

Teacher Toolkit: Metal Magic - Recycled Tin & Wire Afternoon Workshop with Bryony Knox



Image: Bryony Knox in her studio / Photography by Caro Weiss

Supporting Makers, Promoting Craft

Craft Scotland, Studio 6 & 7, Castle Mills, 2 Gilmore Park, Edinburgh EH3 9FN

www.craftscotland.org • +44 (0)131 357 3288 • hello@craftscotland.org

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METAL MAGIC - RECYCLED TIN & WIRE

AFTERNOON WORKSHOP WITH BRYONY KNOX

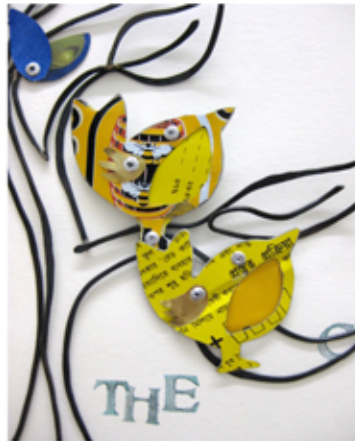
Do contact me with any questions- 07715388964 info@bryonyknox.com

Skills Learnt:

- TIN- Preparing materials.
- Cutting with scissors, snips & Punches.
- Decoration & Surface Pattern Techniques.
- Folding, Scoring, Shaping Tin
- Making holes with drill & Punches.
- Cold Fixing Techniques- Pop Rivets, Tabs, Wire

- WIRE-Types
- Shaping- Hammer to Harden.
- Binding techniques.
- Twisting wire

- COPPER SHIM- embossing
- Box matrix
- Patination



Need:

- Paper & pencil for designs.
- Scissors to cut tin cans.
- Old Biro & Mouse mat to decorate tin.
- Punch & wooden block with holes- to make holes in tin.
- Pliers to bend and cut wire.
- Needle files and emery paper.
- Pop rivets & Pop Rivet Gun.



RECYLED TIN

CUTTING & PREPARING CANS

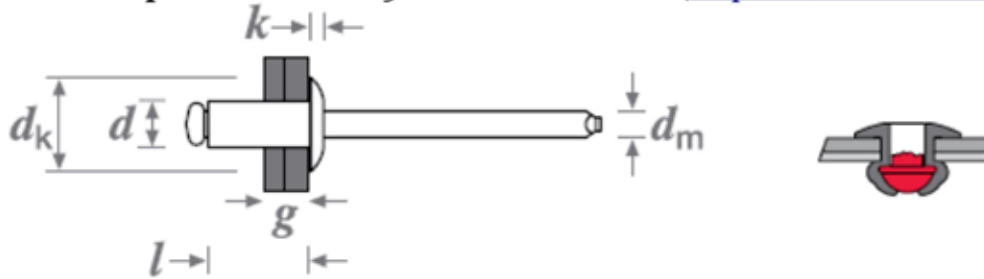
- **Scissors & Snips**- Drinks Can- Thin Tin. Pierce top of side and cut anti-clockwise, down length and anticlockwise along the base. Roll against the curve to flatten. Cut off any jaggy edges. Clean.
- Larger Tins-Thicker Tin- do the same as above but with a can opener and tin snips.
- Drinks cans are so thin that they can easily be cut with normal scissors.
 - **Punches**- Metal shaped giant hole punches- usually used for Paper. They will cut Drinks Can well for a good while, before becoming blunt. <http://www.handyhippo.co.uk/tools-storage-organisation/punches/shape-punches/page-2/>
 - **Hole Punches.**
 - **Drill holes** for rivets or simply **push a small scribe/ centre punch into a pre drilled block of wood.** I use Pop rivets that are 2.5 mm diameter and drill 3mm holes into my wood.
 - Centre Punches-<https://www.ebay.co.uk/itm/3pc-Colour-Coded-Centre-Punch-Set-Mechanic-Chisel-Point-Metal-Wood/400876096366> £3 for 3

DECORATION

- **Raised pattern**- use an old Biro to draw onto tin, over some newspaper or mouse mat. Sand off the paint on the raised lines to make them show up more.
- **Score and Bend**- use Biro as above to score straight or curved lines. Form 3D shape.
- **Bend**- like a concertina!
- **Curl**- as if you are curling wrapping ribbon- pull gently over scissors or pen.
- **Fold lines then flatten** - Crimp. Sand paint off raised lines. Use thicker tin.
- **Hammer tin** into a sandbag or newspaper- sand off parts of paint.
- **Scratch off paint** in patterns with a scribe or nail.
- **File and sand** all edges with needle file and then emery paper.
- **COLOUR**- Use the colour and pattern on tin to great effect.

COLD FIXING

- **Pop Rivets-** I use 2.5mm diameter rivets(<http://www.rivetwise.co.uk>)



Thread fatter end of rivet into the holes of the two, or more, layers of tin you wish to secure. Put thin end (Steel) into the pop rivet gun. Pull lever two one or two times until steel pin snaps off. Pop-rivet Guns are around £5-15 from ebay, B&Q etc. They will come with larger rivets which split the thin tin though.

- **Tabs-** Cut an additional rectangular tab on edge of your tin. Fold it through hole on other piece of tin, or wrap around wire. Look at traditional Tin Wind up toys.
- **Wire-** 'Sew' tin together or make wire 'Jump Rings' for loosely swinging parts.
- **Brass Paper Fasteners-** use hole punch and create loose links perfect for puppets, armour etc.

WIRE

TYPES- (Soft) Aluminium, Copper, Brass, Mild Steel, Stainless Steel (Hard). We will be using black annealed mild steel -2mm, 1.6mm and 1 mm. (<http://www.ormiston-wire.co.uk/products/stock-wire.php>)
Brightly coloured Wire (plated aluminium and copper) found at www.scientificwire.com.

SHAPING- Shape wire with hands and pliers or around objects. Once shaped, wire can be hammered on a steel block. This not only hardens the wire, holding its shape, but can make the 'drawn line' thicker and thinner- with beautiful effects.

BINDING TOGETHER- Wrap two wires around each other -thin around thicker- and crimp with pliers.

TWISTING-either use Hand drill and vice method or two pencil method to twist wire evenly. Twisted wires will be much stronger and can be used for main construction.

EMBOSSING COPPER SHIM

- Use reverse of Mouse Mat or newspaper as your base- provides a soft surface to emboss into.
- Front- make outline of your design pushing down gently with 'Liner' tool ie. Old Biro or stylus.
- Reverse- push the 'raised' sections of your design **down** using rounded tools, wooden spoon handles or doming punches.
- Front- Crisp up your original lines from the front. Add more detail if required
- Texture Background with cross-hatching/ patterns with Biro for more detail or relief.
- Make border if required.

COLOURING: Patination and Polishing

- If you want to highlight your motif you can oxidise the back with dark shoe polish. Rub away excess with wire wool. Polish with wire wool & water.
- Other patination techniques with Copper :Black- chopped hard boiled eggs, Blue- Ammonia, Green- Salt & Vinegar – over a day, suspended in a tupperware box with soaked cotton wool. Or Tabasco sauce direct onto metal.
- **Laquer with micro- crystalline wax or beeswax** to keep colour.

The copper is still soft, so to strengthen, SCORE and FOLD copper around wooden or card square.

Copper Shim Roll from Fred Aldous- <https://www.fredaldous.co.uk/collections/metal-sheet/products/copper-roll-30cm-x-3-6mt> 30 meters for £3



BRYONY KNOX

SILVERSMITH

METAL MAGIC - RECYCLED TIN & WIRE : Design Ideas & Notes

ARTISTS IN TIN & WIRE – BE INSPIRED!

- Thomas Hill, Lucy Casson, Alexander Calder, Barbara Franc, Rachel Higgins, Cathy Miles & Bill Woodrow.

Sculpting in Wire: Basics of Sculpture Series : Book by Cathy Miles

- <http://www.pinterest.com/kathyrlaws/french-wire/>
- <http://www.pinterest.com/bryonyknox/wonderfulwire&tin>