undone in a home, as well as make improvements as they occur to you.

As your skills grow, so will the inventory of tools you'll need to do what you want to do. So, as you learn, you'll also be acquiring the basic equipment involved in keeping a house healthy and happy. This is a natural process, driven by necessity, and it will ensure that you'll never have a tool you don't know how to use, or one whose purpose you can't explain.

Acquiring such skills may seem like a waste of time for some people. "Who wants to spend their leisure time dressed in grungy old clothes? Holding a hammer or cleaning a gutter? Why not just call…"

This mindset is understandable. People are busy. And some jobs will require an expert's hand. However unless you plan to call a carpenter every time a door or window goes out of whack, or get the plumber on every leaky faucet, or spend all your time recruiting handy friends to address the dozens of tiny things that go wrong each year, your choice is either to live in a partially functioning home (very annoying), or learn to do the basic things yourself.

Going the latter route provides a tremendous sense of satisfaction, and also relaxes the mind of the weary homeowner. No longer will you tremble in the face of cracked walls, broken plaster, scuffed floors, rotten decks and even leaky roofs. You can do it all. This knowledge instills a great deal of confidence, a "can-do" attitude that may well spread into other areas of your life (raising the hood of a car can actually become a reasonably comfortable experience, for instance).

You don't need to become a handyperson (women can do this stuff just as well as men) to think like one. Even if you've never really been inclined in that direction, with a minimum of study and effort, you'll soon be able to take care of the minor boo-boos of your own house; a wonderful feeling. Maybe you never want to get on a roof, or touch a pipe, or use a belt sander--it doesn't matter. The most important thing is to get a foothold in the amazing world of tools and technique, and that is just what this book is intended for: to give you a place on which to stand, and survey the vast and interesting world of home repair and improvement.

Tools

"You need the proper tools to do the proper job," as a high-school baseball coach/shop teacher of mine liked to remark once upon a time. While he definitely did not possess

the requisite set of tools for managing a freshman hardball squad, his unobserved maxim still holds.

Beginners often try to use tools in all sorts of unorthodox ways: making clamps out of pliers, using roofing nails in place of lost screws, or even making a folded board from a game like Monopoly into a carpenter's square. While these attempts to brave the great unknown of tool design are admirable, they usually end up causing a great deal of frustration; can result in unnecessary amounts of sweat, blood, and tears; and sometimes end in disaster. All handy folk worth their salt engage in a little improvisation when the need arises, but the smart ones also know that nothing beats having the right tool for the job. A few bucks at a hardware store can often trim hours off a project.

That being said, you probably won't need anything beyond a few simple tools for quite some time. Even as you become an intermediate-level do-it-yourselfer, your requirements will probably stay minimal. As I stated before, the best way to go is to buy the tools for each job (excepting any exotic ones, such as the previously mentioned nail gun or a floor sander) when you need them, and thus build your workshop on the fly.

In this chapter, we'll take a look at the basic hand tools everyone will need sooner than later, then we'll check out the power tools that will make your life much easier down the road, and finally we'll survey the big guys you'll probably just want to rent or borrow for the foreseeable future. And so we enter the wonderful world of tools….

Everyday Hand Tools

Included in this group are the essential tools, some of which already have a home in your closet, basement, or junk drawer. My advice on buying hand tools is to shoot for the middle. You won't need expensive, contractor-grade (whatever that means) equipment. Yet buying cheap, toy-like tools from a dollar store merely means that

you're going to bend your hammer out of shape while pulling out a nail. Making trips to the hardware store in the middle of what should be an easy project is no fun.

Besides, you'd like to have tools that will last awhile. It's comforting to see the same hammer or set of pliers every time you open up your tool box, for years and years. And don't be surprised if you start developing an emotional attachment to those hardy, unassuming tools that have served you well for years. It happens to even the hardest cases among us.

One last thing to remember: the real trick is to imagine what kind of tool a certain job would need, and then find it. Ask yourself questions like "What kind of force needs to be exerted?" and "What attachments should it have?" and you're halfway there. Take on the mindset of a tool designer, not a tool consumer. This imaginative exercise will not replace trial-and-error and study, but it will give you a glimpse into how real, honest-to-goodness craftspeople think. Now on to the tools….

Hammer:

A good hammer is a relatively simple thing to find. Select an 8-ounce, claw-type (for pulling nails) hammer to begin with, and then move onto a more sturdy and efficient 16-ounce model once you get sick of tapping your nails in instead of pounding. A hammer is the linchpin of your toolbox, and, behind the various types of screwdrivers, probably will be the most-used item.

Pliers:

There are several basic types of pliers; you'll want to start out with at least two of them.

Needle-nose pliers have long, skinny jaws that help you work in tight spaces or with thin material, and often have wire-cutters attached. (Like all tools, these come in different sizes and you'll eventually need one you don't have. The best way to go is to have a small and large size of every tool--like an 8-ounce and 16-ounce hammer--but if you can't stomach the idea of buying two of everything, just get the small size and wait until you get annoyed.)

Lineman's pliers have square, "snub-nose" jaws, and are better suited for gripping fatter objects. They often have some kind of integrated wire-cutter, too.

Next up are the **vise-grip** (or **locking**) **pliers**. These are of the snub-nose variety, but have an adjustable knob at the bottom that allows the pliers to grab onto objects of different sizes without letting go.

Then there are **channel-lock** (or **arc-joint** or **groove-joint) pliers**. These flat-jawed beauties are adjustable, allowing you to grip objects of greatly varying size. Finally we have **slip-joint** (or those-ones-that-aren't-needle-nose) **pliers**, a very common type to find in households. These are merely snub-nose pliers with a joint that allows for two different settings.

Screwdriver:

There are three basic head types for screwdrivers: flat, Phillips, and square.

Square is a new development, and it is the best. It takes less energy to sink a square-driving screw, among other benefits. However, since Phillips have ruled the market for a generation, and flat-heads are still found here and there, and since people are afraid of change, the square heads are still a distinct minority.

Screwdrivers are the one tool you should absolutely buy in several sizes right from the get-go. Three sizes of each should do quite nicely (S, M, L, and you'll also want a jeweler's size of each). A nice packaged set of screwdrivers is your best, most affordable option.

Tape Measure:

The old standby. Here you'll want a 12-25 foot length with a locking mechanism that keeps the tape extended. Don't go too cheap!

THE NEXT LEVEL

Wrench:

A **crescent wrench** can be very helpful in removing nuts and bolts. It has an adjustable head that fits around the fastener to be unscrewed. The non-adjustable **combination wrenches** are usually sold in sets, as their head openings only fit one size of bolt apiece.

Hand Saw:

This is the old solid, wedge-shaped saw, the one that makes a funny noise when you bend it; used for cutting woods.

Rip saws have straight teeth shaped like chisels and are used for cutting along the grain of a piece of lumber. **Crosscut saws** have angled, beveled teeth that allow it to slice against the grain of the wood. Get a rip saw first, use it for both operations, and then be prepared to do some sanding.

Sandpaper:

Paper coated with abrasive minerals of various types, used for smoothing rough, jagged, or splintered wood. Sandpaper comes in different grades, with the rougher grades being used initially, and the finer grades used for finishing work.

Level:

Levels are generally lengths of metal with enclosed capsules of water. When it's placed atop a level object, the bubbles in the water line up with a set of guides. There are many new variations of this basic tool, including electronic models that use lasers.

Stud Finder:

Another time-tested tool currently competing with electronic models, stud finders used to be merely magnetic pointers in plastic boxes. They were run along walls to find studs, which are the 2x4 timbers used to frame most houses. They run up and down in walls, and are usually spaced about 16 inches apart. They're important to find because setting screws into them to hang things up is much easier and more secure than just drilling into plaster or drywall.

Scraper/Putty Knife:

These look like short-handled metal spatulas and have sharp, flat blades of different shapes and sizes for scraping paint (or old inspection stickers off car windows); smoothing spackle, window putty, or plaster; removing caulk; and many other jobs.

Carpenter's Square:

This flat metal ruler bends 90 degrees into a "L' shape. It's helpful for framing up lumber, and doing all kinds of woodworking, especially as a saw guide.

Utility Knife:

This is a simple retractable blade with a metal or plastic sheathing. Good for cutting plastic, wire, carpeting, and many other things. Don't scrimp here; buy the metal-housed kind and they will last you far longer than the dollar-store scrapbook knives.

Hacksaw:

A handsaw consisting of a handle, metal frame, and blade, used for cutting through metal, copper, and other hard materials.

Clamps:

Used to hold materials (such as wood) together for joining.

Everyday Power Tools

Power tools come in a dazzling array of shapes and sizes, from simple, tiny little power screw drivers to enormous table saws. Don't be alarmed: there are only a few power tools your average weekend warrior will ever need more than a couple of times in his or her life.

Electric Drill:

The drill is one of them. From hanging pictures to installing shelves to basic woodworking, this is the first and most essential power tool you'll buy. With the proper bits, it can even replace your screwdriver to a large extent, thus taking a lot of strain off your wrists and hands. The best kind to get, off the bat, is a reversible 3/8-inch drill with a nice set of bits (the interchangeable parts that do the screwing/drilling). Go moderate here--the cheapest kinds will be nothing but frustrating, while the expensive ones have features and ratings you'll never need.

Skilsaw:

Also known as a **circular saw**, this handheld machine will allow you to replace your rip and crosscut saws. In doing so, you'll literally save hours on woodworking projects, in addition to gallons of sweat. It can be tricky to learn at first, but once you've got it, a skilsaw can make any kind of long, straight cut you need (with the help of a guide such as a carpenter's square). Practice first, and be safe!

Orbital Sander:

These are handheld electric sanders which rotate circles of sandpaper at very high speed. The same logic applies to this as to all other power tools: it saves you much time and effort, but be careful. You can easily mess up a woodworking project by gouging out too much with one of these tools.

THE NEXT LEVEL

Belt Sander:

This tool runs a length of sandpaper along a wide, tread-like belt and is better suited for bigger jobs than the smaller orbital sanders. It must be used with two hands, and with great care. It's very easy to overdo it (wood removal) with a belt sander.

Mitre Box:

A circular saw built into a tabletop housing with an integrated guide. A mitre box is great for cutting skinny lumber into angled cuts (like those used in mitre joints), or just for making straight crosscuts in 2x4s or 2x6s. It cannot, however, handle wide lumber or do much rip cutting (along the grain).

Saber Saw:

A handheld jigsaw that allows for straight or curved cuts in a number of different materials. Ask a number of different builders about saber saws and you'll get a number of different opinions (most likely depending on their specialty). For my money, the pros of the saber saw are outweighed by the cons. Buy one only if you're sure no other saw will work for the job you have in mind**.**

The Big Boys

These are the big-ticket power tools you'll need very infrequently or never. I recommend that you rent or borrow these items when you need them, unless you're part of some neighborhood tool collective or plan on starting your own business.

Nail Gun:

Shoots nails quickly and effectively into their target. Usually attached to an air compressor. A great way to deal with studs, roofing, and other monotonous tasks requiring a million nails that would otherwise leave you pounding away for days. Can be quite a dangerous tool as the nails can deflect off their targets and go at such a high speed they can do great damage to a body. Wear your eye protection!!

Floor Sander:

Used to finish and refinish hardwood floors. An **edge sander** works around the tight border spots while a **drum sander** does the lion's share of the work. This machine's body makes it looks as if a user is mowing his floor. Ah, if it were only that simple. A drum floor sander is a difficult, heavy, complicated machine to use. And that's being nice. What's more, you can do great damage to your floors in an instant if you mess up. If you need to sand a floor, try to find a large **4-head orbital floor sander** available for rent. The job still won't be easy, but it won't be akin to torture, either.

Table Saw:

A blade mounted on a table. Sounds simple, doesn't it? For a serious woodworker, this is a major purchase that will be well worth the price. (I would recommend investing in a decent belt-driven contractor's saw and making sure it has a great fence). For everyone else, a weekend with a rented or

borrowed bench saw will probably be enough. These are dangerous animals, so keep your wits about you.

Chainsaw:

Speaking of dangerous animals… A chainsaw is a portable saw with a long chain blade that spins around a bar of a given length. Chainsaws are good for working timber and pruning trees. For cutting firewood, they're a must. Unless you live on a rural or semi-rural plot, however, you'll have little excuse to buy one. If a tree on your property needs some work, head to a rental shop. You should **never** use a chainsaw when you're tired. They are known to kick, and require a great deal of skill and patience to use properly.

Safety

Tools can, of course, be dangerous, especially the bladed, motor-driven types. But don't be lulled into thinking that unless you're using a saw you don't need to worry about your person. Hammers miss, screwdrivers slip, and ladders fall. The following are tips intended to help you avoid injury.

1. **Stay alert**: Fatigue is the primary cause in many accidents. When we're tired, we tend to rush or lose our concentration. These tiny moments "away" can be just enough to let a saw slip or pound a thumb with a hammer. Drink some coffee or tea, if you're fatigued, take plenty of breaks, and if you're truly worn out, save the repair for another day.

2. **Know what you're doing**: Another good way to get hurt is to mess with materials or tools you're not completely comfortable with. Improper technique can lead to accidents. When we don't know a tool or the proper method of doing a certain task, often we exert the wrong type of, or too much, force. A good example is a pry bar, which has a spring action that can, when pulling nails, fling said metal spikes back at you at high speed. So, when you don't know the action of a certain tool, or how a material will respond to it, go slow and err on the side of caution. As for power tools, you should always go over the manual, at least the safety instructions, before turning it on.

3. **Beware frustration**: Try to work like the Buddha. Otherwise you run the risk of getting upset and using too much force, or going too fast. Every one of us has gotten irritated and just taken a whack at something that just required a tap. Resist this urge, because it often ends in pain.

4. **Don't bite off more than you can chew**: This rule can be seen as a kind of corollary to the fatigue and know-what-you're-doing rules. Taking on jobs that are too big, physically demanding, or too far beyond your skill set is a good way

to end up in the hospital. If it's too hot outside, don't replace the siding. If you're exhausted, call it quits. This rule is perhaps the hardest to follow for those of us with a glimmer of the Protestant-work-ethic mindset. Still, you'll do your mind and body a favor by paying attention to them, instead of pretending they don't exist.

5. **Wear protective gear**: Another one often skipped. A complete set of protective gear includes **work gloves**, which are helpful while handling rough wood, doing demolition work, during long stints with handled implements like spades or brooms, and in any other application where your hands are at risk. They can also increase your confidence and comfort level when doing a wide range of other activities. I keep mine on whenever I'm doing something that doesn't require precise manual manipulation.

Safety glasses are necessary whenever you're cutting with a saw, or doing anything else that can cause debris to strike your eyeballs (yes, this includes hammering).

Ear plugs or sound-damping **muffs** should be used in most sawing operations, or when doing anything that results in a sustained uncomfortable decibel level. A **dust mask** should be used during sawing, demolition, or whenever large amounts of particles are stirred into air.

Steel-toed boots, **long pants** and **sleeves**, and a **cap** can also be barrier to injury or annoyance.

6. **Mind the ladder**: A ladder should be set up with its base spaced out from the wall about a third to a quarter of the distance of the contact height. That is, if your ladder is braced 10 feet up, your base should be 2.5-3 feet from the wall. Don't overextend up or sideways, and always make sure the base is secure.

Repairs

Now it's time to begin looking at the various fixes you'll want to make as a novice do-it-yourselfer. The basic concepts and methods used in these repairs can, in many cases, be extended to cover a wide range of repairs we've omitted. This goes along with my basic philosophy of "handiness": once you get your feet wet with a few projects, you'll gain confidence and knowledge, and the mysteries of construction and building will begin to open up to you, allowing your intuition and imagination to suggest ways to fix other problems. After some period of time, this process of learning, working and seeing will result in your being one of those people of whom it is said, "She can fix anything." Because, when it comes to home repair, you can.

Exterior

Siding

The skin of your home, siding protects its structural elements from the…uh…elements. Though older houses were sided almost exclusively with wood or lap siding, these days' aluminum and vinyl are more common. They're also a lot easier to maintain. If your home is covered in a durable vinyl or aluminum skin, pretty much the only thing to do is rent a pressure washer once a year or so and give it a thorough going-over.

If you're one of those people whose home is still covered in beautiful (and maintenance-heavy) wood, than the methods involved in siding care are a bit more involved.

Cracks or breaks in wood siding should be taken care of right away because moisture, once it's found a way in, can do some serious damage beneath the skin of your house. Think of it as a disease working from the inside out.

Cracks or gaps in lap siding (clapboard), if minimal, can be fixed by the insertion of products like spackle, caulk, or wood epoxy (liquid wood). First, however, you should test the board to make sure it hasn't rotted. Do this by poking at suspect spots with a screwdriver. If they sink in, or if the board, when tapped, sounds hollow or different from the other boards, then it should be replaced. If not, you can merely fill the break.

The correct method is to flood the cracks with one of these sealers, smoothing it out with a putty knife and wiping away excess immediately with a damp cloth. Once the product has set, you can come back and sand it down with a fine grit sandpaper, then prime and paint the patch you've sealed, so that it matches the surrounding color.

This should be done in all places where there's any seam or opening showing to the inside. For a house, moisture is an infection. By closing up all wounds, you'll protect it from troubling diseases that could otherwise occur. If you see nails sticking out these should be attended to as well. The nails should be pounded back, perhaps supplemented with screws and/or caulk. Inspect carefully to be sure there's no underlying damage.

If siding must be replaced, you'll have to obtain a replacement board, as well as a small, inexpensive hacksaw and, if you're planning to replace only a section of siding instead of a whole board, a keyhole saw.

To begin, pry the offending board away from the wall on the bottom. This may be done with a chisel or scraper, then a pry bar. Nails that come up may either be punched through the board or cut with the hacksaw (behind the siding). Some may come out with the board. Take care not to damage surrounding siding. Once the big board is out,

all that remains is to cut a precisely measured replacement piece, and tap it in and under the upper board gently with a hammer. It can then be nailed in, caulked, primed, and painted as needed.

To replace a shorter section, first pry the board away from the wall, then place small pieces of scrap wood or other spacers in the gap created. Nails can be punched through or cut. Then the damaged section is cut out with the keyhole saw and replaced with a piece cut to match. This is tapped in, fastened with screws or nails, and then caulked, primed, and painted as needed.

Voila!

Gutters

Maintaining your gutters (those little troughs on the edge of your roof) can prevent a whole host of problems from setting in, from leaking basements to moisture-damaged siding. Adjustment and cleaning is generally an easy and smart way to keep water away from your home; the true purpose of gutters.

The first thing to do is to make sure your gutters are taking water away from your home, as they're supposed to do. However the water is hitting the ground, whether from an unassisted downspout or a splash block of some type, make sure it enters the soil at no less than two feet from the base of your house. Any less, and you're risking a compromised or flooded basement. To increase the range of your runoff, you can install one or two splash blocks (usually cement pads that catch and channel water away from the base of the house), or you can extend the downspout with an extension available at any hardware store or big-box home store.

Cleaning leaves and other debris out of your gutter in the spring and fall is another good way to keep the water flowing freely away. For this, use a ladder and an old plastic spatula (you can extend it with a broomstick length--these are the kind of situations that call for improvisation). You may also use any of the commercial scoop devices on the market. Either way, make sure your gutters are cleaned at least once a year. Use a flashlight to inspect elbow joints and downspout entries for signs of clogs. Wood gutters should be treated with linseed oil or a similar product for protection.

If your gutters are clean but still filling up with water, you probably have a sloping issue. To drain properly, gutters need to slope approximately 1/16 of an inch for every foot of

length, in the direction of the downspout. If your gutter slope seems to be out of whack, adjust the hangers attaching the gutter to the house until the problem is rectified. Test it with a hose to check.

Your gutters may also leak at their joints. This can cause ugly water stains on your house, or even lead to structural damage or basement flooding. If your gutters don't hold water you can patch all seams with caulk or roofing cement. Test for structural integrity (i.e. that it doesn't still leak) once the product has set, with your trusty hose.

Roofs

No matter what your roof's covered with--most likely composite shingles--you'll need to pay close attention to it unless you like the idea of leaky rooms, falling plaster, and a certain moldy smell….

Shingles are your home's first line of defense against the elements. Their job is to stop the initial thrust of weather. The underlying materials of your roof are much less resistant to water, and so your shingles should be kept as intact as possible, thus protecting the softer skin underneath them.

Note: If you plan to go up on your roof, use correct ladder procedures, have a spotter, and wear shoes with "grippy" treads. And step lightly--these roofs are strong, but tromping around carelessly does them no good. And if you're someone who's afraid of heights, this is not the way to finally face up to it (as if I had to tell you that).

A roof does best when inspected once a year for lost shingles, moss or plant growth of any kind (especially in cedar shingles), and irregular or damaged shingles of any kind. Watch for bent edges or decomposition (shingles losing their granular coating) as well.

In addition, any debris on the roof should be blasted off with a hose or a leaf blower (then make sure that any debris has not fallen into the gutters, blocking them). Any caulking that looks weak or compromised should be removed and replaced.

Pay close attention to the seams where the roof seals against the chimney, exhaust pipes, or other protruding structural elements. These, along with nail holes, are the

most common leak zones. Also take a good look at the flashing, the metal sheathing used in the trough and joint areas of the roof for extra protection. Flashing can warp or pull up from the roof. It should be reattached and smeared with roofing cement if this is the case. Roofing nails that have wiggled out of place or are “wobbly” may also lead you to a leak spot.

Roofing cement (or other sealant) can also protect and shore up loose or floppy shingles. If you’ve located any suspicious areas, or know where your leak is, smear your product on liberally with a putty knife.

If checking for leaks in the attic, bring a flashlight and look for the water stains or chinks of light that will indicate a hole in your house’s armor. Bring a big paperclip up with you and push it through any soft spots or holes so that you will be able to find them later, when on the roof. (Sometimes a stronger, thicker wire is needed.)

When replacing shingles, make sure to get the right model from your supplier, and when pulling out the old and hammering in the new, remember to use only galvanized roofing nails, and to cover any seams, gaps, or spots that may develop into trouble later, with sealer.

If your roof is made of cedar shingles, generally you’ll want to call an expert in to do any repairs. These roofs are fragile and difficult to fix properly.

Replacing all your roofing is an ugly job, and I don’t recommend it for novice (or even intermediate) do-it-yourselfers. If your roof is 20+ years old and leaking like a sailor in a sawdust juke joint, cut your losses and call a professional roofing company.

Decks

Rotten decks can cause all kinds of problems. From weakening wood to slimy, slippery coating, water-compromised decks can accumulate any number of issues. Keeping up with your annual or biannual cleaning and sealing (a pressure washer and a high-quality deck sealer are recommended) will go a long way in terms of preventative maintenance, but what to do when your deck suddenly needs some urgent care?

The first thing is to inspect: look for rotten areas, testing for spongy wood as we did on the siding replacement job; take a peek under the deck, inspecting posts, beams, and joists; assess railing integrity; finally, look at the floorboards, which are often the danger areas.

To begin with, all protruding nails should be pounded down. Then, railings and balustrades should be shored up, if they're wobbly. This can be done by adding fasteners or hardware such as angle irons or corner braces. Rotted joints should be replaced with pieces cut to match. Use a carpenter's square and a circular saw (or your rip saw, or a mitre box) to make an exact cut.

The floor joists (thicker lumber that runs perpendicular to and supports the floorboards) can be shored up by means of an identical piece of lumber (which you cut to match) simply placed flush against the old joist, clamped, and then nailed to its weak partner. It should then be stained to match.

Split boards that have no rot can be filled with glue, caulk, or liquid wood and then sanded and sealed.

Support posts can be shored up by nailing a support brace between them. One end of the brace should be placed at the top of one post, the other at the bottom of the other post (you should measure this distance first, of course, and then cut a board to fit). This diagonal, once nailed into place, will provide extra support to leaning vertical.

Rotten floorboards or stair steps can be pulled up with a hammer or pry bar. A proper replacement is cut (be careful with your measurements here--an odd board will stick out like a sore thumb) and then fastened right back where the old one was. The new board should be stained and/or sealed to match the surrounding ones, and voila!--problem solved.

If proper deck maintenance is done once a year, the life of your “outdoor room” can be extended indefinitely.

Interior

Doors

Everyone's known, at least once in their life, The Door That Wouldn't Close. This could be an outside door that scrapes against the jamb, a bathroom door that requires a Herculean jerk to pull flush, or a basement door with a suspect latch that just keeps swinging open. In this section we'll take a look at addressing these minor, but annoying, problems, using simple methods that will allow you to get your doors functioning again.

The first things you want to know are the proper names for the parts of a door. The **door frame** is made up of the pieces that outline the door opening, but are not part of the door itself. The **jamb** is usually used to refer to the part of the frame against which the door closes--on the side where the latching hardware (**strike plates**) is installed (though it may also refer to the hinge side). The **header** is the top horizontal part of the frame.

If your door isn't closing properly, the first thing you should do is check the hinges. If they are loose, they may be allowing the door to sag down and scrape against the **sill** (bottom part of the frame). This may be remedied by a good tightening with your handy screwdriver, or it may call for replacement screws, especially if the holes have been damaged. In this case, replacing the old, non-gripping screws with longer screws will often solve the problem.

If the hinge isn't the issue, next take a look at the jamb and frame. Are they the culprits, bending out to impede the door? Nail or screw any protruding parts of the frame carefully back into position. If the jamb seems loose, and the door is rubbing on that

side, you may also be able to tack the jamb tighter against the frame, using a hand-driven screw for which you've drilled a starter, or "pilot," hole.

If the frame and the hinges are right, then we must next look to the door itself. Wood expands and contracts in different weather, and some kinds of doors will perform differently every season.

If the door is catching only a bit, sanding may do the trick. In this case, you can either do a spot sand job on the portion that's catching--working the offending edge with a medium-grit sandpaper until it opens and closes well, then finishing with a fine grit and applying stain or paint.

For more serious sanding, it's better to take the door off its hinges and use your orbital or belt sander. A carpenter's square and level can help keep your sanding job precise. Be careful not to take off too much--better to wrestle a door back up into position to check it than to buy a new one because you've given it an unacceptable shave. Once it closes easily you should finishing the job with a light, fine-grit sanding and painting or staining to match.

If the door isn't latching properly, you may need to adjust the position of the strike plate. First, unscrew the plate and then close the door, while examining the latch and its hole in the jamb. Once you see why it isn't fitting in, trim the hole with a keyhole saw (or scrape with heavy-duty sandpaper), until the latch catches in the hole. Then slip the strike plate over the new hole, holding it there temporarily to ensure the door still closes properly. Once you've gotten the strike plate in the right position, drill a couple of new holes and then reinsert the screws.

Broken or cracked pieces of the frame and doorjamb should be attended to immediately. Doors and their attendant structures receive a lot of abuse over the course of a year, and it doesn't take much for them to begin deteriorating. Cracks in frames, jambs, or doors should be patched with wood epoxy, caulk, or some other

appropriate filler product, then sanded and repainted. Splinters on the bottom or edges of doors should likewise be sanded and repainted.

Note: Be careful about the stain-matching process. Many doors use a fast-drying spray-on finish that is hard to replicate without the proper tools. Make sure you can match your door's coating *before* you start making fixes.

Finally, if a piece of the frame or jamb cracks beyond repair, it can be removed and replaced by a piece of wood cut to fit, just as we did in the siding task. The broken piece may be removed with a circular saw, keyhole saw, or saber saw. Some tight parts may require careful removal with a chisel. Pay close attention to nails, door hardware, metal framing pieces, insulation, and weather stripping during this process. All of these hang around the door frame and need to be avoided, and/or removed during the replacement procedure--as will, most likely, the **casing** around the door frame, a few-inch wide strip of decorative wood that covers up the area where wall meets frame. Handywork is often a process of removing such things to get to the root problem, then replacing them once you've made your fix (in this case, substituting a new board for the broken piece of jamb). Just make sure you can restore everything to its original state--this is a cardinal rule for do-it-yourselfers, and its violation resulted in a generation of sitcom scenes where a weary housewife rolls her eyes at her water-, wire- or plaster-covered husband, who's just "fixed" another household element into total disaster.

Windows

Windows are another element of the home which can sometimes “go out of whack,” and which may present several problems. Getting the darn thing open is usually the first, and always the most common, problem.

In the overwhelming majority of cases, a window won’t open because some part of it has been painted shut. Rusted hardware, or a broken cord (on double-hung windows) can also immobilize them. What to do in these situations? Well, from a preventative standpoint, the best thing to do is to use extreme care when painting your windows, avoiding metals parts and opening the window several times as the paint dries. Once it’s stuck, however, there is a range of ways to get it moving again.

First, however, we should learn a little window jargon. The **frame** is the structure lining the window opening (similar to a door frame), often some woodworking and a wide **sill**, the bottom piece of the framing; the vertical pieces are known as the **jambs**. The **sash** is the part of the window that holds the glass. Window assemblies (including the frame) can be made of aluminum, vinyl, metal, or wood.

We should also be familiar with two types of windows very common in older houses. **Double-hung** windows have counterweights hidden inside the wall, which keep them steady at the position to which they’ve been opened. These weights are connected to the sash by means of rope and a pulley.

Casement windows swing open and out like doors. There's no need for a gravity balance here, hence no counterweight.

If either of these types of windows is not opening as they should, the first thing you should do is take a putty knife and scraper and run it gently between the sash and the frame. This will slice through any paint (one hopes) and free the window rather quickly--this is often all it takes. A few light, quick taps with a hammer can help the other tool break up more recalcitrant paint.

Sometimes a pry bar might be necessary between the sash and sill, to get the window moving upward and break any hidden bonds. If so, use your scraper as a guard to protect the window from scratching or gouging (this is why you should use something thin and sharp, like a scraper, rather than a flat-head screwdriver or a butter knife).

Oiling the window tracks, or using a silicon or other lubricating substance, will help fussy windows get their momentum back.

If the window doesn't budge at all, and isn't painted shut, it may be the case that someone nailed one or both of the sashes shut. This was an all-too-common fix for people who were frightened by the idea of removing a side panel (which may also be painted shut) to get at the counterweights and replace broken ropes, but were sick of having their sashes--unsupported by the counterweights--crashing to the sill. If there is a nail or several in our window assembly, take a little time for inspection--a small finishing nail might have been used and painted over. How you remove it is up to you. Unless you have room for a hacksaw, it may be best to use a hammer or pry bar--in these situations, you have to think for yourself. No two are alike.

If your ropes have broken in your double-hung window, don't despair--and certainly don't put a nail in there to hold the upper sash up! That'll be the next guy's ruin. Instead, you can either access the counterweight through a side panel in the jamb (you may have to strip some paint to get there), or you can run off to your handy-dandy home

store and purchase what's known as a sash control, a spring-powered system that keeps your windows where they want to be. These are often sold in kits.

If you do end up getting into the side panel, you'll have to re-hang the windows and the counterweights, using new rope threaded through the pulleys. This process is slightly different for each window, but also fairly obvious once you're in the right place.

Sometimes, through house settling, weather, and other factors, sashes can become wedged tightly into frames. In this case, the only recourse is to remove the sash and sand it down until it fits the frame again. If this method is used, make sure you line the frame with a gasket or weather stripping of some kind, so that any resultant gaps are closed to air and moisture.

Casement windows generally have fewer issues than double-hung types do. Sure, in strange situations they might need to be removed and sanded, and sometimes you'll be forced to break paint bonds on them and pry them open (carefully!) just like double-hung. However, the main complaint with casement windows has to do with their hinges. If these are problematic, you can hit them with a lubricant (silicon, WD-40, other), scrape paint and gunk off them, and then use your scraper to coax the window open.

Sometimes the hinges will be rusted out and want to be replaced. Careful measuring will send you to the hardware store with the proper specs.

And if your window doesn't want to close again once it's been opened, it may be time to get out your sander and go to work!

Floors

The most popular styles of flooring today include wood, vinyl, tile, and carpet. Of these, tile and vinyl are the most durable. Wood floors should be scrubbed, buffed, and waxed once a year (unless the manufacturer prohibits waxing). Carpets should be cleaned with an agitating vacuum weekly and steam-cleaned twice a year, for the longest life.

Repairs to vinyl floor most often involve concealing rugs. Problems on the edges can be assuaged by the nailing of decorative metal strips over the boundary. These are available in a wide variety of styles and colors at you local home store.

Tiles can be replaced, though not always easily, and it often depends on the style of tile and grout.

Wood floors are famous for being the maintenance-heavy flooring choice. This is why fifty years ago there was such a scramble for carpeting, or one of the reasons, anyways. Yet, sometime in the last twenty years, hardwood floors became all the rage, with everyone and their uncle pulling up old carpeting, tile, and linoleum in search of their home's "natural" look. Now those same people despair over each scratch inflicted on their beloved floor by a thoughtless pet, child, or spouse.

The easiest way to contend with a marred floor is to rent a floor buffer that works with light steel wool, and run it over the entire surface. Or, instead of the floor buffer, you

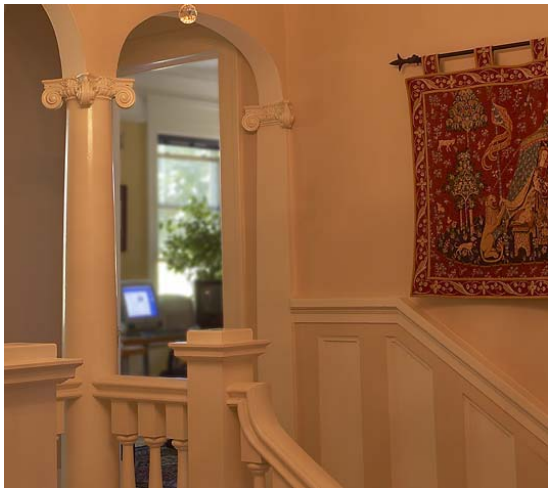
can use an extremely light sand paper such as 120 or 150. Once you've done this, you must clean the floor. Sweep, vacuum, then wipe the floor down with a rag soaked in the proper cleaning agent. Once this has been done, you may apply polyurethane or buff in wax. (Some water-based polyurethane precludes the use of steel wool.)

This process eliminates many of the scratch issues and can give your floor a comforting, almost-new glow again. It's also much, much cheaper than getting your floors professionally refinished and much, much easier than doing said activity yourself. Most people who have done it dread the very thought of refinishing floors. It is a tricky, noisy, dirty, and laborious job--and one that amateurs seldom get quite right.

Squeaky floors are another big issue when it comes to hardwood. Very often this annoying noise is caused by the floorboards rubbing together. To fix it, try sprinkling some talcum powder or powdered graphite into the seams of the offending board(s). Then (first laying down newspaper or the like) step on them to get the noise going. This will ensure (you can also use a brush, paperclip, or any other applicator skinny enough to work the lubricant into the seam) that the product you've used gets where it needs to be. A truly great moment in homeowner's history is made when you're stepping on that creak, trying to work the lubricant in, and then, all of a sudden, there's a sublime (near) silence….

On the other hand, occasionally you'll need to secure a loose floorboard that squeaks or is generally a nuisance. To do this, drive flooring nails near the center of the board (this is important--otherwise you might damage the joinery on the edges) into the subfloor (don't forget to check that there are no pipes or electrics running under that part of the floor in case the nail goes right through). Once you've secured your board(s), tap the nails down further with a nail set (a device for sinking nails down below a wood surface, usually so they can be concealed), and then fill in the nail hole with a matching wood filler--and voila! Floor fix-it realized!

Walls



Most interior walls in the houses we live in today have surfaces made of drywall. The old plaster-and-lathe style, in which a plaster wall was formed over a latticework of small wooden slats, is quickly going the way of the dodo bird. Unless an owner requests something special and has a few dollars to burn, drywall is the default material for interior walls.

Luckily, drywall repair is fairly easy. If there's a tiny hole or puncture you'd like to fix, all you need is your handy scraper, some sandpaper, and some drywall compound.

First sand down the edges of the hole, smoothing the surface completely. Then wipe up the resultant dust with a damp cloth. Then simply dip your scraper or putty knife into the bucket, scoop up some drywall compound, and go to work. When patching the hole, try not to be too liberal with the compound, or you'll make more sanding work for yourself later. Just smooth across enough to provide a consistent and durable patch.

Once the compound's set, sand it down with a fine sandpaper, prime, and paint. Good as new! (Note: an artificial texture is often sprayed over drywall to hide the joining of the sheets in a single wall. Try to replicate this texture as best you can on your own, when you paint, for a better match. Take a look at the rest of the wall and use your imagination! If you've no idea how to match the texture, ask a salesperson when you pick up your compound. The texture is usually available in hardware and paint stores in spray-on cans. Make sure you have a picture or can describe your texture!)

If you're dealing with a larger-sized hole, you'll need a drywall patch, which is available at any hardware store. Cut the patch material to fit the hole, apply the drywall to the edges of the hole, stick the patch to the drywall, and then cover the patch with compound. The rest of the steps are the same as discussed previously.

If an entire section of drywall needs to be replaced, you'll have to obtain a replacement piece from a hardware store. Drywall can be easily cut out of the wall with a handsaw. The new drywall can be cut to match with a utility knife, handsaw, whatever--it's an extremely easy material to work with. Nor does the fit need to be super-exact--the seams will be covered with 2-inch drywall tape coated with compound.

Make sure, when replacing a patch of drywall, that you have an exposed stud somewhere in the middle of the repair. This is what you'll screw your drywall to. To find a stud, use your trusty stud finder, which we discussed earlier in the book. The location of the stud may dictate the size of the drywall section you'll need to replace.

Once you've cut out the old section, merely measure and cut out the new, then put it in place using drywall screws. Once that's done, seal the seam between old and new with drywall compound. Run your scraper/drywall knife over the seam to adhere the tape to the seam and flatten it. Let it set. When you come back to the wall, add another layer of compound over the tape, then let that set. Finally, all that's left is to sand, texture, prime, and paint, and—voila good as new!.

Wiring / Heating / Plumbing

Wiring, heating (and cooling), and plumbing--these are the various circulatory systems of your house. Like your respiratory, cardiovascular, or nervous systems, they maintain the activities necessary to life. And, while you may feel comfortable patching a spot of drywall, the same as you do applying a bandage, you probably aren't as comfortable messing with your spinal cord, heart, or lungs. Just so with your house's intricate systems. Concealed, hard to get to, and complex--they're not for amateurs.

Unless you've had some training and know what you're doing, the repair of these systems is probably out of your reach. Fitting pipes, wrangling wiring, and working heat ducts are not on most people's resumes.

That being said, if you do have an interest in these areas, they can be fascinating, and there are plenty of places to learn these skills. Mastering the ins and the outs of your home's circulatory systems can provide a satisfaction like no other. Plumbing problem? You can fix that. Short-circuit? No problem. Heat's gone funky? Let's take a look….

Outside the expert areas, each of these systems has critical junctures that homeowners should be aware of. The circuit-breakers are a good example. These are usually located behind a gray metal panel in a basement, utility room, or some such place. When too much current runs through a particular circuit, such as the combined outlets of a single bedroom, the circuit-breaker trips and shuts off the power to that room. When you open up the circuit box, you'll often be able to identify the tripped circuit-switch by its "off" position, which won't match the others (depending on the size of your house, you can have anywhere from 10 to 50 or more circuits and corresponding

breaker switches). If this is the case, simply flipping the breaker back into its "on" position will be enough to get your lights going, in most cases.

On the other hand, if you can't identify the culprit right away, if all the switches are in their proper position, you'll have to go through one by one, tripping all the circuits until you find the one that works. (If you have a housemate, they can yell to you when you've found it--otherwise, plug a radio into the dead circuit, making sure to unplug other things first, and turn up the volume loud enough so you can hear it when you've tripped the right one.) If your breakers are labeled, you won't need to go through this of course, but if they've recently been changed, or are inaccurate, this would be a perfect time to get out a felt-tipped marker and label your breakers.

As far as plumbing goes, it's a good idea to know the location of your home's main shut-off valve--the place where water comes into your home. Turning this valve will stop the water flow, enabling you to deal with emergencies such as broken pipes.

Dealing with central heating and air is a specialist's job, but you can help yourself out a great deal in heating costs by installing an electronic timer in place of your old thermostat. These timers can let your house get colder or hotter when you're not home, saving on electricity and gas/oil, then warm or cool it to perfection just in time for your arrival home. The wire leads that are used by older thermostats can usually be plugged right into new electronic ones, making replacement a snap for do-it-yourselfers. This is one improvement that will pay for itself right away, and make you feel better about your energy consumption as well. Just make sure to take a good look at both your old thermostat assembly and any new one you might purchase, to ensure compatibility, and that the project is within your current skill set. This is one area where the Internet, and sounding out a salesperson, can be very helpful.

Featured Improvements

You can improve your home in hundreds of different ways. Finding home improvement projects on the Internet and at bookstores can be a fun and exciting way to spend your leisure time. To get you off the ground with these types of tasks, we've included one basic and one intermediate improvement. First, on the interior, we'll learn how to install shelves. Then, on the exterior, we'll build a serviceable deck. After you've finished with these two, you'll be ready to start exploring the never-ending world of home improvement with confidence.

Interior: Installing Shelves

Installing shelves is often one of the first home improvement tasks a do-it-yourselfer will attempt. To some it may seem easy, but setting up a precise, strong set of shelves lays a good foundation for other improvement projects down the road. It allows you to practice your skills with a level, drill, and tape measure, and it also forces you to do the kind of thinking necessary to home improvement projects--the planning, the envisioning, the measuring, and the slight bit of engineering involved when considering loads and durability.

The first thing to ask yourself is where you want to put your first set of shelves. This will tell you a lot about what kind of materials you'll want to use. For instance, in a den or study, where you very well may be placing books on the shelves, and you'll want a more formal look, you may choose oak or pine boards, either pre-stained or done by yourself. These boards are handsome and can hold a lot of weight.

For bedrooms, living rooms, or other rooms where you might use the shelves for knick-knacks or pictures, a medium-strength plywood or particle board will do the trick, painted to match your design concept (mine is eclectic-fusion-mania).

In the kitchen, wire shelving might work the best, perhaps for a pantry or auxiliary shelving near the sink. These kinds of shelves are widely available at big-box stores and hardware outlets, and have a huge range of strength ratings.

In the bathroom, glass shelves can be a real crowd-pleaser. They also deal with the high moisture content much better than wood shelves do.

Shelves can be bought pre-cut and pre-finished, and there's an extraordinary range of such kits at the various shopping centers. Or, for true do-it-yourselfer status, you can get a piece or two of 2x6 or 2x8 pine and make your own shelves. All this involves is careful measuring, a few rip cuts with your circular saw or handsaw, then a little edge sanding and staining. Usually you'll save a few bucks on nicer shelves this way.

Glass and wire, on the other hand, must be purchased from the store as-is.

In thinking about the loads each shelf will bear, use the 50-pound rule. If you're planning to go above 50, choose oak or pine. The shelf won't bow as much, and it's a handsome option for printed matter. If you're confident that the shelf won't see much heavy lifting, then the other options will be fine. Keep in mind that it's always better to build for eventualities, such as shelves needing to store your son's prize 75-pound lump of iron, or your husband's 80-year-old set of The Encyclopedia Britannica, which he's going to read from A-Z as soon as they stop showing old Seinfeld reruns on TV.

Think bombproof: the stronger, the better.

Many people like to attach their shelving brackets to standards, which give them flexibility on the height of the shelves. These standards have many different bracket-notches which grant this adjustability.

If you're just hanging one shelf, you probably won't want the standards. In this case, you may simply use angle irons or store-bought shelving brackets. Unless you like the industrial look, you'll want to shop around for the less utilitarian brackets. In any case, the methods we'll use to install your average standard-based shelves may be easily adjusted to accommodate those who do not want or need standards.

Once you have your materials, the first thing to do is get out your handy-dandy stud-finder and…well, find some studs. (These are the vertical wall supports behind your drywall, remember?) Your shelves will do better if screwed into these 2x4s than they will if you just stick them into drywall.
However, if you can't locate or use the studs for some reason, or you need to attach something to the drywall itself, you do have options.

My favorites are toggle bolts, which have spring-loaded wings that fold shut as you push them through holes you drill into the drywall. Once on the other side of the wall, these metal wings pop open, and get a wide, firm grip on the hidden side of the drywall as you screw them in. They are tough, and can hold quite a bit of weight. Usually, once toggle bolts are in, the wings cannot be retrieved. If you unscrew the bolt from the wall, the metal wings drop into the abyss behind, never to be seen again. This usually isn't a problem, but there are now retrievable toggle bolts on the market now, which come with a plastic attachment. If your shelves won't be holding much weight (5-10 pounds, max) an anchor screw can work in unsecured drywall.

Once you've located the center of your studs, and measured from the floor to locate exactly where your bottom shelf should go, hold one standard up against the wall, centered on the stud. One of its bottom notches should be at the mark where you want your lowest shelf. Using a pencil, through the standard's top screw hole, make a mark

on the wall as you hold it in position. Then you can let it go, get your drill, and put a small pilot hole on the mark--remember, this is a starter for your screw, and its diameter should be less than that of the screws you're using.

Place your standard back up against the wall and put a screw through the top screw hole, into the pilot hole. Screw it in, making sure with your level that the standard is perfectly vertical and at a 90-degree angle to the floor. Make marks through the screw holes, then drill pilot holes through the rest of the standard's screw holes and attach it securely to the wall.

Now, put your level atop the standard and extend it out over the next stud to which you'll attach a standard. (Studs are 16'' apart--for three-foot shelves, depending on how much weight they will hold, you may want to drill into the nearest stud as well as the one 32'' away, thus using three standards and providing the shelves with a stabilizing middle bracket.) Keeping the level level, use its bottom edge to make a faint pencil mark over the center of the stud where your next standard will go. Place the second standard against the top line, and then make a mark in the top screw hole. Put a screw in, then insert a bracket into each of the standards and set the level atop them, in a shelf's place, to make sure your standards are right. Once they are, secure the second standard with screws. If you have a third standard, follow the same steps for the second and third that you did with the first and second.

Note: if you don't own a level, careful measuring can produce the same results. In this case, after you've hung the first standard, measure again to its top and bottom. Then go 16'' or 32'' horizontally, depending on where you want your next standard, and put thin, horizontal marks at the two heights. Your standard should fit just between them, barely covering both marks. Next, measure out from the screws of your first standard, putting vertical marks at 32'' (or 16'')--these marks should lie on a line extended up and down from the centers of your horizontal height marks. Once you've made the screw hole marks, simply align the standard between the height marks, keeping the vertical

marks centered in its screw holes. Drill pilot holes, and keep checking the measurements as you attach the screws. It should come out nearly (or fully) perfect.

Now you're ready to set in the brackets and attach them to the shelves. To do this, simply begin with the top shelf, placing it over the two or three brackets, with the same amount on overhang on either end (measure!). Then drill pilot holes up through the brackets' screw holes (this is important because it keeps the wood from splitting). Once the pilot holes are in, all you need to do is to insert the screws, then move down to the next shelf, and the next….

And then you're done. That was easy, wasn't it?

Enjoy your new storage/display space!

Exterior: Building a Deck

A deck takes a lot of planning, and some hard work, but it is well within the reach of anyone with a little bit of fix-it experience. If you've never built or fixed anything, and the thought of holding a handsaw or such item seems slightly exotic, then you probably don't want to start with a deck.

In this overview we'll assume that you now have done a few projects, and are comfortable working with dimensional lumber, measuring things out, and holding tools in your hand.

[Note: This is only a "skeleton" for a deck project. Details can and should be modified to accommodate local building codes and personal needs and tastes. Safety requirements should be thoroughly checked with other sources.]

We'll build a simple 10x10 deck, with easy footings (below-ground cement blocks that support foundations, posts, and pillars). However, if you feel the urge to improvise, go ahead! Make this deck your own, and you won't be sorry. Even if you make mistakes, you'll be learning. If you want to spend a long time on your deck, perhaps weekends for an entire outdoor season, then by all means incorporate curves, angles, built-in bench seats, openings in the deck for trees, outdoor lanterns, and so on. You'll be happy you did. However, if you'd like to finish your deck in a month or so of weekends--or a week of solid work--then this design, perhaps with a few modifications, should suit you perfectly.

The first thing you need in building a deck is a detailed drawing. Unless you're going to hire an architect or a professional builder, you'll need this later to show the building inspectors, in order to get a permit. This is almost always a necessity, especially if your deck is braced against the house (as most are) or has more than two feet of elevation (as most do). The local building authority will make sure what you're planning to do

meets code requirements, then she'll issue you a permit, and perhaps send out inspectors (or herself) at some point during the work to check on things.

It's best, when building a deck, to try and minimize the amount of cutting you'll have to do. The more cutting, the more waste you'll have, and the slower your project will go. So, take a look at your local lumberyard or home store beforehand, see what the board lengths (pre-cut sizes of raw lumber) are, and then incorporate those into your plan. You'll thank yourself later, as you skate through the steps doing little more than lifting and securing.

Preparing the ground for the deck involves getting rid of the grass and sod where your footings are to go. Some people like to get rid of all the grass, throw down a thin, durable plastic sheeting underneath, and then cover it with woodchips, gravel, or other natural materials. This prevents anything annoying or unsavory taking root below your deck.

The footings will generally be concrete blocks set into the ground. You'll either rest your posts on the top of them, bolting them in, or you'll set the posts directly into the concrete. Using an anchor bolt, a long l-shaped fastener that sets directly into the center of the concrete footing, then attaches to a metal post base or the post itself, is the better method.

Pier blocks, pyramid-shaped concrete blocks, can also be set into the top of the concrete footings. These are available at most home stores, and allow for a few inches of elevation above the ground for your posts. The bottom of the posts can rest on these blocks without any fasteners, or be toe-nailed to a piece of wood set into the block, or attach via a pre-set bolt and post base. The types of blocks available and your region (if you're in an earthquake-prone area, you should use the third method) will determine how your posts attach to them.

[Note: Pushing a few spaced rods of steel reinforcing bar (rebar) into the freshly poured cement will also lend strength to your footings.]

No matter what you decide to do, the pier holes (into which you will pour the concrete) for the footings must be dug below the frost line, or else your deck will heave out of shape over the years. Local building codes will generally specify what this depth is for your area. Thirty-six to 48 inches is the common minimum range.

Things to consider before we start (planning issues): weather, wind, privacy, views, utility lines, childproofing requirements, etc.

As for your deck material: your choices here are fairly limited--redwood, pine, or cedar, mostly. They'll all end up gray, in any case. Pine does perfectly well, and is the least expensive of the three. Pressure-treated lumber is a durable option, but its corrosive characteristics mean that you'll need to use higher classes of electro-galvanized and HDG fasteners (minimum 40 and G-185, respectively).

[Note: *All* hardware and fasteners used should be HDG (hot dipped galvanized), where possible. This will prevent rusting and increase longevity.]

The first step in building your deck involves setting the ledger board. This is a long board, often 2x6 or 2x8, that is secured to the side of your house; to it the floor joists are attached--the latter (in most cases) run perpendicular to the house, and support your floorboards.

For our ledger boards, beam (the piece of lumber, parallel to the ledger and house wall, which connects the posts and supports the joists at the free, or unattached, end of the deck) and our joists, we'll use 2x6 stock. Our floorboards will be 2x4. You'll want to know the following hardware uses: joist hanger (connects joists to beam and ledger), post cap (connects posts to beam), post base (secures post to footing or foundation).

In attaching the ledger to the side of the house, you must first make a mark on the exterior at the height you want the deck to be, minus three inches if measuring from a door (you want the deck to be a bit more than an inch lower than an access door, and the flooring will take up a bit less than two inches), or minus one and a half inches without a door.

The ledger should run the entire length of the deck.

Attach the ledger board to the house at the correct height, removing siding if necessary and making sure that you're drilling into good, solid wood. This is essential for safety: if the house studs are moisture-damaged or rotted, you have bigger problems than a lack of deck, and should postpone the project until the larger issue is addressed.

Flashing (pieces of aluminum, copper, vinyl, or sheet metal that are worked in around seams in home exteriors) is often used around the edges of the ledger board (if you've removed siding) to keep moisture out. You'll attach the ledger board with lag screws (long wood fasteners with square or hex heads) or large bolts. Filling their holes with caulk before you insert them will help keep moisture from entering your home.

Once your ledger board is attached, it's almost time to make your footings. But first we want to nail the two outside joists to the ledger board, as this will help us get an idea where our footings (foundation, piers) need to be. Once you've nailed your two outside joists to either end of the ledger board (using a carpenter's square to ensure they're at a perfect 90-degree angle), support them on their opposite ends with dimensional lumber. These temporary supports should be placed where your posts will be, and where they meet the ground is where your footings should be dug.

Of course, you'll want to verify your lines on the ground. To do this, set up a box with string and stakes to get them right. Measure very carefully, using a plumb bob (a tool, usually part of a chalk line, that drops down to give perfect verticals) to find out the exact position of your footings (which will vary according to the design of the deck).

Once you've found them, dig out 16x16 square holes with a post-digger or a rented power tool--the holes should reach down below the frost line, usually 36-48 inches is enough. Next, using cement you've mixed yourself, fill the holes.

Once the cement's reached the top, set a pier block (again, available at any home store) atop the hardening mixture, working it in and keeping the top level. As previously discussed, the pier blocks will serve as a base for your posts.

Now assemble your post-and-beam structure (the beam runs between the two posts--being bolted, or fastened with post caps, to their tops--and receives the other ends of the floor joists from the ledger). The posts should be cut to their proper height (it's often a good idea to extend posts up past the deck to use as railing supports). The post caps (and/or angle brackets and/or bolts) then attach your beam to your posts, and you're ready to raise the freestanding side of your deck.

Once you have your post/beam assembly ready, you'll want to get the posts up on their piers, raise and secure the assembly, and nail the outside joists to the beam. Now all that's left for the framing is the installation of your floor joists, which connect ledger to beam (and often overhang the latter).

First, you'll want to lay out your joists, marking carefully the points where your joist hangers will go on both beam and ledger (usually you'll want to space your joist ends about 16'' apart). Some people prefer to rest their joists on top of their beam, which allows for overhang, and secure them there, rather then butting them up. Either way works fine, as long as the fasteners and joints are secure and "bombproof." Once you're sure where everything's going, it's time to install the joists.

[Note: Make sure all your joists have the peak of their curve (all lumber curves slightly) pointing upward, so that gravity and the pitter-patter of little feet will bend them back into shape.]

Now, step back and admire your work! The hard part is finished. All that's left is to nail on the deck boards, construct a railing, and do some finishing work. Can you see it?

Next you'll begin nailing the deck boards into the joists, parallel to the house, using HDG nails and 2x4s. Because we're only building a ten-foot deck, we'll only need one length of floorboard. However, if you need to used multiple lengths, you must always remember to join their ends over joists.

[Tip: In the above case, stagger which joists the floorboards are joined over, so that your deck has a pleasing pattern rather than a factory-built look. You can extend floor boards out over the sides of the deck in any fashion at this stage, as you'll be able to cut them off later.]

In laying the floorboards, start from the house and work toward the posts, putting two nails into each point where a board runs over a joist. Try to keep your work symmetrical. Gaps of a quart-inch or so should be left in the boards to allow rainwater to drain through it.

If you've rested your joists on your beam instead of butting them, just before you've laid your last course of floorboards, measure and cut the ends of your joists off so that they are one and a half inches shorter than the overhanging last course of floor boards. Then lay the last course, and add a facing "band" joist, usually a somewhat decorative board that covers your joists ends. It should be flush with the floor boards. Perfect!

Now you can add your railing system, bolting the balusters (vertical pieces that support the railings) *securely* to the outside joist faces, then using 2x2, 2x4, or some other dimensional lumber as rails. If you've extended your posts, they make excellent corner supports. Railings can be attached to the house's siding by means of angle brackets or other hardware.

[Note: the railing system is the most important part of your deck. It should have gaps narrow and small enough to prevent any small children from taking a tumble, and should be built triple reinforced to accommodate any structural failures that may occur down the road.]

Now seal and stain the deck, according to the wood's needs, bolt or otherwise attach the posts to the piers with the anchors, and you're all set for fun in the sun. And you should be congratulating yourself; you've just completed your first major project. Here's to many, many more.

Quick Repair and Remodeling Projects

The following (relatively) quick sample projects can be done by any novice-level do-it-yourselfer with a few home-repair victories under her belt. The terminology may seem daunting at first, but once you have your hand on the parts and materials in question, things will become much clearer. (You'll gain confidence as you go, and end up wondering why you ever wasted money on "experts" for simple tasks--trust me.)

Replacing a tap washer

1. Turn off the water supply to the faucet. This is done by turning a small metal valve, generally located under the sink or near the base of a basin, clockwise. If you're unable to locate the shut-off, or if it's inaccessible (as might be the case with a bathtub), you can use the main water shut-off, discussed earlier in this book, which will be located in the basement or along the side of the house.

2. Once the water supply is cut off, open the tap to drain anything left in the pipes. If the water doesn't stop coming, it's a clue that you need to return to step 1 and figure out how to turn off the water.

3. After the pipes drain, unscrew the tap handle. Depending on the age and type of the assembly, this will either be a matter of removing the retaining screw (capstan-head) and cross head, then removing the shroud, or, in the case of most modern faucets, you'll simply pop off a plastic shroud (often the hot/cold indicator) in the center of the handle with a blade, revealing a screw that, once removed, will allow you to lift off the handle.

4. Once the handle is off, you'll need to remove the nut holding down the "jumper" or valve assembly. A wrench or spanner of the appropriate size is the correct tool for this job. Using a pair of pliers runs the risk of gouging or stripping the nut. When loosening

the nut, it is necessary and important to hold the faucet spout tight and immobile with one hand.

5. Remove the jumper. At the bottom end you'll see the washer, which will either be fastened with a nut or simply pushed onto a metal post. Either unscrew or pry off the old washer, and then replace it with a new one of the appropriate size. Cheap ones work, but the newer innovations in washers will be more durable. Take a good look in the hardware store. Some new faucets have ceramic washers, which are more durable, but more expensive and difficult to replace.

6. Make sure the washer "seat" (the metal piece inside the tap which fits flush against the washer) is not scarred or pitted. If it is, you'll need to buy a "reseating" tool that will smooth the piece. These are widely available and easy to use. Once the metal is smooth (or if the seat is undamaged), replace the jumper, nut, handle, screw, and shroud. Congratulations!

Hooking up a new washing machine

This project is very simple--as long as you're only replacing an old washer with a new one. If you're remodeling and need to change the location of pipes and/or electrical outlets, it's best to call in a professional. Infrastructure can be very tricky, and its not something you want to mess up!

The first thing you'll want to do is unplug the old washer and cut off its water supply. This is usually accomplished by means of valves just behind the machine, however, if you can't locate or access the correct ones, you may shut off the house water main.

Next you'll remove the hot and cold water hoses from their fittings. Do this either by hand or with a pair of water-pump pliers. Be gentle, so as not to damage the fittings.

Once the hoses are unhooked, all that's left is to disconnect the drain hose from the wall (this should come out even easier than the supply hoses), then cart away the old and bring in the new.

After you've put your new washer where you want it (while leaving enough room to make the necessary connections), you'll simply connect the hot and cold water hoses to their appropriate supplies. Gently. Don't use the old machine's hoses--rubber degrades. If for some reason your new washer didn't come with hoses, you can purchase new ones at any home store. Braided metal is the long-term winner.

Make sure to attach any included filters or fail-safe devices--these will prevent floods and clogged pipes. Then connect the drain hose to the washer and the appropriate pipe in your laundry room.

Now you can slide the machine into its final position and run it to check on your hose- and pipe-fitting skills. If there are no leaks or disasters, you may proceed. Otherwise, find the source of the problem and remedy it.

Now all that's standing between you and a clean shirt is getting the machine level. The handy torpedo level and the machine's adjustable feet will help in this task, and ensure that your machine doesn't bang or travel.

…And there you are. Easy, wasn't it? Right. So let's finish up with something a little more complicated.

Hooking up a new dishwasher

There are three major hook-up elements for a new dishwasher (if removing an old dishwasher, pay close attention to how these are hooked up before you unfasten them, and make sure the water and power supplies are cut off before you begin):

1. *The drain/discharge hose*, which comes with the machine and connects to the main drain under the sink.

2. *The hot water supply*, which will be either a flexible copper line or a braided metal one. This is not included, but you may purchase them at any hardware store, or, if your old line is in good condition, simply use the existing one.

3. *The electrical supply* will either have wires ready to be hooked directly to a circuit breaker, or a heavy-duty male plug.

The standard dishwasher opening is 24" wide and 35" tall. If working with new cabinets, you'll need to drill holes for all of the three elements above in the partition between the dishwasher opening and the compartment under the sink. If you're only replacing the dishwasher, you'll very likely have all the holes you need already there.

Turn off all water and electrical supply to the area in which you'll be working (using the methods discussed earlier). Test thoroughly to make sure nothing is "on."

The first thing you'll need to attach is the 3/8 inch "dishwasher elbow" that will connect the hot-water line to the dishwasher's plastic intake valve. It is crucial that the open end of this elbow faces backward, and that it is attached as tightly as possible. The elbow should be secured with pipe-thread compound and pipe tape.

[Note: Though this differs from manufacturer to manufacturer, very often the discharge hose is the only piece of hardware supplied with the dishwasher. Luckily, the rest are all available--and plainly marked--at your local home or hardware store.]

The connection between the supply hose and the elbow will be a compression fitting, which requires a lighter touch than the normal pipe fittings (like the elbow-valve one we just made). Too much force can cause a compression fitting to fail permanently. In this case, it's best to tight it firmly, then turn on the water, check for leaks, and tighten bit-by-bit, gently, until the leaks disappear.

Once the hot-water supply line and discharge hose are connected to the machine, they can be run through the holes into the under-sink cabinet. The dishwasher will need to be eased into place at this point. The discharge connection to the drain should be fit and secured with a clamp. The hot-water supply should be connected to the appropriate valve and fitted securely. If you're using your old hook-up, this will already be done--if not, you'll need to careful tighten another compression fit.

It's important to keep your lines from becoming kinked or tangled.

The electrical connection will usually be located in a metal box hidden behind the access panel located at the bottom of the dishwasher. If there's an included plug, the operation is simple: locate the nearest outlet (usually under the sink) and plug the machine in. The cord will be run through one of the holes drilled in the cabinet. Wiring, however, is usually required, as machines wired directly to the power source are considered slightly safer than those running off of a plug.

If there is no plug, there are two options for installation:

A) A heavy-duty male plug may be attached to a cable or cord, which is then wired in turn to the connection box in the dishwasher. Its other end is plugged into an outlet.

B) The connection box can be wired to the circuit box directly, via a cable or cord.

Wiring should only be done by those with electrical experience. The litmus test is this: if you need directions on wiring up your washer, you probably shouldn't be doing it. (It's a very straightforward connection.)

Once the power is on, the dishwasher can be moved into its slot. It should be run once or twice to ensure that all connections are right and proper, and then it's feet and face plates may be adjusted to fit plumb and snug (use a torpedo level to ensure that the machine is sitting right). The top of the dishwasher should then be screwed into the bottom of the countertop above it (if possible), using the included plates and hardware.

Finally, under the sink, the discharge hose should he looped up to the upper side of the cabinet and secured there with a clamp or other fastener, in order to keep discharge from the sink running back into the machine.

…And that's it--you've hereby graduated to intermediate do-it-yourselfer. Nicely done!

Remodeling

The following overviews provide a basic look at the necessary steps involved in remodeling a kitchen or bathroom, the two most commonly reworked rooms in the house. Though the wiring, plumbing, and heating elements of these jobs can be complex, and are best left to a professional, a dedicated do-it-yourselfer can reduce costs immensely by handling the dozens of other tasks that constitute the bulk of remodeling jobs. Remember, this is just an overview to consider before you decide whether your skills (and patience) are up to the job! If you go ahead you may need to research the Internet and seek advice from competent sales staff to really get the practical help and special tips you may need for the job.

Kitchen

When remodeling a kitchen, as with all major do-it-yourself tasks, the first step is a great deal of planning. Your new cabinets, sink, oven, countertop, etc. will all need to be thought out. A layout that allows the cooks in your family to work together efficiently must be planned. If your kitchen will be inoperable for more than a few days, an auxiliary place for basic food and drink preparation must be found. Some people merely hold their nose and buy fast-food or packaged food for the duration, but it doesn't have to be that extreme as long as you can set up a makeshift kitchen with hotplate and running water elsewhere. Plastic utensils and cups with paper plate mitigate the loss of your sink and dishwasher.

After you've done your planning and are ready to begin, the first thing to do is remove the old appliances. Gas, electric, and water should be shut off to the kitchen before you begin the demolition phase. In removing dishwashers, you may have to disconnect wiring--make sure, if this is the case, that the circuit is dead. To pull out your stove and dishwasher, you'll need a screwdriver, hammer, and probably a pry bar.

Once the appliances are out the way, you can begin getting rid of the sink and some of its attendant plumbing. You'll want to reuse as many old pipes and hoses as you can; this will save time and money when you install your new appliances and fixtures. Check out the manual for your new appliances and fixtures, or talk to a knowledgeable salesperson, ahead of time, so that you know exactly what kind of hook-ups your new kitchen will need.

After you've unscrewed and pried out the sink, the next job is to remove the old counter tops. This usually involves removing screws drilled up through the tops of the cabinets beneath the countertop. It often necessitates a pry bar at its final stage.

Once the countertops are off, it's time to begin disassembling the cabinets. All the various components should be removed, layer by layer, starting with the floor cabinets. Drawers, doors, etc. should be taken out first, before the framing is pulled away from the wall. Depending on the type of your cabinets, you may need to do a little wall demolition to get them out. This is typical in older homes, where cabinets have been built into the wall. In newer homes the job is often much easier.

Remove and save any old hardware you think someone (possibly yourself) may have a use for down the road.

Now that your kitchen has been gutted, you'll want to patch walls, and tend to the infrastructure (electrical, plumbing and heating) and the structural elements of your kitchen, doing whatever needs to be done *before* the new materials are installed.

Any new floor coverings should be installed now, as well. The most popular floor in use today is the vinyl type, with tile used often for aesthetic purposes, and hardwood popping up in many new homes.

Once you've painted and done the floors, you can begin installing your cabinets, working from the top down. Once the cabinets are in, it's time to fit in your new sink (if it's recessed). Then comes the countertop, usually solid surface (such as marble or granite), laminate, or tile.

If you're dealing with a solid surface countertop, there isn't much do-it-yourselfing to be done. You'll have to deal with a team that will take measurements for your openings, delivering and installing the solid surface a few days or weeks later. They'll usually want your new cabinets done and put in before they take measurements for the solid surface. This can cause a delay for which you may have to plan.

The next step involves the setting in and hooking up of your surface sink (if you haven't already put in a recessed one).

The appliances follow (dishwasher, refrigerator, garbage disposal, oven) and then all that's left to do is the lighting and other fixtures. After that, the fine work is done on the kitchen, such as touch ups and finishing, and then the utilities may be turned back on.

Welcome to your new kitchen!

Bathrooms

As with kitchens, bathrooms require a lot of forethought when a full remodel is desired. A bathroom can be even more daunting because of the limited space and necessities one is often forced to work with.

Several things should be kept in mind during the planning stage:

One, you will save money and feel good about it over time if you implement as many energy-saving elements as possible into your new home; the bathroom is one of the most energy intensive rooms in the whole house, and just a few simple changes, like new faucets or low-flow toilets, can save you money and reduce environmental impact over the long run.

Two, any existing materials/fixtures that can be saved and used, should be--this will reduce costs a great deal.

Three, all work needs to be done according to local building codes, which have strict requirements for bathrooms. Make sure you have the necessary inspections done at the necessary times, or you may find yourself having to open up a wall or rip out work already done in order to satisfy an inspector's official curiosity.

Once you're ready to begin, the first thing you'll want to do is to take out the toilet. Make sure, when you do this, that the water is off. You'll probably have to pry up the bottom from its seal.

Then you can move on to the sink, unfitting all the pipes and removing the bowl completely. To get the sink out, you'll often need to pry it away from its caulking with a pry bar. Note: all pipes left without fixtures (such as the one leading to the toilet we just removed) should be covered with tin foil or otherwise blocked to prevent methane and other gases from seeping up into the house.

Remove the cabinetry and countertop piece by piece, unscrewing where necessary and demolishing in places where the bond is stronger than the material. A pry bar, hammer, and screwdriver will be your essential tools.

Removing the tub is often the largest part of the job, and often involves the demolition of one or more masonry walls to get at the pipes behind them. A sledgehammer will be essential to this process, and may also be needed to destroy the bathtub itself. Newer bathtubs, however, are quite often much easier to pull out than the tank-like older models.

Once you've taken apart the necessary walls, you may begin performing any alterations on the plumbing and the wiring that your bathroom design dictates. Of course, at this point the pertinent circuits and plumbing should be shut off, so that there's no danger of a live current or water interrupting your work.

Now comes the framing, in which you'll construct the walls, partitions, window openings, etc. for your new bathroom. You'll need to install vapor barriers (special sheets of plastic) inside the walls, over the insulation, to keep the bathroom's moisture from penetrating into the wall space and going to work on the elements housed therein.

Bathroom remodeling jobs often increase bathroom space by borrowing floor space from other rooms, or closets. If you're planning to tear down inner walls, you'll need to check with local building authorities to make sure you're not removing load-bearing elements--or if you are, you'll need to brace them with a temporary wall make of 2x4 studs stood upright and wedged between horizontal boards.

Installing skylights, or the housing for whirpool baths, are common steps at this stage.

Once the framing is done, it's time to get the circulatory infrastructure taken care of. More often than not, this will require professional intervention. With inspections, permits, and building codes, it's very hard for a novice do-it-yourselfer to take care of the heating, wiring, and plumbing on your own. The correct configuration of pipes, wires, etc. can often be done in less than a day by a competent professional.

Once the mechanicals have been taken care of, the walls are laid in. The materials most often used are concrete backerboard (a concrete/fiberglass composite), greenwall (a water-resistant drywall), or plain drywall. Ceramic tile will later be laid over these surfaces (even if you are putting ceramic tiles over the drywall consider using greenwall in case the grout cracks and leaks in years to come).

After the walls have been set in, it's time to install the cabinets and vanity, and any other storage spaces. Once this is done, the backsplash and countertops may be set in.

What come next is the wall tiling and the laying of the floor (usually ceramic or vinyl). Fixtures must be purchased and installed at this point. After your shower, sink, and toilet are in place, all that's left is the trim and fine finish work.

Enjoy your new bathroom! (One would hope that, after all this work, it's more like your own little retreat/hideaway/spa.)

You now have the knowledge to get started on the road to becoming a successful "handyman"! Remember, have fun and be safe!