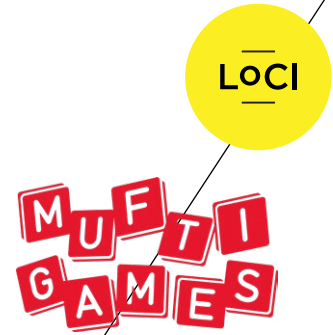


MAKER KIT

TAKING THINGS APART



PROJECT CREATED BY

Malcolm Hamilton
Mufti Games

SKILL LEVEL
BEGINNER

This activity is inspired by Todd McLellan's beautiful "[Things Come Apart](#)" book, [@thingsorganizedneatly](#), and the home hacking and tinkering movements.

MATERIALS

- **Broken Mechanical and/or Electrical Items**

Computers, printers, stereos, old typewriters, phones (whatever you have, or can find on the street) *Mechanical items always have really good shapes and moving parts. Broken toys can also be a good addition.*

- **Glue gun and lots of glue sticks, or other strong glue**

You'll be sticking metal, plastic, and cardboard together.

- **Screwdrivers**

A good assortment is useful and the tiny precision ones. Plus other assorted tools.

- **Empty tubs for putting bits in**

Example: clean take-out cartons

- **Cardstock**

- **Paints and Paint Brushes/Foam Brushes** (optional)

SAFETY

This is a great activity, but it can have risks. You need to use your common sense and do what's right for you and your family. You'll end up with small parts, sometimes sharp. You're using hot or strong glue.

- Keep a cup of cold water close by if using hot glue, to dip fingers into.
- Keep really little kids out of the way (or do this on a high table).
- Avoid toasters or things with cooking elements.
- Hard drives can shatter, so once removed, keep to one side.
- You can get battery leak, so plastic gloves are useful, or have cleaning stuff to hand.
- Keep everything tidy and have places for everything.
- Start with one thing at a time.
- If you really need to smash something open, or force it, then do it ways from other people in a corner or inside a box, watch out for flying parts.

The activity There are 2 main parts to the activity. The taking apart and the making anew. This isn't about fixing things, its about making pictures and sculptures. Remaking and fixing is also great!

Taking apart Select an item, computer, printer, typewriter. Place on table. Line up tools and organise set of containers for small parts.

Now, open it up. Most of it should be obvious, unscrew screws and lift of sections. Some will be more tricky. Go in as far a you feel comfortable with.

Order parts as they come away; screws in one box, circuits in another, strange shapes in one, squares in another; blue things, red things; order by size. Have fun organising and categorising. What bits are the most interesting? What do they actually do?

Making anew Now you have all the pieces, start making! You could start with 2D pictures: Take a piece of 8.5 x 11 card, or a section of cereal box and place parts on to make a picture. Robots, dogs, what do the shapes inspire you to make? Once you are happy with the picture, stick them down with the glue. careful with fingertips!

Next go 3D! Use bigger parts as the base and stick on to make imaginary machines. Try sticking circuits onto an old action figure, or a computer fan onto a matchbox. What would the invention do if it worked? How could it change the world?

If you're a dab hand at electronics, you could make moving parts, or connect to computers to code or make music. Have a look at Makey Makey, [Tinkering Studio](#), and [STEM sites](#) for ideas.

Further Thinking It can be good to have a theme. We've imagined we are scientists after an apocalypse. The ideas are all that is left behind and you must make things to fix the world or leave it behind. Find the most important parts. What's crucial to hold onto? Do you stay and fix things, or leave and start anew? What do you need in a new world? Now you've broken down components, they're pre-sorted for the recycling station. Plastics, metals and electrics. Good work