

Makerspaces for Young Children in Libraries: Guidance and Resources



In this document, we offer guidance for libraries that are considering setting up makerspaces for young children for the first time.

The guidance was developed from the 'MakeY in Libraries' project, which involved makerspaces being offered for children aged 3-8 in three Local Authorities in the UK: Barnsley, Sheffield and South Tyneside.

Drawing on the good practice that emerged, here we answer six simple questions:

**What?
Why?
Where?
When?
How?
Which?**

The guidance is focused on makerspaces for young children, but a number of the principles can be applied to makerspaces for children and young people of all ages.



What

(are makerspaces)?

Makerspaces are spaces in which people can design and make a range of artefacts using the tools and resources to hand. They offer opportunities for tinkering, making and playing with materials.

There is no definitive blueprint for a makerspace. They may be limited to the provision of resources that enable participants to engage in one or two activities, or they may offer access to an expansive range of materials and tools, including digital fabrication tools such as 3D printers and laser cutters.

When

(should makerspaces be offered in libraries)?

If you are fortunate enough to have the space, then setting up a table in a corner of the library which is permanently available for making would be ideal. It is useful if the table could be placed near a power supply, in case you acquire equipment at a later date that needs electricity.

However, if space is short then pop-up makerspaces can be offered. In some libraries, we have used a small trolley to store equipment that is then placed on a table for participants to use.



How

(can we organise and run a makerspace)?

Activities

The kinds of activities that can be undertaken in a makerspace are endless, limited only by the organisers' imaginations. In the the 'MakEY in Libraries' project, some simple yet appealing activities were offered as a starting point for work with children aged three to eight, and then libraries developed these, introducing other activities that they devised themselves.

The starter activities included:

- **Squishy circuits**
making circuits with conductive Play-Doh.
- **Drawbots**
creating robots that draw, using small motors.
- **Light-up drawings**
enabling children to draw pictures in which circuits and LEDs could be embedded.

- **E-textiles**
first sewing kits for children were adapted so that children could make fish out of felt, with eyes that lit up.
- **Lightshows**
children made simple torches that could be used to create lightshows.

Guidance on conducting all of these activities can be found on the MakEY project website.

It is important to note that these are only suggestions, offered as a means of enabling libraries to begin this work. Once you are confident in this provision, the range of activities that can be undertaken is extensive, depending on the resources that you have to hand.

Staffing

One of the key issues to consider is how it is going to be staffed. In many cities and towns, there are open-access makerspaces that are run by enthusiasts and, sometimes, volunteers. It is a good idea to reach out to these – sometimes known as ‘Fab Labs’ or ‘Hackspaces’ – to ask if there are any people who would be willing to volunteer, given that they have relevant expertise.

If you live in a city or town with a college or university that offers Computer Science as a subject, get in touch to see if students are interested in volunteering. Similarly, student teachers are often pleased to have opportunities to volunteer to work with children.

You could set up a Facebook page or website which specifically seeks volunteers, making clear the kinds of activities they will be able to get involved with.

You will need to carry out the usual checks to ensure safeguarding for children.

Promotion of the sessions

In terms of promoting the makerspace sessions, the libraries involved in the MakEY project had:

- Set up specific Facebook pages for the sessions
- Promoted the events on Twitter, using own accounts, and cross-promoting with the council
- Held taster sessions at events
- Asked library staff to promote the sessions by word of mouth
- Developed bespoke promotional materials for the sessions – posters and banners

It is also worth contacting local press (newspapers and radio) to promote the sessions. Creating a mailing list of people interested in the sessions would also be of value. Local nurseries and schools may also be willing to circulate flyers about the events to children and their parents/carers.

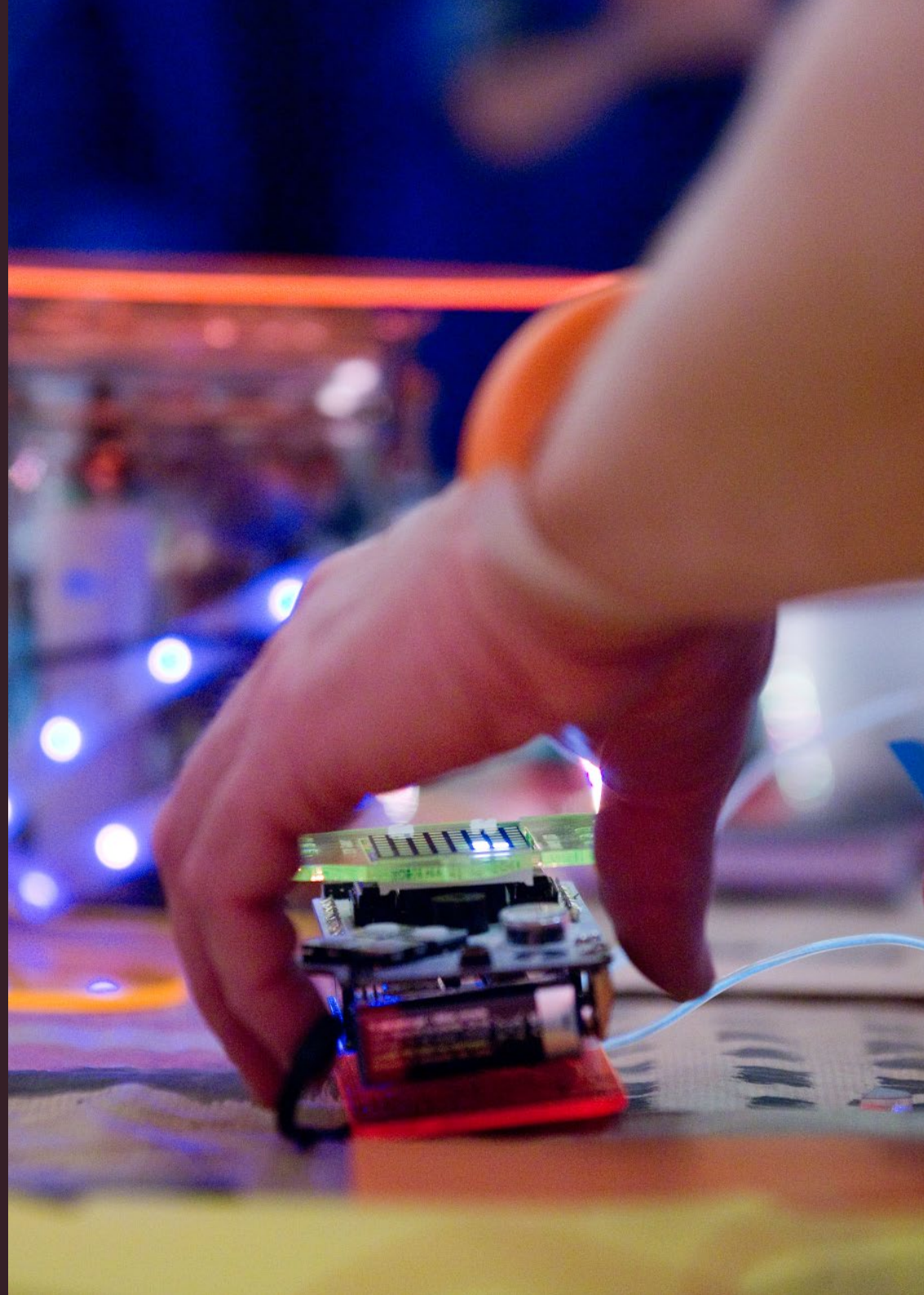


Which (resources do we need)?

If you are interested in offering some of the activities outlined above, then full details of the resources needed for these are included in the handouts on the MakeEY website.

There are some general resources which are always useful to have at hand in a makerspace. These are listed below, along with some suggestions of where the more specialist materials might be accessed. This is not an exhaustive list, but includes materials found useful in the MakeEY project.

It is also useful to collect material that can be recycled in makerspaces, such as cardboard boxes, cartons, bottles and so on. You may be fortunate enough to be located near to a scrap store centre, which will always have materials that are of value in makerspaces. It is worth identifying if there are local businesses who might be willing to pass on material that they no longer need, but which would be of value in a makerspace.



Useful makerspace resources

Tools

- Scissors
- Hot glue guns (Low-temperature versions can be purchased when working with very young children)
- Needle nose pliers
- Zip Snip or CANARY cardboard scissors
- Wire cutters
- Overhead Projector
- Light Box

Art and craft materials

- Paper
- Pens/ pencils
- Stickers
- Stencils
- Sewing kits
- Sellotape
- String
- Masking tape
- Double-sided masking tape
- Lollipop sticks
- Pipe cleaners
- Play Doh
- Embossing foil
- Coloured cellophane
- Fabric swatches
- Feathers, buttons, sponge shapes, and so on.

Electronic materials

A useful source for these is Kitronik: www.kitronik.co.uk

- LEDs (10mm, as these are easier for young children to handle)
- Battery packs (please note - these are preferable to coin batteries when working with young children because of health and safety reasons)
- Batteries
- Crocodile clips

Maker materials

A useful source for these is Pimoroni: shop.pimoroni.com

BBC MicroBits
Copper tape
Chibitronics stickers
Conductive paint
3D pens
Makey Makey kit

Useful apps

- Green Screen by Do Ink (enables the creation of green screen films)
- iMotion (enables the creation of simple animated films)
- Pablo (enables the creation of lightshows)
- Stikbot (enables the creation of stop motion animations)
- Qlone (enables the creation of 3D digital designs from 2D work)
- YouDoodle (enables children to redesign existing work)

Further information and resources:

British Council: Maker Libraries

design.britishcouncil.org/projects/makerlibraries/libraries

CILIP: Five fantastic maker ideas for your library

archive.cilip.org.uk/news/five-fantastic-maker-ideas-your-library

Department for Digital, Culture, Media & Sport: Makerspaces in Libraries

www.gov.uk/government/publications/libraries-and-makerspaces/libraries-and-makerspaces

Designing Libraries: A starter guide to library makerspaces

designinglibraries.org.uk/index.asp?PageID=1488

Libraries and Maker Culture: A Resource Guide

library-maker-culture.weebly.com/what-are-they.html

Libraries Taskforce: Makerspaces in Libraries Blog Posts

librariestaskforce.blog.gov.uk/2017/06/30/makerspaces-in-libraries

librariestaskforce.blog.gov.uk/2017/09/15/makerspaces-in-libraries-progress



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www.makeyproject.eu