

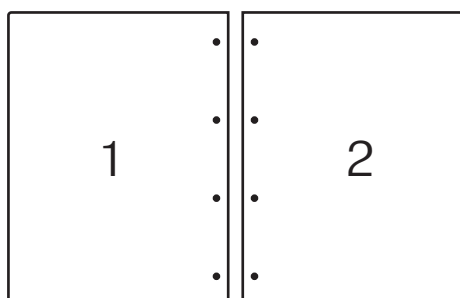
Fix and Remix

A step-by-
step manual
for miniature
furniture making
at V&A East
Museum, and a
guide to making
with reused
materials

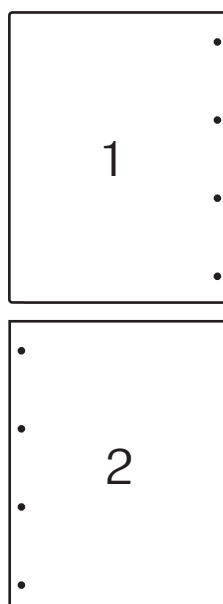
V&A East

This document is a digital version of the printed Fix and Remix manual that can be found at V&A East Museum as part of the miniature furniture building activity.

For viewing on larger landscape devices, view as two pages facing each other:



On mobile it is best viewed scrolling through single pages:



This manual has three parts:

Part 1

Make your mark

Follow a step-by-step guide to make your own mini furniture at V&A East Museum

Part 2

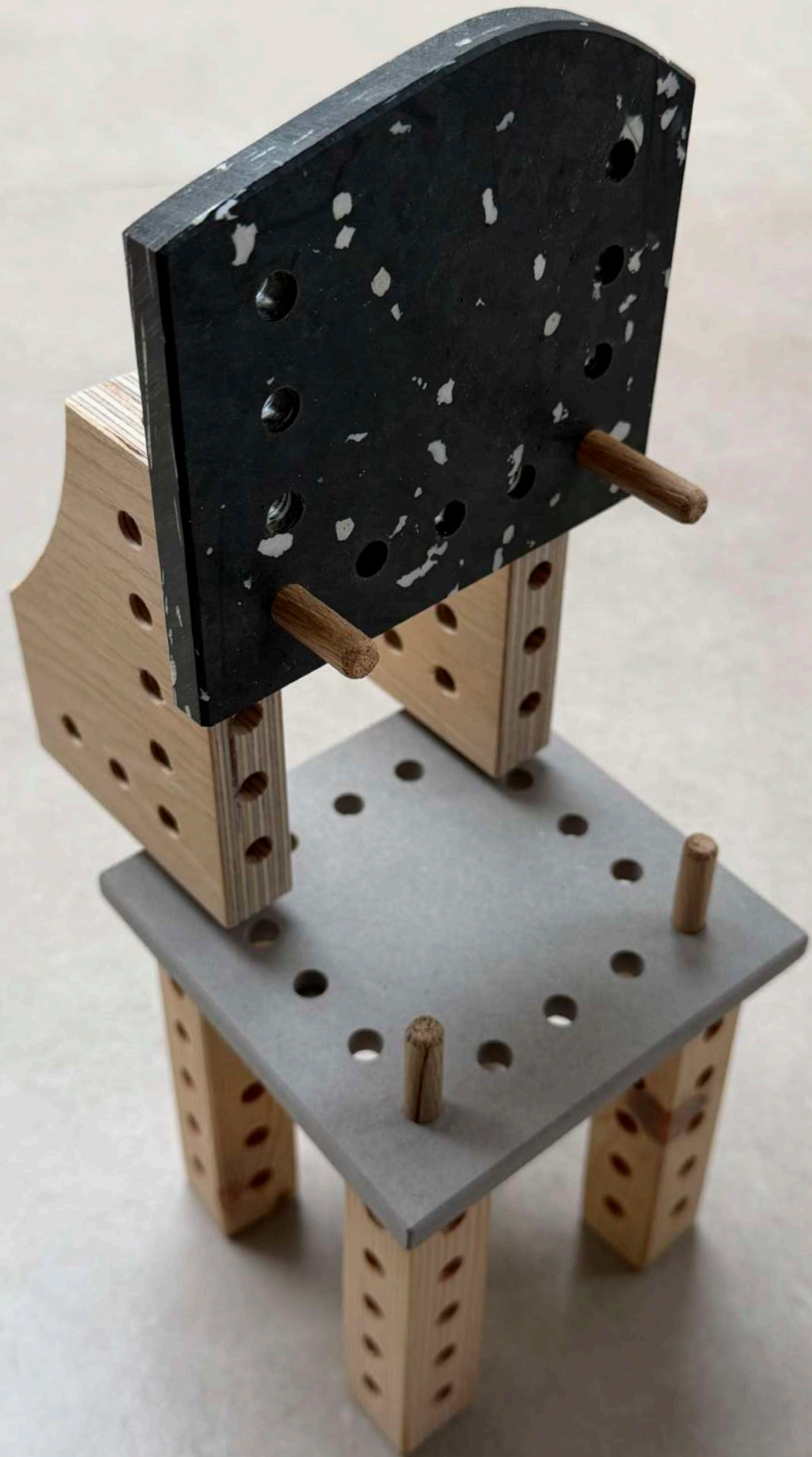
***Fix and Remix* workshops**

Discover the workshops with Blackhorse Activators that inspired this activity

Part 3

Get inspired

Find out more about ways to fix and remix in your day-to-day life



Example of miniature furniture

- Part 1

- Make your mark





Introduction

This section tells you about the types of parts and connections you can use to assemble your miniature furniture.

You can follow the step-by-step guide, make and remake your own unique creations, or follow the design challenges in the last part of this section.

Step-by-step guide

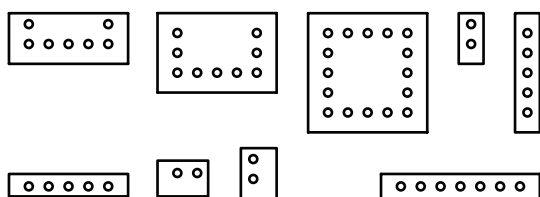
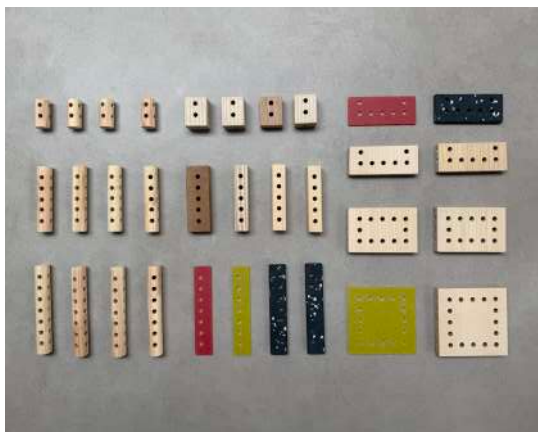
Choose from a range of standard and unique parts on the table.

- Standard parts: squares and rectangles in different sizes and with varying numbers of holes
- Unique parts: special shapes inspired by components of reused or reclaimed furniture

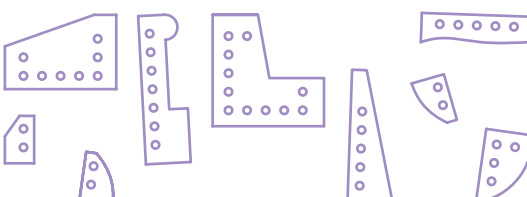
Many of the materials are offcuts sourced from Blackhorse Workshop in Waltham Forest, including solid wood, plywood and recycled plastic sheets.

Parts and connectors

Standard parts



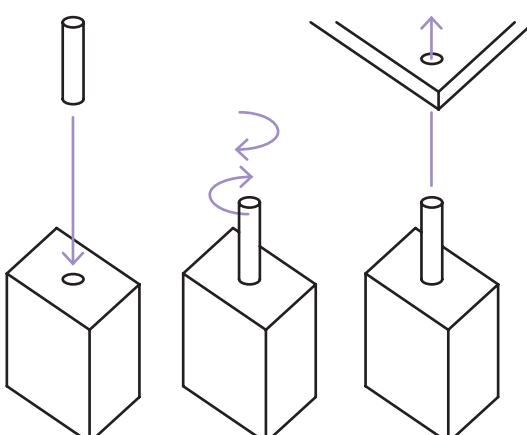
Unique parts



Dowel connectors

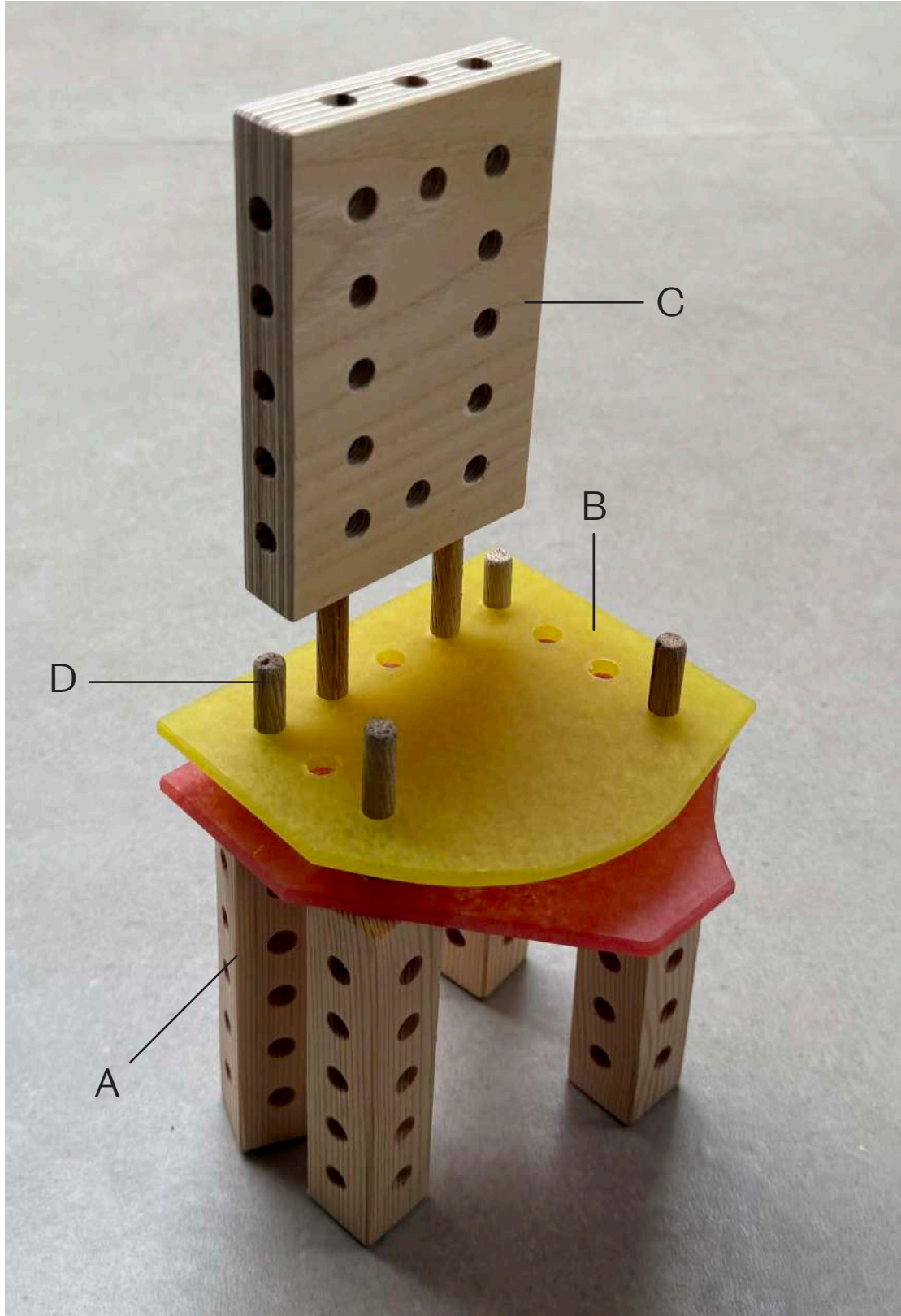


How to connect parts



Push the dowels through the hole on each part and twist to tighten the connection.

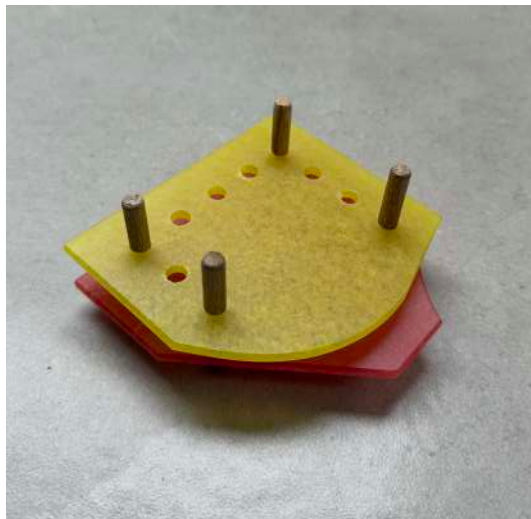
How to build a chair



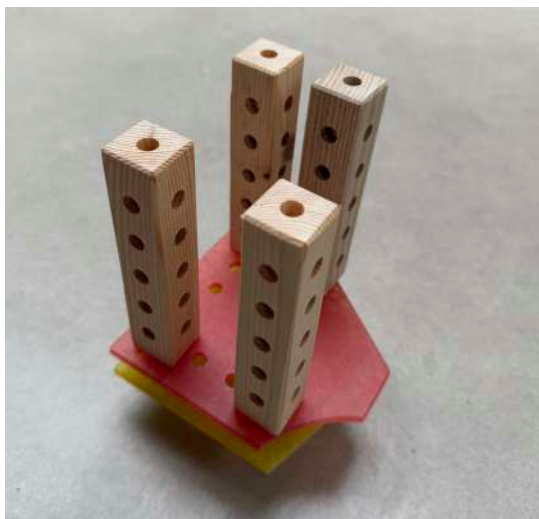
How to build a chair

You will need:

- A. 5-hole rectangular (or cylinder parts) for the legs $\times 4$
- B. 4 \times 5 large square parts, either 'unique' or 'standard' $\times 2$
- C. 3 \times 5 hole part for the backrest $\times 1$
- D. Dowel connectors $\times 6$



1. Use dowels to connect two parts as the seating element

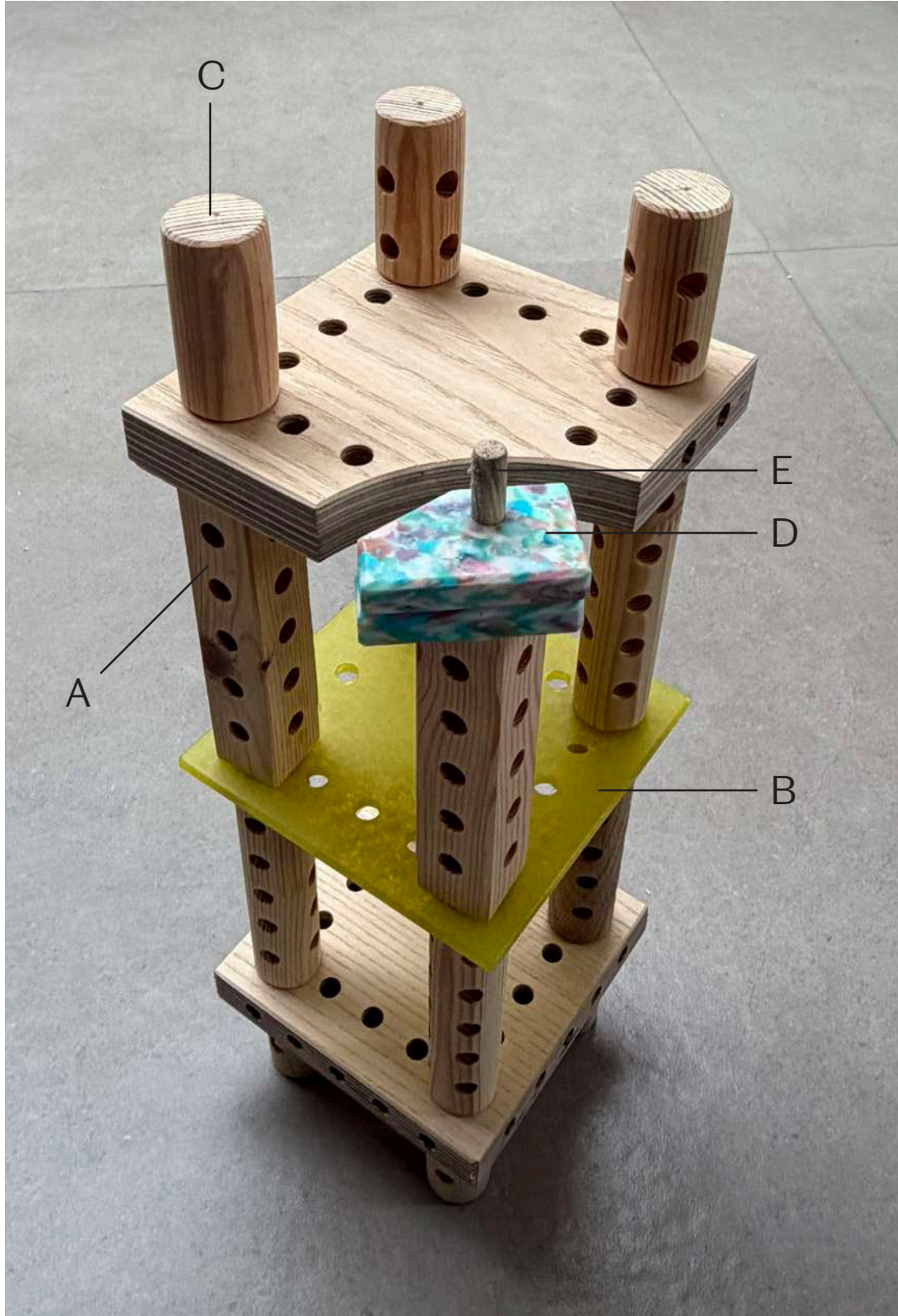


2. Turn it upside down and attach legs to the dowels poking through the seat



3. Turn it the right way up and add the backrest to the seat using two dowels

How to build a shelf tower



How to build a shelf tower

You will need:

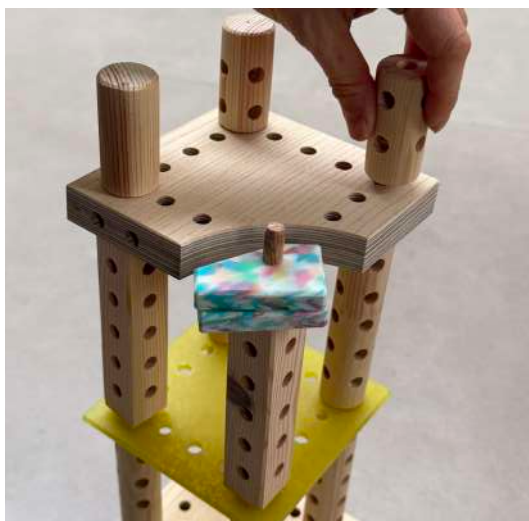
- A. 5 hole rectangular (or cylinder parts) for the verticals $\times 8$
- B. 5 \times 5 large square parts, either 'unique' or 'standard', for shelves $\times 3$
- C. 2 \times 2 cylinders $\times 7$
- D. 1 hole part $\times 1$
- E. Dowel connections $\times 12$



1. Use dowels to attach cylinder parts to the base as legs

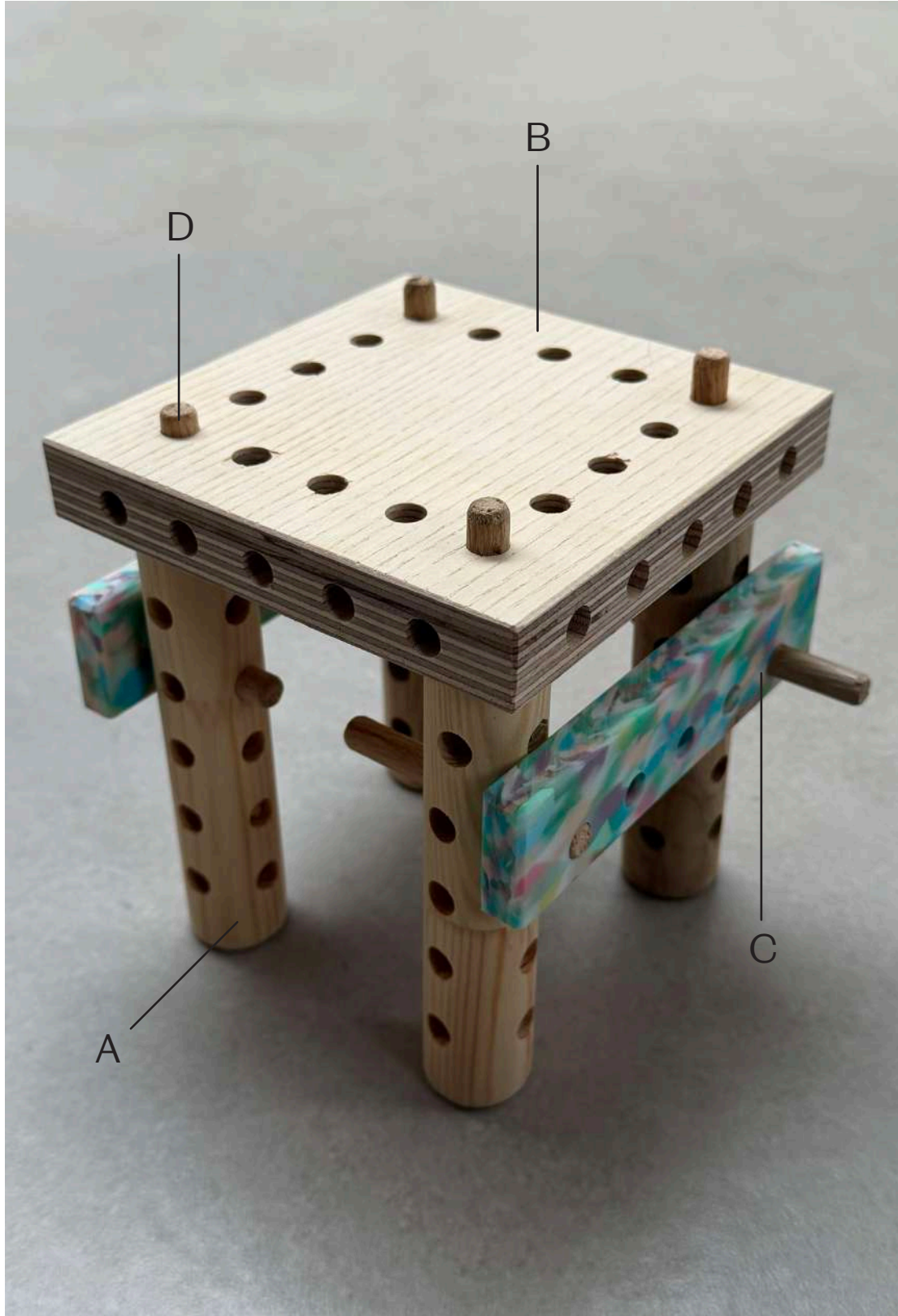


2. Add layers using longer 5 hole cylinder parts



3. Add small cylinder parts to the exposed dowels of the final shelf layer

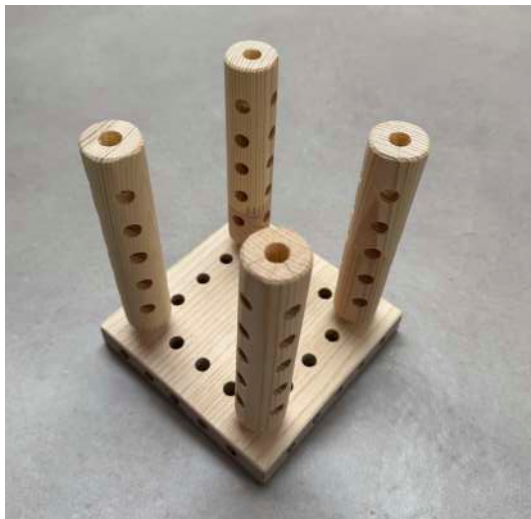
How to build a table or stool



How to build a table or stool

You will need:

- A. 5-hole rectangular (or cylinder parts) for the legs $\times 4$
- B. 5 \times 5 large square part, either 'unique' or 'standard' $\times 1$
- C. 5-hole parts $\times 2$
- D. Dowel connectors $\times 8$



1. Add the legs to the base using the dowels

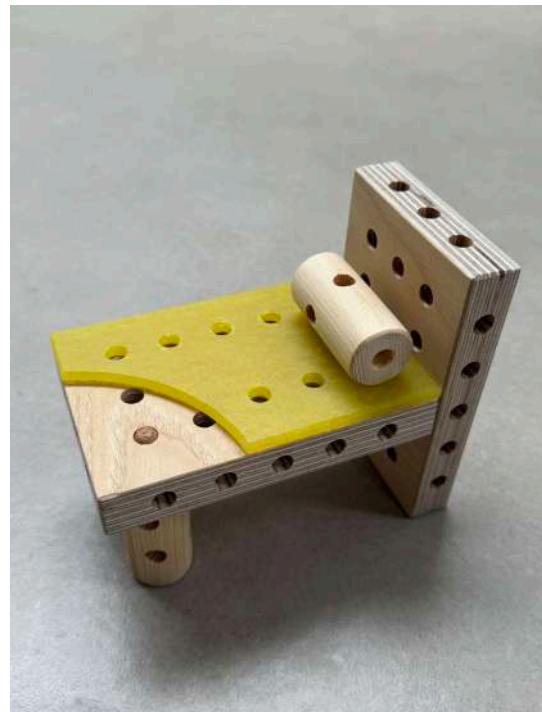
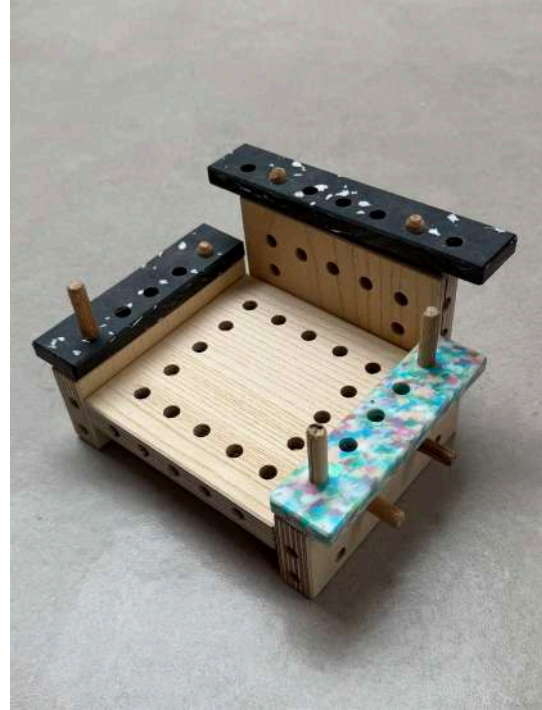


2. Add dowels to the second hole down on the legs



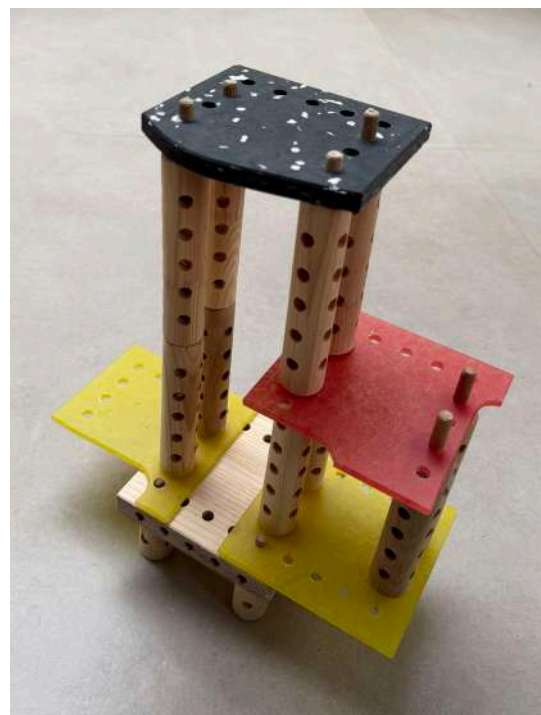
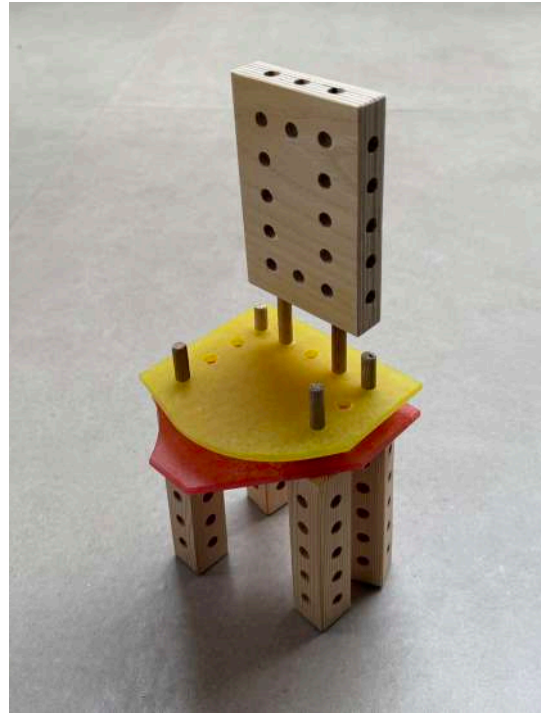
3. Add two horizontal parts to strengthen your construction

Miniature furniture examples



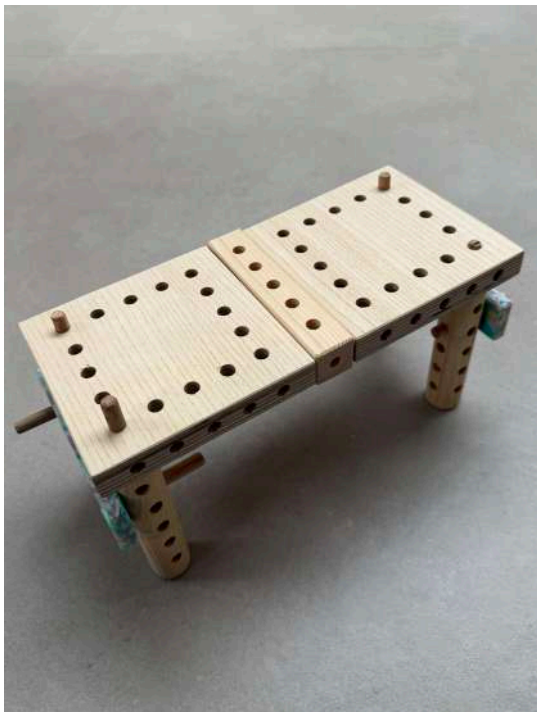
There are many different combinations of miniature furniture items you can make.

Miniature furniture examples



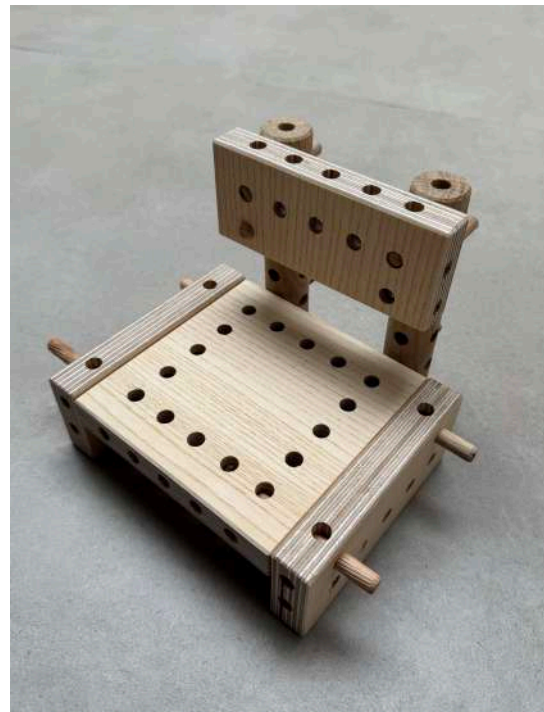
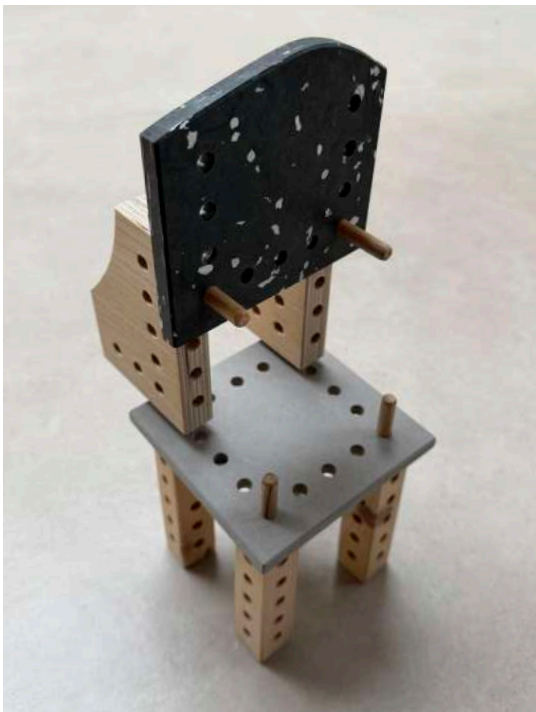
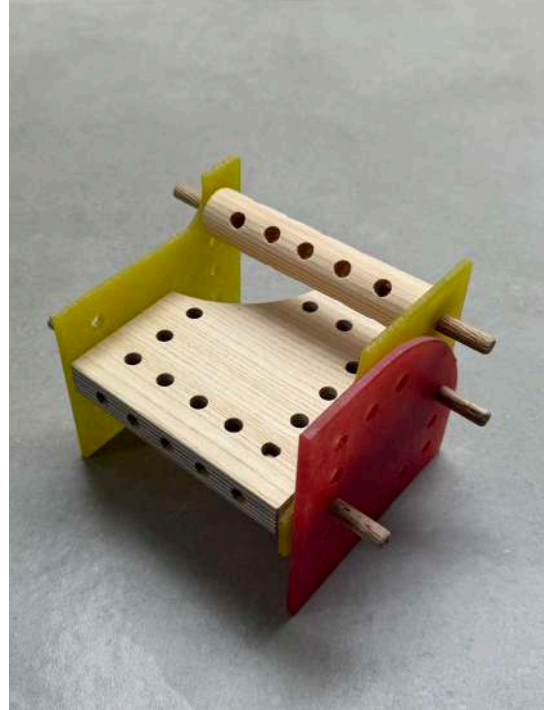
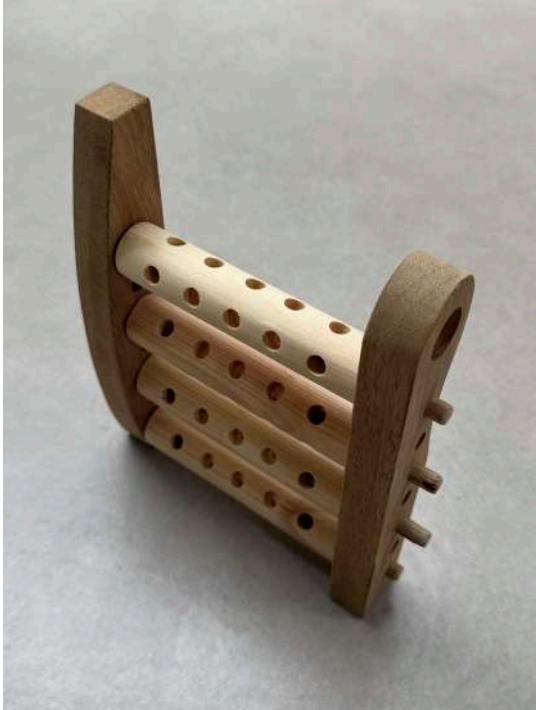
You can make something sculptural, or functional items like chairs, stools and tables.

Miniature furniture examples



Is there an item from your home or workplace that you want to recreate or remix?

Miniature furniture examples



Can you make items that are flexible and adaptable, or with parts that can move?



Example of miniature furniture

Challenges

The possible combinations of miniature furniture parts are endless.

Together with Blackhorse Activators, we have created design 'challenges' for you to explore.

Think about items in your home or things you use in the street outside. Or, imagine what you would design for humans versus what you would make for animals or insects – like bird boxes or bug hotels.

Consider how items can be modular, adaptable or height adjustable.

Challenges for individuals

1

Circular reuse

Make an item of furniture. Then disassemble it and make something else with the same parts.

2

Totally unique

Make a piece of furniture where every part is different, and you can only use a type of part once.

3

Mend and make do

Make an item of furniture. Then see if you can swap out three parts and still make it work.

4

Move it

Use the dowels to make an item with movable or rotating parts.

Challenges in groups

1

Better together

Make an item of furniture on your own. Then try to join them together to create a larger piece.

2

Furniture family

With a friend, make two separate parts of miniature furniture that can also work together – like a chair and table.

3

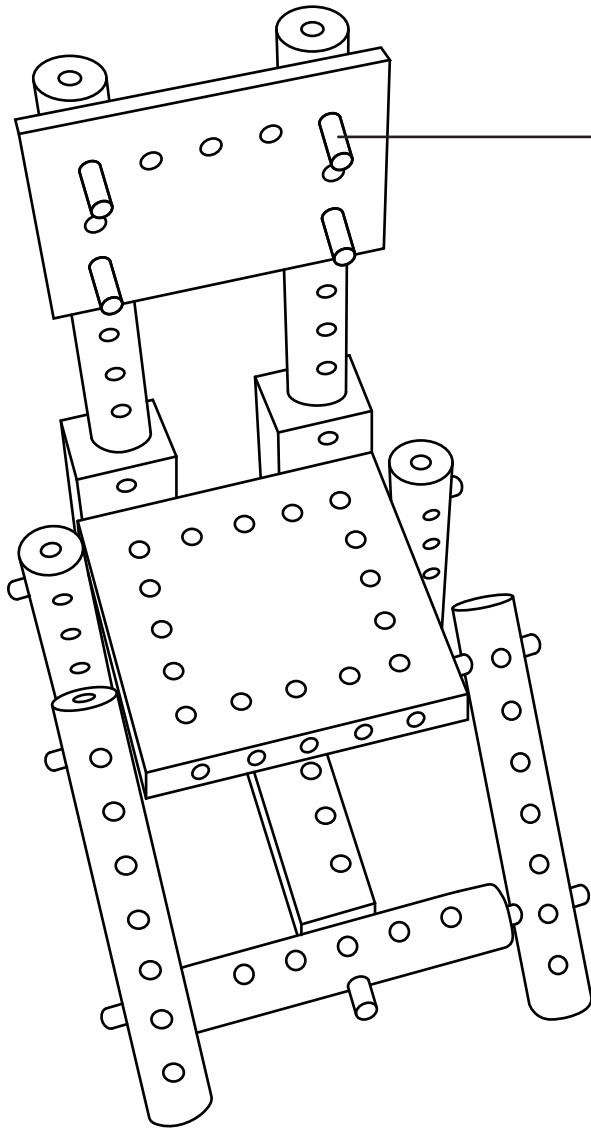
Mix and match

Start by making an item of furniture on your own. After five minutes swap your item with a friend for them to finish.

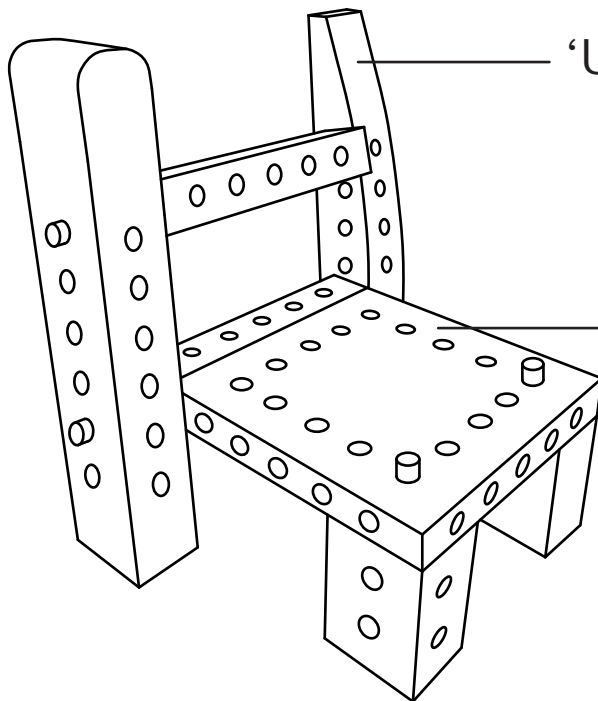
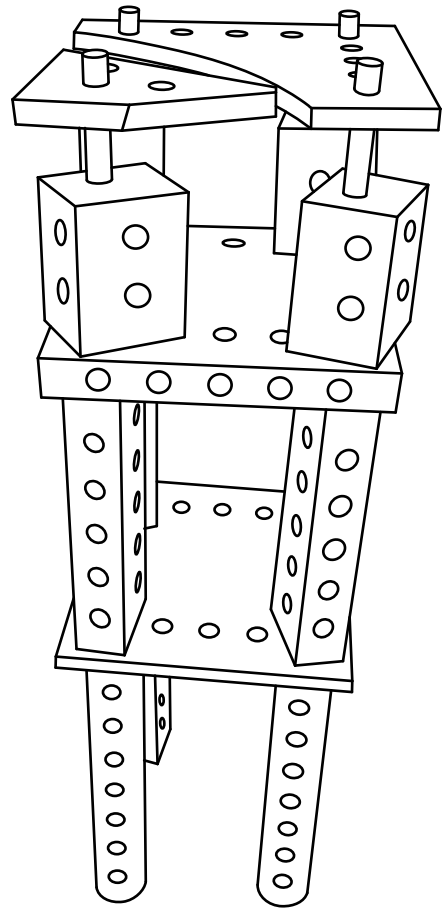
4

Good luck

Choose parts that you want to build with and then swap them with others in your group.



Dowel Connector



'Unique' part

'Standard' part

- Part 2

- *Fix and Remix*
workshops

Introduction

This section contains information about the *Fix and Remix* workshops with the Blackhorse Activators that helped shape the miniature furniture making activity.

Fix and Remix workshops

During the workshops, the Blackhorse Activators made furniture from discarded, found and scavenged materials, as well as unwanted off-cuts, including laminated pieces donated by Plykea.

Drawing inspiration from 1970s DIY furniture manuals and responsible design, participants worked in teams to build modular, multi-functional pieces, including a desk, wall-mounted shelf, chair and bench.

They explored creative combinations, experimented with materials and embraced circular reuse.



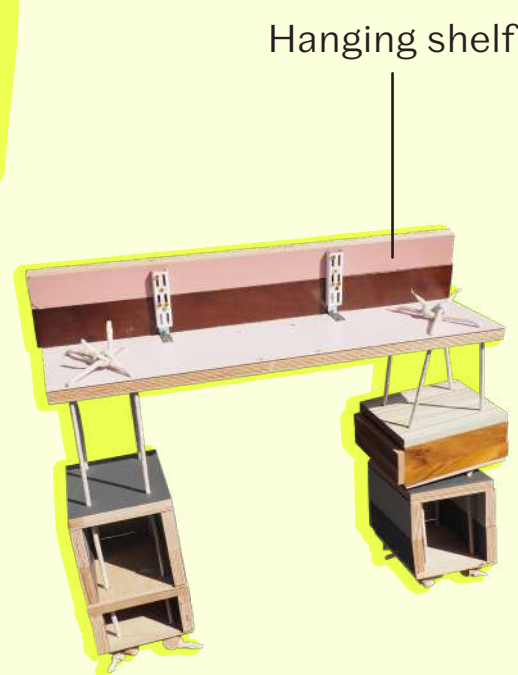
Adjustable chair



Adaptable bench

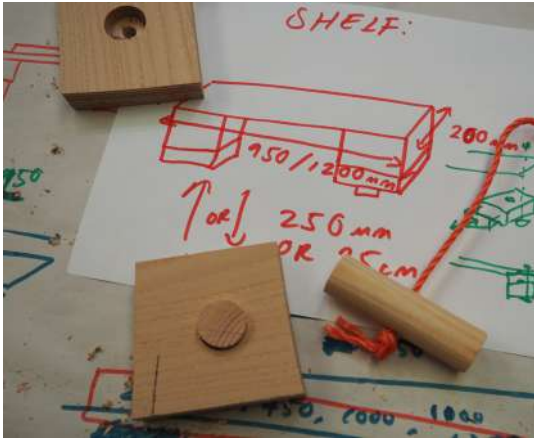


Dynamic desk

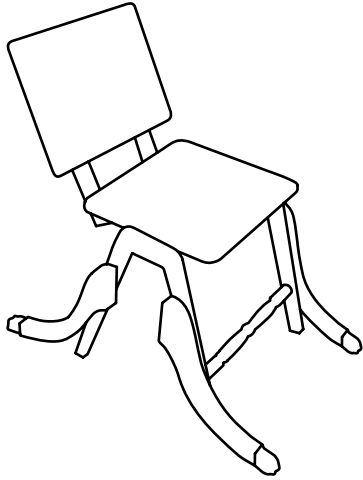


Hanging shelf

Furniture made from found materials

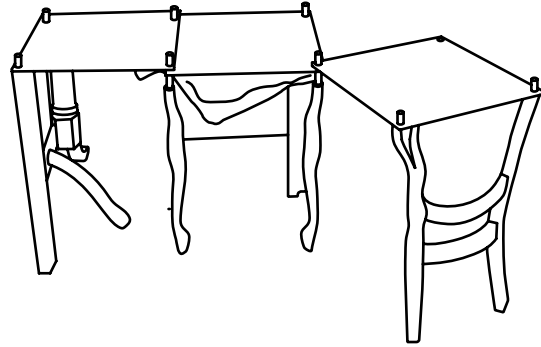


What furniture was made at the Fix and Remix workshops?



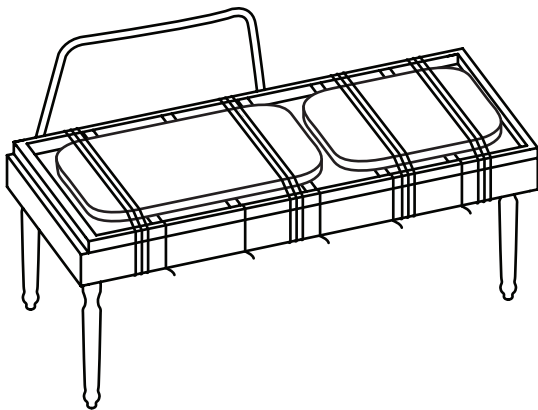
Adjustable chair

The height and backrest can be adjusted thanks to its modular hole system



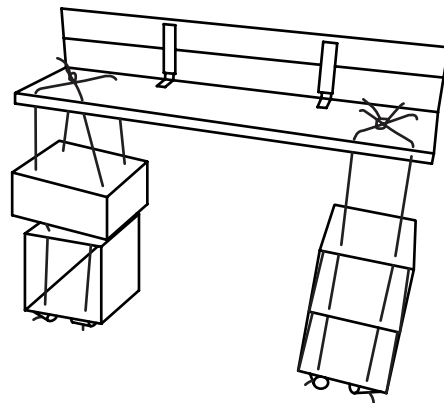
Dynamic desk

The desk has multiple possible configurations due to its modular design and dowel connection system



Adaptable bench

Although the frame is fixed, the seating elements are easily interchangeable and replaceable



Hanging shelf

The wall-mounted shelf has a modular box system suspended underneath

Day-by-day overview



Day 1

The group went on a scavenger hunt in the local area to find materials. They then dismantled the found furniture, and built cardboard prototypes.

Day 2

Participants planned what they could make from the resources and designed their furniture, testing temporary and permanent connections.

Day-by-day overview



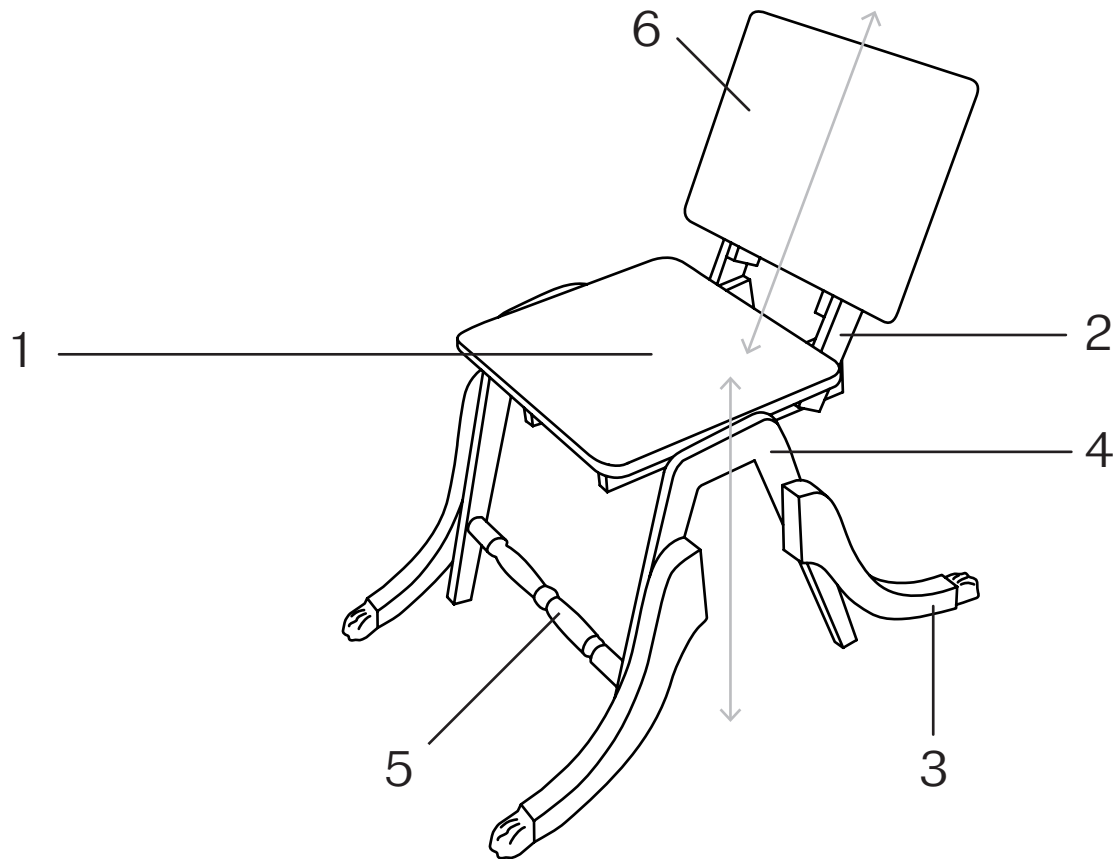
Day 3

The group began to fabricate their items of furniture.

Day 4

The last day included a group evaluation, photoshoot, and communal lunch.

Adjustable chair



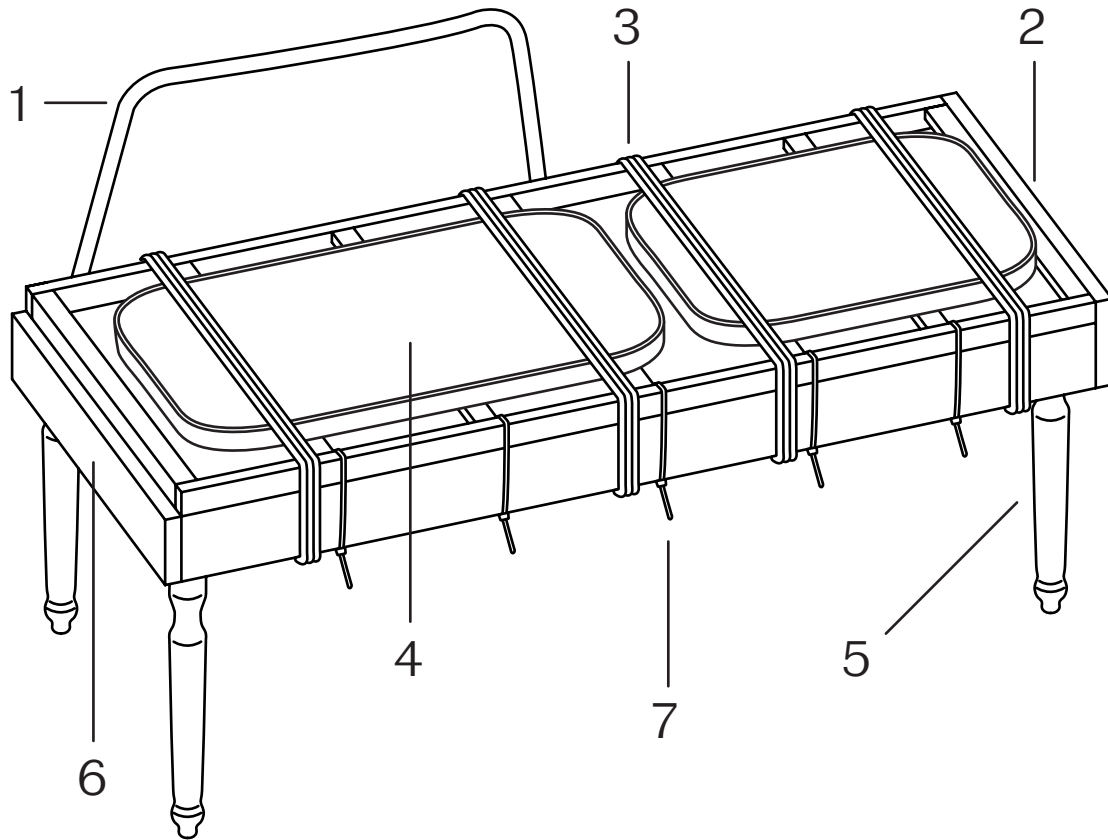
This chair is height adjustable, with a movable backrest. It uses a modular hole system.

The chair reuses parts from three different stools, a small table, several offcuts of coloured timber, and donated fabric.

- 1 Stool seat
- 2 Laminated plywood offcuts
- 3 Ornate table legs
- 4 Stool legs
- 5 Turned spindle produced during turning teaching session
- 6 Donated fabric cover

Made by: Mariam, Maya & Raya





This bench features interchangeable seating elements, attached to a fixed frame.

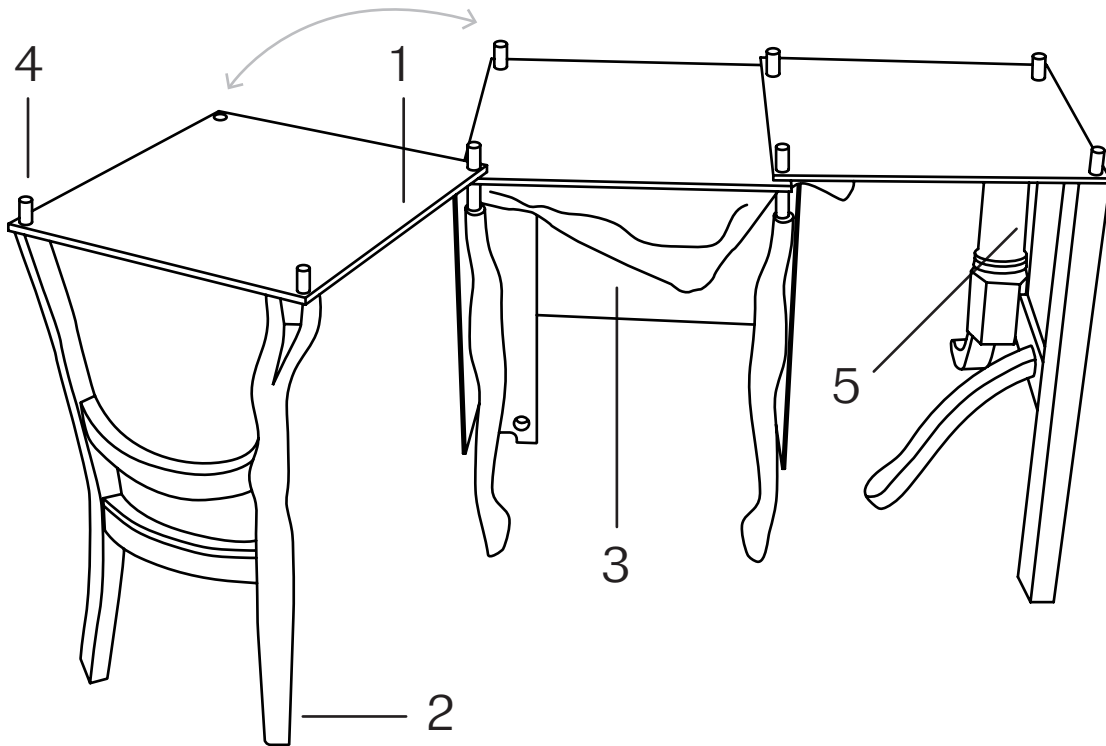
The bench reuses elements from a timber and metal chair, wardrobe, off-cut sheet materials and orange rope.

- 1 Metal chair leg
- 2 Timber offcuts
- 3 Found rope
- 4 Rattan back rests
- 5 Timber chair legs
- 6 IKEA cot frame
- 7 Cable ties

Made by: Erin-Ayo, Teegan & Lorraine



Dynamic desk



This is a modular desk that uses dowel connections to allow for flexible configurations.

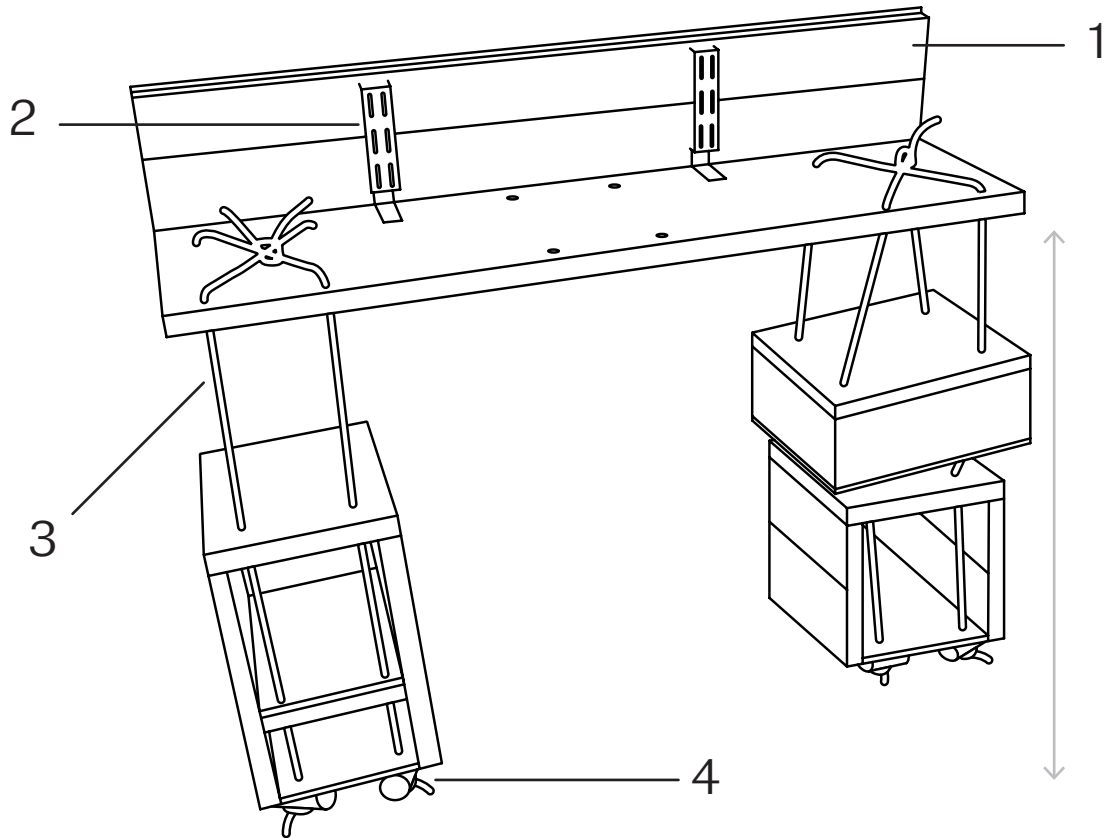
The desk reuses elements from an ornate chair, off-cut sheet materials, and found fabric.

- 1 Off-cut sheets
- 2 Ornate chair frame
- 3 Found fabric
- 4 Dowel offcuts
- 5 Ornate table leg

Made by: Mya, Finley & Catherine



Hanging shelf



This wall-mounted shelf has a modular system of boxes suspended underneath using rope and dowel connectors. This allows for height adjustment.

- 1 Laminated plywood offcuts
- 2 Metal shelving rail
- 3 Found rope
- 4 Dowel offcuts

Made by: Serena, Iris & Nadera



Workshop reflections from Blackhorse Activators

‘Putting pieces together that aren’t necessarily meant to go together, there is beauty in the mismatch pieces that isn’t always clear during the process’

‘I didn’t think much about it before – but now I see that there are endless opportunities to create things that are completely different to what it started as’

‘I have seen their beauty and practicality even after they have been used’



Hear from the Blackhorse Activators

Workshop reflections from Blackhorse Activators

‘Found material can transform an idea. At first it seems like a challenge but it can also add personality and fun to the process and the final piece’

‘Using found materials helped me reduce my control obsession and perfectionism and I was able to use what I found instead of creating from scratch’

‘It was interesting thinking about how different modules in a piece of furniture – or even modules in a room – work together on a different level’



Hear from the Blackhorse Activators

An interview with Blackhorse Activators

What sparked your interest in making – and why is it important to you?

Maya It's an outlet for your creativity. You can also push the boundaries of your imagination – two pieces of wood can become a shelf or a dinosaur.

Raya My interest in making started at a very young age but it developed over time alongside my interest in problem solving and technical thinking.

Mariam The hands-on activity of making something you can use is so satisfying.

What are your favourite materials to work with, and why? Have you found any unexpected material combinations in your work so far?

Maya I like to work with fragile materials like ceramics and fabrics.

Raya My favorite is wood work. I like manipulating the wood then later assembling the pieces together.

Mariam Metal makes something really long lasting and I also like welding.

After the ‘Fix and Remix’ workshops back in April, have you looked into incorporating ideas of repair/reuse/fixing/mending when you are making? Has it changed how you look at objects?

Maya Definitely – I had never worked with scrap wood or furniture so it helped me understand how objects can be re-made.

Raya I have always been remaking, repairing and restoring but after the workshops I have definitely found myself applying problem solving to my work.

Mariam I found it interesting making from scrap pieces you can find on the street and re-using them to make something useful. Also making things that move around and can be adjusted.

Beyond the ‘final product’, is there an aspect of the design process – like the collaboration, the research or the iteration – that you find most rewarding? What is it and why?

Maya The iteration process is the most rewarding because you can change the ideas and processes as you go along. At that stage, nothing is fixed.

Raya I find it most rewarding when I find a gap in an industry that through conceptual and contextual research I could fill with a concept or product.

Mariam Collaboration and figuring out how the connections worked with others. I also enjoy the brainstorming part, and working through the initial ideas when we found the pieces.

Looking ahead, what kind of impact do you hope to make with your design work? Is there a particular challenge you'd love to tackle or a specific industry you're drawn to?

Maya I am particularly drawn to sustainable practices and working with natural materials.

Mariam Making anti-homeless architecture easier to sleep on and making furniture and wooden objects.

●

Do you have any future designing or making projects planned?

Maya Yes, I will make a hand-woven rug. I have made 3 out of 6 total squares and then I will combine them.

● *Raya* I am working on some frames made from re-used materials from old frames.

Mariam I have an idea to make a shoe rack.

Are there any barriers that stand in your way of designing and making? What are they?

● *Maya* Lacking the correct materials. Often I can make a project to a simple standard but I don't know how to progress or improve with the tools that I have.

Raya Creative block due to high ambition and too many ideas which can cause over-stimulation. Other than that my creative process is smooth.

● *Mariam* I am not in a creative field of work or study. It's also hard to find affordable places to make.

Workshop credits

The *Fix and Remix* workshops were facilitated by Commissioned by You, with help from Mark + Cristina and Blackhorse Workshop

Blackhorse Activators

- Group 1: Erin-Ayo, Teegan, Lorraine
- Group 2: Mariam, Maya, Raya
- Group 3: Mya, Finley, Catherine
- Group 4: Serena, Iris, Nadera

Blackhorse Workshop

- Lucy Martin (Creative Programme Manager: Schools & Young People) and Jo Myles (Facilitator) for helping facilitate the *Fix and Remix* workshops and use of the spaces at Blackhorse Workshop

- Part 3

- Get inspired





Introduction

In this section you can find out more about ways to fix and remix in your day-to-day life.

It includes information about the design manuals and responsible making methods that inspired the table top activity, as well as information on where to find materials and maker spaces in east London.

Fix and Remix inspiration

This project was inspired by the do-it-yourself furniture manuals you can see in the gallery.

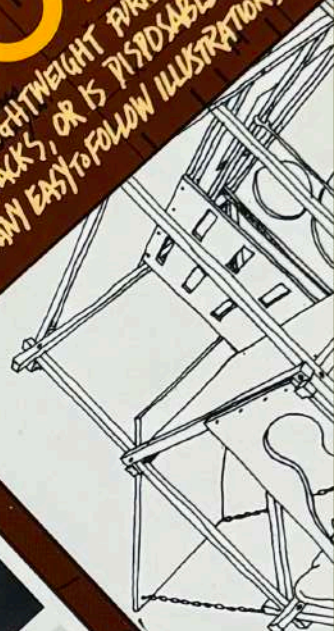
The 1970s manuals on display provide accessible guides to build furniture using readily available and affordable materials.

This activity invites reflection on how makers can shift away from a 'take-make-dispose' model to one that reduces and reimagines 'waste'.

The project was also inspired by alternative economic models such as 'doughnut economics' and circular principles. These promote living responsibly within our environmental limits.

NOMADIC FURNITURE

HOW TO BUILD AND WHERE TO BUY LIGHTWEIGHT FURNITURE THAT FOLDS, INFLATES, KNOCKS DOWN, STACKS, OR IS DISPOSABLE AND CAN BE RECYCLED. — WITH MANY EASY-TO-FOLLOW ILLUSTRATIONS



LIFE IS
SUREY
PLUMBER
IAN

JAMES AND

ENZO MARI
autoprogettazione?

Edizioni Corraini

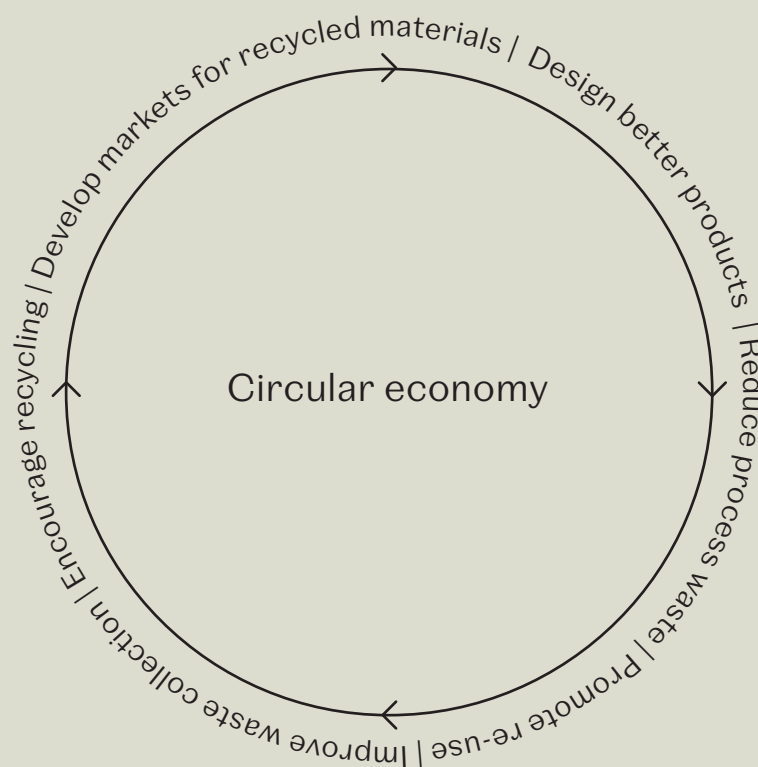
The book cover features a vibrant, abstract design with a pink background, a green chair-like shape, and a yellow banner at the bottom. The publisher's logo and name are at the bottom right.

DIY furniture manuals were used as inspiration on the first day of the *Fix and Remix* workshops

Towards a circular economy

The circular economy is a framework for making in more responsible ways. For product design, this might involve:

- Keeping materials in use to minimise waste
- Repairing products to extend their lifespan
- Using recycled materials
- Choosing modular parts that can be disassembled and remade

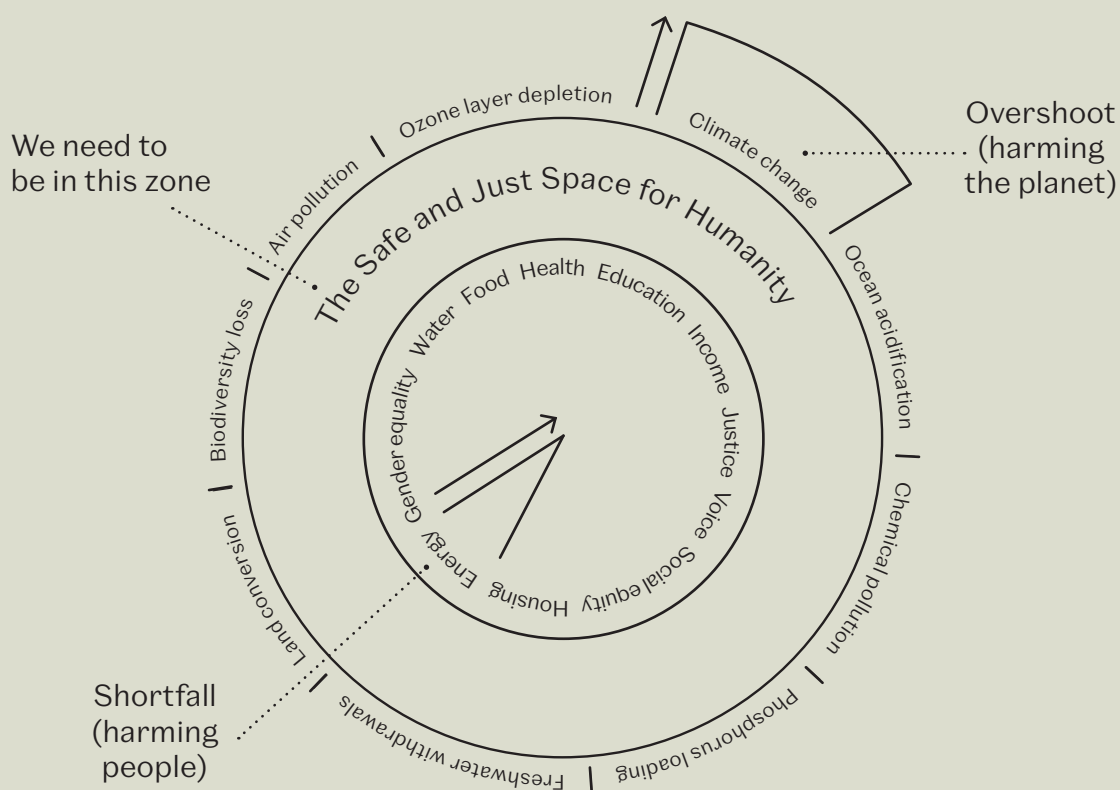


Circular economy principles

The circular economy aims to eliminate waste by keeping products, materials, and resources in a closed loop for as long as possible.

'Doughnut economics'

'Doughnut economics' complements this by embedding the act of making within a broader social and ecological context. Coined by Kate Raworth, it challenges makers to operate within the 'safe and just space' of the doughnut, ensuring that production meets the social needs of all people – like access to health and housing – without overshooting the ecological ceiling of the planet.



Doughnut economic principles

Doughnut economics is a framework to measure things like climate change, biodiversity loss, and air pollution against our planetary boundaries.

Resources for fixing and remixing in east London

Maker spaces



1. Blackhorse Workshop
2. The Redundant Architects Recreation Association (RARA Clapton)
3. Bloqs
4. The Tool House
5. Hackney Depot
6. Made By Ore

Repair spaces



11. Hackney Fixing Factory
12. Walthamstow Tool Library
13. Repair Cafe, East Ham Library
14. Tower Hamlets Fixers

Material suppliers



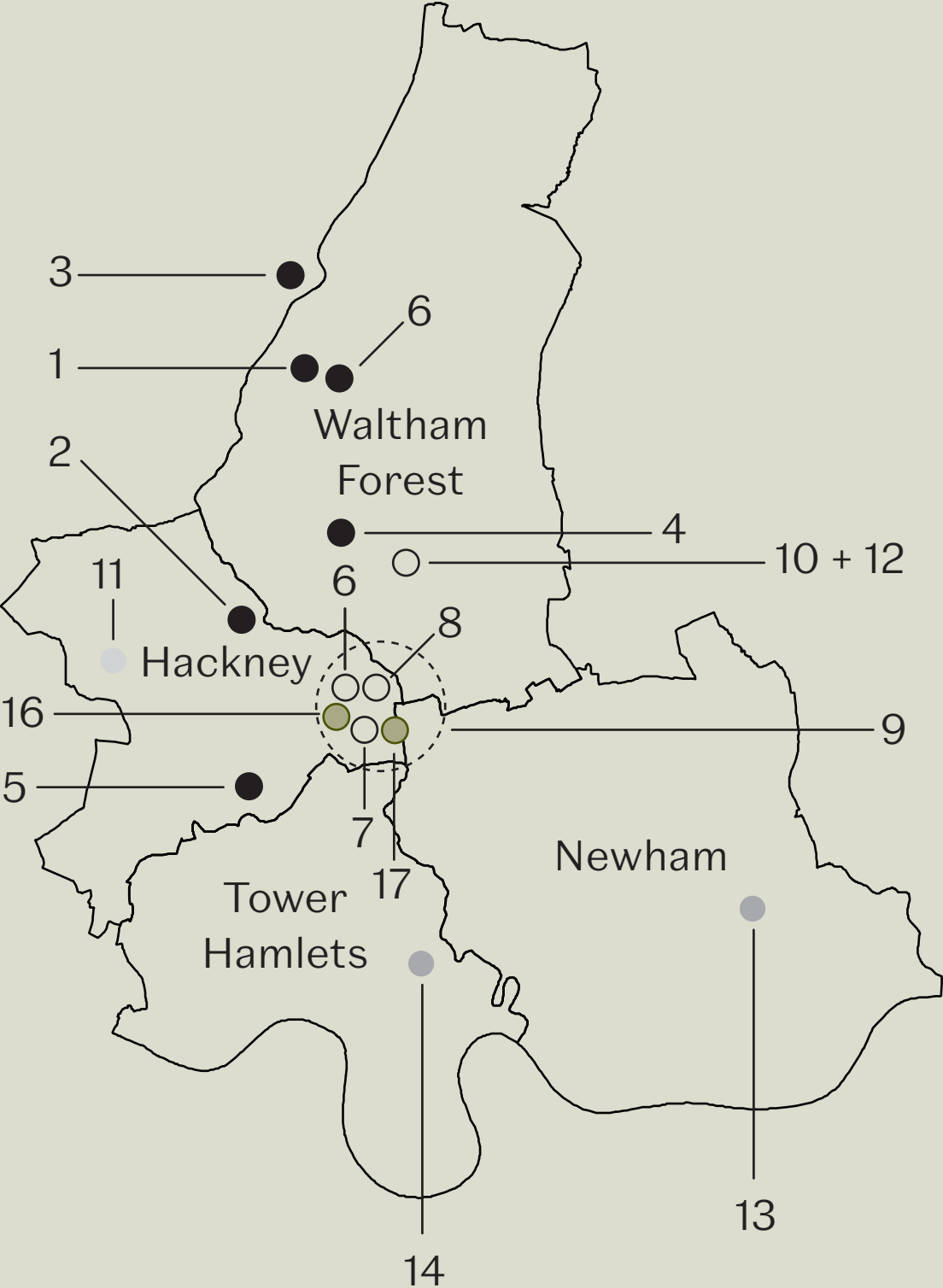
7. Yodomo Textile Reuse Hub
8. Renée Materials
9. The Loop (East London's Circular Economy Hub)
10. Forest Recycling Project

Other



15. Waltham Forest Reuse and Repair Directory (online)
16. Hackney Wick Library of Things
17. V&A East

Map



Tips for scavenger hunting

In east London, walking past discarded furniture is part of day to day life. On the corners of residential streets, stools, sofas, chairs and tables wait for a new home.

East London has a long-standing culture of 'scavenging' or 'skipping'. People often leave unwanted furniture outside knowing it will be just what someone else is looking for. This way, furniture gets a second life.

Below are some tips for finding furniture and materials on the street to be fixed and remixed.

1. Time it right

The best time for scavenging is the evening before or on the morning of scheduled rubbish collection days.

2. Look beyond appearance

Once you've spotted something you like, take a moment to assess its condition. Check for structural or water damage, loose joints, stains or signs of pests. Weigh up the effort needed to clean or fix it, but don't judge too quickly – worn or dated pieces can often be transformed.

3. Act fast

You'll often spot something interesting when you're on your way somewhere, and it's not always convenient to stop. But if you don't, someone else will!

4. Bring it home

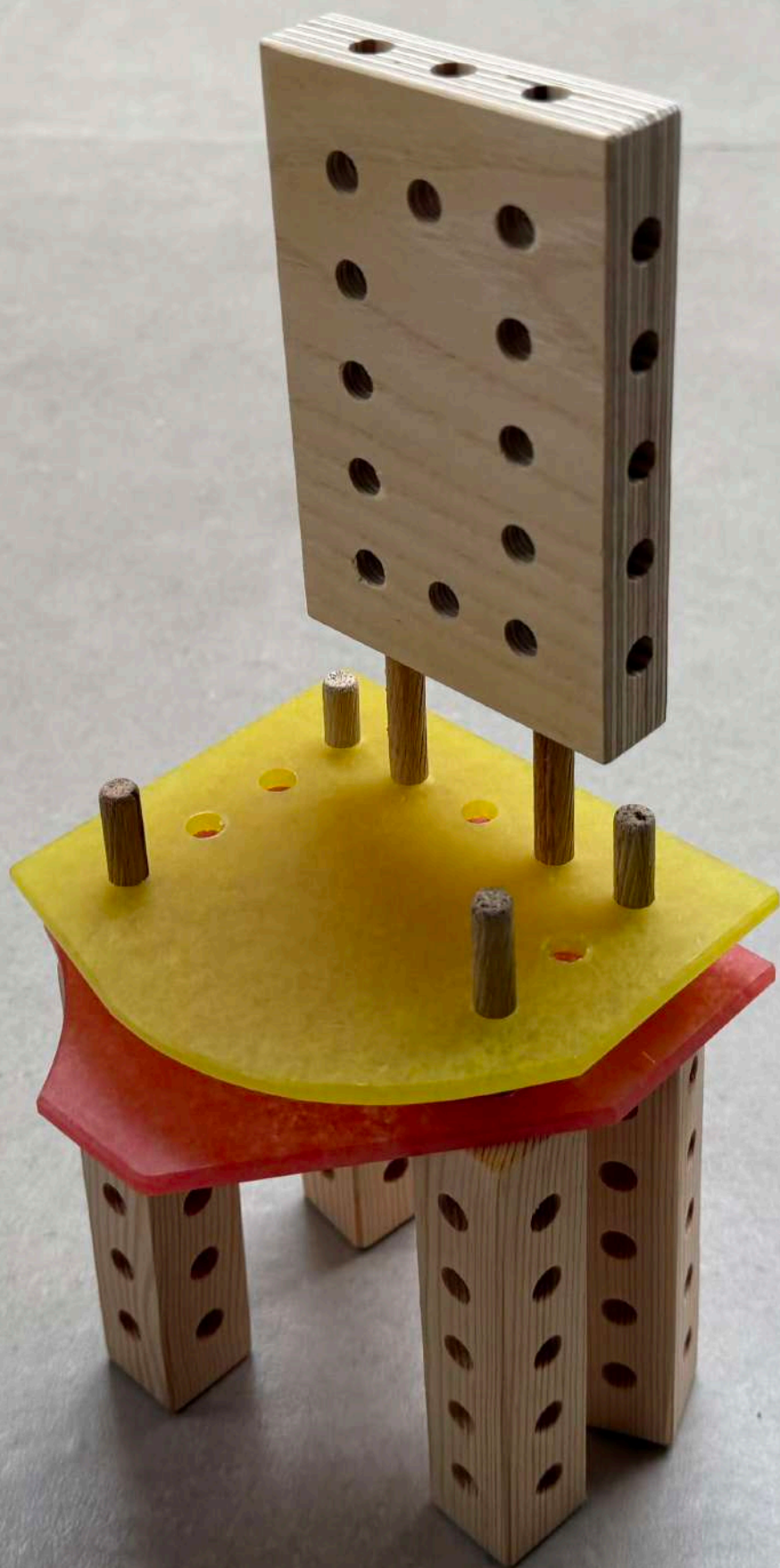
Consider how you'll get it home. It's often easier to scavenge in groups or ask a friend to help carry heavy items. For larger pieces, you might need a car or van. Watch out for sharp objects or other hazards among discarded waste.

5. Go digital

Complement your street scavenging with online platforms like Trash Nothing and local Freecycle groups. People often list items they are giving away for free.



Disassembled parts from found furniture



Example of miniature furniture

With thanks to:

Activity design

Commissioned by You
(Sam Kennedy and Aiko Kubo)

Fix and Remix workshops

Commissioned by You
Mark + Cristina
(Mark David Flynn and Cristina Gaidos)
Blackhorse Activators and Blackhorse Workshop
V&A East team

Graphic design

Mark + Cristina

Printing

Ripe Digital

Folder

MJCP

End of document



Mark
+
Cristina