

The Home HANDYMAN

January/February 2021 • Vol 31 No 1



SA'S
ORIGINAL
DIY
MAGAZINE

Update your kitchen

- Makeover tips from the experts
- Budget-friendly shelving options
- Build a kitchen cart



MAKE A STANDING
MIRROR



METALWORKING
OTTOMAN

+plus

- Improve your home office
- Build a kid's step stool
- Your adhesives FAQs answered
- Make an outdoor wooden wheelbarrow
- What to do in common household emergencies



Featuring seven step-by-step projects for the handyman



ARTI-GRASS
EVER GREEN

ARTIFICIAL GRASS



Artificial grass is a top contender for home improvements due to its low maintenance and high-quality finishes, making it the best choice product when considering how to improve your home. Whether for home or commercial applications, artificial grass can suit your requirements and budget.

WHAT ARE THE BENEFITS OF ARTIFICIAL GRASS?

- It saves water
- It's easy to maintain
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- Durable – lasts up to 20 years
- Long term investment



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25mm Cruz



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**40mm Soccer
Duo Rye**



13mm Multisport



30mm Autumn



30mm Spring



35mm Supreme

FROM THE WORKBENCH

Adaptability is key

Last year, many companies, organisations and individuals found themselves, to coin a popular phrase, caught 'between a rock and a hard place.' People have had to make difficult decisions due to the worldwide pandemic which threw many people's lives into a tailspin. They would have felt trapped, without any other way out.



Ask Aron Ralston about that. In 2003, the American outdoorsman became trapped in a canyon in Utah when he dislodged a 360kg boulder which ended up pinning his right wrist to the side of the canyon wall. He was literally 'caught between a rock and a hard place.' With nobody knowing where he was going that day, no cell phone to call for help and minimal supplies (two burritos and a bottle of water), he was well and truly trapped. His weekend adventure exploring the canyons had turned, in a split second, into a life or death situation.

How did he survive? First of all, he worked with what he had – his own urine to keep him hydrated and a multi-tool with a blunt knife which he used to amputate his own arm. Gruesome, yes. Necessary, absolutely. Without making tough decisions, he would have died. After 127 hours of being trapped, he freed his arm from underneath the rock, rappelled, one-armed, down a 20m sheer wall and hiked 9.7km in extreme heat and losing a lot of blood until he came across a group of other hikers who were able to get him help.

This teaches us that we need to adapt to tough circumstances and are often forced to work with what we have. Are you ready to make those choices? Often, there is a way out, you just may not have seen it yet.

Since his recovery, Ralston has continued to climb mountains, and wrote an acclaimed book titled *Between a Rock and a Hard Place*. He is a sought-after motivational speaker, and his harrowing tale was turned into a successful film starring James Franco, called *127 Hours*.

After three days of trying to lift and break the boulder which had pinned his arm, using a mixture of carabiners, slings and climbing rope, Ralston knew that a new approach was needed. Chopping away at the large rock with a small knife was getting him nowhere and drastic action was called for.

After he was freed, and gave directions to where his traumatic experience had taken place, it took 13 men, a winch and a hydraulic jack to move the boulder. Sometimes things are impossible to achieve by yourself – knowing when extra help is needed, be it financially, in your relationships, or with your DIY project – can save you a load of stress.

Gregg



The Home HANDYMAN

www.homehandyman.co.za

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OFF THE SHELF

Your guide to the latest products in the world of DIY

The world's leading wood conditioner

Give all your wood furniture a new look and life with this guaranteed and specially designed product

Howard SunShield has the magic touch and prevents further drying and fading of wood, both in and outdoors, enhancing the natural beauty and depth of the grain as it protects your wood furniture. The unique formula combines UV inhibitors along with a blend of carnauba wax, beeswax, and pleasant-smelling orange oil. The product can be used for replenishing finished or unfinished dry wood surfaces on chairs, tables, benches, chests, lounge chairs etc. This distinctly blended product effectively penetrates and replenishes natural oils in the wood.

Some indoor antiques or wood furniture exposed to sunlight through a glass window, both directly and indirectly, can quickly lose colour, fade, and lighten. SunShield, with UV inhibitor, greatly reduces and stops this colour fade and sun damage when used regularly. Outdoors SunShield is designed to condition and keep teak and all other tropical hardwood furniture from drying and fading due to exposure to the sun.

The product is easy to apply. Due to its gel-like consistency, it polishes all wooden furniture to a soft lustre and protects it with a coating of natural waxes and the UV inhibitor. It does not contain silicone or linseed oil. Today it is the leading international brand for all wood care, restoring, maintaining, and cleaning.

For more information, call 011-314-7711 or visit www.vermontsales.co.za



Fill expansion joints in flooring – concrete or tiles

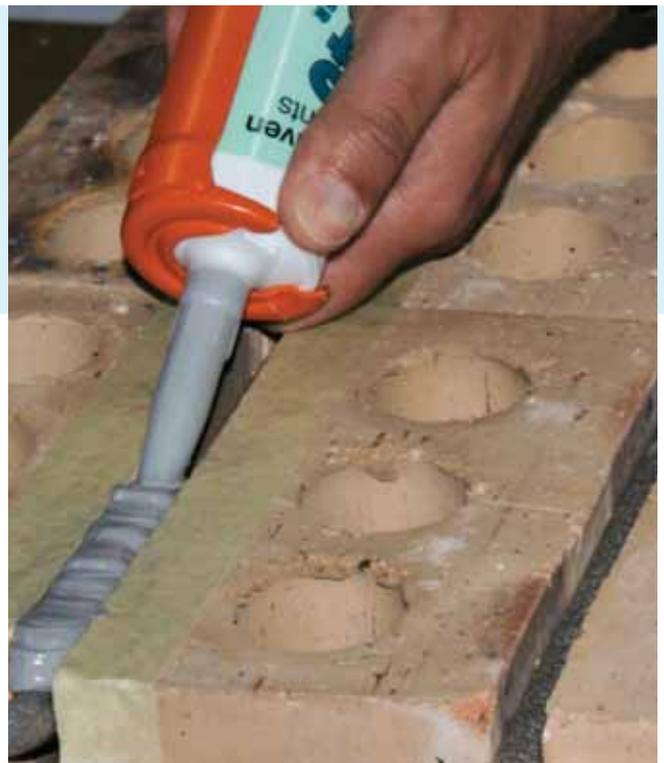
Den Braven Hybriflex-540 is particularly hard wearing and ideal in helping prevent concrete and tiled edges from cracking and filling up with debris

A joint with the correct dimensions and suitable seal is able to absorb movements between building materials, extending the longevity of a flooring project.

This sealant is elastic, has a very high resistance to UV degradation and weathering as well as excellent adhesion to a wide range of substrates with minimum surface preparation. It also has a high tear resistance, and impervious to oil, grease and water.

Den Braven Polyethylene (foam) backing cord can be used with this sealant in joints, as a bond breaker. Den Braven Hybriflex-540 is available in white, beige, grey and black and can be painted over.

For more information, call 011-792-3830 or visit www.denbraven.com



How to keep your home secure without sacrificing style

Safety is a number one priority for South Africans, particularly when it comes to feeling secure in their own homes

In order to feel safe, many South Africans invest in bars and security gates so that their homes are not easily accessible to burglars. However, there is another alternative to unsightly bars and gates that you may not have considered; an alternative that is glamorous, stylish and versatile – Aluminium Shutters.



Although most people may associate shutters with being made from wood, or wood-like materials, shutters made from aluminium are another exciting option to be added to the shutter category, with security being a distinct benefit of these types of shutters. Aluminium is a sturdy material – so sturdy, in fact, that some shutters are even guaranteed for up to 10 years. It is also weather resistant, meaning it is not vulnerable to the unrelenting sun, wind, humidity, or rain.

Another great advantage to aluminium shutters is their versatility. They can give you complete privacy, and make you feel safe and cosy when completely closed, but they can also reveal your home and garden's complete beauty when fully opened and stacked. If you need something in between, they can be partially closed and the slats louvered to allow varying degrees of light and external views. You can also choose whether you want your shutters placed inside your home or outside.

You might also be surprised to hear that aluminium shutters are not just for your living room or lounge. They are suitable for all kinds of openings, from small bathroom windows to front doors to expansive dining room sliding doors.

Best of all though, these shutters are not only secure, durable and versatile, they are also elegant and decorative. Shutters give a sense of sophisticated style and undoubtedly add real value to your property.

For more information, visit www.decorland.co.za

Elegant table lamp

Euro Nouveau is a bespoke showroom concept showcasing the designs of some of the foremost European lighting manufacturers

Euro Nouveau presents the work of 12 to 14 hand-selected lighting designers, ranging from classics by Fontana Arte to the quirky pieces of modern Italian brand Slamp. The showroom's custom design creates a stage for each brand's work, showing off its unique functionality and style, while seamlessly complementing the other pieces in the space.

Ashanghai by FontanaArte is an extremely elegant table lamp which was designed by Max Ingrand in 1955, during the period when this French maestro was artistic director at FontanaArte. Joints in chromed brass hold together five tubes in clear borosilicate glass that form a series of intersections supporting the lamp. The top diffuser is in white acid-etched cased blown glass.



For more information, visit www.euronouveau.co.za

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VOICE YOUR VIEWS

Do you have any thoughts or comments on DIY issues?



Share your opinion

The Home HANDYMAN

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Send us your views, ideas and opinions and you could win a Makita MT M8100B Impact Drill courtesy of Makita.



Send your queries to:
editorial@homehandyman.co.za or
P.O. Box 24938, Gezina, 0031

Please include your name, physical address and contact number (office hours)



Janine Restepo

wins a 115mm Makita MT M9507B Angle Grinder courtesy of Makita.

Prizes are not exchangeable

How I became a woodworker

I am 71 and started making rudimentary wooden things in my youth. Throughout my adult years, woodwork became an enjoyable hobby I learned from books, family and friends. But my true thorough career in woodworking started in April 1999 when I was hired to be the relief man two days a week demonstrating woodturning on an antique spring pole lathe at an old age home.

Since then, I have demonstrated that foot lathe full-time, added a midi lathe beside it to show modern methods compared to old methods of turning,

and made and sold 7,800 spinning tops.

What more could a person ask for than to learn new skills and knowledge that involves the world of wood and make full use of the resources? That is the short story of how I have become a woodworker.

Sherman Anderson, by email



Look after your eyes in lockdown

I recently saw following tips on how you can look after your eyes whilst in lockdown and thought I would share them with readers of *The Home Handyman*.

Screen time: There is no evidence to suggest that blue lights from screens are harmful. However, it is important that adults who are working from home take frequent breaks from screens and follow the 20,20,20 rule; take a break for at least 20 seconds, every 20 minutes, and look 20 feet away.

With children using online resources to complete their schoolwork, it is important to monitor the amount of screen time they have.

Gardening and DIY: It is crucial to always wear safety goggles when doing DIY, particularly when sawing, drilling, sanding or hammering. Ensure that appropriate grade eye protection

is worn when using chemicals in case of splashes.

General eye health: Eating a healthy and balanced diet with plenty of fresh fruit and vegetables and staying active whilst in lockdown are vital in maintaining eye health.

Hygiene and coronavirus: Avoid touching or rubbing your eyes and always wash your hands for at least 20 seconds before inserting or removing contact lenses or using eye drops. I hope this helps!

Terry Lambert, Weltevreden Park





DIY spray painted wine bottles

My boyfriend has recently developed an enthusiasm for wine, and I collected the empty bottles out of the foresight that I'd need to add some DIY vases to my vase-ridden apartment. Though I can never have too many vases, my boyfriend seems to think I've surpassed that limit a long time ago, so this was my attempt at compromise. As long as he's emptying wine bottles (don't worry, I help him out), I might as well decorate and use them as vases, right?

This is a super simple DIY project and you only need a few things. The materials include wine bottles, painters' tape, rubber bands (optional), and my holy grail DIY weapon: metallic finish spray paint.

I wanted to have at least one bottle painted entirely gold in order to see the colour in full force, but for the other two bottles I taped them up in two different stripe patterns. For one of them I used only painters' tape to create thick stripes, but on the other I used four rubber bands to create thinner spacing between smaller stripes.

The next step is to spray paint the bottles, but let's refresh some basics since I feel like I should have done this before I started (aka I messed up).

1. Really make sure there are no bubbles in the tape edges near the portions of the bottle that you are painting. Use a credit card to scrape over the tape edges so that the seal is tight and no spray paint can leak through
2. Shake the can a lot before spraying. Do not underestimate this step. I used to ignore the instructions on the back of spray paint cans that say to shake for two minutes thinking it doesn't make a difference, but it does in terms of how evenly the colour comes out. Do it.

3. Test the paint after shaking it by spraying it onto any scrap material you have. If the paint doesn't come out even in colour, resume shaking. Repeat until the colour comes out evenly.
4. Use light, multiple coats instead of trying to spray one heavy coat. This will give you much more even coverage and prevent the paint from dripping.
5. Start spraying off of the surface and then sweep it across. If you start the spraying on the surface of your material, you are more likely to create uneven texture and will be able to see where your stroke started. The goal is to get a clean, air-brushed look.

And there you have it! The paint is dry to the touch after an hour but should be left to dry fully for 24 hours. If the spray paint leaked through the tape in some parts, you can just scrape off the imperfections with your fingernail, like I did. That also brings up a point that these painted bottles are not ideal for heavy handling and are best for purely decorative use. Hope you like the idea?

Janine Restepo, by email



Reader's projects



The Home HANDYMAN

www.homehandyman.co.za

Willing to share your latest project with our readers? Send a step-by-step write up of how to make the project, along with step-by-step photographs (at least 300kb) and a picture of the finished product.

Email projects and photographs to:

editorial@homehandyman.co.za



Our competitions – the fine print

Prizes may not be exchanged for cash. The closing date is stipulated by the competition box. If not stipulated, it closes on the last day of the issue. For example: Jan/Feb edition. All competitions close on the last day of February. To enter simply e-mail your answer to: editorial@homehandyman.co.za and include your name, surname, address and a day time contact telephone number with your entry. Unless otherwise stipulated, competitions are lucky draws and the correct entry drawn on the closing date will be the winner. The prize may differ from the picture shown. By entering this competition you agree to all rules and accept that the decision of the publisher is final and that no correspondence thereto will be entertained. This competition is open to all readers of *The Home Handyman* except employees of THH, BB Print and employees who work for the company that sponsors the prizes and their immediate families. Prizes not claimed within 60 days will be forfeited.

Hardware retailer notes surge in sales of building supplies during lockdown

The different levels of lockdown restrictions has, unsurprisingly, been accompanied by different responses and trends. Now, as various business sectors adjust to a new consumer climate, and restaurants work towards safely reopening, an unsurprising new consumer trend has emerged: home building, renovations and improvements.

Since the start of lockdown, social media platforms have been inundated with posts on trending hobbies, from baking bread and brewing beer, to making TikToks and, showing off DIY projects.

So a spike in hardware sales is not unexpected – but the unprecedented demand is fast exceeding supply, according to hardware retail chain Laduma Hardware. With safety regulations and protocols in place, Laduma reopened stores countrywide on 1 May in line with regulations – and says it immediately experienced frenzied buying at all 15 branches.

“May proved to be a bounce-back month for the hardware industry as customers are investing in either building their homes from scratch, or renovating them,” notes Laduma’s chief operations officer, Vibin Nair. This, he says, is borne out by a surge in demand for buildware supplies.

“Since reopening our stores, we have seen a noticeable uptake in the demand for bricks, cement, tiles and tile adhesives, roofing materials including Harvey tiles, concrete tiles and corrugated iron, brick force and electrical wiring materials. From this, it is clear that people are following the old adage: ‘If you can’t move, improve’. People are not only undertaking seasonal home maintenance tasks and minor improvements to make their homes more comfortable, they are also tackling bigger, fresh build projects.”

Laduma services rural and peri-urban communities – most making up a large proportion of what global insights and data company Kantar describes as Mzansi’s ‘Nillionaires’ (those with little or no income) in its recent 3rd Wave study: (Brand) Love in the Time of Covid. Yet research shows that home renovations and improvements during COVID-19 follows global trends.

At the start of lockdown in March, Kantar predicted that about 40% of people who had put off doing home renovations would do so during lockdown – and statistics from UK marketing consultancy Rare Consulting show that in the week of May 4 to 11, 74% of the population took part in some sort of home management and DIY activity.

Google Search Trends data reveals a drastic spike in the search for DIY information during lockdown, with a massive average 1,241% increase in garden DIY phrases being searched for on Google. And requests for advice on best tools for the job have become regular features on Facebook and Twitter.

Yet most build and hardware suppliers are not operating at full capacity, and therefore are unable to satisfy the demand, adds Nair. “For example, we’ve had an unprecedented demand for cement, which has led to customers queuing as early as five in the morning to ensure they are able to get cement as the load is delivered.”

For this reason, Laduma has intensified its focus to not only protecting staff and customers during the pandemic, but also on ensuring their stores are fully stocked to meet customer demand.



Cashbuild acquire The Building Company

Cashbuild has announced that it has entered into a definitive sale and purchase agreement to acquire 100% of the issued share capital of The Building Company Proprietary Limited (TBC).

TBC is a leading Southern African building materials retail and wholesale business, providing a full spectrum of services through its portfolio of 13 well-known brands across its three divisions. TBC has an established presence across the coastal

regions of South Africa, comprising 160 TBC outlets and 21 franchise stores

Cashbuild’s management identified geographic expansion and incremental access to additional segments of the market as key areas for potential growth. An acquisition of TBC allows Cashbuild an opportunity to drive these growth initiatives while still maintaining its commitment to its customers in the South African and neighbouring markets.

Make light of load shedding with these bright ideas

Like a seriously unwelcome but all-too-familiar guest, load shedding has returned. To help South Africans get through the powerless days and dark nights, Brights Hardware has prepared a list of eight must-have items that will keep your home (and office spaces) functional during a power outage.



Battery powered LED lighting

"Battery powered LED lighting is essential during power outages," says Luis. "There is a wide range of rechargeable LED light strips, lanterns, and torches available that make keeping the lights on during load-shedding easy. You can even get a rechargeable LED desk lamp so that the kids can continue doing their homework during evening power cuts."

Another great item to have in the home are intelligent LED light bulbs. These bulbs come in either a screw or bayonet configuration and can be used like a standard light bulb in any light fixture but they stay on during load-shedding as they hold charge for up to four hours.

Solar lighting

In addition to rechargeable and battery operated solutions, there is a wide range of solar powered lighting on the market today. These range from spot lights/security lights to solar lanterns, garden lighting and even pool lights.

"Solar powered lighting is a great solution in a sun-rich country such as ours," advises Luis. "There is no cost to recharge them, and many are practically 'set and forget' and will come on automatically after sun down."

Gas stove/cooker

Boiling water and getting meals prepared during power outages is impossible without a gas stove or cooker. Thankfully there are many different options available to consumers today – whether it is a large six plate gas hob and oven or just a simple, portable table-top one or two-plate gas cooker – and many more options in between.

"Many people are choosing to change their ovens over from electrical to gas. Not only does this mean you can carry on your dinner preparations during a power outage, but your electricity bill will also be reduced through the introduction of gas appliances," says Luis.

Portable power bank

We all want to stay connected, especially in the dark. No electricity coupled with no means of communication is not a great combination.

"Portable power banks are a fantastic solution to ensure that you don't run out of cell phone battery life," advises Luis. "These compact gadgets can also charge other devices such as tablets, portable modems and speakers."

A surge protector

It is a good idea to purchase a surge protector for your home or office. Orlando Luis, CEO of Brights explains that a surge protector is an electrical device that is used to protect equipment against power surges and voltage spikes that can be caused by power cuts.

"Surge protection can range from plug and play devices to systems installed at the distribution board by a registered electrician."

Luis goes on to caution that some household insurance policies stipulate that they will not cover damage caused through power surges if the proper surge protection is not in place – "it is worth checking with your insurance provider."

UK homeowners to see savings available under new Green Homes Grant scheme



From late September, homeowners and landlords in England will be able to get up to R100 000 worth of vouchers (R200 000 for low-income households) to make energy-saving improvements so that their homes are more energy-efficient and cheaper to run.

The Green Home Grants scheme will allow consumers to obtain funding for up to two-thirds of the cost of the energy saving measures identified. The scheme will cover green home improvements including insulation of walls, floors and roofs, the installation of double or triple glazing when replacing single glazing, and low-carbon heating.

Through the Green Home Grants scheme the UK Government plan to make over 600 000 homes across the country more energy efficient and support over 100 000 jobs in green construction.

Builders set to expand into Kenya

Builders is set to expand into East Africa with its first store in the region's largest commercial hub, Nairobi, Kenya. The store, covering almost 10 000m² of trading and dispatch space and garden centre, will bring a wide range of high-quality DIY, home improvement and building materials products and services to the area.

Kenya will join Botswana, Mozambique and Zambia as regions outside the retailer's stronghold of South Africa for continued growth.

Interior design creative and human behavioural specialist, Kim Williams, shares some crucial tips and secrets to get you that perfect kitchen redo you are dreaming about.

TIPS FOR A REWARDING KITCHEN REDO



The Covid-19 shutdown was unfamiliar territory for many of us who are not used to spending so much time at home with our families, not to mention working from home and eating out less. When working on any home redo project, Kim Williams believes it is crucial to have a very good understanding of what you need in the kitchen space you have that requires a redo, and that you know what you like and what your style and tastes are. Most importantly, all this should be clear ahead of time before you contract an expert or purchase anything.

Your main objective should be to focus around the functionality of your kitchen. Assess the space available, and

then combine the design and plan for your kitchen redo on how you want your dream kitchen to feel once it is completed.

It is crucial that what you yourself like and feel is on trend, can last for a period of time, and it should therefore fit in well with what your particular tastes are. Plumbing, tiling and lighting should be considered as longer-term investments and commitments for your kitchen, as they are often far most costly, where paints and wallpapers can easily be updated at a reasonable and affordable cost.

Remember the design should always be about who is going to live there and who uses the space, and for what purpose.

One last kitchen improvement idea we are going to discuss in this article is to add more light. There are a few ways you can do this, but the best – and most dramatic way – is to actually add skylights to your kitchen. Install skylight windows on the roof of your kitchen and you can get more light in during the day. This alone will transform the kitchen entirely.

You can also add mood lighting and light tubes to the kitchen. You don't want the kitchen to be too bright when you use artificial light, but adding different hues and installing a couple of lights can really brighten the mood in the kitchen. Besides, you'll enjoy cooking in a well-lit kitchen so much more.

In order to get the ball rolling, herewith Kim's kitchen redo tips and checklist – also useful for designing any other areas in your home:

Tip 1

Ask yourself who will be using this area the most and what their most important needs are in terms of functionality.

Tip 2

Understand the particular tastes of the person who will be using the space that need these changes to be implemented.

Tip 3

How does this area fit in with the rest of your home? Keep in mind there should be flow between the kitchen and the rest of the home. It is not advisable to be so different that it completely stands out in comparison to the look and feel of the rest of the home, unless this is your starting point and you are planning a redo of the entire house.

Tip 4

Carefully take the time and plan what elements can be brought in that can easily be changed again afterwards – if you would like to update it a bit in the future – for example, changing or painting over wallpaper, placing other objects on shelves, etc. You would be surprised by what a difference these small things can make and they can completely change the look and atmosphere of a particular space.

Tip 5

Remember to have fun creating new spaces; where else in life do you get the opportunity to redo things as many times as you want in the convenience of your own home?



KITCHEN SHELVING IDEAS THAT WON'T BREAK THE BANK

Exposing your clutter, old dishes and even a mixture of both can be quite intimidating. The chaos is there, but many of us prefer to have it behind doors where no one can see it. Keeping that in mind is why most of us prefer having cabinets

and hiding it all away. Do not fret, but it's time to make a change and officially embrace shelving. While they might seem like an expensive option they aren't. Here are kitchen shelving ideas that won't break the bank.

Minimal display

If we are talking about minimal décor then we mean just that. It's time to embrace the space and declutter, but in a baby step type of way. This can be done by displaying only your favourite dishes on simple shelves and putting the rest of your dishes away in cabinets. You don't need to remove all of your cabinetry and replace it with shelving you simply need to work shelving in anywhere you can.



Wood shelves

Rustic, farmhouse décor has become quite popular. So much so that many prefer it against any other decorating style. Keeping that in mind, when you want to have open shelves, consider adding in wood ones. Simple wood shelves can make a huge difference in a room. Whether it be a rustic kitchen or simply a space that needs to feel warmer. A few wood shelves displayed can make a world of a difference.



One section of the wall

While exposing all of your clutter can feel like too much, having just one section be open could be exactly what you need. The key is using a corner on your wall and embracing everything you want to display. Showcase your favourite cup, dish, or bowl and allow it to become the main focus of the room. Even if you only have 2-3 shelves, they can make a huge impact right where you need it.



Taupe

Though most of us will prefer to have traditional shelves or ones that are wood, painting your shelves taupe could work just as well. Taupe is the perfect in-between shade. It's neutral works great and feels even better while still making sense in the room. Regardless of the colour palette, you are working with a few taupe shelves can brighten up the room.



Mix & match

Obviously, you will need shelving for your plates and cups, but why not bring fun and functional to one single space by mixing and matching the décor you decide to showcase. Add in a set of cookbooks or magazines right next to your cups for the perfect pairing that makes sense to the room. You might even want to showcase your favourite artwork on the shelf as well.



Remove your doors

Say you want to keep your cabinets yet want to have shelves as well. Even though this might seem impossible its quite easy. Remove the doors from your cabinets, paint the backdrop and watch your kitchen take on a new life. Just like magic your shelves will completely transform proving something new and fresh to the room.



Industrial maybe

If you have been wanting to add something modern, and refreshing to your kitchen, an industrial twist is a way to go. Industrial décor is not only modern but it's quite the enchanting piece of art to have. Add in industrial touches to your shelves to bring them back to life without having to spend much money at all. If you already have open shelves pair some of them with industrial pipelines for that chic new twist.



Metallic please

Another excellent option is having a metal frame as the outside of your shelves. Not all shelving needs to be the same or appear alike. Sometimes a kitchen needs something fresh and new and that is where a metal-framed shelf will come into play. Add minimal cabinets inside to truly make a difference while allowing your metal pieces to make the big statement they intended to do.





Made from durable, lightweight wood, this rolling cart adds valuable extra prep space to the kitchen. Follow these steps to build your own kitchen cart.

HOW TO BUILD A KITCHEN CART

Tools and materials

- Sandpaper
- Casters
- Nail gun
- Miter saw
- Pin nailer
- Drill
- Plywood top
- Cutting surface (granite works well)
- Screws
- Wooden dowels
- Nails
- Wood glue
- Silicone
- 2 x posts for leg supports
- 4 x posts for the legs
- Suitable wood for bottom slats

To begin, first take the four posts and use a miter saw to cut them into four 70-75cm pieces. These will be the four legs of the cart. Grab the piece of plywood to act as the top of your cart and position the legs 3-4cm in from each side. Trace the legs onto the plywood, so you know where to position them later.

Measure and cut the supports to go between all four legs. These will be installed later.

Using the piece of wood for the slats, rip and cut the board down, mitering the edges so that four pieces wrap the base of your legs, adding bulk so the

cart won't tip over. Affix with glue and nails. Screw the supports into the legs, countersinking the screws into each leg. Make sure to stagger the supports, so that the screws for each support don't hit one another.

Attach the legs to the plywood top with screws. Next attach four castors using 12-gauge screws, one to the bottom of each leg. Using two locking and two non-locking castors will keep your cart stationary while cutting.

Cut another piece of wood to use as a centre support. This will line up with the two higher side supports and rest on the two lower side supports. Secure it to

the lower side supports with glue and screws.

Rip additional pieces in half to use as slats for a shelf. How many you'll make will depend on the size of your cart. Glue and nail these slats to your centre and side supports. Glue the surface of your cart perfectly in the centre of the plywood. This cart was made using a

recycled piece of an old countertop, but you can also use butcher block, granite or even an old cutting board.

Again, take your wood and miter the edges so they wrap perfectly around your cart surface, effectively "picture framing" it. Glue, nail and screw these posts onto the plywood, helping to lock the cart surface into place.

Fill in all nail and screw holes (the larger, countersunk holes with dowels), sand all wood surfaces, and rub the cart down with tung oil.

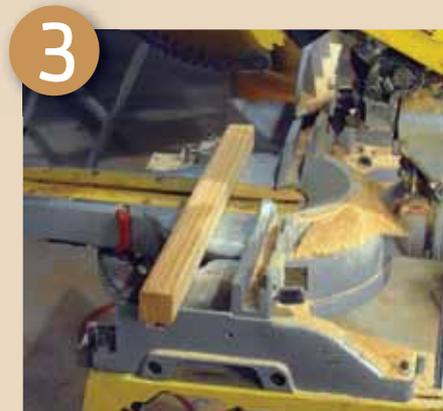
Finish the cart by running a silicone bead between the cart surface and the wood that is picture framing it. This will stop any oils or spills from getting beneath the surface and ruining your cart.



1
Cut the legs



2
Position the legs on the plywood



3
Cut supports for the leg



4
Reinforce the legs



5
Attach castors to the legs



6
Affix the cutting surface



7
Frame the cutting surface



8
Fill in nail and screw holes with dowels



9
Run a silicone bead between the wood and cutting surface

Add something different to your garden with this decorative wooden wheelbarrow.

CLASSIC OUTDOOR WHEELBARROW

>> Geoff Hollingdale

This project was put together to satisfy a need for a garden feature with a difference. Normally these garden wheelbarrows are seen either as old metal wheelbarrows given a new lease of life or those made as arty metal rod and sheet versions available at the local garden emporium. This one's made of wood.

I built the project out of pine, although, for something more durable saligna would be more suitable. The pine version was finished with two coats of wood sealer/preservative so it should last a few years.

Project guide

Difficulty: Intermediate

Time: Takes a couple of weekends to finish

Tools

- Jigsaw fitted with 2.7mm pitch tooth wood blade
- Electric drill
- Electric screwdriver with a range of bits
- Assortment of wood clamps
- 19mm spade bit
- Selection of twist drills
- Combination pilot hole and countersink bit for No. 4 size screws.
- Steel sliding bevel (adjustable using a protractor to 90° and 15°)
- Marking pencil
- Wood rasp or Surform tool
- Orbital sander
- Palm sander
- 100 and 120 grit sandpaper
- Safety glasses and dust mask

Materials

A cutting list and layout is shown in the drawing (Fig. 1). You may have to rework the sizes depending on what is on offer at the timber outlet.

- Wood glue
- Wood screws, brass finish, assortment: 4 x 30, 4 x 35, 4 x 40, 4 x 50, 4 x 60
- 6mm steel studding, 6mm nuts/wing-nuts and washers
- 2 x 19mm metal pipe saddles
- Wood sealer /preservative

Step-by-step guide

Step 1: I started on the wheel assembly but you can start shaping-up any of the assemblies.

You'll need to mark out the circle on the two pieces of 250mm square pine. The easiest way to this is to accurately drill two 1mm dia. holes 125mm apart on a scrap of card or thin hardboard, pin one end to

CUTTING LIST

ARMS & LEGS:

From 2 pieces 32 mm x 45 x 1800 mm cut into:

2 x 45 x 1200; 2 x 45 x 400

TRAY & BASE STRIPS

From a piece 610 x 20 x 1500 mm laminated pine shelving cut:

150 x 440	150 x 550	250 x 250	150 x 150
150 x 440	150 x 550		
	250 x 250	150 x 150	
			2 x 70 x 470
3 x 70 x 470			

Fig. 1: Cutting List

the centre and use a pencil to mark the circle on the other. You'll need to widen the small pilot hole to take the pencil tip. (Fig. 3). Note the centre point marking diagonal lines corner to corner.

Make sure you're using safety glasses and a dust mask. Clamp the work piece to the workbench. Use the jigsaw to carefully cut around the marked circle, keeping your fingers clear of the blade. Keep the blade cut on the outside of the marked circle. Release the clamp and turn the work piece to expose the next quadrant.

Set the two circles aside. We'll come back to the preparation of the wheel assembly later in the article.

Step 2: The profile of the arms at the handle and wheel mounting ends can also be cut with a jigsaw. At the handle end, drill an 8mm hole to just allow the width of the jigsaw blade to pass through. (Fig. 4). With the jigsaw switched off (fingers away from the start button) guide the jigsaw blade through the hole.

Switch-on the jigsaw and carefully guide the blade along the marked guideline. Stop the jigsaw at the end of the line. Remove the jigsaw. Re clamp the wood so that the section can be cut-out at both ends. The ends of the handle section can now be cut with the jigsaw.

Step 3: Turning our attention to the wheel end of the arms, the end profile can now be cut.

To aid in the cutting, clamp a piece of (straight) scrap wood to the work piece and to the bench. Check the offset from the edge of the jigsaw guide plate to the cutting edge of the blade. On my jigsaw, it was 31 mm. You need to set this offset from the line marked on the work piece to the guide piece. (Fig. 7)

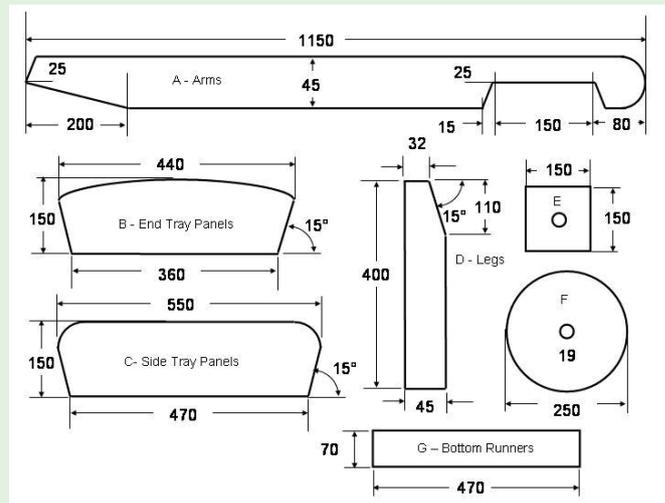


Fig. 2: Shaping of parts



Fig. 3: Marking the wheel diameter



Fig. 4: Drilling the jigsaw pilot holes

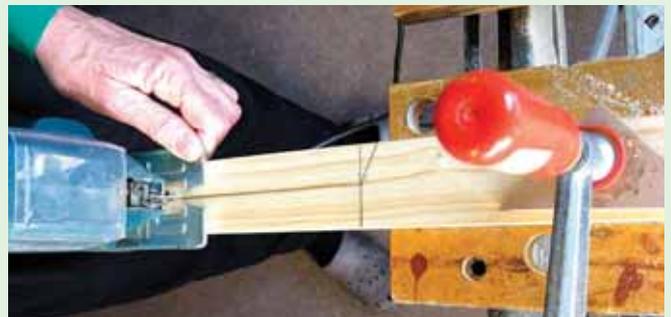


Fig. 5: Cutting the handle section



Fig. 6: Cutting the ends of the handle section

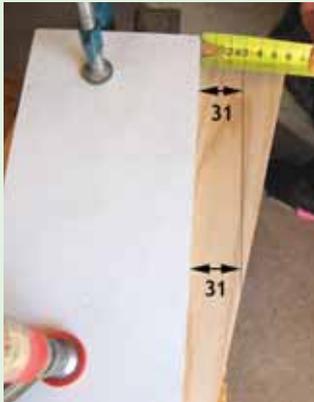


Fig. 7: Clamp a piece of scrap wood to the workpiece



Fig. 8: Keep the jigsaw guide plate square to the guide piece

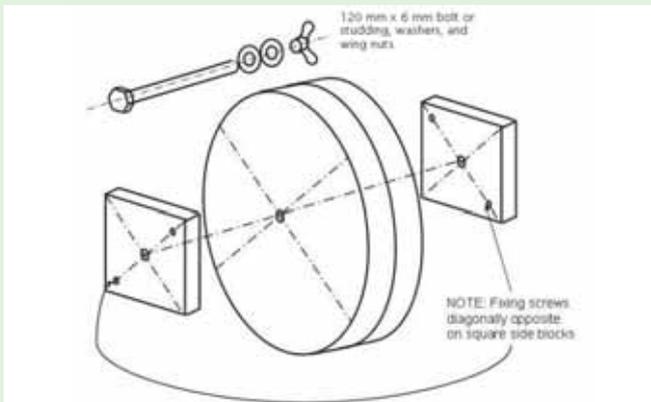


Fig. 9: Assembly of the wheel components



Fig. 10: The shaped and sanded tray, arms and legs

Keep the jigsaw guide plate square to and firmly in contact with the guide piece. (Fig 8) Keep your fingers away from the blade and don't forget the eye protection and face mask while you're cutting.

You can also shape the end, side tray panels and legs in the same way. When marking out the end, side tray panel and legs it's helpful if you've got a steel sliding bevel as you can set the blade to 15 degrees. If you haven't it doesn't matter, you can make-up cardboard templates using a simple school plastic protractor. The curves on the side and end tray pieces are shaped to simple objects used as templates, e.g. a piece of thin steel strip or plastic coat hanger bent to a nice curve; the ends of tin coffee or food cans. Use your imagination! The curved profiles are cut with the jigsaw.

Step 4: Now the real hard work starts, which needs patience. All the surfaces you've shaped need to be sanded and rounded – off. The tricky bits are the handle ends of the arms where you need to 'rock' the sander around the edges and ends to create a smooth rounded finish. A small palm size sander comes in handy for the finishing touches. Shape and smooth the curves on the side and end tray pieces. Nothing has to be perfect, aim for a pleasing look and smooth finish with lots of edge rounding. Sand a chamfer on all the wood pieces. Change paper to a finer grit on the sander for a final hand smooth finish. Feel the pieces. Each piece needs to have no sharp edges.

Stack the finished pieces to one side and refocus your attention back to the wheel assembly.

Step 5: Drill a 6mm hole through the marked centre point of the two 250mm wood pieces. Do the same at the marked centres of the 150mm square pieces. You'll need a 120mm length of 6mm steel studding, two large OD diameter steel washers and a 6mm butterfly nut.

Start by coating with wood glue one surface of each of the two 250mm pieces that don't have the centreline pencil marking on them – you need to be able to see the markings. Join and hand squeeze them together. Now coat one surface of each 150mm piece. Thread one of the 150mm pieces onto the 6mm studding; now thread the two 250mm pieces and finally the other 150mm piece. You can see the general arrangement in Fig. 9.

Lightly tighten-up the 6mm wing nut to lightly clamp the assembly together. Turn the two 150mm pieces to line up with the hole centring lines marked on the 250mm pieces.

Firmly hand tighten the assembly together. Use a combination pilot hole and countersink drill to drill two holes in each 150mm piece as shown. Note that the holes are diametrically opposite to each other on each piece. Use 4 x 35 wood screws to screw the assemblies together. Use a pair of wood clamps on the joined 250mm pieces to

ensure the edges are firmly squeezed together. Remember to use a scrap piece of wood between the clamp jaws and the assembly to avoid marking the soft pine. Leave overnight for the glue to dry.

Step 6: The wheel assembly can now be finished-off. I began by shaping the wheel using a 'Surform' tool to shape by 'eyeball' a round looking profile to it. You could use a wood rasp. You don't have to be too fussy about perfect equal diameter around the wheel; after all, the finished item is supposed to look a bit rustic. I then ran the power sander around the wheel diameter to smooth it off.

Remember to keep the sander moving when doing this; you don't want to sand 'flats' on the surface. Chamfer off the wheel edges.

Use a small palm sander to sand smooth the flat surfaces of the assembly.

Step 7: Finally, clamp the assembly firmly to the work bench and use a 19mm spade bit to open – up the 6mm hole to 19mm. Do this in slow stages using a firm pressure on the drill, pause, release the pressure, stop, remove the bit to clear wood shavings, repeat drilling. All the parts are now ready for assembly.



*Fig. 11: The completed wheel assembly
The 6 mm hole has been drilled out to 19 mm*



Fig. 12: Lining-up a side piece with an end piece

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Fig. 13: A completed side and end piece joined



Fig. 14: The completed tray carcass



Fig. 15: Fitting the base slats

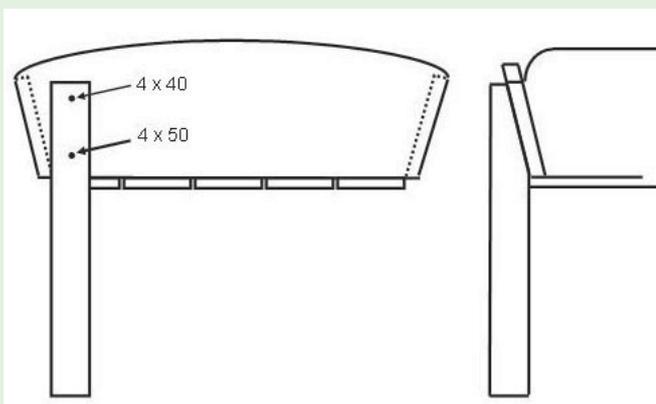


Fig. 16: Attaching the legs

Step 8: You can now start with the assembly of the tray. This gets kind of tricky because you're joining pieces cut to an angle.

Use a pilot hole and countersink drill to drill three holes inset 10mm from the edge on each 'C' side tray piece. Apply a thin stripe of glue to one edge to be joined.

I then clamped, as you can see in Fig. 12, a piece of scrap hardboard to one side of the tray to act as a guide to butting the 'C' piece to the 'B' end piece.

You could really use three hands at this stage. I got the 'management' to hold the side piece in position, aligned with the bottom edge of the end piece while I started and half screwed in a 4 x 35mm wood screw.

This took a few goes to get the process right, especially as when I said to the 'management' "Did you just move it!" and got an icy stare. Lightly screw in two other 4 x 35mm screws, recheck the alignment and tighten-up. Don't over tighten. Screw heads are just flush with the surface.

Step 9: The base slats can now be attached the tray carcass. Careful positioning of each piece is required with a small gap between each. I started by aligning a slat on one side, fixing it in position pre-drilling a guide hole with the No. 4 combination pilot and countersink drill. The piece was then screwed into place with a couple of 4 x 30mm screws.

Step 10: Use a scrap piece of for example, 3mm thick hardboard to get the spacing to the next slat. It's best to do a 'dry' run to see if the spacing and slats end up fitting across the base satisfactorily. If it looks OK fit the slats to the carcass, if it doesn't, try a different thickness of spacer.

Screw all the slats into position.

Step 11: The final stage is the assembly of the arms and legs to the tray carcass. Begin by attaching the legs. Fig. 16.

Pilot drill and countersink two holes, to take a No. 4 woodscrew. Align the leg square to the tray carcass and such that the angled portion lays flat on the end tray piece.

You can apply a thin layer of wood glue before attaching the leg. Tighten the screws flush with the wood surface. Position the second leg identical to the first. Nothing is ultra critical in fitting the legs.

Step 12: To fit the arms to the tray carcass, the distances as shown in Fig. 17 should be lightly pencil marked on the arms. This allows easier alignment of the arms onto the tray.

cont. on p22

Summer bliss

The Woodoc Way



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contd. from p20

At the handle end, arm position is simple; just butt the arm against the fitted leg. If it helps, you can use a lightly tightened plastic tie-wrap to hold the arm against the leg.

Pilot drill and countersink a hole at the handle end to take a No. 4 screw. Lightly secure two by 4 x 60 screws to hold the arms in position.

Step 13: At the wheel end, gapping of the arms depends on the wheel overall thickness. Nothing is critical but leave a gap of 2-3mm between the wheel and arms. Check that there is an equal distance from the edge of each arm to the edge of the tray and lightly mark the position with a pencil. Hold an arm in position then pilot drill and countersink for a No. 4 screw. Secure the wheel end of the arm with a 4 x 60 screw. Repeat the process with the other arm. Firmly tighten all fixing screws.

The wheel is secured by a couple of 19mm steel pipe clamps around a short piece of 19mm dowel centred through the wheel. Position of the wheel relative to the arms is not critical; you can 'eyeball' it.

Hooray! The wheelbarrow is now assembled.

Step 14: Give the wheelbarrow a couple of coats of wood preservative. I used Woodoc 30, but similar products would suit. Allow time for each coat to really dry before applying the next.

You can, of course, fill the tray with potting soil or do what I did, fill with 150mm plastic pots sitting on a sheet of perforated plastic sheet.

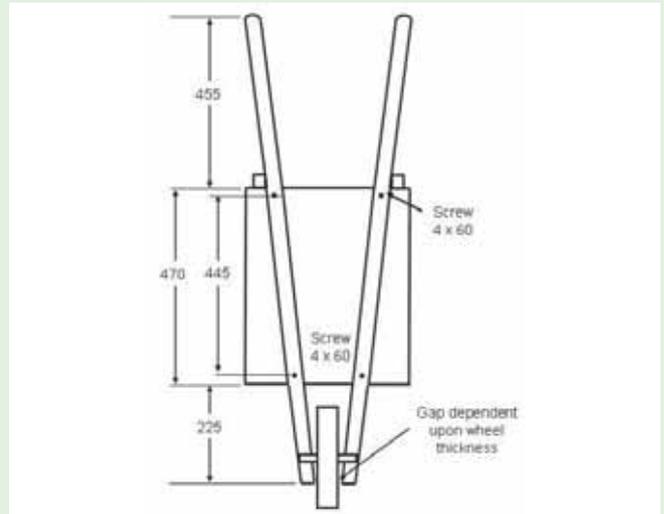


Fig. 17: Attaching the arms to the tray



Fig. 18: Fixing the wheel

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"I know that if odour were visible, as colour is, I'd see the summer garden in rainbow clouds." – Robert Bridges

With working from home becoming the new norm, many South Africans are refreshing their interiors and creating a designated office to accommodate their new working conditions.



CREATE THE IDEAL HOME OFFICE

With lockdown restrictions easing following a tough 2020, businesses have reopened offices and employees returned to work. However, many employers have encouraged their staff to continue to stay at home to mitigate the risk of a potential second wave, while others have ditched the office completely in favour of remote working.

This comes as good news for Tinsley Woodcrafters, a Cape Town-based carpentry business that collaborates with interior designers, architects, upholsterers, and steel engineers to create beautiful custom-built furniture.

Founder and owner Brendan Tinsley has seen an increase in enquiries from homeowners and businesses looking to update their space. "We are still able to build unique custom furniture for our clients, even during COVID-19," he says. "Clients can send us images, ideas, and videos of their space over WhatsApp or email, and we're able to provide suggestions and send designs and quotes to them electronically. We are also able to send in a small team of people for installations and ensure we work around our clients' schedules to limit interactions in their homes or offices," he says.

Tinsley offers some suggestions for people who are looking to make changes to their homes:

Re-evaluate your space:

With South Africans spending more time at home than ever, many took the opportunity to update their interiors or create designated office spaces to accommodate their new working conditions, making it the perfect opportunity to re-evaluate their space.

Tinsley suggests moving your laptop from the kitchen counter or coffee table, to ensure the areas in your home are suited to their function. Consider a beautiful new dining room table to connect over mealtime or transform your kitchen with a swoon-worthy island, making meal prep a breeze and your kitchen fantasies a reality.

Create a designated home office:

As working from home becomes the new norm, it's important to create a home office space that isn't a seat at the dining room table in order to separate your work life from your personal one. Custom-built desks

that accommodate second and even third screens are becoming increasingly popular, as well as built-in solutions that incorporate both desk and storage space, ideal for paperwork and confidential documents that require safekeeping.

Standing desks and laptop stands are the perfect solution for those who don't need to maximise the surfaces space available at home.

Make your space work for you:

When designing custom furniture, it's important to consider where the item will be used as well as what design will work best for its intended purpose. Tinsley's custom woodwork facility focuses specifically on his clients' needs, style, and budget to create their perfect piece of furniture.

Tinsley sources all rare hardwoods locally from reputable suppliers and focuses on using timber species that are sustainably sourced, ensuring his clients find the ideal solution for their space while rebuilding the country's economy.

"We are a turn-key facility offering design and fabrication using a wide variety of woodworking equipment, which allows us to maintain control over the entire process," he says. "When people are creating hardwood furniture pieces that they will be using every day and handing down to future generations, we go the extra mile to ensure it is built to the our exacting standards and that our clients are happy."



Working at the dining room table is a quick way to set up a desk without much effort

DIY DESK IDEAS TO MAKE WORKING FROM HOME EASIER

Working from home can be difficult. Whether you work remote full-time or are currently working from home due to quarantine; you need to find a workspace to help separate workspace from the rest of your life.

Before we get into DIY desk plans, however, we need to talk about ergonomics. Ergonomics focuses on adapting the workspace to the worker, instead of having the worker adapt to the workspace. When we talk about an ergonomic workspace, we're talking about one that is designed to be better for your body in the short and long-term. Here are some elements to keep in mind:

Desk and chair height

When you sit down on your chair, your thighs should be straight and your knees should be at a right angle. You may need a footstool, or even a cardboard box, to help you keep your legs at the correct angle. Next, you want to make sure that your legs fit comfortably under the desk. You should have space to cross your legs without bumping the desk. You don't want the desk to be too high, however, since your elbows should also bend at a right angle. You want your shoulders and wrists to be relaxed while you work. Another option for an ergonomic desk is to get a standing style desk. In this case, you only need to focus on desk height. Keep your shoulders relaxed and your elbows bent at a ninety-degree angle.

Screen height

Many people work from home primarily with the use of a laptop. They adjust the ergonomics of the desk to make sure they can reach the keyboard well, without realizing that now they are hurting their neck by looking down at the screen. If at all possible, buy a separate keyboard and mouse to attach to your monitor. You can then place the laptop on a shelf or box to elevate it so you don't have to crane your neck. Make sure you don't put the screen too far away either, so you don't have to lean forward to see well. A good rule of thumb is to keep the monitor about an arm's length away.

You want to be able to sit up straight and look directly forward, without moving your neck, to see your computer screen. This applies for monitor height or laptop height. The best way to accomplish this one is to have a separate keyboard, mouse, and monitor in the space you have for your desk and the accessories.

Minimise reach

Finally, you want to consider how much you need to move and reach for things while at your desk. If you frequently use a telephone at your desk, you'll want to put the phone close enough that you don't need to stretch to get it.

This same thing goes for notepads, pens, or other items you might frequently need to grab from your desk. You want to avoid reaching as much as possible. Keep your basic supplies close by and stand up if you need to grab something from the far end of your desk.

USING YOUR DESK TO INCREASE PRODUCTIVITY

Ergonomics looks at adjusting your workspace desk to improve your physical work experience. There are also some tricks you can follow to improve your mental state as you switch over to working from home.



Sawhorse (Trestle) desk

- 1 **Separate work and fun:** When working from home, it can be easy to either work too much or not work at all. Separating your work from your home life will help you find a balance and dedicate the hours you need to work while still having time for yourself.
- 2 **Avoid distractions:** Having a desk can help separate your workspace from the rest of your home. Try to find a place in your home that is removed from the biggest distractions. Don't do non-work tasks at your desk and don't work in bed or on the couch.
- 3 **Clean your desk:** Keep your desk clean and well-stocked with the items you'll need for work. However, it's okay to add some decorations or plants to brighten the workspace and make it feel like your own.
- 4 **Take breaks:** Working eight hours at home is different than working eight hours at the office, so give yourself time to adjust to the change. Get up occasionally to stretch your legs, drink water, and walk around.

DIY desk ideas

Now that you're ready to set up your own desk, here are some ideas. We'll start with some long-term DIY desk ideas. These work well if you work from home regularly and have a designated office space. These DIY desks are easy to put together but look great.

Sawhorse desk

If you're interested in having a little more hands-on involvement, you should consider making a sawhorse (trestle) desk. It's easy to find sawhorses from hardware stores, or you may be able to find leftovers from a friend's construction project or garage.

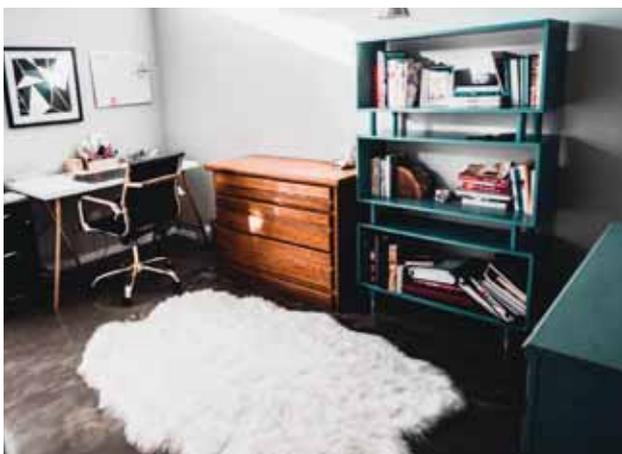
Attach a wood plank to the sawhorse legs, and you've got a desk. This easy setup gives your office a rustic aesthetic that will impress your guests. This desk offers plenty of legroom and you can build a desk to be as long as you need.

If you're looking for a desk that works well and looks good, this is a great option. Add some plants and a lamp, and you're ready to get to work.

Floating desk

A floating desk is another option for a truly stunning office look. Though easy to make, this desk looks complicated and unique. A floating desk might not be a good idea if you plan to fill it with heavy objects, but it can support the weight of a normal computer setup. With a floating desk, you get even more leg room.

If you are the kind of person who fidgets and spins your office chair while you're working, this desk might be perfect for you. You can move around all you want without worrying about bumping the table leg and knocking over your coffee mug.





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SHORT-TERM DIY DESKS

Though there are plenty more options for permanent desks, we wanted to switch over to some temporary ideas. Tons of people around the world are switching to work from home. If this is you, you may be wondering how you'll set up a workspace without a designated office. Here are some ways you can set up a DIY desk for the next few weeks.

Makeshift standing desk

If you're used to working at a standing desk in the office, it can be hard on your body to then switch to working hunched over on the couch. Instead, with some creative thinking, you can set up an at-home desk.

The most important thing with this DIY desk is to find a surface that is the correct height, so you can relax your shoulders and type with your arms at a right angle. People have found that they can make a standing desk out of a liquor cabinet, bookshelf, hall table, or even kitchen island.

Dining room setup

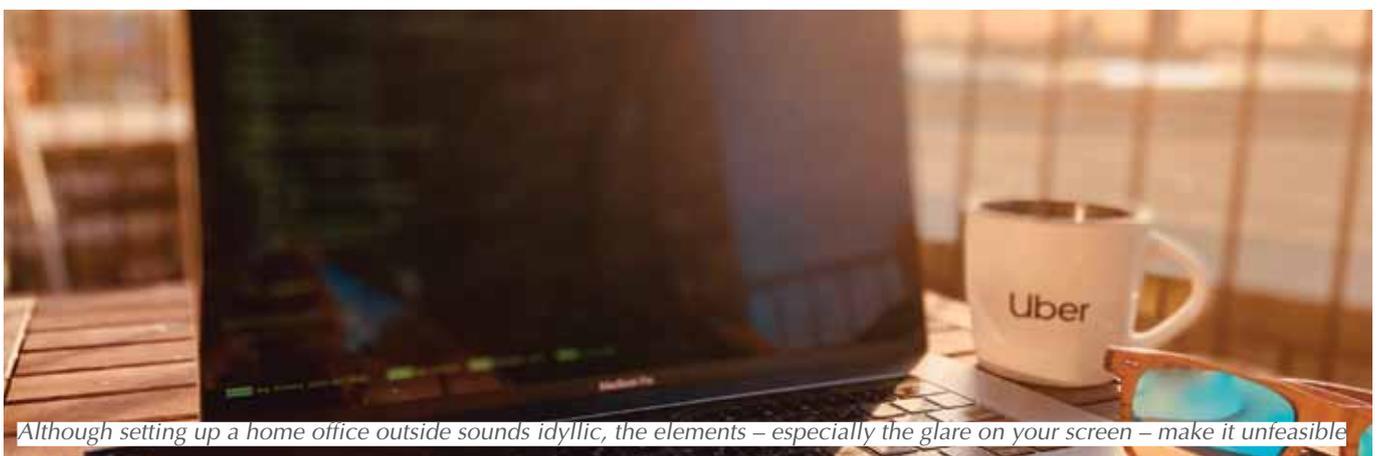
One of the easiest ways to start working from home is to use your dining room table. Your table should be the right height to work comfortably, and it will have plenty of room for you to spread out a bit while you work.

Depending on your situation, you could designate half the table as workspace and half as eating space. You could also make a habit of clearing away your work supplies at the end of the day. This can be a good way to make a distinction between work life and home life.

Folding tables

Finally, you can use folding tables for a cheap temporary desk. Folding tables are easy to find and very affordable. They come in different sizes so you can get one as big as you need. If you have an empty corner, you can buy two folding tables and make an L-shaped desk.

If you live in a small apartment, you can clean up and fold away the desk at the end of the workday to give yourself more room in the evening.



Although setting up a home office outside sounds idyllic, the elements – especially the glare on your screen – make it unfeasible

In this article, Henry Huggin shows you how he made a footstool/ottoman with a steel welded frame and an upholstered top using a beautiful coffee sack.



Steel & coffee sack

FOOTSTOOL

Tools and materials

- 40mm box section steel
- 18mm plywood
- Upholstery foam
- Metal cutting saw
- Angle grinder
- 40 grit flap disc
- Black spray paint
- Spray adhesive
- Chalk paint pen
- Upholstery tacks
- Coffee sack

This was my first ever project welding, so I was still trying to figure a lot out. The welds get better as it goes on, but overall I am very happy with it. I've also never made any furniture like this before, so already know what I would do differently in future with regards to the top. But I hope you enjoy it!

Step-by-step guide

Step 1: I started by taking my 40mm box section steel and cutting it down to size. I used a mitre saw which is great for cutting through steel like this and made very quick work of it. Not all saws are suitable for cutting steel, so make sure yours is. I needed to start with 2 x rectangles to start, one for the top and one for the bottom. I wasn't really sure how big to make this footstool; they seem to sell them in all different sizes but I decided to go with 40cm x 50cm. It seemed like a decent size for two people to rest their feet on, or it can double up as a stool if you have guests.

I made a series of mitre cuts at 45° so they would all join together nicely. When cutting metal like this, make sure to use a face protection and decent gloves.

Step 2: As I said, this was my first time welding. I bought a cheap arc welder second hand to try and teach myself. This was my first actual welding project so please don't judge too hard! I used some welder's magnets to hold the frame together while I ran some beads. You can use whatever welder you have/want. I then used a welding hammer to chip off the slag that forms over the welds. I then had to go back and add a bit more weld in a few places, but mostly it was fine.

I then put a 40 grit flap disc on my angle grinder. This is where you can really see how good your welds are! I was really surprised how well they came out and am pretty happy with them. I went over all of them all with the angle grinder to tidy it all up.

1



Cut your metal pieces to size

2



Make a series of mitre cuts at 45°

3



I used some welder's magnets to hold the frame together

4



The two frames completed

5



Go over your welds with an angle grinder

Step 3: I cut four bits of steel at 25cm for the vertices. Here I made a bit of a mistake and cut one of them short. In the end, I decided to embrace my mistake and make it a three leg stool. It is more than solid enough and I think it give it a really cool look.

Step 4: I needed to make some tabs to hold the wood and foam base onto the frame. I found some scrap steel I had lying around and marked up 4 x 6cm long strips. I swapped out the flap disc for a metal cutting disc. My cuts left the metal a little rough around the edges; it's not really a problem as they won't be seen or touched as they are under the frame, but I didn't like leaving them round, so I took them over to my belt grinder and just smoothed out the edges.

I drew a line along the length of each of them, just off centre, and marked a centre hole to drill. I wanted the hole to be further away from the frame and closer to the middle of the footstool. I made sure to use some oil, and drilled a 4mm hole in each of the tabs.

I turned the frame upside down so the top was on the ground, and marked the centre of each bar. Then I lined up the holes on each tab with the centre lines on the frame and welded them onto the frame.

Step 5: Once the frame was all done I used some matt black spray paint. I did two coats of this, leaving a good 2-3 hours in between to dry. This is more than enough time, but my workshop was freezing cold and it was taking ages to dry. It is important to let the paint dry fully in between layers.

I was tempted to grind the whole thing shiny and use a clear coat but my welds weren't quite good enough for that. Next project I will definitely do that!

Step 6: I used the frame to mark out the exact size for the wooden base on a sheet of 18mm plywood. I then cut this down to size. Then I used the wood to mark out the size I needed to cut the foam. I used some thick upholstery foam; I was tempted to go thicker but I think 7-10cm was perfect in the end.

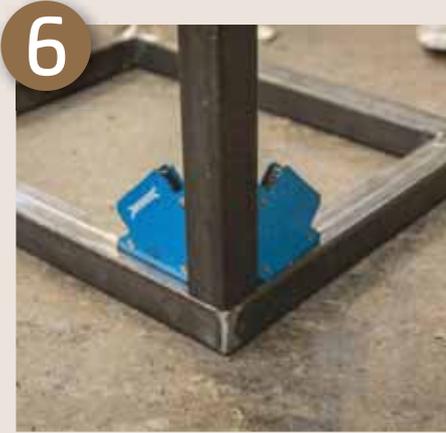
At first I used a razor blade to cut the foam; this didn't work terribly well and left with me one pretty bad edge. I've since learnt it's best to use something like a bread knife to cut through this.

I used some spray adhesive and put some on the wood and some on the foam. I let it sit for two or three minutes until it was tacky, then stuck the two together. It's important to check that your spray adhesive is okay to use with foam; some of them actually eat through the foam, so be careful!

Step 7: I used some thick wadding in between the foam and the coffee sack. I trimmed it down so there was a fair bit of overhang and used a staple gun to pin down it down.

My friends run a coffee roasting company and they let me have one of their coffee sacks. I trimmed it down to size and did exactly the same as the wadding, just a staple gun to pin it down. I cut the corners before folding it over to help it all sit a little bit more flat.

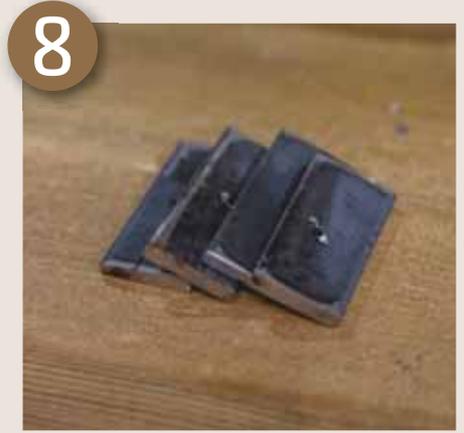
Step 8: I'm really glad I did this step; I think it really makes the whole project work. I got black upholstery tacks and hammered through the sack, wadding and straight into the plywood. I did this every 6cm or so. This will also help hold the coffee sack taught but was mainly for the aesthetics. Then all that was left to do was screw the top down onto the frame.



6 Cut down three pieces at 25cm for the legs



7 Cut some tabs to hold the wood and foam base onto the frame



8 Mark and drill centre holes in the tabs



9 Once the frame is done spray with matt black spray paint



10 Use the frame to mark out the exact size for the wooden base



11 Use spray adhesive to attach the wood and the foam



12 Cut the coffee sack to the desired size



13 Black tacks keep the coffee sack taught and add an aesthetic value



14 The finished project

"I'm really happy with the finished product. I really enjoyed teaching myself to weld and think it looks great. I also learned to embrace mistakes, as I think the floating three leg look is really interesting."



"The desire to create is one of the deepest yearnings of the human soul." – Dieter F. Uchtdorf

DIY'ers use glue and adhesives on a regular basis, so The Home Handyman put some of the most frequently asked questions to the experts.

All your glue and adhesive FAQs answered

How important is surface preparation when applying an adhesive?

Den Braven	<p>Surface preparation is a very important aspect before applying a sealant or adhesive. The environment or area where it gets used should also be considered. Surfaces should be sound, clean, dry and dust-free.</p> <p>The strength of the bond between sealant/adhesive and surface depends on:</p> <ol style="list-style-type: none"> 1. Strength of surface. 2. Suitability of surface. 3. Pre-treatment of surface. 4. Situation of surface during application. 5. Tolerance of surface to the sealant applied. 6. Use of bonding primer.
Glue Devil	<p>Surface preparation is key when applying an adhesive. Without proper surface preparation, even the best adhesive will not produce a durable, high-strength bond. Sometimes the surfaces may need to be sanded. Ensure surfaces are clean by removing all dirt, dust and oil. Make sure the surface is dry before application.</p>
Sika	<p>It is very important as adhesion depends on a clean, dry, surface and will affect the longevity of the system.</p>

How do you determine how much adhesive needs to be applied?

Den Braven	<p>The amount of sealant used is generally determined by which kind of adhesive is going to be used, as well as the substrates or surfaces it needs to adhere to.</p> <p>In the case of the Den Braven High Tack, apply the adhesive with the provided V-nozzle in a 'ventilating way' in vertical stripes with 10-20cm distance in between.</p> <p>Bring the materials into position and press well to make sure that the thickness of the adhesive is minimum 2-3mm between material and surface. This provides an extremely high initial tack.</p>
Glue Devil	<p>This will be determined by the surface or the material you are trying to bond. Generally, the adhesive needs to coat the area to be bonded.</p>
Sika	<p>This really depends on and is dictated by the job.</p>

Should adhesives be spread onto both sides?

Den Braven In some cases, and with certain adhesive types, both sided application may be necessary. The Den Braven Gluescrews – which is based on SBR rubber – provides for faster bonding. Bond both parts together and take them apart again. Let dry for five minutes and bond the connection.

Glue Devil Applying adhesive onto both sides of a surface is recommended where feasible. This will ensure that both sides of the surface are covered with the adhesive, and you're not relying on pressure and flatness to transfer it to the opposite surface. A good squeeze out indicates sufficient adhesive.

Sika Generally, only one side is required.

What are 'porous materials'?

Den Braven Porous substrates are surfaces that have empty voids or pores (rough) that allow sealants and adhesives to bond easier without necessarily requiring a primer. Some woods, concrete walls, bricks stone, cement fibre are examples of porous materials to name a few. Nonporous will be the opposite where the surfaces can be very smooth i.e., glass, polished stone and many more.

Glue Devil Porous materials refer to any component that contains pores, voids, holes. A porous medium is most often characterised by its porosity or absorptivity. Some examples of porous materials are leather, wood, fabrics, cardboard and paper.

Sika Wood, concrete and materials that have pore structures.

Can adhesives be used after their expiry date?

Den Braven It really depends on the type of sealant or adhesive used. If sealants and hybrid adhesives are stored correctly, they can generally be used for longer periods. This needs to be checked and verified by the manufacturers.

Glue Devil To avoid inconsistent results, refrain from using products that have passed their expiration date.

Sika Generally, this is not advised, however, it depends on storage temperature and sensitivity of the product.



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Uses

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- Sealant for vertical and horizontal indoor connection joints between partition walls, metal and wood constructions



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Uses

- Bonding of stucco elements to interior walls and ceilings
- Bonding of interior window sill
- For bonding of skirting boards, wood frames, battens and moldings, panels, terracotta tiles, anodized aluminum, hard PVC profiles, polystyrene moldings and ceiling tiles



SIKAFLEX®-118 EXTREME GRAB EXTREME GRAB CONSTRUCTION ADHESIVE

Uses

- Bonding flower pots on wall
- Bonding stone facing to pillars
- Bonding cupboards to wall
- Bonding mirrors

www.sika.co.za

BUILDING TRUST



How long are adhesives good for after opening?

Den Braven	Hybrid adhesives and sealants cartridges can be closed or blocked off after use should a full cartridge not be used. It is important to ensure that it does not remain exposed, to ensure slower or reduced curing of the material contents in the cartridge provided it is still within its shelf life.
Glue Devil	It should be used within 30 days. Open containers should not be refrigerated.
Sika	This is totally dependent on each product's formulation. It is important to close the lid properly immediately after use.

Do all adhesives have the same shelf life?

Den Braven	No, they do not. It is generally product and formulation dependent. The relevant technical datasheets will indicate the shelf life expectancy.
Glue Devil	Adhesives vary in their shelf life and this is dependent on their storage conditions. GlueDevil adhesive's shelf life ranges from 6-18 months when stored correctly. Please refer to the information available on the blister card for an indication of the shelf life.
Sika	No, so it is best to check with the manufacturer.

What is the best way of storing adhesives? Is it correct to keep adhesive in a refrigerator?

Den Braven	For the Den Braven sealants and adhesives, unopened cartridges in their original packaging should be stored between +5°C and +25°C in a dry place. Storing certain adhesives, like a cyanoacrylate glue in a general house fridge is not recommended (harmful when accidentally ingested). A separate or non-food refrigerator is advisable. Refrigeration only really assists due to it being a drier environment and it may slowdown curing or deteriorations of the product somewhat.
Glue Devil	We recommend that you store adhesives in a cool and dry place. Cyanoacrylates can be stored in a refrigerator but return to room temperature before use.
Sika	To store below 25°C is ideal. It is not recommended to store adhesives in a refrigerator.

What can I use to remove adhesive stains and residues?

Den Braven	Use Den Braven Sili-kill for removing cured silicone sealant residue. Cut the silicone sealant and remove as much as possible with a sharp knife. Apply a generous amount of Sili-Kill to the cured silicone residue. After 20-30 minutes the sealant silicone residue can easily be removed with a putty knife or a wooden spatula. If necessary, repeat the treatment. Afterwards, wash with water and soap and let the surface dry.
Glue Devil	Cured adhesive may be removed from most substrates and parts disassembled, with acetone or thinners. It is not possible to fully remove it from fabrics.
Sika	It is important to protect all surfaces that you do not want the adhesive to get onto because it is likely that you will not prevent staining or some form of damage.

Does the ambient temperature matter when applying adhesives?

Den Braven	In the case of RTV1 silicone, polyurethane and hybrid sealants it does. These sealants and adhesives cure by exposure to ambient room-temperature and humidity.
Glue Devil	GlueDevil cyanoacrylate adhesives polymerise with moisture and cure in seconds at room temperature. Drying time increases as viscosity increases, which happens in cold temperatures.
Sika	Temperature has a direct effect on curing. If the adhesive is very cold, it will be thicker and take longer to cure. If it is too hot it will be more fluid but will set quicker than normal.

Not all adhesives are created equal...

Are adhesives flammable?	
Den Braven	Yes. Some types and formulations are flammable. Please check for the relevant warning labels on the packaging and refer to the applicable technical datasheets.
Glue Devil	Yes. Those containing flammable solvents. Water-based adhesives are not flammable.
Sika	Yes, certain adhesives are flammable.
Do all types of sealant shrink?	
Den Braven	Not all adhesives shrink. i.e. Den Braven High Tack has no shrinkage and is bubble free.
Glue Devil	GlueDevil household and car silicone sealants will not shrink, crack or discolour (turn yellow) upon curing.
Sika	No, generally poor-quality sealants shrink due to excessive amounts of low-cost fillers.
What adhesive can be used on electrical components?	
Den Braven	It is best to consult with the relevant manufacturer or supplier of the product in terms of their suitability.
Glue Devil	We recommend GlueDevil Cable Adhesive, a strong, acid free adhesive which dries clear. Perfect for bonding all cables to wall and ceilings etc. Bonds on many surfaces, such as, paper, cardboard, leather, rubber, ceramics, glass, wood, fabric, felt, metal and some plastics.
Sika	This is a specialist field and you should only use an adhesive on electrical components if supplied by a supplier that specialises in these applications.
What adhesive can be used underwater?	
Den Braven	While there are certain sealants and adhesives that can be applied in damp conditions, the particular application and conditions should be discussed with the manufacturers.
Glue Devil	Our GlueDevil SCREW IT! Just Glue It can be applied to wet surfaces and can seal and bond underwater.
Sika	Everbuild Epoxy Putty Aqua.
What adhesive can be used to bond polystyrene?	
Den Braven	The Den Braven: Acryl-W, Polyflex and High Tack are suitable. The weight, application area and relevant substrates always need to be taken into consideration, and evaluated accordingly in order to make the correct choice.
Glue Devil	GlueDevil Cornice Adhesive can be used to bond construction substrates including polystyrene, Gypsum, plaster, polyurethane, painted surfaces and wood. It does not bond polystyrene to itself.
Sika	SikaBond®-115 Strong Fix.



For more information, contact Den Braven on 011 792 3830 or visit www.denbraven.com. Contact Glue Devil on 031 464 0273 or visit www.gluedevel.co.za. Contact Sika on 031 792 6500 or visit www.zaf.sika.com

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The difference with **Den Braven High Tack** is that it grips *immediately*. Press surfaces together, hold for a few seconds, and there you have it – instant tack.

It can be used for adhesion of substrates of up to 20kg, vertically, with no mechanical fixing. Suitable for use inside and outside: stone, windowsills, glass/ glazed surfaces, porcelain, coated metals, stainless steel, finished wood and more. The *one* adhesive with many uses.

Because of the high tack there is no need to use a drill, plugs and lugs. It's non-corrosive, and water resistant. A true high tack adhesive in more ways than one.

Application Tip:

Ensure when applying **Den Braven High Tack** that the “v” nozzle is facing upward, the cartridge is held at a 90° angle, and is extruded in vertical stripes, not blobs – between 10-20cm apart. Watch our “how to” video on our FaceBook page.

Available from hardware stores or call 011-792-3830



Create a convenient dressing area in your bedroom with this stylish floor mirror.

MIRROR MIRROR ON THE... FLOOR

This project – brought to you by Kreg – is easy to build, and can be stained or painted in any color to match your decor. Cleats lean it at the perfect angle, and hold handy garment hooks. Plus, the cleats allow you to attach the mirror to the wall.

Wood products

- 2 x 38 x 38 x 1800mm pine
- 1 x 19 x 38 x 2400mm pine
- 1 x 6 x 38 x 610mm pine

Hardware & supplies

- 149 x Kreg 32mm coarse-thread pocket-hole screws
- 4 x 130mm (or equiv.) locking casters
- 1 x Closet rod bracket set
- 1 x Hanging mirror
- 50 x 25mm Brad nails (for edging)

Tools and materials

- 26 x 32mm coarse-thread Kreg pocket-hole screws
- Mirror: 407mm x 1525mm
- Package mirror tape
- 2 x #8 x 1-inch flat-head wood screws
- 2 x garment hooks
- Wood glue
- Drill/driver
- Pocket hole jig
- Miter saw
- Sander
- Tape measure
- Combination square
- Utility knife
- Straightedge

PARTS LIST

2 x Leg	38 x 38 x 1727mm pine
4 x Brace	19 x 38 x 410mm pine
4 x Cleat	19 x 38 x 178mm (rough length) pine
1 x Mirror Ledge	6 x 22 x 410mm pine

Step-by-step guide

Step 1: Start by cutting two Legs to length from 38mm x 38mm pine, as shown in the cutting diagram. These boards may have square corners that you may want to soften. You can either sand the corners, or round over the edges using a router. After you cut the Legs and soften the edges, sand the faces and ends smooth. If you'll be painting, sanding with 120-grit sandpaper will be sufficient. If you plan to apply clear finish or stain, follow up with 150-grit.

Step 2: Cut four Braces to length from 19 x 38mm pine, as shown in the cutting diagram. Set



Set the finished mirror upright against the wall at your desired location so the rear edge of each Cleat lays flat against the wall.

your Kreg® Pocket-Hole Jig for 19mm-thick material, and then drill pocket holes in each end at the locations shown. Sand the faces and edges of the Braces (but not the ends).

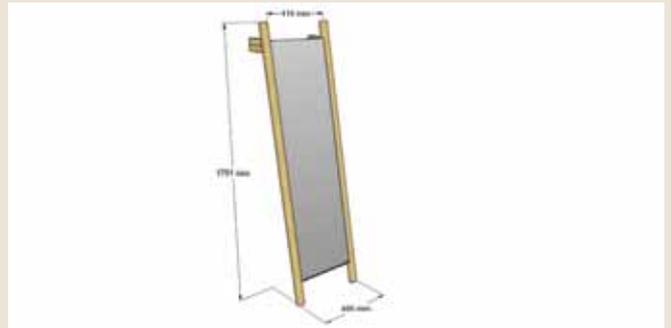
Step 3: Lay one Leg on a flat work surface. Using 13mm-thick material as spacers, position the Braces at the locations shown. Secure the Braces to the Leg using 32mm coarse-thread Kreg Pocket-Hole Screws. Then attach the second Leg.

Step 4: Cut the Mirror Ledge to length from a 6mm x 38mm pine board as shown in the cutting diagram. Then you need to trim the Mirror Ledge to final width. A jigsaw works fine, but with thin pine, you can trim it using a straight edge and a sharp utility knife. Just use a long straightedge to guide the knife blade and score the Ledge multiple times. Once you have scored over halfway through the board, you should be able to snap the waste off. This will leave a bit of a rough edge, which you can clean up with sandpaper. Don't worry too much if this edge isn't perfect. It will get positioned toward the back where it will be hidden from view.

Step 5: Apply glue along the lower edge of the bottom Brace. Position and clamp the Mirror Ledge so the cut edge is flush to the rear face of the Brace, as shown, and clamp the



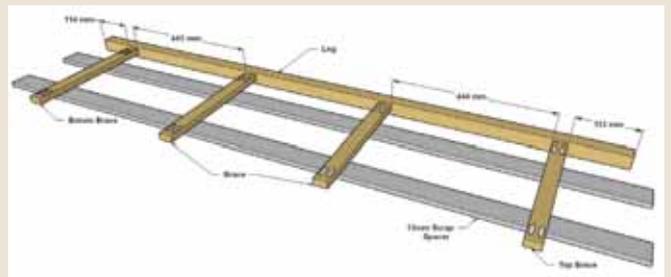
Cutting diagram



Dimensions of the mirror



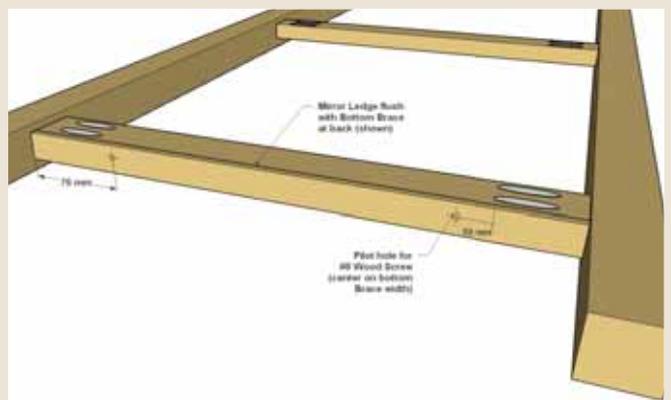
Make the Braces



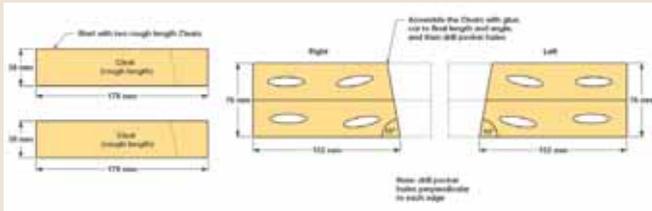
Join the Braces and Legs



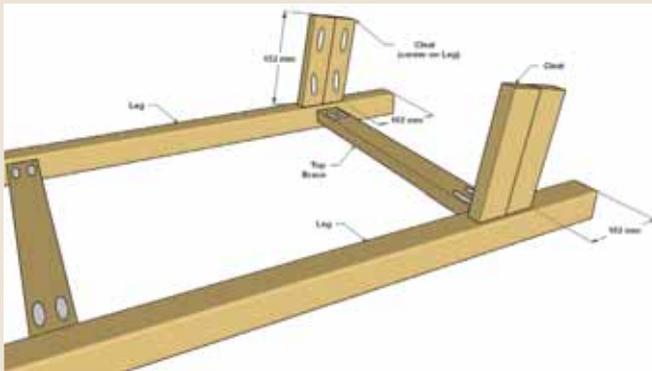
Make the Mirror Ledge



Attach the Mirror Ledge



Make the Cleats



Attach the Cleats



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Ledge in place. Drill two pilot holes at the locations shown, making sure they are centered on the thickness of the Brace (10mm in from the rear edge, as shown).

Step 6: Cut four Cleats blanks to rough length (178mm long), as shown in the cutting diagram. Glue and clamp the blanks together in pairs to create two Cleats. Once the glue dries sand the Cleats flat. Using a miter saw, cut the Cleats to final length. On one end, make a straight cut to trim a slight amount off and form a smooth, square end. Mark the final length, and then cut the other end at a 10° angle.

Finally, drill pocket holes at the locations shown. Notice there is a 'left' and 'right' Cleat. This is so the pocket holes face toward the inside of the mirror assembly when installed.

Step 7: Position the Cleats on the Legs at the locations shown, making sure the angled edge of the Cleat is in contact with the Leg, the pocket holes are facing inward, and the Cleats are centered on the width of the Legs. Secure the Cleats using 32mm coarse-thread Pocket-Hole Screws.

Step 8: Sand any surfaces or edges that need it, and then wipe away sawdust. Because you will apply the mirror to the Braces using an adhesive tape, it's best not to apply finish to the front faces of the Braces. For the rest of the frame, apply the finish of your choice. We used a natural oil to bring out the color and grain of the pine.

Step 9: Apply double-faced mirror tape across the front face of each Brace. Note that you need to use tape that's designed for attaching mirrors. Ordinary tape or adhesive can deteriorate the reflective finish on the mirror. Place the bottom edge of the mirror on the Mirror Ledge and make sure the mirror is centered between the Legs.

Gently lay the mirror in position on the Braces, and then lightly press the mirror at each Brace location to ensure contact with the tape. If desired, attach a garment hook to each Cleat.

Step 10: Set the finished mirror upright against the wall at your desired location so the rear edge of each Cleat lays flat against the wall. Now you can secure the mirror to the wall. The pocket holes drilled in the end of each make that easy. You'll only need to use one hole in each Cleat but having two offers options.

To secure your new dressing mirror to the wall, first mark the location of each cleat on the wall. If there's no stud behind either cleat, install a wall anchor at each location. Then, reposition the mirror, and drive screws into the wall anchors – you can use 32mm coarse-thread Pocket-Hole Screws. The space is tight, though, so a drill probably won't fit. You can use a right-angle drill attachment to drive screws in the tight space.

Give the little ones a hand by making this nifty stepping stool.

MAKE A KID'S STEP STOOL

Tools and materials

- Drill/driver
- Pocket hole jig
- Miter saw
- Jigsaw
- Sander
- Tape measure
- Compass
- 32 x Kreg 32mm coarse-thread Pocket-Hole Screws
- 38mm drill bit
- 16 x Kreg paint-grade Pocket-Hole Plugs

Parts list

- 4 x Outer Side: 19 x 89 x 279mm
- 2 x Centre Side: 19 x 140 x 203mm
- 2 x Side Handles: 19 x 38 x 140mm
- 2 x Outer Seat: 19 x 89 x 343mm
- 1 x Centre Seat: 19 x 89 x 343mm
- 1 x Seat Support: 19 x 64 x 343mm

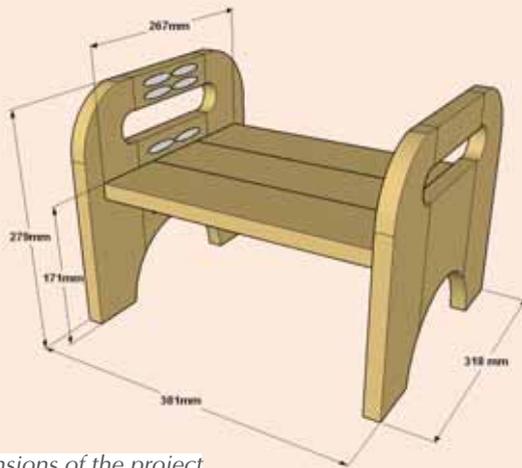
Wood products

- 1 x 19 x 38 x 1 800mm board
- 2 x 19 x 64 x 1 800mm board
- 2 x 19 x 89 x 1 800mm board
- 1 x 19 x 140 x 1 800mm board

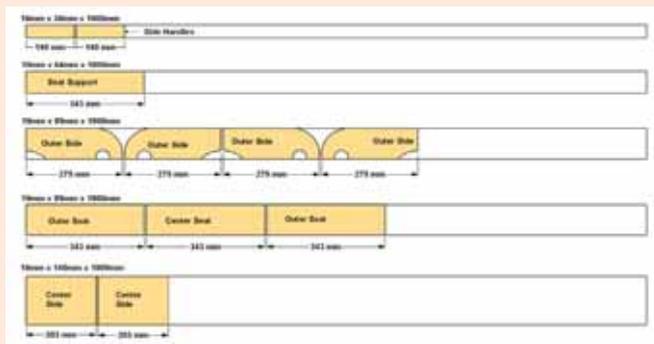
This step stool is a great way to help kids get a little extra height for those times when they want to help out in the kitchen, or when they need to reach a shelf. It's also a great place to perch while putting on shoes. You'll have fun building the step stool, and kids will have fun using it. Kreg show you how.

Step-by-step guide

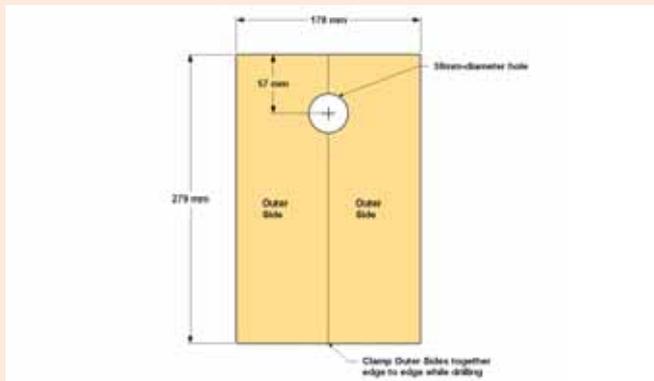
Step 1: Cut four Outer Sides to length from a 19 x 89mm board, as shown in the cutting diagram. Then, clamp two Outer Sides together temporarily and drill a 38mm hole centered on the seam between the two boards, as shown. Do the same



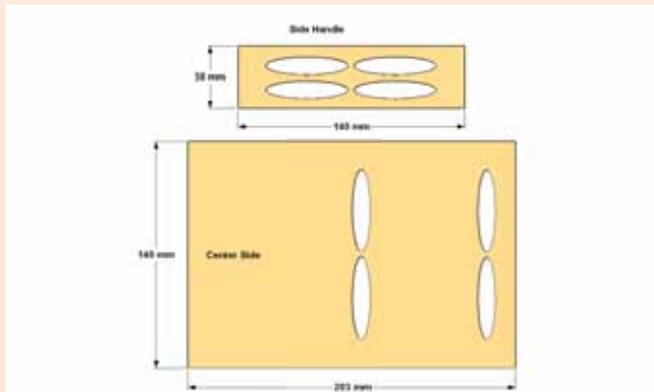
Dimensions of the project



Cutting diagram



Start with the Outer Sides



Make the Other Side Parts

with the other Outer Sides. When the step stool sides are fully assembled, these holes will become the outer ends of the handle holes.

Step 2: Cut two Side Handles from a 19x38mm board, then cut two Center Sides from a 19x140mm board, as shown in the cutting diagram. With your Kreg® Pocket-Hole Jig set up for 19mm-thick material, drill pocket holes in the Side Handles and the Center Sides where shown.

Step 3: Now you can create the side assemblies. Start by attaching the Outer Sides to the Side Handle and Center Side, as shown. Secure the pieces using 32mm coarse-thread Kreg Pocket-Hole Screws. Glue Kreg Pocket-Hole Plugs in, and then sand the plugs flush. We chose paint-grade plugs because we painted our step stool. If you're planning to stain or use a clear finish, you can use.

Step 4: Now you can lay out the curves on the side assemblies. Using a compass, mark the upper corners as shown. Then mark the lower arch. Cut these curves with a jigsaw, and then sand the cut edges smooth. This is also a good time to round over all the sharp edges. You can use a router and a roundover bit if you have them. If not, you can round over these pieces by sanding them. You'll want to start with coarse sandpaper, such as 80-grit, to remove material. Then progress through finer grits to smooth the surfaces.

Step 5: Cut two Outer Seats and one Center Seat from a 19x89mm board, as shown in the cutting diagram. Drill pocket holes in the Outer Seats where shown.

Step 6: Attach the Outer Seats to the Center Seat using 32mm coarse-thread pocket-hole screws, as shown. Then round over the edges of the seat assembly – but not the ends.

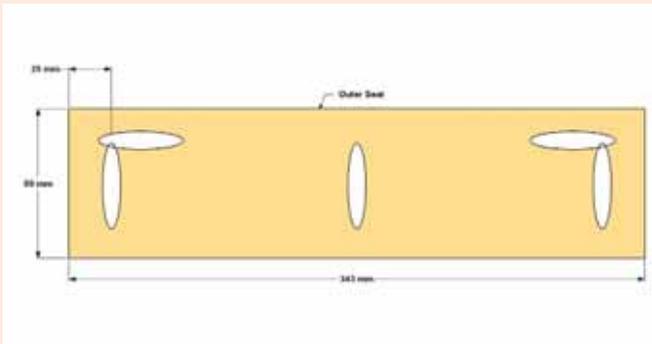
Step 7: Cut the Seat Support to length, as shown in the cutting diagram. Then drill pocket holes where shown.

Step 8: Secure the Seat Support to one side assembly where shown using 32mm coarse-thread Pocket-Hole Screws.

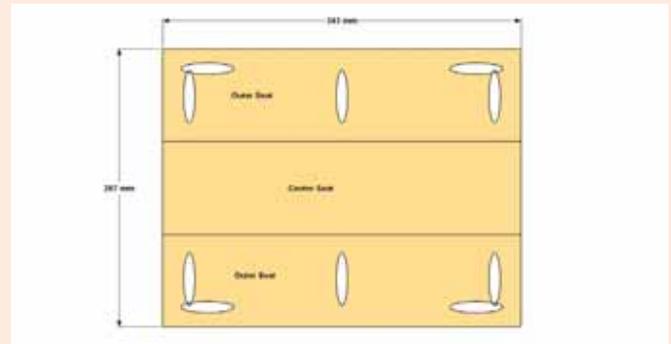
Step 9: Attach the seat assembly to the side assembly and to the Seat Support with 32mm coarse-thread Pocket-Hole Screws.

Step 10: Secure the other side assembly with 32mm coarse Pocket-Hole Screws as shown.

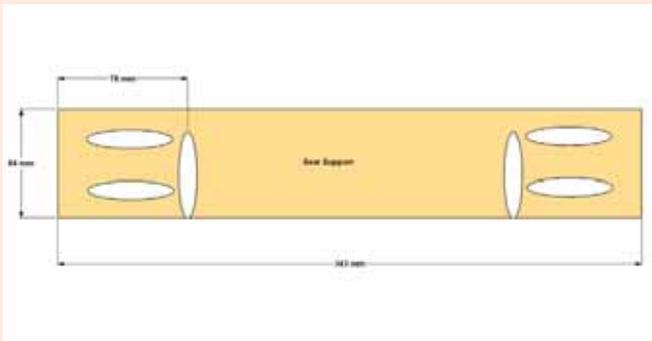
Step 11: With assembly complete, you can paint or stain the step stool. Before that, if you want, you could plug the remaining pocket holes. They really don't show, so this is up to you. If you choose to fill them, you'll need 16 more plugs.



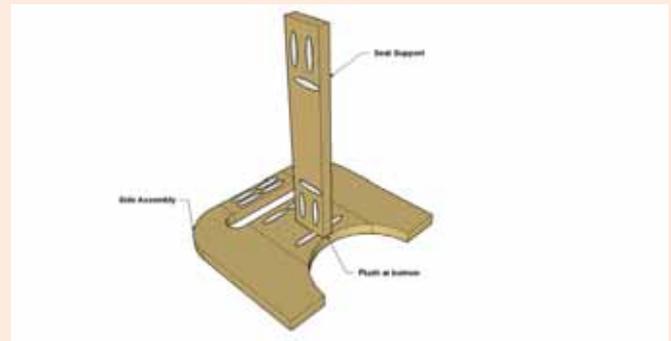
Make the Seat Parts



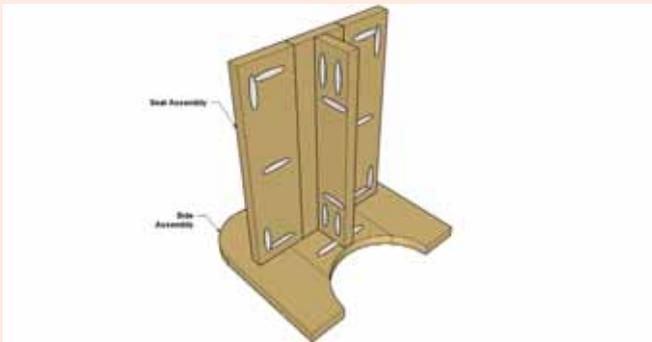
Assemble the Seat



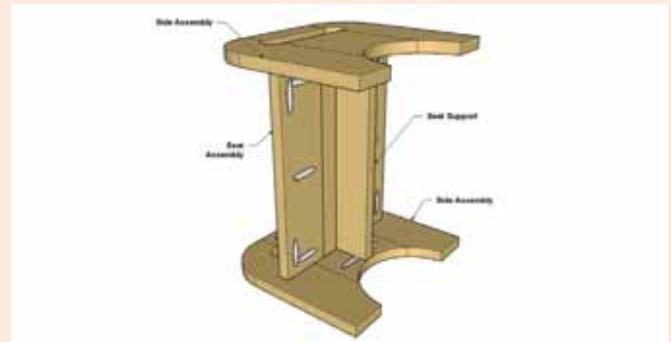
Make a Seat Support



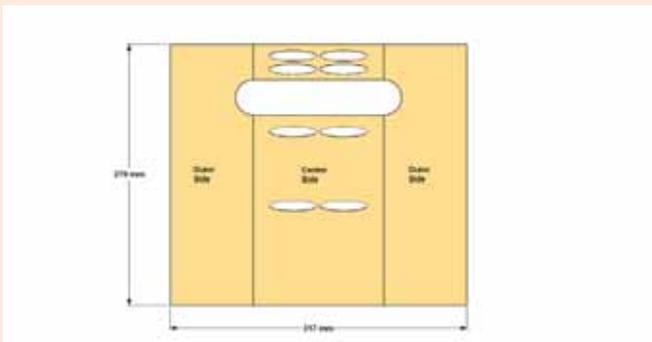
Attach the Seat Support



Add the Seat



Add the Final Side



How to assemble the Sides



Shape the Sides



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Common household emergencies and what to do

According to disaster experts, nine out of 10 people either panic or freeze during an emergency. For most household emergencies, the quicker you respond the less damage to your home.

To make sure you're ready for anything, Brights Hardware gives the following guidance on the most common household emergencies and the steps you should take to tackle these disasters head on.

"When a home emergency hits, time is of the essence. The faster you respond, hopefully the less damage to your home – with less cost to subsequently repair this damage," says Orlando Luis, CEO of Brights, who also adds that household emergencies don't always keep working hours. "Being prepared

for what could happen – and knowing what to do initially can make a huge difference."

He recommends that you keep a list of emergency contact numbers on the fridge door and maybe even procedures to follow in event of a household emergency. "Examples of numbers to have here are the fire department, a local plumber, electrician, and handyman as well as your insurance company. It's also good to have the number of a certified gas technician and a glass repair service."

Kitchen fire

"More than any other emergency, fire makes people panic," warns Luis. "But armed with a few basic rules, you'll reduce the panic and respond effectively.

"If your toaster is burning, unplug the cord and use a fire extinguisher or pour baking soda into the toaster. For a small grease fire, try smothering it with baking soda or salt, or sliding a metal lid over the pan and turning off the stove. Don't use water to put out a grease fire. It can splash the burning grease and cause burns and never carry a burning pan outside. It can cause a full-scale house fire if burning grease spills and sets something else on fire. For an oven fire, keep the door closed and turn off the oven. If there is still a fire use a fire extinguisher to put it out."

Some tips to keep safe include unplugging small appliances when not in use, skip hand-me-down and second hand appliances that may have faults due to age and make a point of inspecting wires and plugs to check that nothing is broken or frayed.

Must-have items: A fire extinguisher that is easily accessible in the kitchen area. Make sure you have your fire extinguisher serviced regularly. A 1m x 1m Fire Blanket with holder can also be mounted in the kitchen or workshop to wrap over someone who has flames on their body.





Power failure or tripping earth leakage

Being left in the dark can be more than annoying and it's easy to trip and fall over something you can't see.

"If the earth leakage in your home is tripping then unplug all appliances and devices and see if the earth leakage stays up. If so, start plugging in the appliances and devices one by one and wait a few seconds to see if they trip the earth leakage again. Continue this procedure until you find the defective device that causes it to trip, then keep that device unplugged and send it in for repair."

If you cannot identify what is causing the problem then call a qualified electrician immediately and never attempt to work on or repair electrical problems yourself!" warns Luis.

If a power failure is caused by something outside of your control, like extreme weather conditions or an Eskom power cut, then there is little that you can do but wait it out. "If possible, opt for battery powered or solar LED lighting and don't use candles as these pose a fire hazard should they be knocked over," warns Luis.

Must-have items: Solar or battery powered LED emergency lighting; surge protector.



Blocked toilet, pipe, or drain

Luis says that if your kitchen or bathroom drains, or a toilet, become blocked then the first thing you can do to rectify the situation is to pull the materials causing the blockage out. "A good old-fashioned wire coat hanger – the kind you get from the dry cleaners – is ideal for this job. If this does not work, then try using a drain plunger to force the blockage out."

"A third option is to pour a caustic soda mixture down the drain. However, work carefully with caustic soda and follow the instructions on the packaging. Always have work gloves available when working with these chemicals."

"A blocked toilet often needs to be flushed with a large bucket of water poured straight into the bowl. There is also normally an inspection screw-off cap on the elbow behind the toilet pan that can be opened to remove obstructions. If none of these yields results, then the best thing to do is to call a plumber to come and do the job for you."

Must-have items: Toilet plunger, wire coat hanger and caustic soda.



Broken or burst geyser

A geyser has a limited lifespan and so the chances are that if yours is acting up, it might be time to get a new one. Alternatively, it could just be the thermostat that needs replacing. Even worse than a geyser playing up is one that bursts unexpectedly and pours water into your ceiling and possibly the room below.

"If you need a new geyser – whether in an emergency or planned – then the first call you make should be to your insurance company who will guide you on the procedures to follow and which approved plumber to contact," advises Luis. "While you are waiting for their arrival, turn the water supply off at the mains outside the house. If the geyser has burst and water is running into your home, try and minimise damage by placing buckets and towels where possible to capture the overflow."

Must-have items: Ensure that you have an overflow or drip tray installed under your geyser which helps to channel away a lot of the water from a burst or leaking geyser. Geysers also have temperature and pressure safety valves that have outlets that should also be relayed into the drip tray as they can also damage the ceiling when they detect a problem in the geyser.





Damaged roof, gutter or downpipe

“Homeowners should check their gutters to make sure they are not blocked with leaves and sand,” says Luis. “Guttering systems can generally degrade and perish in our harsh African sun and it is a good idea to get yours checked out before the rainy season arrives.”

“When the storms hit, high winds can cause damage to your roof and because these winds are usually accompanied by rain, you have to act fast to minimize water damage. For larger damage, the fastest solution is a sheet of plastic which can be secured over the damaged area until the storm passes and you can repair the roof.”

According to Luis, most roof leaks can be repaired quickly and inexpensively depending on the source of the problem and how much you want to spend - nearly every leak can be plugged or patched in a matter of minutes.

Must-have items: For quick repairs of gutters have Powermatic available at home. For quick roof repairs have a 5 litre Duram Fibretech handy that is the same colour as your roof – you just paint it over cracks and leaks and it has the properties to seal it. A ladder to access the roof and gutters is also essential. “However, it must be noted that falling off a ladder is one of the most common DIY-related reasons for emergency room visits so be careful!” says Luis.



Leaking tap or shower head

“If there’s a fountain of water coming out of your tap or showerhead, turn the water off at the mains before going any further,” says Luis. “Some people may feel adept enough to try replacing the shower head or tap themselves but if you are unsure then rather call a plumber to come and do it for you.”

Must-have items: Plumbers thread tape, a good quality adjustable spanner, water pump pliers, a shifting spanner and a hacksaw with a 24-tooth blade.

Broken glass in a door or window

If you have a broken door or windowpane then you need to get it fixed ASAP for obvious reasons. Luis advises that one solution for the DIY adept is to measure the broken windowpane and order a piece of replacement glass which you can then fit yourself “Alternatively, one can call a glass fitting professional to come and replace the broken glass as quickly as possible.”

Must-have items: “Keep a piece of hardboard or plywood with some panel pins in the garage for this type of emergency, which you can use to temporarily cover the affected area while you await the replacement glass to be ordered and inserted. The board can be easily cut to size to close the opening if it is raining until you get the glass panel replaced,” says Luis. “If you’re replacing the glass yourself remember to wear suitable safety gloves to protect your hands from cuts when taking out the broken glass.”



Water leak

“Water leaks in household pipes can cause a huge amount of damage if not repaired speedily. If you find or suspect a water leak, the first thing to do is turn off the water at the outside mains to minimise the damage to your home while you repair the leak.”

“If you are lucky, the leak will be in an exposed pipe and an easy repair,” says Luis. “Worst case scenario the leak may be inside a wall or under the floor, which then obviously requires far more technical expertise to find and repair, and you may need to bring in a professional plumber.”

Must-have items: A moisture meter can detect moisture in a wall or floor. Luis says that the handiest product to have at home is the standard Pratley Putty or Alcolin Aquamen epoxy that can even set under water. Other important products for emergency repairs around the home would be good quality Nitto insulation tape or self-vulcanizing tape that bonds to itself, duct tape and Teflon thread tape.



Gas leak

More and more South Africans are using gas ovens, stoves, geysers, and heaters. However, gas leaks can be dangerous. If you smell gas or suspect there is a gas leak, make sure you do the following:

- Don't smoke or light any matches.
- Don't turn anything electrical on or off.
- Open all the doors and windows to air out the room.
- Turn off the gas supply at the bottle.
- Contact a licensed gas fitter to come and detect and repair the leak urgently.

Must-have items: A gas leak detector can be installed in the home. This device notifies you if there are any hazardous gas leaks, oxygen depletion or other emissions in the area. "You can also install gas safety gauges that are connected in line to your gas cylinder and which shut off the gas if they detect a leak. If you are still unsure that it is sealed properly then take some dishwashing liquid mixed with water in a cup and brush the soapy liquid over the gas connections and you will notice the bubbles if there are gas leaks."



Getting locked out of home

Perhaps the most embarrassing one in this list, 1 in 3 people of 1 000 in a recent survey admitted to being locked outside, either by themselves or by someone else.

Of those, 19% got locked out while taking out their rubbish, 16% got stuck after a late night out, and rather hilariously, 17% got locked out by their own kids!

And to make matters worse, 10% of people who got locked out said they were wearing their pyjamas, underwear, or nothing at all. In the era of Snapchat and YouTube, this is one way you don't want to go viral.

The most obvious step to make sure you don't get locked out is to hide a spare key. Do not leave a window or door open while you're out! You might as well leave a note welcoming all robbers in the area. Safe-ish places (if there are such a thing...) to stash a spare key can include:

- Inside a fake rock.
- In an electrical panel protected by a combination lock.
- In your work bag or school bag.
- Some other place a burglar wouldn't expect. This does not include:
 - Under your doormat.
 - In a pot plant or the mailbox.
 - On a window ledge.

Must-have items: A spare key, obviously, and alternatively, a trustworthy neighbour who you can leave a spare set of keys with.





Find out how to work with manmade boards.

How to use manmade boards

Example of a prepared biscuit joint

>> Willie Marneweck

The previous article on manmade boards hopefully adequately explained what kind of materials manmade boards are. This article will concentrate on how to use chip board (CB), also known as particle board, and medium density fibre board (MDF). Both raw boards or covered with veneer or melamine, and how to use it in cabinetry will be looked at. As mentioned in a previous article, the boards come

in large sizes (1,82 x 2,75m equal to 5m²). Attention will also be given on how to deal with such sizes.

I want to digress for a moment from full sized veneer boards. There are occasions when a project is much too small for 5m² of board. Do not give up for this reason. Later in the article we will look at this issue and offer a solution.

MACHINES REQUIRED

The only special machine required for working with manmade boards is item 1 below and as a luxury item 5. Most hobbyists are likely to have items 3, 4 and 6 already.

- | | |
|---|--|
| 1 | Most of jointing can be done with a 'Biscuit cutter' machine. This can range from a 'cheapy' to the upmarket Lamello. A machine with a dust bag is almost essential, since the dust emanating from the machines is not pleasant, to say the least. If you do not know what "biscuits" and biscuit machines are, do yourself a favour and find out what it is. |
| 2 | There is a system of joining boards called pocket hole screwing. It is an alternative to biscuits but it can generally also be useful in the workshop. Ask for the Kreg system. It is, however, not essential. |
| 3 | Router with a few cutters, especially a ball bearing guided straight cutter. |
| 4 | Battery driven screwdriver. Actually, one should have at least two screwdrivers! A magnetic bit holder is almost mandatory, but this is a cheap item. It holds the various sized bits and is intended to hold a screw ready to be inserted. |
| 5 | A portable circular saw with a guide system. Not essential but very handy. |
| 6 | Jig saw. |
| 7 | However, in case one wants to do serious cabinetry such as furniture, wall units, etc., one will need the normal woodworking machines and hand tools. There is a vast difference between making kitchen and built in cupboards out of melamine boards and real cabinetry. This refers to the machines and tools required, as well as the level of skills involved. |

Joinery with manmade boards

Just as solid wood items must be joined to make a useful article, so also manmade boards. Some joinery may be similar but there are marked differences. For example, mortise and tenon, lock mitre and dovetail joints are not used for manmade board joinery. Preparation of components also take a different route. One needs to think differently when making a design with these materials in mind. It requires a different know how and

procedures. But these are not all that difficult to master with given suitable instructions.

Cutting boards into panels: It was already mentioned in the first article on this subject that one should not endeavour to cut up full sized boards at home and also the issue of tear out on the cut lines when an ordinary circular saw is used. A cut list should rather be given to a board supplier that can offer cut and boards edging services. This approach is vastly different from

solid wood, where one must prepare your panels from rough sawn timber. More on the specifications required for a cut list later.

Cutting boards at home: Although a full-sized board can be cut up by a board supplier, further cutting may still be required. Board suppliers cannot:

- Cut out of square pieces
- Cut curves
- Make cut outs
- Cut bevel edges

Should pieces require further cutting for above or any other reason, one can do it with great success if the following techniques are applied:

- Veneered board can be cut along the grain without fear of tear out
- Where a cut is however to be made, cut slightly oversize and trim to size with a router (use a straight ball bearing guided cutter with a straight plank clamped correctly)
- A pattern made of 6mm board can be used for curved cuts (again with router)
- A pattern can also be used to replicate several similar parts
- Where tear out on an item will not be visible in an assembly just ignore it
- Cut the board on a circular saw with a 3mm sacrificial board underneath the piece. (This creates a zero clearance cut)
- Because bevel cutting of edges cannot (mostly) be done with a router, the latter suggestion is the way out

Making joints: Most of the joints will be butt. Either where two boards come together, or board and solid are joined. The most appropriate joint is by means of so-called biscuits and glue. As a matter of interest, the biscuit cutting machine was invented for joining manmade boards. In no-show places screws can be used, also so-called pocket-hole screws. Another fixture is splines which can be made from thin MDF, etc., but this is not a favourite method. So called dry joints with mechanical fasteners are not intended for the hobbyist.

Mitred joints with mitred edges are possible, but also require special techniques. One can for instance make a 6 or 8-sided box with veneered board.

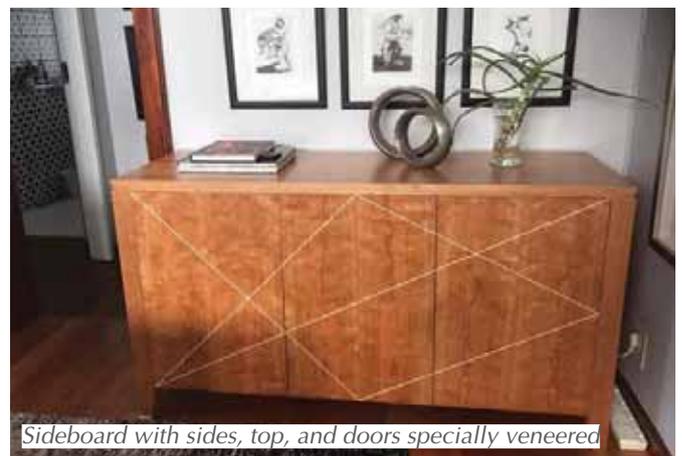


Treatment of edges: Especially CB, but also MDF, do not have presentable edges and require treatment. The most common treatment is to have a veneer or PVC edge applied. Unfortunately, veneer edges are fairly vulnerable and often chip away. It should consequently be used with discretion. Some board suppliers can offer either 1mm or 2mm thick edging in wood, similar to the board veneer, which is much more robust.

An option for shelving is to edge with solid wood of say 20mm thick x 35mm high. Not only does this look imposing, but it also strengthens the shelf (see picture).

One can make your own edging of say 3mm thick and fix it to edges with contact glue. This requires a of technique but is in fact easy to do. If the style appeals to you, one van edge doors and drawer fronts all round with solid wood with an overhanging bead. Such strips will be about 6 to 8mm thick and about 22mm wide, attached with mitres at the corners (see picture).

Finishing of a project: Melamine board requires no finish at all. Because veneer is real wood, it can be finished like wood. This includes finishing with Danish oil, Woodoc 10 and spraying with clear lacquer. Spirit stains work as well, especially as penetrating stains, as on the associated wood. I would not recommend deep penetrating oils such as Woodoc 5. After all there is no need for it. Raw MDF projects can be finished with a variety of ways. These include, but not exclusively, Velvago and wood reaction lacquer in clear or colour. For example, white is often used for bathroom cabinets. Paint techniques and other acrylic finishes are also often used.



Ordering boards to be cut up by supplier

By means of computer programs suppliers can optimise the various cut list pieces to full sized boards, and thus minimise waste. But let us not get ahead of the story. Where do we start and what processes must one go through before ordering boards? To state the logical, it all starts by what one wants to

make. Independent of the proposed project, *one will start by making at least sufficient drawings so that a cut list can be drawn up*. It is not possible to go into the making of drawings here, but one must end up with a cut list of the pieces needed for the project.



Do some investigation about the prospective board supplier to find out what kind of machines they have, and to what accuracy they can cut. Cutting to plus minus 1mm is not good enough. Modern saws cut to at least 0,2mm accuracy. Then ask about their edge

banding capability. Are their edge banding machines able to do edging from 0.3 PVC, up to 2mm 'impact' and 2mm solid wood edging? Do they have stock of your edging requirement, irrespective of whether they have the machine? Can anyone recommend the company?

Cut list

Drawing up a cut list involves a fair bit more than just the sizes of the various pieces. Let us take a closer look at what must be specified. There are some differences in specifying melamine and veneered board. These will be pointed out.

Board: The choice is CB or MDF. This can either be raw board or covered with melamine or veneer.

Melamine covering can be white, a mono-colour or a wood look alike appearance. In the latter case the "grain" always runs over the 2,7m length. Note that both faces of a board are always covered similarly. Suppliers will show you examples of the options. The texture of the surface can be smooth, or with simulated wood grain. The board manufacturers have proprietary names for the finishes, such as peen, alpine, etc. Ask your supplier about this. Thicknesses of boards range from 16mm, 18mm, 22 and 30mm. Remember 16mm being the most common and cheapest.

Veneer covering can be chosen from a variety of exotic veneers. Not all available solid woods will be represented in the veneer range. The grain always run along the 2,7m length. Due to cost considerations some boards are available with only one face in exotic (expensive) veneers but the reverse face in a cheap veneer. This is called 'single face' board. One only specifies the exotic veneer. Boards covered on both faces with similar veneer are called 'double face' and are named by this veneer.

Edging melamine board: Edgings are available in 0,3mm thick PVC (very common), 1mm thick PVC, or 2mm thick so-called 'impact' edging. The latter, by the way, gives a nice appearance on a door and drawer front and sometimes a contrasting colour the door is preferred.

The type of edging required on each of the four edges of each piece must be clearly indicated. It may vary from no edging, edging on one side only, to edging all round.

Edging veneer board: Edgings are available in 0,5mm thick veneer, 1mm thick veneer, or 2mm thick, so-called solid edging. One can specify the edging to be done similar to the board veneer or something different. Edging must be specified as discussed for melamine boards

Cut list information: To obtain the correct cut up pieces a supplier would require that you specify:

- The substrate i.e. CB or MDF and the thickness
- The covering selected e.g. melamine "natural oak", alpine appearance or in case of veneer, the type and whether single or double face
- The number off and size of each piece to be cut and the "grain" direction, of each piece
- The edging required, as explained above
- It is less confusing for the supplier if different kinds of boards are on different cut lists.



If you are fussy about the veneer boards that the supplier will utilise insist on selecting it yourself. This is very important because veneers vary in appearance. Thus the appearance of say, kiaat, can be more reddish or brownish. Also, the grain pattern may be nicer on one board than another. Sorry, the guys just have to unpack until you find what you are looking for.



Before you approve a quotation ask how many boards are required and what will be left over on the *last board*. Sometimes just a small piece or two run over to the last board. You will not only have to pay for the entire board but will be stuck with the rest of it. Ask to look at the computer layout on all the boards. One can sometimes override the computer layout by making a compromise, e.g. changing the 'grain' direction of one or two pieces where the directions are not crucial.



Use symbols to denote different types of edgings on a cut list. E.g. \$ = 3mm PVC colour natural oak, or # = 2mm solid mahogany. Make extra columns after

each of the "length" and "width" columns. If only one edge on the length needs edging then indicate with one symbol, e.g. # or if both lengths must get edges by ##

Specially veneered boards

It was mentioned at the beginning of the article that there may be occasions when a project requirement of veneered board is much smaller than 5m² of a full board. On the other hand, one may perhaps want to have e.g. a tabletop with a fancy veneer lay on made, i.e. ready veneered board is unsuitable. The solution in both cases is to approach a specialist veneering company. These companies will gladly veneer panels to your requirement. It is important for the hobbyist to take note of this possibility. Have a look at the examples below.



Bed pedestal with drawer fronts specially veneered

This is how to go about it. First find company that is able and willing to undertake the job. For straight forward veneering they normally quote per square meter for the specified veneer. They will, at a reasonable price, veneer small or large panels of CB or MDF. Last year I had a tabletop of 1,2 x 2.6m veneered. Of course, you must make up your panel of substrate, but this can be done by a board supplier for you.

An advantage of this method is that you can edge the panel with solid wood prior to veneering. After veneering a decorative edge can be routed (because the routing is in the solid edge and not the substrate). See picture of round table with reference to the edge of the top.

In a follow up article, a smallish project utilising melamine board will be featured. This will hopefully explain in practical terms how to make simple drawings, draw up a cut list and lastly how to build the project.



Round table with fancy veneer lay on

"Without craftsmanship, inspiration is a mere reed shaken in the wind."

– Johannes Brahms

EVERYTHING YOU NEED TO KNOW ABOUT AIR CONDITIONERS

If you are like most South Africans, you know that our hot and humid summers can be extreme! Installing an air conditioner just might be what you need.

When the weather is sweltering hot, you want to make sure you stay cool throughout the day and sleep comfortably at night – and that starts with choosing the right air conditioning system. Home air conditioning systems are more energy efficient than ever before. If you're looking to upgrade or replace your cooling system, the current air conditioning options available can help keep you cool and save you money for years to come.

But where do you start? Selecting the right air conditioning system can seem like a daunting task. This guide is designed to help you navigate through the complex decision-making process and provide you with helpful information to help you select the right air conditioning for you and your family.

Portable air conditioning units

For occasional cooling you may consider a portable single room unit, such as an evaporative cooler or a portable air conditioner. For really effective cooling, look for refrigerant-based air conditioning units – despite the fact that they are more power hungry.

Advantages

- Easily moved from room to room.

Disadvantages

- Tend to be noisier than installed units.
- You need to keep the window open in order to vent the resultant heat, which can be a security risk and may result in disturbed sleep due to potential noise.

Domestic air conditioning options

Installed systems usually comprise an outdoor unit that has a fan in it. The fan is then connected to an indoor unit via two insulated pipes that contain refrigerant. (The pipes, including the insulation layer, are around 28mm diameter).

The indoor units are available in various configurations:

The high wall unit is a bulk-head that is mounted on the wall and is about the size of a couple of shoe boxes.

Low wall units look similar to standard radiators.

Ceiling cassettes can be mounted in the ceiling in a central area of the room

More discreet slim-ducted units can be positioned in the ceiling or housed in gridded boxes above cupboards or near doors, as is common practice in many hotels.

The ducted units can also direct the air to more than one outlet through a number of ducts, with separate dampers in each duct for individual room control. These ducts must be insulated to avoid condensation.

Domestic-sized air conditioning systems are also available in different levels of complexity:

Simple systems designed for a single room application will have one outdoor unit and one indoor unit. These are known as single room air conditioners.

The next option is a split air conditioner which is one outdoor unit with two, three or four indoor units. They are all on or all off, and will either all be in heating or cooling mode. These would be used in large room applications.

The third, and most flexible, domestic unit is the multi-split. This is one outdoor unit and up to eight indoor units with a maximum heating capacity of around 12kW (depending on the manufacturer). Each indoor unit can be individually controlled so you could have heating or cooling in one to eight locations. Any more diversity than that and you are looking at the commercial products, and you would probably need a three-phase electricity supply.

Advantages

- Wide range of shapes and sizes
- Available in different levels of complexity, from single room air conditioners to multi-split units



Necessary maintenance operations keep your system up and running efficiently

Common air conditioning mistakes

Here are eight of the most common mistakes people make when it comes to home AC, and some simple adjustments that can save your lungs and wallet.

You aren't changing or cleaning your filters

At a minimum, you should be changing the filter on your central air conditioning unit once every three months – and as often as once a month if your system is running all the time. Neglect this chore, and a dirty filter can lead to poor air flow or freezing up of your unit's evaporator coil, says James Braun, a professor of engineering and director of the Centre for High Performance Buildings at Purdue University. A filthy filter could add 5% to 15% to your air conditioning bill, and will shorten the lifespan of your whole system. Fortunately, replacement filters are pretty cheap – usually less than R150.

You're not having your system serviced annually

You could look up online video tutorials about cleaning your air conditioning unit's coils and fins – necessary maintenance operations that keep your system up and running efficiently, Braun says. You could also bring in a pro to service your system once a year.

You don't have a programmable thermostat

Maybe you're one of those superhumans who always remembers to adjust the thermostat before leaving the house. But if you're like the rest of us, a programmable thermostat can save you hundreds on your annual air conditioning bill by automatically raising the temp at those times of day when you're at work or away from home, Braun says. Newer phone-controllable 'smart' thermostats make programming even simpler.

You're setting your thermostat too low

Research shows the human body is capable of adapting to hot or cool temperatures pretty quickly – like within a week

or two. When you consider you'll cut up to 3% off your air conditioning bill for every degree you raise the temperature – not to mention the potential environmental benefits of lowering your air conditioning use.

You're not taking full advantage of fans

Any type of fan, but especially ceiling fans, can help keep cool air circulating throughout your home. That removes some of the burden from your air conditioning system, Braun says. Just be sure your ceiling fans are turning counter clockwise during the summer, which promotes greater air flow.

Your thermostat and/or vents are poorly positioned

If the sun or a nearby lamp blasts your thermostat for big chunks of the day, that could throw off its readings and cause it to crank your air conditioning even though your place is pleasantly cool. Especially if you're away during the day, you may not realise your system is working overtime due to a misplaced thermostat, Braun says.

Blocking air conditioning vents with furniture or curtains can also limit air circulation. Unless you spend a lot of time huddled under your sofa, you'll want to be sure your air conditioning vents are unobstructed.

You're cooling empty rooms

If AC vents are open in every room of your house, you're chilling a lot of real estate that may not be in use on a day-to-day basis. Walk around and close those air conditioning vents that open onto unoccupied rooms. Also, closing closet doors ensures those spaces aren't swallowing your cold air.

You don't have blinds or curtains

Bright sunlight is your air conditioning system's nemesis. By closing blinds and sliding curtains to block the sun's rays, you'll also shield your space from the sun's heat.

Surprising facts about air conditioning you need to know

Air conditioners come in handy during summer. They purify the air and refresh the house to make the indoor stay quite bearable. As a homeowner, you have probably bought one or more air conditioners. Or maybe, you are planning to invest in one.

But how well do you know the conditioning unit you use? It's essential to know some basics of the device you use daily, and that's why we have written this guide. Here are surprising facts about the air conditioning that you need to know!

The first air conditioner was invented in 1902

Air conditioners are not new. They have been in use for more than a century since the first conditioner was invented in 1902. The initial conditioner was made by Willis Carrier, who was making a carrier for a printing firm. The printing company was experiencing high humidity levels, which would interfere with printing papers' size and lead to poor results.

The then available cooling methods were not enough to cool the printing house, well, and that's when the Willis carrier came up with the idea of the air conditioner. The device worked well, and Willis continued to make more air conditioners. Later on, Willis expanded his firm, and now, it's worth surpasses \$13 billion.

Air conditioners can save lives

The benefits of air conditioners go beyond improving the appearance of a home and enhancing comfortability. The conditioners come with filters that purify the air we breathe. The purification removes the pollutants and other particles that cause respiratory infections.

However, there are some instances where the air conditioner will also become the root cause of allergies. The health experts recommend changing the old filters and replace them with newer ones as you might be allergic to air conditioning due to the contaminants from dirty filters.

You can also improve hygiene in your house to reduce the dust particles which worsen allergic reactions. When used well, the right air conditioners can boost your health and save lives!

Air conditioners became popular in the 1970s

Many people did not use air conditioning units until 1972. Not that they did not want them, but because they were too expensive. The only people who could afford them were the rich. Nowadays, central air conditioning units have become very common, and anyone can afford them.

Today's air conditioning units are more effective; they are quiet and have a better aesthetic appeal. You only need to purchase the best from a reputable supplier. And since the number of conditioners in the market has gone high, you need to review the available options first, and then choose the best in line with your budget and property needs.

You can extend the life of your air conditioner

The average lifespan of an air conditioner is 5 to 10 years, depending on the brand's quality. But did you know that you can extend the life of the air conditioner? You can do so by observing proper maintenance.

The maintenance tips include changing the filters often to enhance the flow of air. Maintenance also includes hiring an experienced technician to inspect the conditioner's parts and upgrade the less effective ones. Also, you should keep it in a secure place to prevent many people from touching it.

When buying, ask your dealer to give you the right maintenance tips so that you can improve the life of your air conditioning unit. Avoid DIY solutions, too, because they might cause more problems.

There are many types of air conditioners

A central unit is the standard type of air conditioner, but it is not the only one. The units come in many types and sizes, which means that you can get a great air conditioner for your budget. The smaller conditioners are known as the mini conditioners, which you can readily from one place to another.

Window air conditioners are small too, and they are the best if you want to cool a specific part of the house. The central unit stays in one place; thus, you should only place it in a commonplace, such as the living room. It's advisable to understand the various types of air conditioners in the market so that you can choose the best for your property.



Portable units are an option, although you need to keep a window open in order to vent heat

BRIGHT IDEAS

Readers share their time-saving, space-saving or innovative ideas



Simple bird feeder spike



Here is a simple and effective way to spike fruit for birds onto tree branches. All you need is a drilling machine, a drill, a hammer and a broom handle out of your workshop, and then buy a nail and a universal pipe clamp if you haven't got any.

Universal pipe clamps are rated for a range of diameters. One that includes 25mm in its range will be okay for most applications. The photograph shows a universal pipe clamp with an unlockable worm drive, which I used, but conventional screw-type pipe clamps would also be suitable.

I first tightened the clamp to a piece of broom handle (see photos 1 and 2). This makes it easier to hold the clamp

during drilling. I drilled the hole roughly opposite the clamping mechanism.

The nail I used was 80mm long and had a 3,5mm diameter – thus I used a 3,5mm drill bit. Thereafter, I had to open the clamp and knocked the nail gently through the hole. The reason why I did not use a 4mm drill was in consideration of getting more clamping area around the nail head. If you use a clout-nail, which usually has a larger head, a 0,5mm larger drill than the nail diameter should be okay.

I needed to open the clamp fully to insert the nail, but this is also necessary to get it around in the middle of a branch (see photo 3).

Ralph Genth, Brackendowns

Make the most of your glue



Are you always losing your glue in the workshop? I made these two stands out of scraps of MDF and painted them brightly. They can always be seen; the glue is ready at the first squeeze and you get to use the complete contents of the bottle.

Bob Gillies, by email



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The Tork Craft biscuit joiner is one on the most powerful, popular and affordable power tool joiners on the market today. The standard oval-shaped, biscuit are made up from a highly dried compressed beech wood that are also available from your Tork Craft retailer. This biscuit joiner is the perfect joining tool for all types of wood joining.

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Gather the young ones and let them make their own DIY dream catcher.



Only in

DREAMS

like. If you have younger kids, you could even leave the hoops bare if you want to save a step.

Step 3: This part was super easy; make sure to pre-cut a bunch of pieces and lay them on the craft table. Have them start wrapping the wool around the outside of the hoop in a web pattern and tie to secure it.

Step 4: Now it's time to add the bottom of the dream catcher. Make sure to stock up on lots of supplies as listed above for this part. Let the kids get as creative as they want.

Tie some of the wool on the bottom of the dream catcher at different lengths. This is a perfect opportunity for older kids to assist the younger kids. When adding the pom-pom balls, make sure to use a large needlepoint needle.

One of the best things about this dream catcher project is that you don't need any paint or glue to do it. Children can get creative with the project, choose their own colours and decorations, and when they are done, they can hang them above their bed or on the wall.



Materials

- Wooden embroidery hoops
- Variety of wool
- Assorted pom-poms
- Pom-pom garland
- Feathers
- Needlepoint needles
- Variety of pony beads

This simple-to-make dream catcher project is the perfect craft for kids of any age. Make sure to stock up on lots of great items for this craft and lay it all over the tables, so the kids can get super creative.

Step-by-step guide

Step 1: Pick the size embroidery hoops you want to use; around 15cm is a perfect size for a project. It will work perfect for kids of all ages.



If you separate the hoops then you'll have two instead of one!

Step 2: Tie a knot on the hoop and have the kids start wrapping the wool around. Once they are done adding their wool, tie it into place.

You can have them add as little or as much wool around their hoops as they



Gather all your supplies



15cm embroidery hoops are perfect for this project



Tie a knot on the hoop



Wrap the wool around the hoops



Wrap the wool around the outside of the hoop in a web pattern



Get creative, adding pom-poms, feathers, garlands or more

About dream catchers

These mystical objects of ancestral origin were specially designed to protect children's dreams. Mirko Badiale once said: "We should hang a poster on every child with the words: Be careful, dreams inside."

Dream catchers have become very popular over the past few years. Typically, these sacred objects are made in a traditional way, based on coloured threads, feathers, beads, willow or cedar branches and a ring. The idea was always to place them above cots.

Celebrities who like the bohemian style have added to the popularity of putting dream catchers in homes. Hilary Duff, the popular singer, actress, fashion designer, model and mother of a little boy named Luca, joined the trend. She placed a beautiful giant dream catcher in her son's bedroom before he was born.

For Native Americans, dream catchers have more than one meaning. The Ojibwa people believe they symbolise the movement of the sun. For the Lakota, they are circles of protection that represent the cycles of life. There are other people, like the Sioux, who understand their 'magic' in a different way; they believe that bad things and bad dreams get trapped in the central network of the dream catcher. The good dreams, according to them, glide down the feathers and the inner beads and travel into the minds of children.

During the 60s and 70s they became popular as souvenirs. They even became an element of cultural identification for different Northern American indigenous peoples.



ASK OUR EXPERTS

Our panel of experts answer your questions on DIY problems

Advice needed on pointing new patio

Help! I am a 70-year-old woman who lives alone. I have been having my patio refurbished, and to cut a long story short, it's been a difficult year. I got a guy in to relay my patio, but he had no idea what he was doing. Eventually he got a friend of his who is a professional builder in and the majority of slabs have now been laid. The outcome of this is that this has taken much, much longer than expected and has proved very expensive in terms of time and money. I am living on a pension and this keeps dragging on.

Anyway, his builder friend left him to do the pointing but it was being done so slowly and badly I finally lost patience and sacked him. This has left me with the problem, for now, of mortaring the patio. The laying isn't complete, but the main part is done. I have decided to get the rest done next year. Please can you advise me as to whether mortaring is essential before winter and if so the easiest way to go about it? I have heard you can put sand down but I am not at all sure it would work for slabs. The

advantage of that would be that I could do it myself. Alternatively, I could buy premixed mortar. In both cases I have to do it myself as I really can't afford to get anyone in right now. Before anyone asks, it is nigh on impossible to get any builder in at the moment and they don't like small jobs. Advice in terms of easiest way forward gratefully received.

Tracey Taylor, Durban

Ed replies: Really sorry to hear that you've been had, sadly there is a lot of it going on at the moment. It's not really going to make any difference whether you point the slabs now or in the spring. If you decide to have a go yourself you will need a bag of sand, a small bag of cement, a trowel (small enough for you to use), a bucket to mix in and a pointing tool (a round stick of a few centimetres diameter will do). Mix your mortar dry - four sand to one cement - add water until you get a mix that only just sticks together, then force this down into the gaps with the edge of the trowel until you cannot get any more in. Finish off with the round stick and brush away excess into the next gap over. Only attempt this in dry weather.

Dust collection?

I've got a long list of equipment I need for my shop. A dust collection system seems like all expense and very little payback. How do I justify the cost?

Terrence Roddy, by email

Ed replies: Before carrying on, I suggest you read our article in this issue's Woodworker's Corner on dust collection. You don't have to invest huge sums of money on a large system that can handle all off your machines running at the same time. You probably won't be running more than two machines at once, unless you're doing production work. The cheapest solution (depending on the size shop) would be to purchase a few mobile units that can handle a few machines independently, and move them around to the machine(s) being used at the time.



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Our winning query comes from Alan Garner-Savory who wins a subscription to *The Home Handyman* for a year.



How do I install a fibreglass bath?

Can you please publish an article on the installation of a fibreglass bath tub. My cast iron bath has reached its sell by date (it has been 68 years).

Alan Garner-Savory, Johannesburg

Ed replies: Before you can purchase a fibreglass bathtub you should know the area of the space available in the bathroom for fixing the bathtub. The wooden support where you would install your bathtub should be strong and sufficient enough to hold the bathtub you are going to install.

You should prepare the wooden frame support for the bathtub if they will not provide adequate strength or size. If you have added a new wooden support, make provisions for the plumbing to fit properly. It means that the support should have provisions for a water inlet and water outlet facilities in the bathtub.

Assemble the component of the trip lever or waste assembly as per the instructions given by the manufacturer. However, let the connections be loose for repositioning.

Fit the rubber gasket to the back of the bathtub in the place where the trip lever will be. Assemble the bottom portion of the drain assembly to the drainage hole of the bathtub. Now install the drain at this bottom portion of the bathtub. For this you should apply a thin layer of putty at the lower end of the drain flange. Then screw them tightly.

Now add the trip lever assembly to the top

hole in the fibreglass bathtub and fasten them with a screwdriver. Position the bathtub on the supportive wooden frame and check for levelness and the plumbing connections. You can use wooden shims to adjust for the level of the tub (if necessary).

If you can handle it yourself, install the appropriate plumbing fixtures, or call in the professionals.



Unhappy with tiling job, what to do next?

I am very unhappy with a tiling job in my house. The tiling isn't level, the grout is the wrong colour and patchy, the tiles along skirting aren't flush in areas, and there are marks left on freshly painted walls.

Any advice where to start?

Elias Shumba

Ed replies: The easiest solution would be to regROUT. It is amazing what a transformation it makes. It is a perfectly simple DIY job but it is time-consuming. You can fill in holes along the skirting or add a layer of beading to make it a bit neater. You can't fix the fact the tiles are not level though; if they are really bad you really need to remove and re-tile.



Words of wisdom from the workshop

We have put together a compilation of 'lessons learned', opinions, and FAQ's aimed primarily at novice woodworkers on workshop related matters. How 'wise' these words are may be a matter of debate!

Woodworking machines

Woodworking machines are dangerous even when operated properly. If for any reason you believe a procedure is not as safe as you think it should be, think of another safer way to do it.

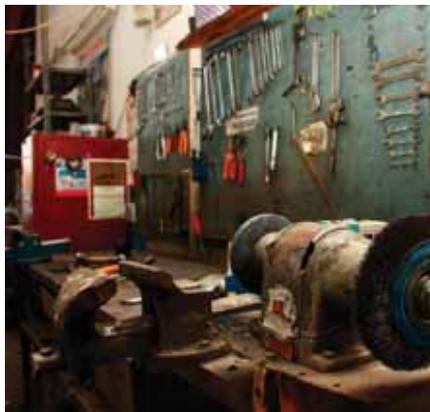


Cutting multiple boards

If you have several boards that need to be cut to the same length, you don't have to measure every single board. Instead, measure the first board and cut it to length. Then, use that cut board as a guide for cutting the rest of your wood.

Workshop space

Your workshop itself is the most important tool; having space to move about and assemble projects is very important. Also being able to walk up and use your saw, workbench, and tool cabinet unhindered without having to plug it in or clean it off should be a primary goal. It would be nice if that is true of your other equipment as well but it's especially important with these.



No-fuss finish

Want a no-fuss finish on your project? Try Tung oil, it is one of the only oils that actually dries and can be re-applied in layers for a hard, durable finish.

Table saw

In a typical workshop, the table saw is the core woodworking tool. The quality and usability of this tool is proportional to the potential quality of everything produced from it; you cannot buy a table saw that is too good.



The miter gauge

The miter gauge that comes with a saw is almost worthless. Don't waste your time trying to improve it or even make extended fences for it. Either buy one of the cheaper aftermarket miter gauges or a true sliding table.

Building furniture

When building furniture, you will benefit from a jointer and planer unless you learn how to properly dress stock with hand tools. The wood you buy is neither straight, flat, or of consistent thickness. When cutting joints, it is highly beneficial to work with true stock; it is also far less frustrating. These tools also make it easier to build square jigs, which in turn, will make for better fitting joinery. If you are going to build furniture you should be using these tools.



Glue

It always seems to get mucky no matter what you do. The best (and free) glue container I have found is an old empty plastic mustard bottle. The ones with a twist top. They actually have what works like an on and off valve and are perfect for holding glues. The yellow container also makes them easy to find.

Stock

You need to have an adequate stock of sandpaper, screws, glue, and other similar items on-hand all the time. You don't want to have to delay an assembly just because you didn't have the right size screws.



Sharpening tools

Learn how to sharpen your tools properly, you don't need to spend a lot of money on a machine to do it but if that's what it takes...

Measurements

I have wasted so much time when woodworking by measuring my boards incorrectly. I tend to get in a hurry and this hurrying causes me to make more mistakes which slows me way down. There's not much you can do if you cut your boards too short. Hopefully, you have enough scrap wood to cut a new piece at the correct length or you'll have to make another trip to the hardware store to buy more wood. Save yourself the trouble by double (and triple) checking your measurements before you cut your wood. Making sure that your measurements are correct before you

cut will save you so much time (and frustration).



Workshop walls

Don't nail or screw anything to your workshop walls if at all possible. Instead, use an angled cleat system run around the perimeter. You can hang cabinets up on them, peg board, jigs or jig holders, almost anything and you can re-arrange it later if you want.



Wasted space

You can store a lot more in drawers than you can behind doors. If possible, convert any wasted space under or around machines into drawer cabinets. You can increase the available storage space dramatically.

Organise tools

Put all your tools and anything else that sits on the floor on a mobile base except





for your main workbench. It makes the shop easier to clean (or hose down) and you can rearrange the layout later or create more open space as needed.

Woodworking plans

My printed woodworking plans are always full of notes as I'm working through a project. If you're like me and have to work in little spurts of time this is totally necessary! Without my notes I spend the first 15 minutes or so of my project time just trying to figure out what I have already done and what I need to next. Check off steps as you work through your project and make notes about what your next step is. Jot down measurements, sketch diagrams, write out a cut board inventory – whatever you need to stay on track.



Storage

Your workshop cannot be too organised; having a place for everything and everything in its place is an investment in effort that will pay for itself many times over. Similarly, don't store seldom used items in the workshop if you have some other place to do so.



Outlets

Oversize your electrical service and put outlets every few metres on the wall. Make sure the outlets are high enough on the wall that you can get to them if there

is a sheet of plywood leaning against the wall.

Tool condition

Ensure that you can always get right to work by keeping your tools in good condition. This means cleaning your tools regularly and replacing blades or other parts as needed. Maintaining your tools has a lot of benefits. They will last longer. You will have less errors when working on your woodworking projects. And, performing regular maintenance will save you from having to stop mid-project to repair or clean a tool.



Stains

To prevent stains caused by oozing glue along joints, clamp the pieces together without glue. Put tape on the joint, then cut along it with a sharp blade. Separate the pieces, apply the glue and clamp them together again. The glue will ooze onto the tape, not the wood. Peel off the tape before the glue dries.

Scrollsaw burning

Scrollsaw burning some of your work? Some woods are bad for this. The simple answer is to cover the top of your project with cellophane tape. You can still see your pattern through the tape, which then lubricates the blade as the blade heats up, just enough to help it slide through the wood better.

High quality router bits

It is worth it to spend the extra money on high quality router bits for profiles that are often used. For less used profiles, cheaper bits will serve just as well.

Woodworking glue

There is more than one type of woodworking glue, learn what they are, and when to use them.

Wood filler

Avoid using wood filler to fix gouges or other large defects/mistakes, it always shows. Use a strip of wood plugged or scarfed in instead, it usually isn't noticed.

Gauges

Get a good quality square, straightedge, and feeler gauges to setup and check your machines with.

Jigs or gadgets

Don't go out and buy just any jig or gadget unless you know you will use it on your next project.

Woodworking discussion groups

Take the tool information from woodworking discussion groups (and the web in general) with a grain of salt. The primary benefit of these sources is that you can obtain a wide variety of views that may otherwise be un-obtainable. You can also become quite confused or misguided, you will have to learn to separate the wheat from the chaff yourself.

Pocket hole jig

A pocket hole jig should be one of the first ten tools you buy if you are into 'power tool' woodworking. Although it's probably frowned upon by elitists, it will enable a novice to build projects with far fewer error inducing machine operations than would otherwise be possible. Fewer mistakes in the workshop equates to more fulfilment which is probably one reason you are there anyway.

Dust

Have as few places in the workshop for dust to settle or accumulate on or in as possible.

Crosscutting

When you're crosscutting on a table saw, set the cut length with a block clamped to the fence. Don't ever use the fence directly to avoid getting a board kicked back right at you. Instead, clamp a block of wood to the fence before the blade. Then the end of the board will be free of the fence during and after the cut.

Hot glue gun

When you have to cut, shape, file, sand or finish something small, reach for your hot glue gun and glue the piece to a pedestal stick. The hot glue will hold just about anything as well as or better than any clamp ever could – if using a clamp is even possible. When your project is complete, try to pop it loose with a putty knife, but don't use too much force – you might tear out the wood or break the piece.



WOODWORKER'S CORNER

Sharing techniques, ideas and a love of wood

Witwatersrand Woodworkers Association celebrates 30th fundraiser



This year, the Witwatersrand Woodworkers Association held its Annual Toys For Charity Fund Raising Braai at the Gereformeerde Kerk, Randburg in November.

The main purpose of the fundraiser was Toys For Charity. Members normally meet at the club's workshop throughout the year to make toys for donation to children's charities at Christmas – this was unfortunately not the case this year. This year the members made toys in their home workshops and these toys were brought to the function for donation to the selected charities.



A raffle, of a professional Magician Show, was won by one of the charities for the enjoyment of the children. The three charities were Little Eden, Baby Moses and Kids Haven.

During the lockdown, the association also had a request from Little Eden to make some special needs chairs for their disabled children and three of the club members stepped up to the plate and the club were able to donate nine of these chairs. The club had a donation of MDF board from PG Bison in Boksburg and Ken Bullivant (Life Member) made four chairs and the



balance were made by Roger Matthews and John Franklin.

The Witwatersrand Woodworkers Association is a non-profit organisation and the club raffle donations from suppliers to the woodworking industry to raise funds for the association.

Understanding dust extractors

Protecting yourself against the hidden dangers of dust is a must. Modern woodworking techniques involve the use of powered machinery and tools which create large amounts of chips and dust. Efficient extraction ensures that not only do you protect your health, but your machinery works more efficiently,

and the workshop is a better and safer environment to work in.

In the home workshop, even with the most efficient dust extraction system, it is not practical to extract 100% of the dust produced. Many tool manufacturers, even the better ones, treat dust extraction

as an afterthought. It is true though that some tools are very difficult to extract from, for instance mitre saws.

One good test of the overall efficiency of a dust extraction system is to allow the sun to cast a beam of light across the workshop and see just how much

particulate is suspended after machining. It can also be enlightening to shine a beam of light near the dust extractor when it is running, as it will give you a good idea of just how much dust is getting through the filters.

Dust and chip

There is some confusion with regard to wood dust. When does wood chip become wood dust? Officially it is when the dust is less than 25 microns in size but, for the sake of this article, if you can breathe it in, it is dust, if you can't, it is chip. One common misconception is that sanding produces dust and all other machining operations produce chips. In reality fine dust is produced from most machining operations; even a thicknesser will produce plenty of fine dust together with vast quantities of chips.

Dangerous dust

As a general rule, hardwoods are more hazardous to human health than softwoods. This is probably because they contain tannin or similar compounds, and because they generate finer particles when machined. However, there are exceptions, and some softwoods are particularly hazardous.

Dust from manmade boards, principally MDF, is thought by many to be very dangerous, but the main danger here is that the dust is very fine rather than particularly toxic.

Most dust we breathe in is filtered out by hairs and mucus in the nasal passages, but very fine dust is able to get past our defences and into our lungs.

Wood dust can cause asthma, dermatitis and rhinitis. Also, there is some evidence that it can cause nasal cancer, although this is rare.

All wood dust should be considered potentially hazardous but this is a short and incomplete list of woods for which one should take extra care: Ebony; Greenheart; Iroko; Maple; Oak; Obeche;

Oleander; Olivewood; Rosewoods; Satinwood; Spalted Beech; Western Red Cedar; Teak; Yew.

Extractor jargon

One needs a healthy degree of scepticism when looking at the specifications for most extractors on the market. Air flow figures are usually measured with clean filters, as the filter quickly becomes covered in dust the normal working flow rates are usually a lot less. Also, filtration levels can be measured when the filter has a thick dust layer to augment performance, so treat specifications as a guide only.

Performance is often quoted in different units, air flow for instance m³/hr, ft³/minute, litres/sec, and motor power is quoted in horsepower and watts. This makes it difficult to compare models.

Fires and the risk of explosion

As wood dust travels along plastic ducting, it builds up a static charge, and as wood dust is potentially explosive, we have a mixture of spark and explosive which is not a good mix; so it is wise to install a means of discharging any static electricity generated.

To keep things in perspective, there were on average less than five explosions or fires each year associated with the collection of wood waste between 1990 and 2000, but no one wants to be one of those five, so it is worth taking some precautions.

When wood dust burns in suspension it produces a flash fire, if the wood dust is contained within an enclosure the pressure build-up can produce a destructive explosion. This can then disturb dust deposits within the workshop and create a dust cloud, which if ignited by burning particles from the first explosion can result in a secondary explosion more destructive than the first. Therefore, keep your workshop as clean as possible; it only takes about 100 grams of dust per cubic metre to form an explosive mixture.

Naked flame is the most obvious cause of workshop fires, but also faulty electric wiring and appliances can be a source of ignition, don't let wood dust accumulate especially inside your machinery.

Precautions

Efficient extraction at source is the most effective method of reducing the hazard of wood dust, but with many machining operations it is still wise to wear a respirator.





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Giving, DIY & joy

About Annalien:

Annalien started her career at the *SABC* on *50/50* before moving to Germany after she met her husband. Later, they returned to South Africa and she took on various freelance projects, eventually getting hooked on DIY. Annalien was part of the team on *The Home Channel's Get It Done!* series.



>> Annalien Grensemann

As we are at the beginning of another year, feeling cautious of what 2021 has in store for us, I feel it is necessary to share a bit of food for thought as well as some inspiration to tackle this year head-on.

Each day we are rushing after happiness, yet it is also a waiting game... I will be happy when I can buy that car, when I get that job, when I retire, when I fall in love. But happiness is an emotion that comes and goes. What we are really looking for is joy. A deep-rooted way of approaching life.

The other day, while sitting at a traffic light, I saw four young boys dancing in order to get some money from the cars waiting at the red light. After their dance they were walking between the cars and a lady in one car gave a R50 note to one of them. That was the purest form of happiness I have ever seen. Firstly, he had the expression of not having any big expectations and a 'thank you ma'am'. Then it changed to amazement when he saw what he had received and, with a wide smile, he ran to his friends waving the R50 note. I was sitting there looking as the story was playing out in front of me, and the joy that filled me was of so much more value than that R50. I realised then

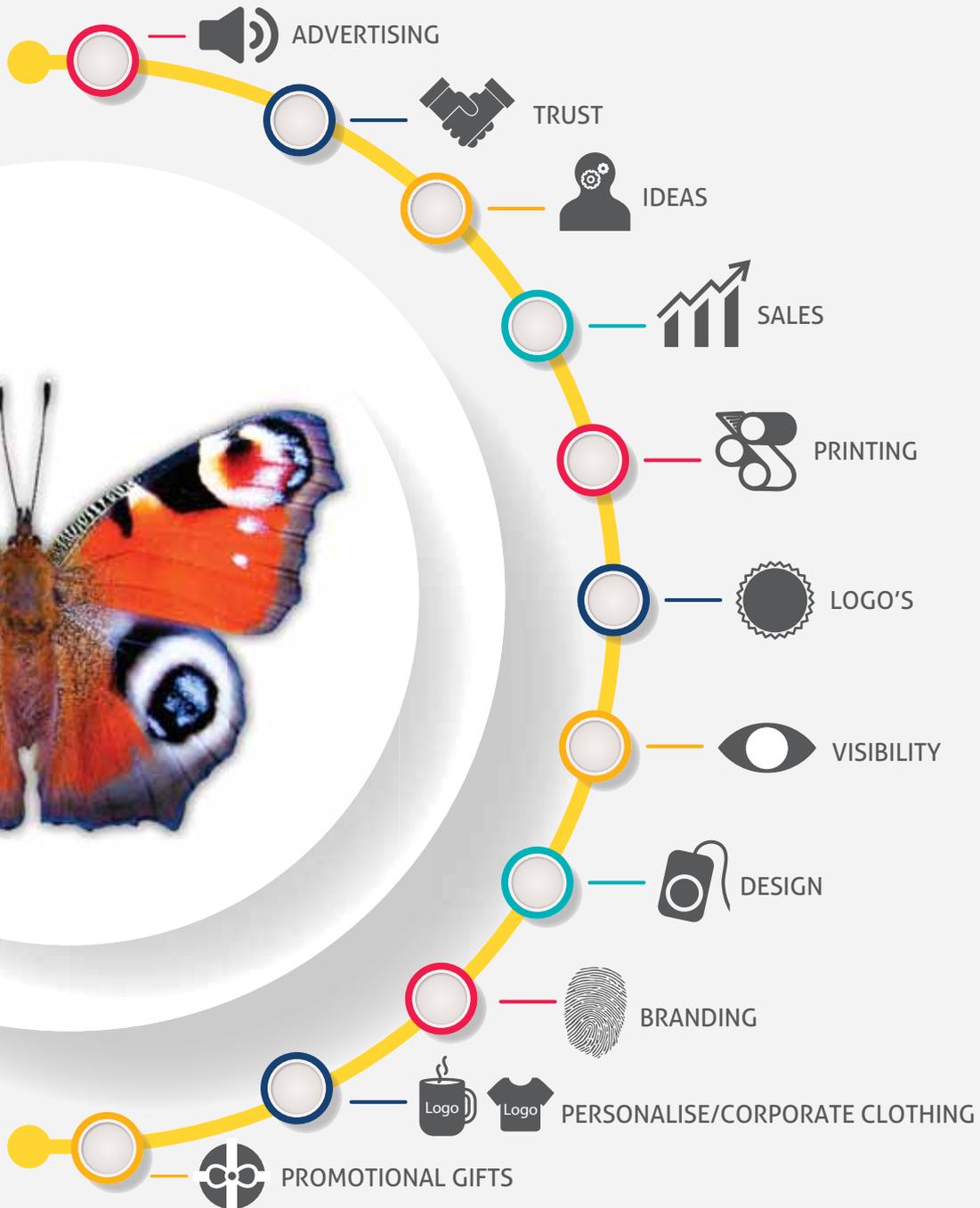
that giving and having compassion is an integral part of one's pursuit of joy.

Gratitude is another quality in finding joy. It is not always easy to find that gratitude in your circumstances. Let's be straight here, life can be hard and 2020 showed us just how challenging it can be. There is sadness, anger, loneliness, and despair and you sometimes have to dig deep to find your gratitude. The best way to do that is to look and be thankful for what you have and not to focus on what you don't have.

And if all else fail, pick up your power tools, pull some creativity together and build a bird feeder. While you are cutting, gluing and screwing in screws, sanding and decorating it, deliberately enjoy each process. After putting it up in a tree or somewhere in your garden, make sure you have a comfortable chair close by and pour yourself a tea, beer or a G&T and relax. This is the best part! It is always amazing how quickly birds know that there is food nearby. Sit back and take a long sip of your drink and enjoy watching the different garden birds and their 'conversations' around the feeder. Be proud of yourself and let a bit of joy into your life.

"We were made to enjoy music, to enjoy beautiful sunsets, to enjoy looking at the billows of the sea and to be thrilled with a rose that is bedecked with dew" – Desmond Tutu

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