



## Valentine's Special

We hope you enjoy this Intro To Wearables Kit. We can't wait to see what you make! For instruction on how to get started, check out our website: <http://jewelbots.com/intro-to-wearables-kit/>

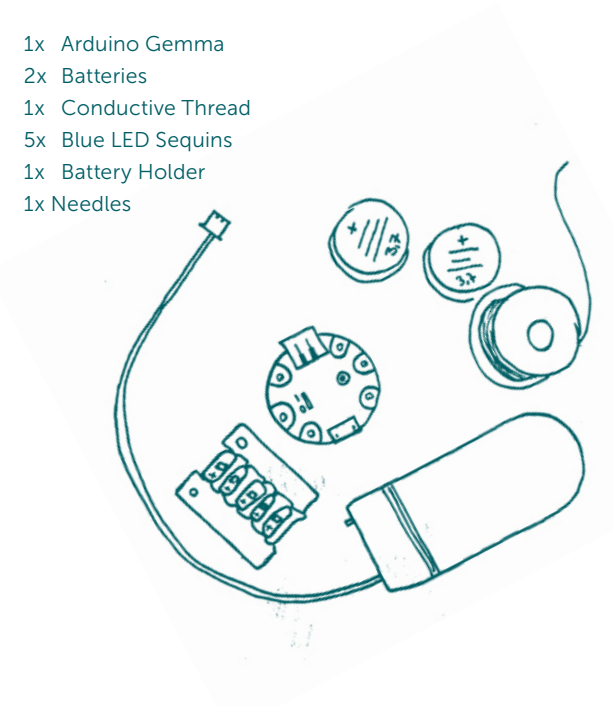
Remember to share pics of your process as well as your finished product! Just post your project to Instagram and use the hashtag **#Jewelbotswearables** and tag us **@jewelbots**.

And remember if you get stuck, check out all of the resources we have mentioned on the youtube video.

And if you get really stuck, you can email us at [hi@jewelbots.com](mailto:hi@jewelbots.com).

## What's in the kit:

- 1x Arduino Gemma
- 2x Batteries
- 1x Conductive Thread
- 5x Blue LED Sequins
- 1x Battery Holder
- 1x Needles



## Getting Started:

Before you get started, please watch our *Intro to Weables Video* – it will give you a good overview of the process and things to look out for. You can find it on our website, along with other tips and tricks:

<http://jewelbots.com/intro-to-wearables-kit/>

### Additional tools needed:

- Needle and Scissors
- Material of any kind on which the board and the LED's could be stitched on (cloth, FELT, paper etc.)
- Mini-USB cable to program it
- Arduino IDE Software (used to program the gemma)  
<https://www.arduino.cc/en/Main/Software>



## Prepare the Fabric:

We only need two pieces of fabric for this project. Cut two hearts, one slightly larger than the other.

The larger piece will be the base, the smaller the cover. Make sure that the smaller piece is made of a fabrics which is thin enough so the LEDs can shine through.

We took a thick piece made from felt and a thin piece of felt for the cover.

TIP: Give yourself some space to work with. So dont make the heart too small - 5-6inch wide gives you plenty of space to sew and cut.

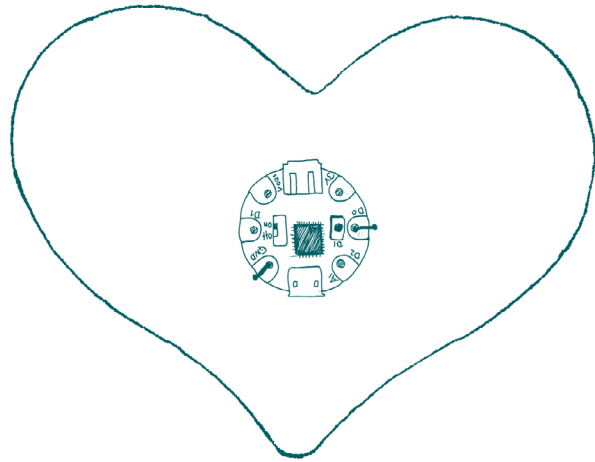


## 1 Sew the Gemma to your Heart

This heart design is pretty simple. All LEDs are connected to the programmable pin ( **D0 +** ) and the ground ( **GND +** ). This allows us to program all lights to flash in sync, so they light up at the same time and simulate a beating heart.

Let's get started and attach the Gemma to the larger fabric piece by sewing the ( **GND** ) and ( **D0** ) as you can see in the picture.

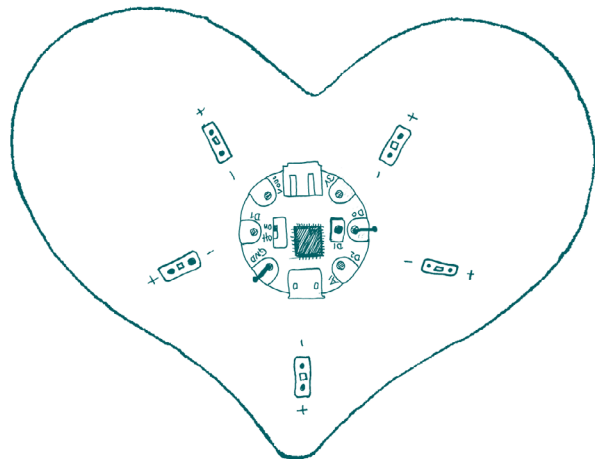
Make sure the battery connector faces up, this will make it easier to hide the battery holder later.



## 2 Placing your LEDs

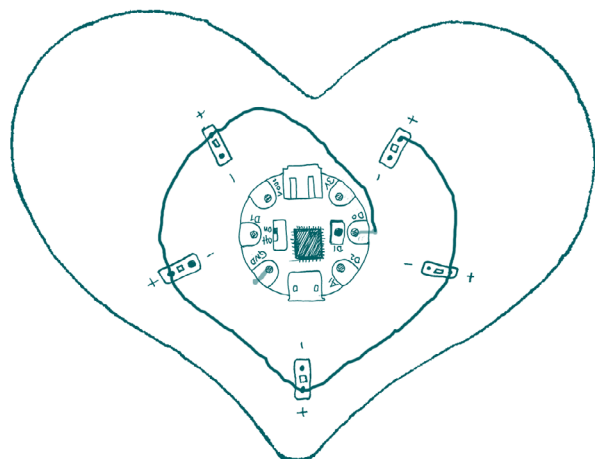
Place all LEDs with the ( **-** ) facing the Gemma. Spread them out evenly, don't be afraid if it does not look perfect. Make sure to leave some space so you can sew them on easily later.

Once you like the placement, use a little marker and mark the position of each LED.



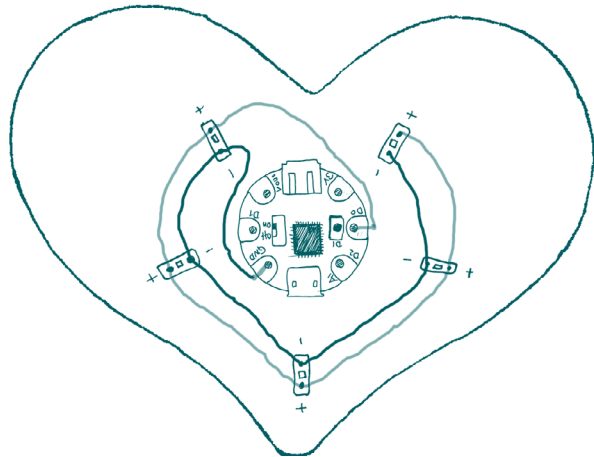
## 3 Sew LEDs to your Heart

Connect all ( **+** ) of your LEDs to the programmable pin ( **D0** ). Again, take your time and connect one LED at a time.



#### 4 Completing the circuit

Repeat the previous step and complete the circuit. This time you need to connect the ground (**GND**) and the positive pole of the LEDs (**+**).



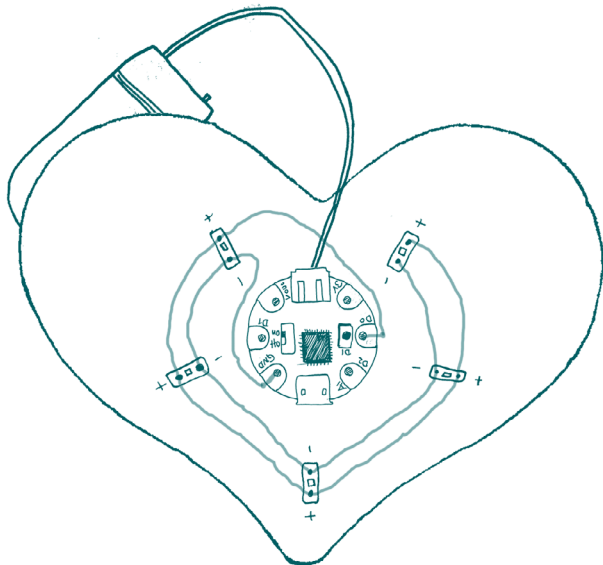
#### 5 Attaching the battery

The battery can be attached and placed on the back of your heart. You can use hotglue or make a small pouch to hold your battery pack.

Now you are ready to download our code here:

<http://jewelbots.com/intro-to-wearables-kit/>

TIP: You can use the USB connector to power your heart. Make sure your Gemma is turned on and you press/hold the little black button above (**PWR**) so it can receive the code.



#### 6 Adding the cover and finishing up

Once you uploaded your code and all is working, you are ready to place the cover piece.

