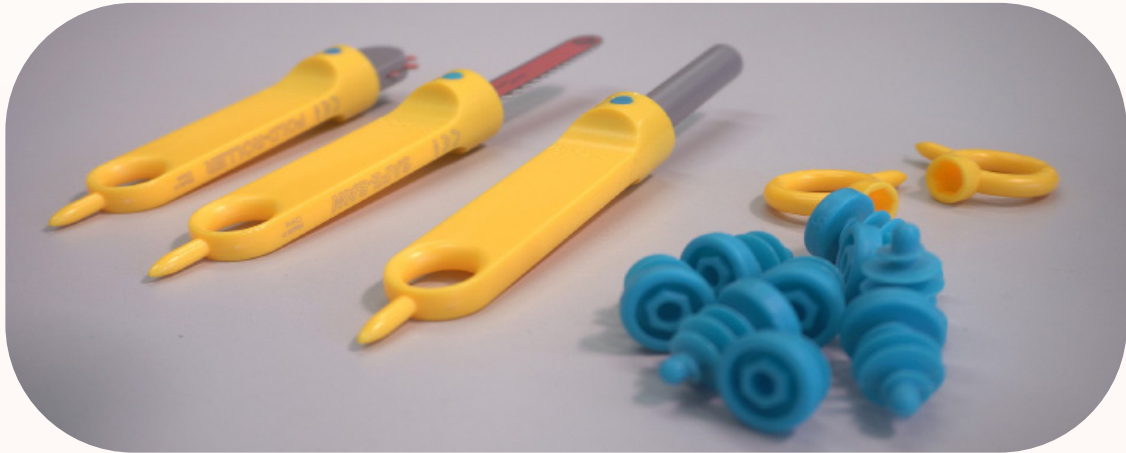


## Makerspace Session: MakeDo Construction



**Session Length: 45mins-1hour**

### **Aims:**

- To introduce students to the MakeDo construction kits – a valuable STEAM resource promoting collaboration and construction skills and helps express problem-solving abilities through technology. To convey the varied possibilities of working with sustainable, reusable and readily available materials within a creative practice.

### **Set up:**

A member of staff will need to set up the areas/tables ahead of the session. As well as enough room between groups. Each group will be provided with at least 2 Safe-Saws, 1 Scru-Driver, 1 Fold-Roller, 2 Mini Tools and 50 Scrus - from the MakeDo Invent Cardboard Construction Toolkit – dependent on how many students and teams are taking part.

### **Equipment:**

- [MakeDo Invent Cardboard Construction Toolkit](#) – Including 14x Safe-Saws, 7 Scru-Drivers, 7 Fold-Rollers, 240 Scru, 80 Scru+ and 12 Mini Tools.
- [MakeDo Visual Instruction Sheet Handout](#)
- 3D Printer – extra pieces can be printed through [thingiverse.com](http://thingiverse.com).
- [‘Pre-Test’ cards](#) – printed out, allows students to have their creation tested against two prospectuses.
- Found/recycled cardboard
- Pencils/paper/rubber/ruler for designing.
- Masking tape.
- Stopwatch or phone for timekeeping.
- Three school prospectuses or books.
- Optional: Digital [Intro](#) and [Exit](#) Forms

## Structure:

### Session Introduction (5mins):

Once the equipment and resources are set up and ready, lay out the MakeDo tools along with cardboard, paper and pens. Allocate students into groups pre session and ensure they are seated together when entering the room.

Optional - ask students to complete a digital intro form.

### Task 1 (5mins):

Show the students the MakeDo construction kit and refer to the MakeDo construction sheet hand out from the resources. Then allocate 5 minutes for the students to play around with the tools, to understand how to cut, fold and join the material. Offer additional support to students if needed.

### Task 2 (5mins):

Students will have 5 minutes to brainstorm and design within their team a piece of furniture that can be made using on the materials and tools they have been given. The piece of furniture could be anything, the only rule is that it must be freestanding (no supports)! The challenge is that your creation will be put through a quality test.

### Task 3 (10mins):

After 10 minutes of creating, each group will take turns bringing their creation up to the quality tester's desk for the first round of quality testing. This will be when each creation is tested to see if it can hold one school prospectus. If any of the students' creations cannot pass this round this will not affect the rest of the task for them as they will have the remaining time to build up their creation further.

### Task 3 (10mins):

Students will then be asked to add another layer onto their creation - to build it up. This will make the piece less stable so they must remember to think of the structural integrity. At the end of this time their creation will be tested against the weight of two prospectuses.

### Task 4 (10mins):

For the final round students must give their creation a functional element - such as a moving part or usage. At the end of the 10 minutes the students will reveal their final product to the class and reflect on the session. They will then bring their creation up to the quality testers desk for the final time and have their creation tested against the weight of three school prospectuses.

Optional - students will now be asked to complete a digital exit form for feedback on the session.