

Nature



Art



STEM



Dangling lights



the crafting sustainabilities collective
researching at the intersection of technology and sustainability

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Materials and tools

Part 1

- Corrugated cardboard
- Coin cell battery (3V CR2016)
- Foam tape
- Conductive tape

Part 2

- A4 acetate
- Conductive fabric tape and stickers
- Conductive thread
- Prototyping LEDs
- Voltmeter (optional)

Part 3

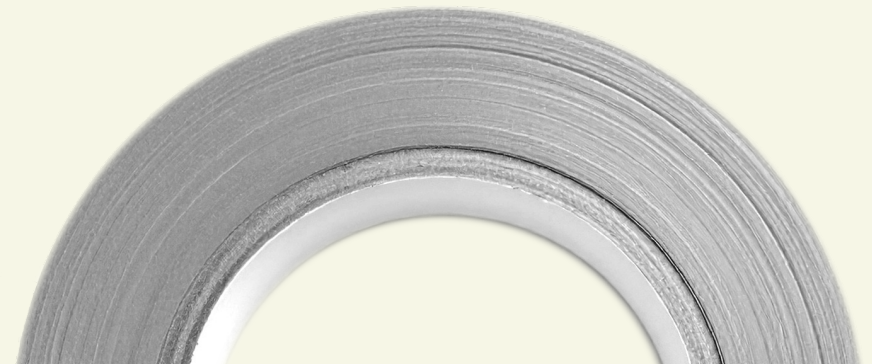
- Paper clay
- Rolling pin
- 3D found objects and leaves
- Carving tool

Part 4

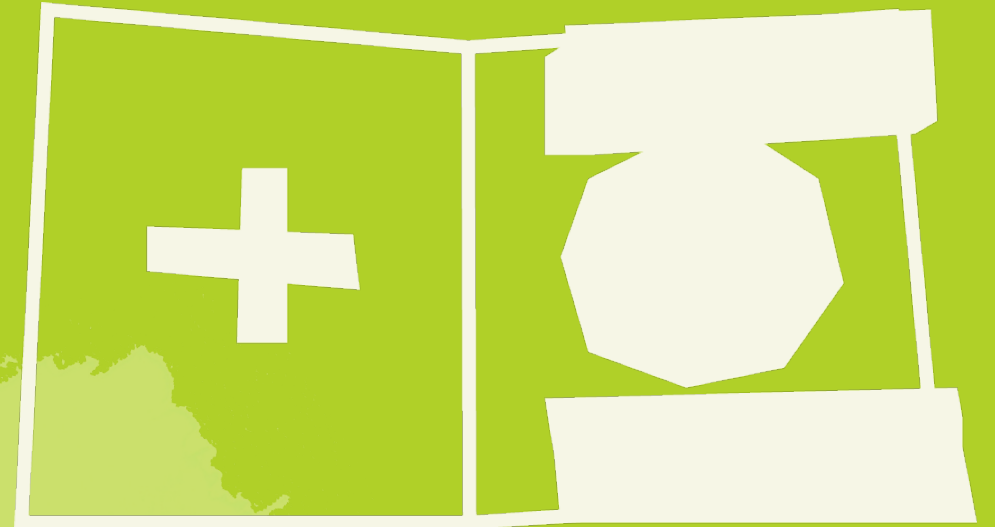
- Gel plate
- Acrylic paint
- Brayer Roller
- Leaves and flowers
- Scissors

Part 5

- 3D found objects and stick
- Cotton yarn
- Glue gun
- Darning needle
- Punch hole tool
- Craft wire



Constructing your battery pack



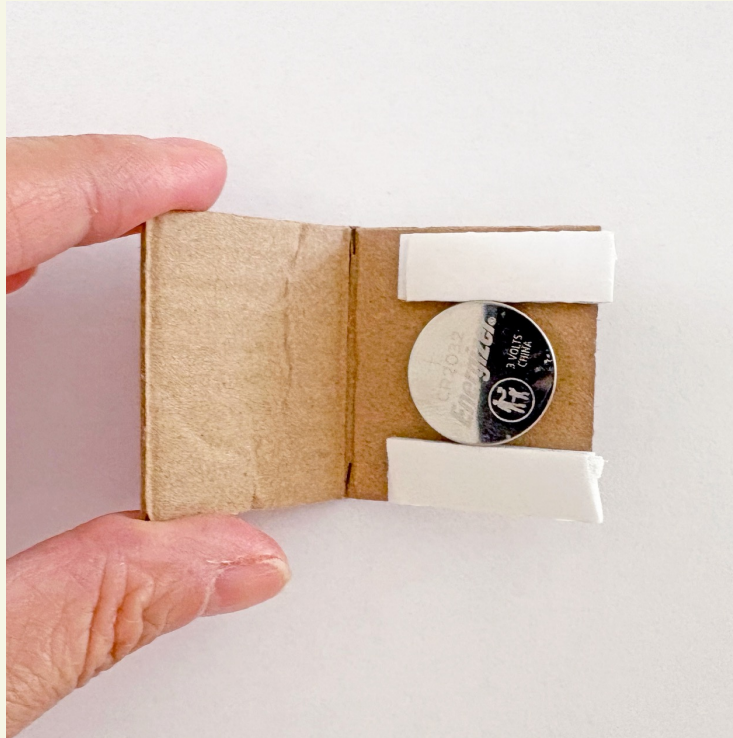
1.



Cut the case

Make a cardboard case to support the battery measuring 7x4cm (equalling the width of the foam tape & battery).

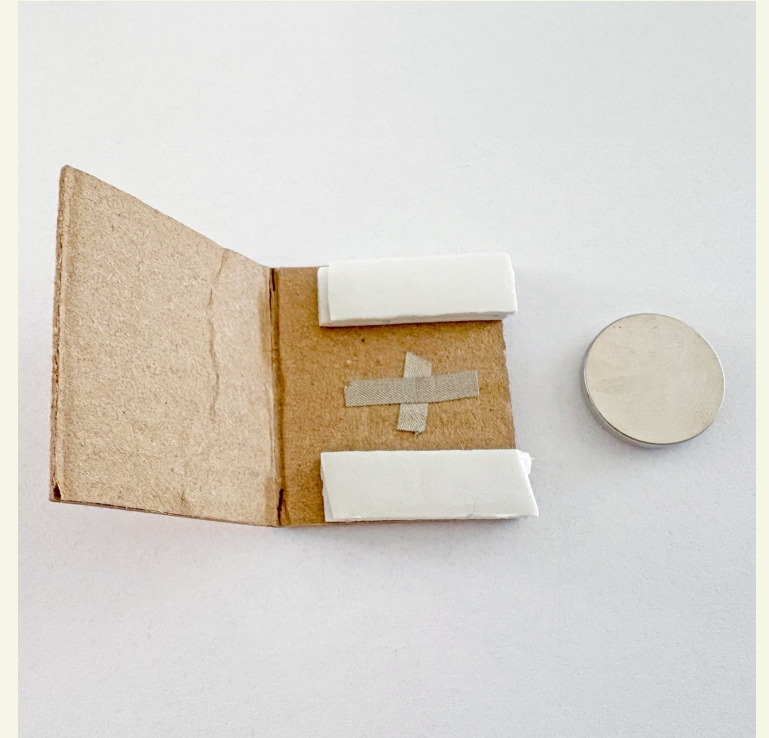
2.



Secure the battery

Fold in half. Attach the foam tape to the bottom of your case and nest your battery in between.

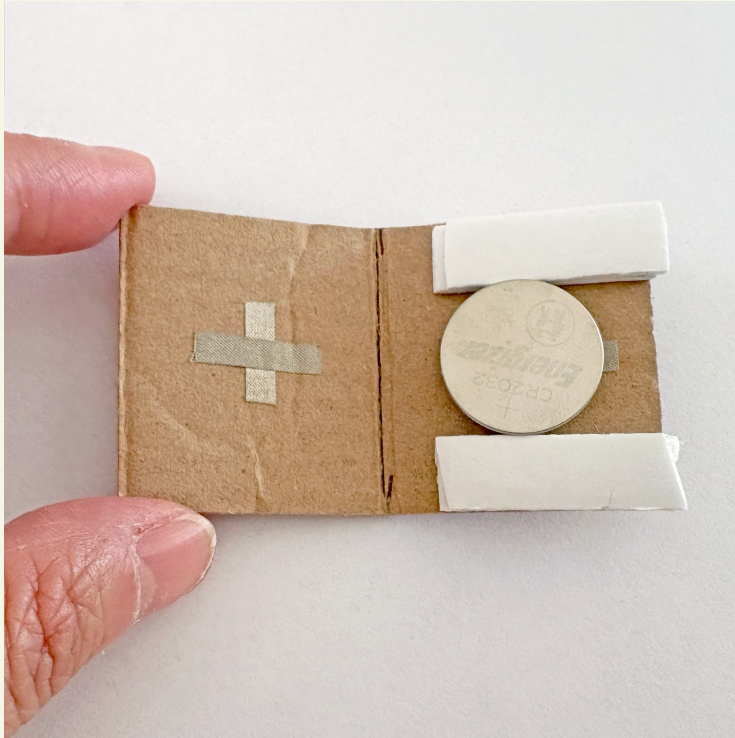
3.



Add the tape

Place fabric tape under the battery to ensure good contact is made with the battery.

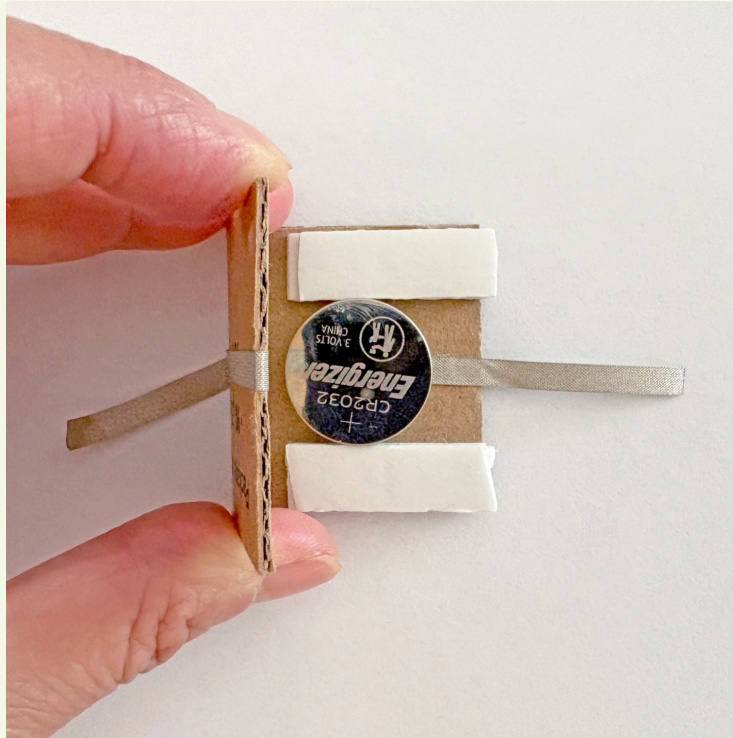
4.



Repeat

Repeat the same on the other side of the fold.

5.



Connect the power

Attach conductive tape to each hot spot and leave them dangling allowing you to later connect to your piece.

6.



Ready to attach

Fit your battery onto your piece. If the electricity is not flowing, you can add a paper clip to strengthen it.

Making the circuit



1.

Cut into the foam tape to create space for your tape to run across.

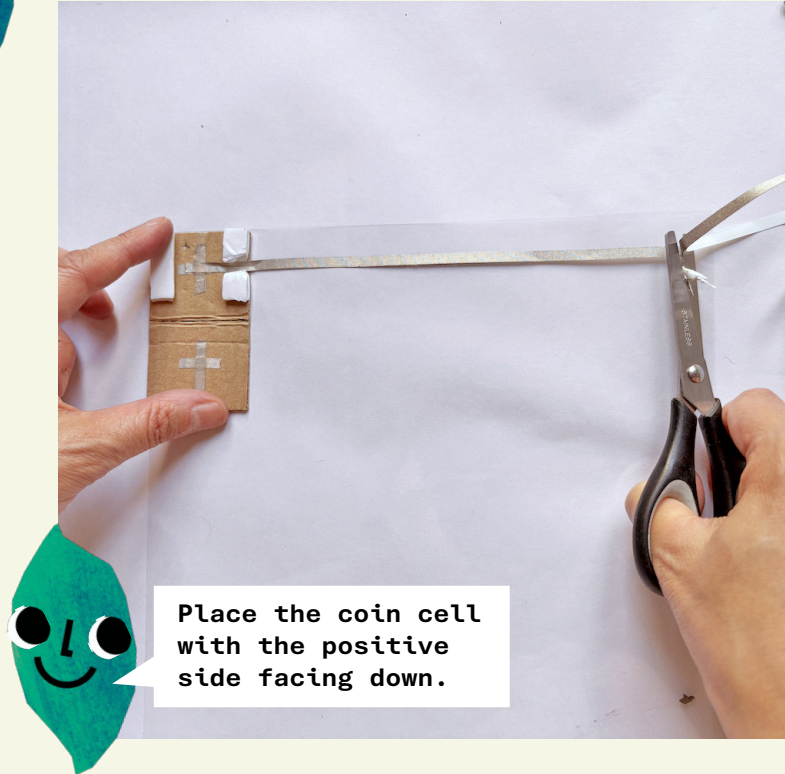


Secure and adapt the battery pack

Use double-sided tape to stick the battery to the top-left corner of the acetate.

2.

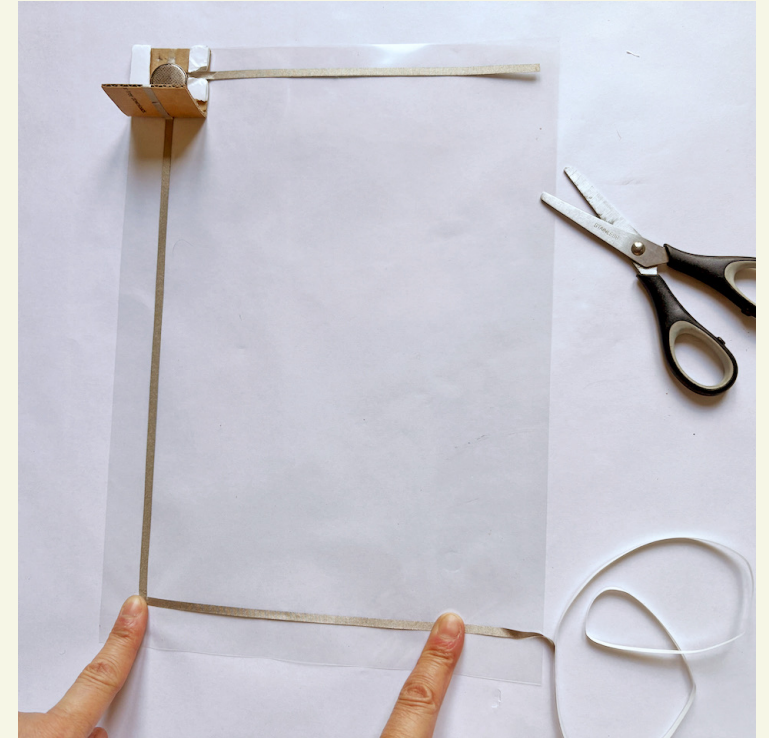
Place the coin cell with the positive side facing down.



Lay the conductive tape

Run the tape from the pack to the opposite side-this carries the positive current.

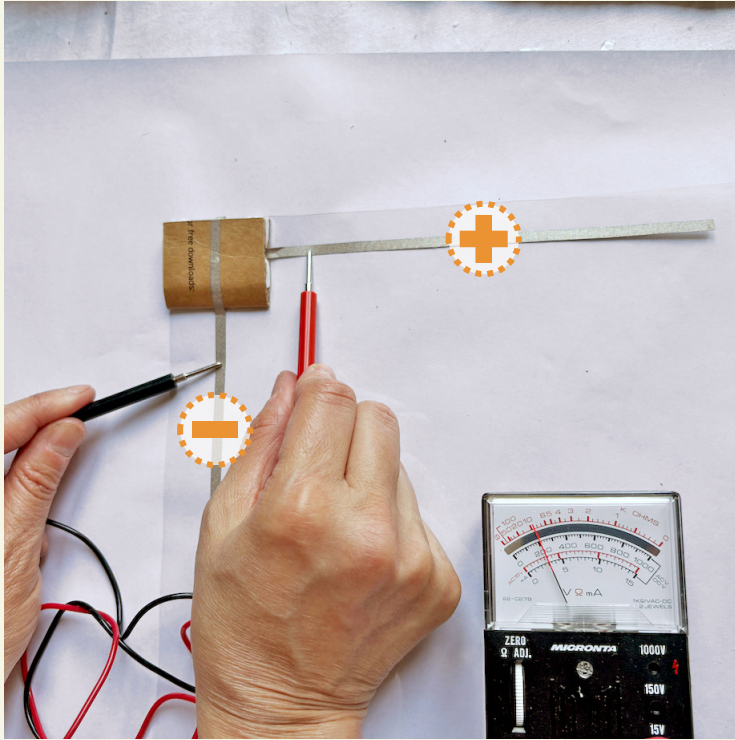
3.



Complete the circuit

Lay the rest of the circuit from the battery pack's top lid making an "L"-this is the negative current.

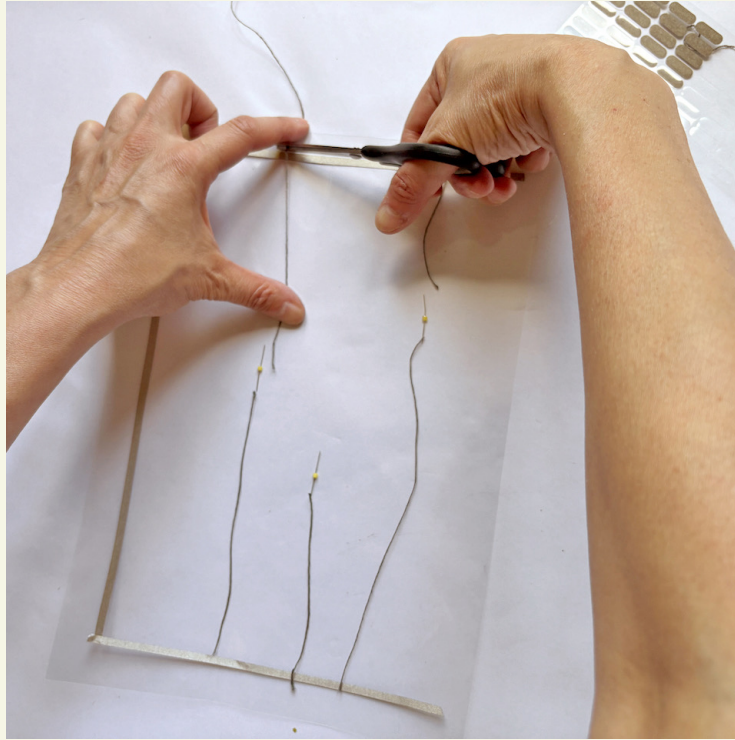
4.



Test the circuit

Use a voltmeter to check the current flow.

5.



Add your circuit lines

Place the three LEDs vertically on the acetate. Cut conductive thread to size using the circuit as a guide, leaving extra at top and bottom.

6.



Test each line

Secure the top, bottom, and both sides of the LED with conductive stickers.

**Sculpting decorative
elements**



1.



Collect 3D dried objects

Gather materials for your nature-inspired sculptures.

2.



Too thick means too heavy to hang!



Work the clay

First, roll out the paper clay and flatten it.

3.



Leave texture

Place leaves on clay and press gently with a roller to imprint.

4.



Cut the piece

Cut around the leaf with a carving tool, then smooth with your fingers.

5.



Give shape

Add a slight curve to your nature object if desired. Poke a little hole near the one tip to allow the object to be threaded later.

6.



Play with shapes

Use your nature objects to explore different shapes and stamps.

**Printing 2D
decorative elements**



1.



Collect 2D fresh materials

For 2D wall elements, start gel printing with a variety of leaves and flowers.

2.



Roll the paint

Start with a lighter paint-just 5-6 dots! Roll in all directions for a thin, even layer.

3.



Remove the background

Press down, then peel off to lift paint.

4.



Compose the piece

Roll a darker contrasting layer (e.g., brown and green), placing materials texture-side down.

5.



Lift the print

Lift the paper, remove the materials, then press again to capture the texture.

6.



Print the other side too, since the cutout may rotate when hung.



Cut the shapes

Cut out nature shapes along the print contour.

Putting it together



1.



Cut the strings

Find a sturdy stick and cotton string to hang your 2D/3D objects. Use the acetate page to measure string length and cut. The string should be double the height of the acetate.

2.



Loop the strings

Folding the strings in half, loop them over the stick. Tighten the loop securely at the base of the stick.

3.



Fill in the piece

To add structure, place three evenly spaced string markers and fill in the spaces between them.

4.



Punch the holes

Punch two holes at the top of the acetate, evenly spaced from the edges.

5.



Secure the piece

Thread craft wire through the hole to attach the stick to the acetate. Face the circuit inward, away from the craft, to protect the circuit.

6.



Now, let's return to our 3D nature objects!



Prepare for hanging

Tie string across the stick's top from left to right to later hang.

7.



Stick it on

Use a glue gun to add decorative touches with your found materials.

8.



Space your objects

Finally, arrange printed and clay objects with even vertical and horizontal spacing on the strings.

9.



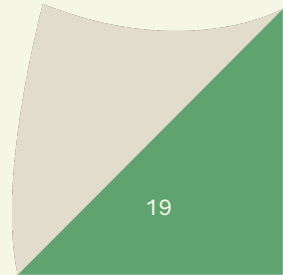
Make the knots

Use a needle to thread the object, knotting behind the object at the desired vertical spot.

Your dangling lights are ready!



Want more of a challenge?
Turn the page!





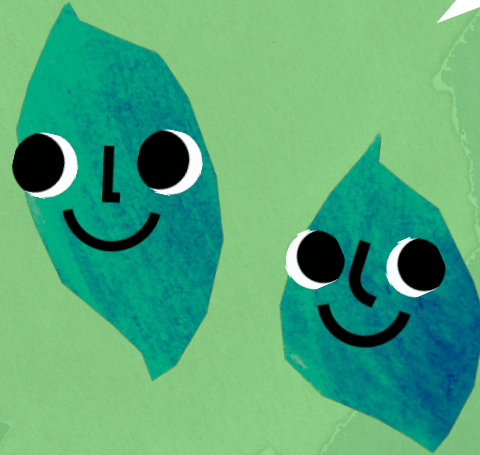
Create a hanging sculpture that tells a seasonal story using leaves and flowers collected in spring, summer, autumn, and winter.



Design a themed sculpture (e.g., “Underwater Forest” or “Night Garden”) using colour, shape, and light to express mood or narrative.



Explore how you might criss-cross your conductive threads and see how this breaks or makes the circuit.



Add your idea here!

Add your idea here!

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