

# PIMORONI education

## Lesson Plan Making the glove



### Background

In lesson one your class will explore the ways in which artists and musicians use new technologies to invent instruments, make new sounds and play with the world around them. They will take inspiration from Imogen Heap's mi.mu gloves and start to design and make their own musical wearable using the minu.mu 8 microbit glove kit.

As an introduction you could show this 5 minute video of the mimu glove that the mini:mu is based on:  
<https://youtu.be/Y-UIQV3bkCA>

In addition, a complete run through (15 mins) of making, wiring and programming the glove is here:  
<https://youtu.be/tYbqPs-XK8w>

You will need	Age & Ability
<ul style="list-style-type: none"><li>• Minimu glove kit</li><li>• Scissors</li><li>• Making handouts or access to online tutorial</li><li>• Access to computers to test the gloves (optional)</li></ul>	<ul style="list-style-type: none"><li>▲ 7-11 years (KS2)</li><li>★ 11-14 years (KS3)</li><li>■ 14-16 years (KS4)</li></ul>
	<b>Additional Info</b>  This can be split into making the glove now and wiring/coding later.

### Outcomes

From this lesson, students could...

- Students should consider their own needs, wants and interests and those of others. (Design brief/DT GCSE)
- Why a designer considers alterations to a brief and modifying the brief as required. (Design brief/DT GCSE)
- The importance of planning the cutting and shaping of material to minimise waste (Material management/DT GCSE)
- Use a systematic approach to problem solving (Computing)

### Support

Replace thread from kit with a contrasting embroidery thread to aid visibility.  
Pair students - experienced at sewing with those new to it.  
Pin parts of the glove together with safety pins.  
Pre-cut pieces to speed up the process or leave more time for sewing.  
Have an example glove to model the finished item / for students to check against.



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### Starter ideas

Explain what the glove is, and that today is about making the glove and testing the connections if there is time.

If possible, show the video of the mimu glove. Students could compare their hand size to that of a template (printed felt) and decide what size they are. Discuss the need for the fabric to wrap around the sides of their hands - how much allowance is needed?



### Main

Students cut and sew an individual glove. See handouts.

Task 1 - make a glove that fits their dominant hand

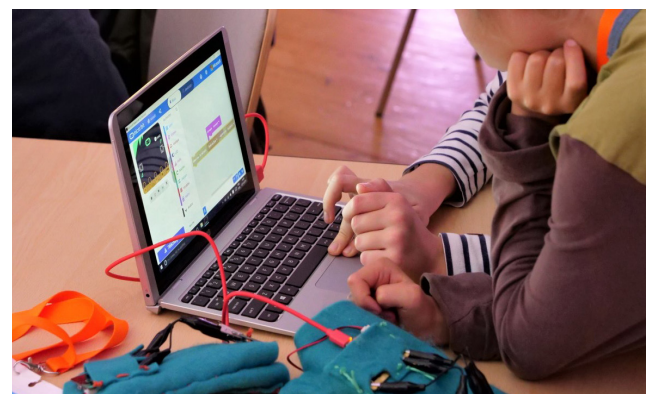
Task 2 (extension) - decorate the glove with offcuts of felt or with stitching

Some students may need assistance to sew - could pair students based on who has/hasn't sewn before. Demo how to start sewing and how to tie off a thread.

### Plenary

Students test their designs by loading a simple program onto the microbit, if there is time. If not, peer review finished gloves

How durable are the gloves you made? Do they need altering? Did they make a good electrical connection? Did they stay connected? Could you add modifications to make them more durable or easier to use? What would you change?



### Links

[www.mimugloves.com](http://www.mimugloves.com)  
[pimoroni.com/minimu](http://pimoroni.com/minimu)

### Handouts

Making the glove (L) / Making the glove (R) /  
mini.mu wiring / troubleshooting / mini.mu code

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## Handout

### Making the glove (LEFT HANDED)



#### Step 1

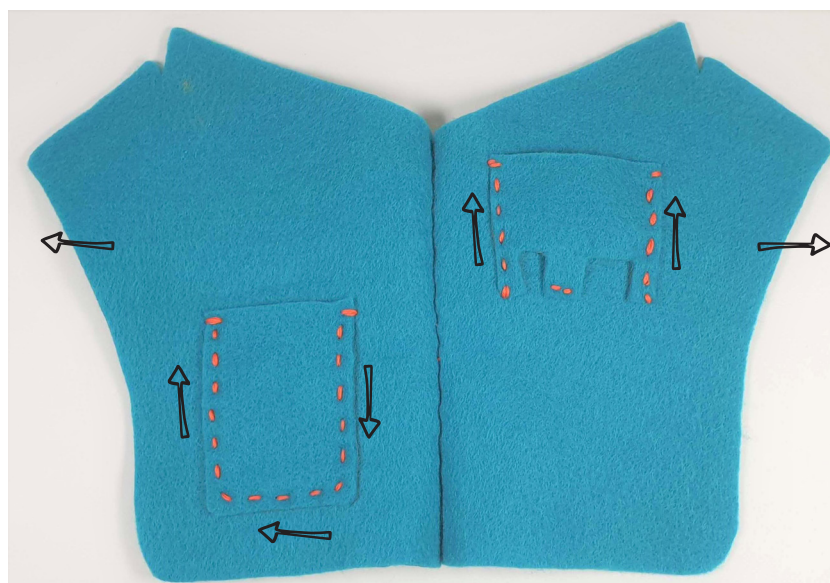
Thread your needle and make a knot.

Place the two sides of the glove on top of each other, **printing side out**, and use running stitch to sew them together down one edge, like in this photo. Tie a knot at the end of the stitching then snip the thread.

#### Step 2

Open up the two sides of the glove like a butterfly and lie it with the **plain side up**.

Take the pockets and sew them to the glove. Pay attention to how they are attached!



#### Step 3

Fold your glove back together, with the pockets on the inside. Finish the glove by sewing a little V to separate the thumb (circled in the photo) and tie off the thread. Finally, sew down the other side and knot it off securely.

Turn your glove inside out like you would with a sock, so the pockets are on the outside. Try it on and secure any loose stitching. Happy? You're ready to wire!

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## Handout

### Making the glove (RIGHT HANDED)



#### Step 1

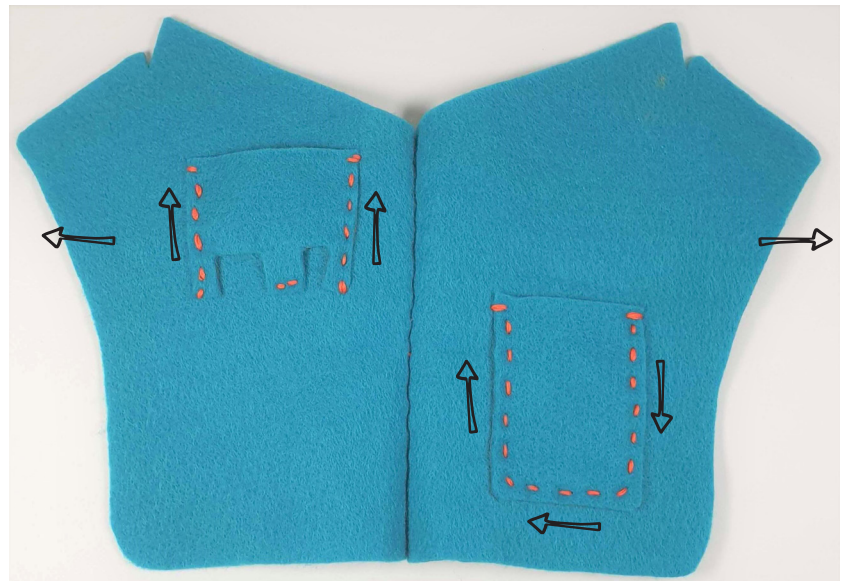
Thread your needle and make a knot.

Place the two sides of the glove on top of each other, **printing side out**, and use running stitch to sew them together down one edge, like in this photo. Tie a knot at the end of the stitching then snip the thread.

#### Step 2

Open up the two sides of the glove like a butterfly and lie it with the **plain side up**.

Take the pockets and sew them to the glove. Pay attention to how they are attached!



#### Step 3

Fold your glove back together, with the pockets on the inside. Finish the glove by sewing a little V to separate the thumb (circled in the photo) and tie off the thread. Finally, sew down the other side and knot it off securely.

Turn your glove inside out like you would with a sock, so the pockets are on the outside. Try it on and secure any loose stitching. Happy? You're ready to wire!