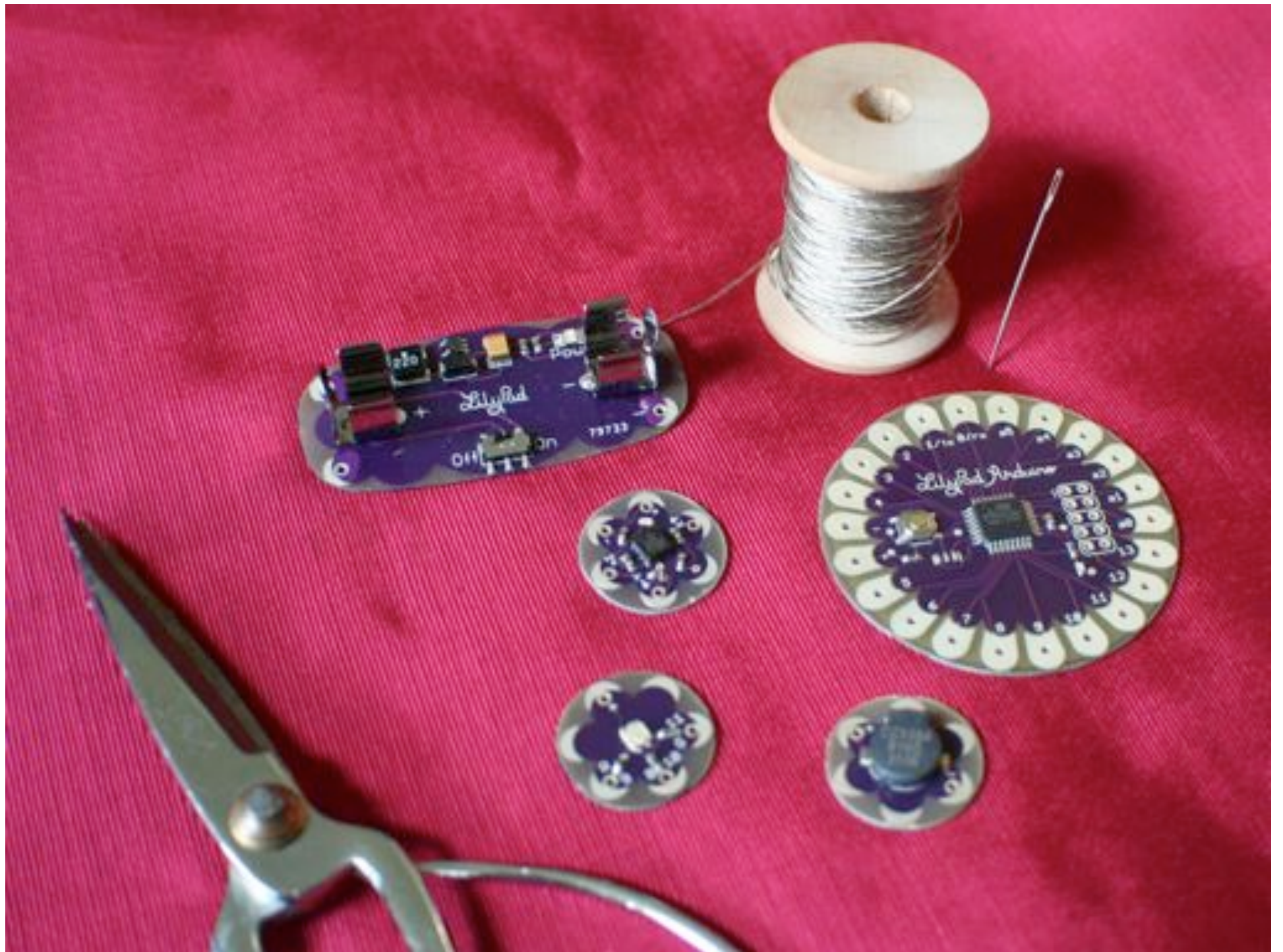


LilyPad Electronic Fashion

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what we're making



morning overview

- design
- build, test
- build, program, test
- build, program, test
- play!

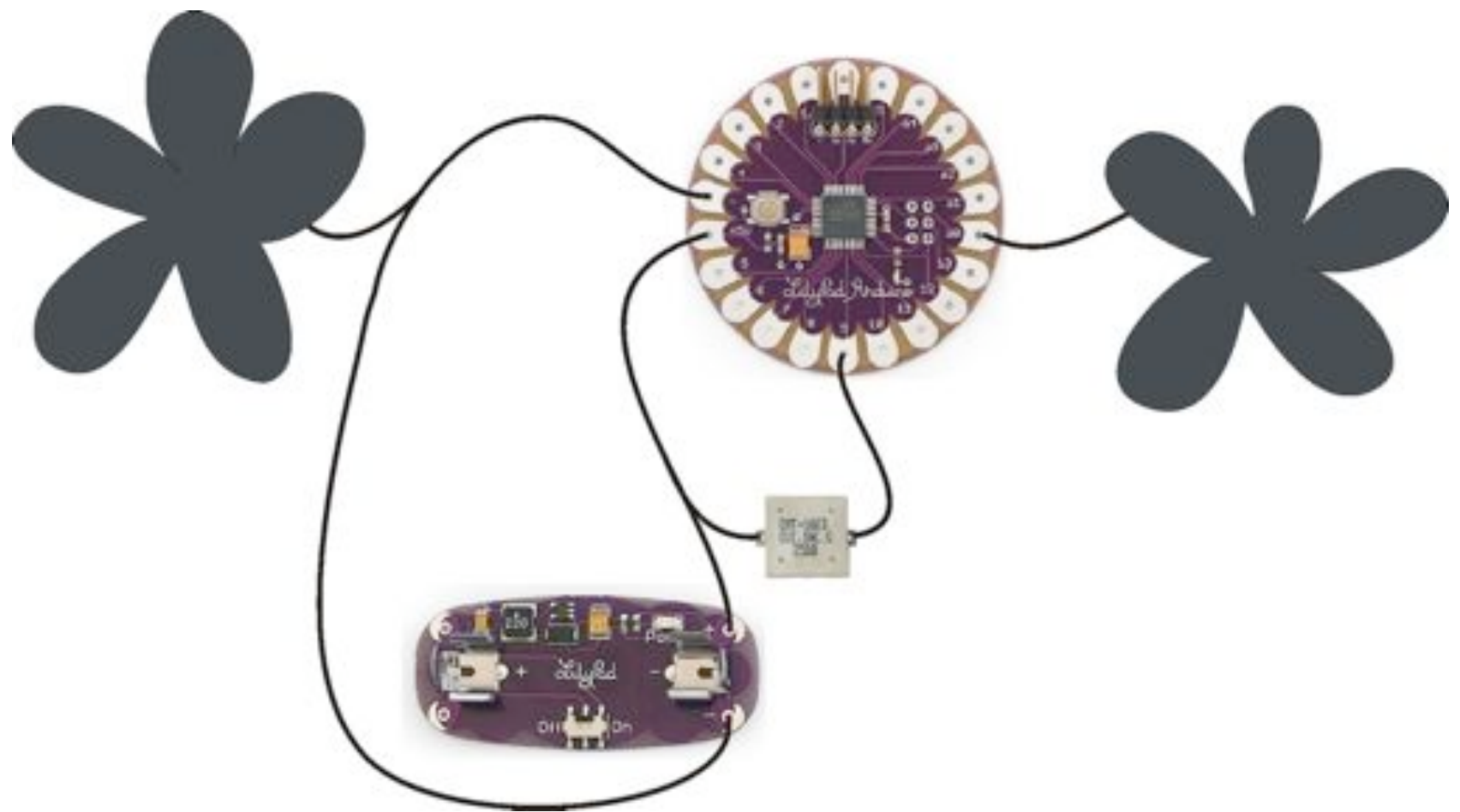
what you should have

- clothing or accessory
- laptop
- LilyPad Pro kit
 - LilyPad Arduino
 - battery holder
 - programmer
 - USB cable
- LilyPad LED
- conductive thread
- conductive fabric
- speaker
- needles
- AAA battery

stuff we'll share

- irons
- multimeters
- scissors
- nail polish & glue

design



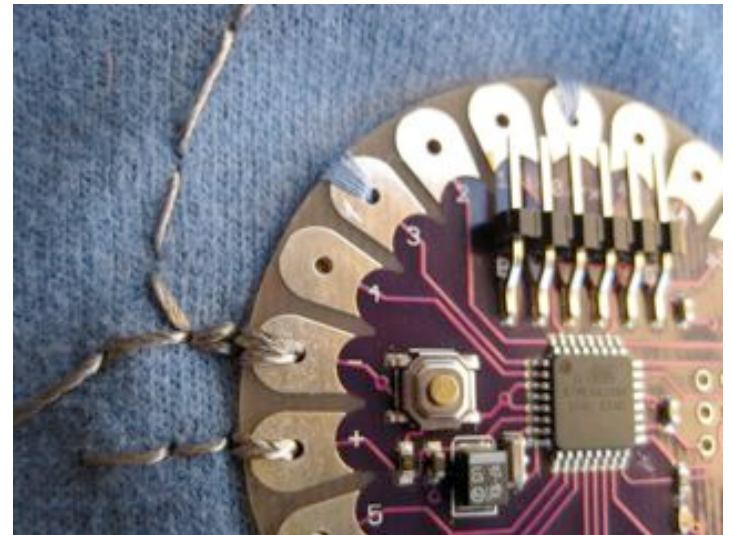
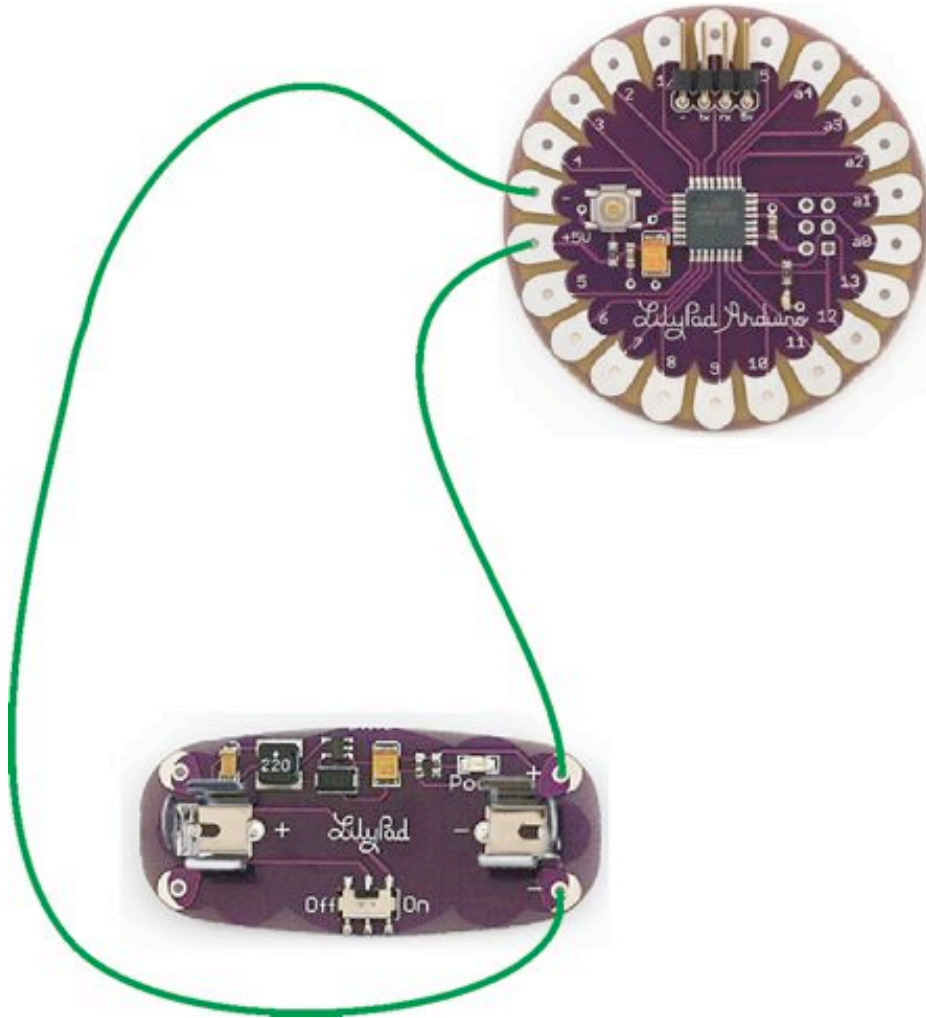
build

step 1: power supply & LilyPad

thread your needle



sew + to + and - to -



seal your knots

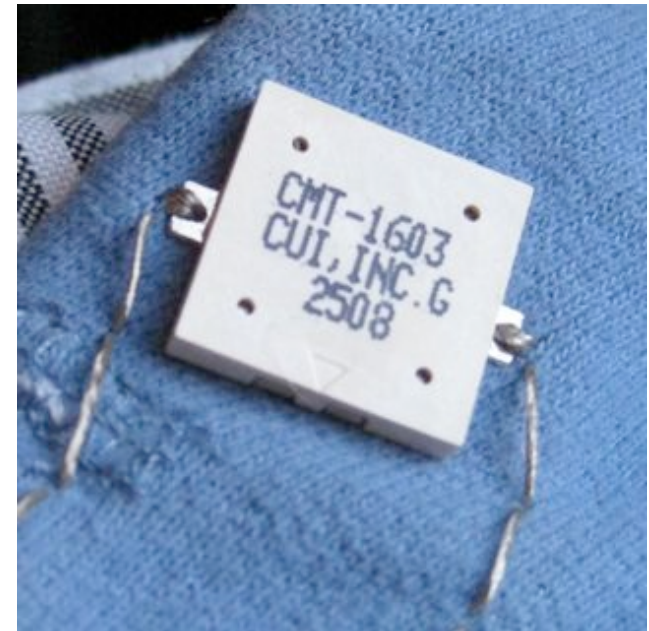
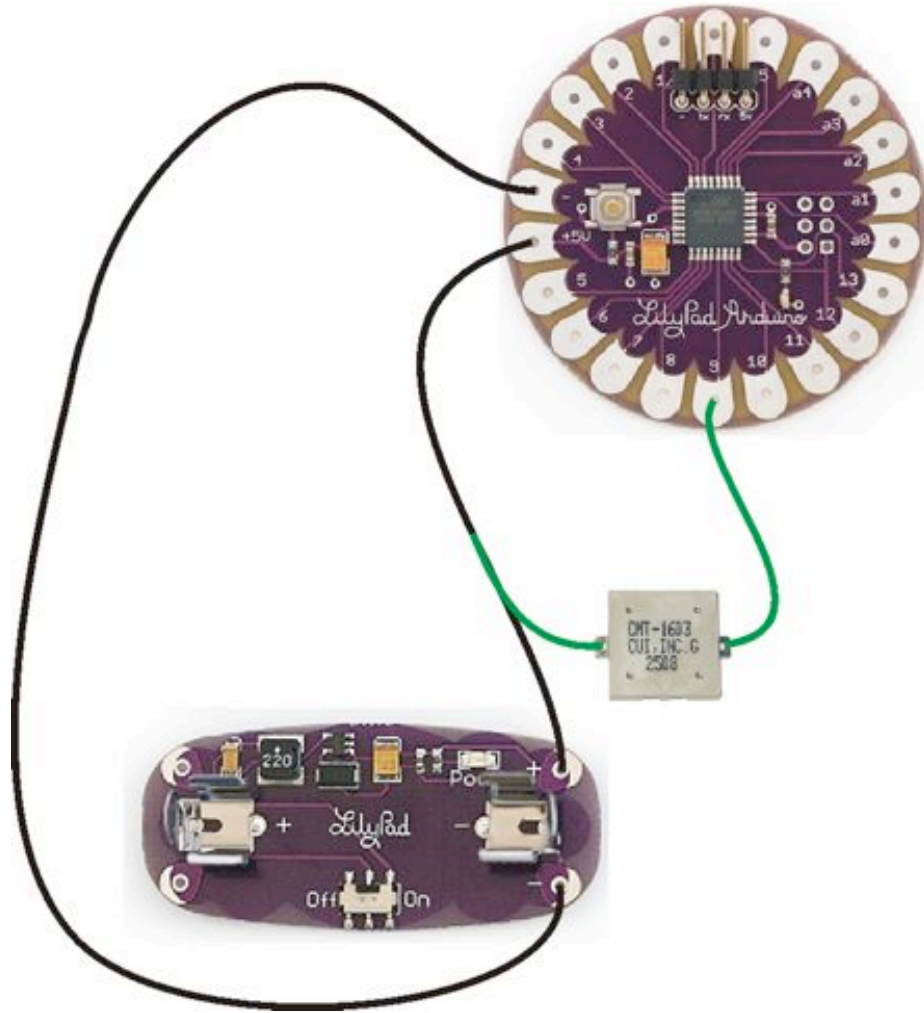


test



step 2: speaker

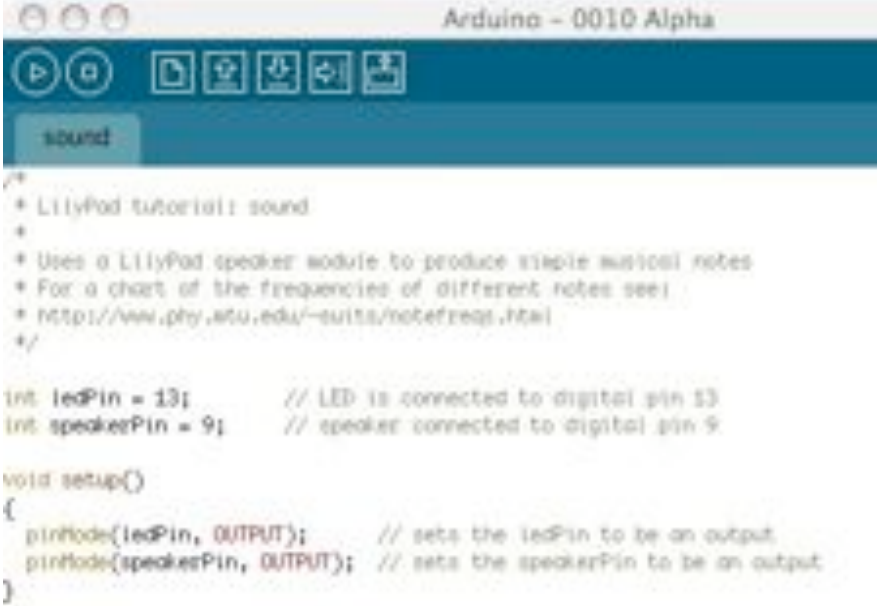
sew one end of speaker to + and the other to pin 9



program & test

set up for programming

- go to: <http://media.mit.edu/~leah/LilyPad>
- configure the software (2. software install)
- open the sound sample code (7. sound)
- paste the code into your Arduino window



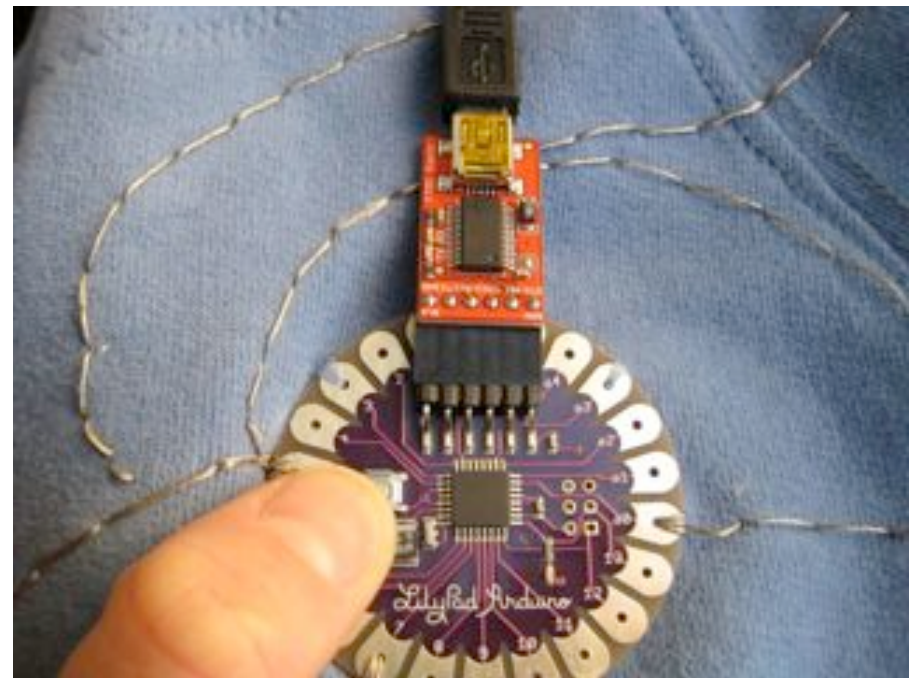
```
Arduino - 0010 Alpha
sound
/*
 * LilyPad tutorial: sound
 *
 * Uses a LilyPad speaker module to produce simple musical notes
 * For a chart of the frequencies of different notes see:
 * http://www.phy.etau.edu/~suits/notesfreq.html
 */

int ledPin = 13;    // LED is connected to digital pin 13
int speakerPin = 9; // speaker connected to digital pin 9

void setup()
{
  pinMode(ledPin, OUTPUT); // sets the ledPin to be an output
  pinMode(speakerPin, OUTPUT); // sets the speakerPin to be an output
}
```

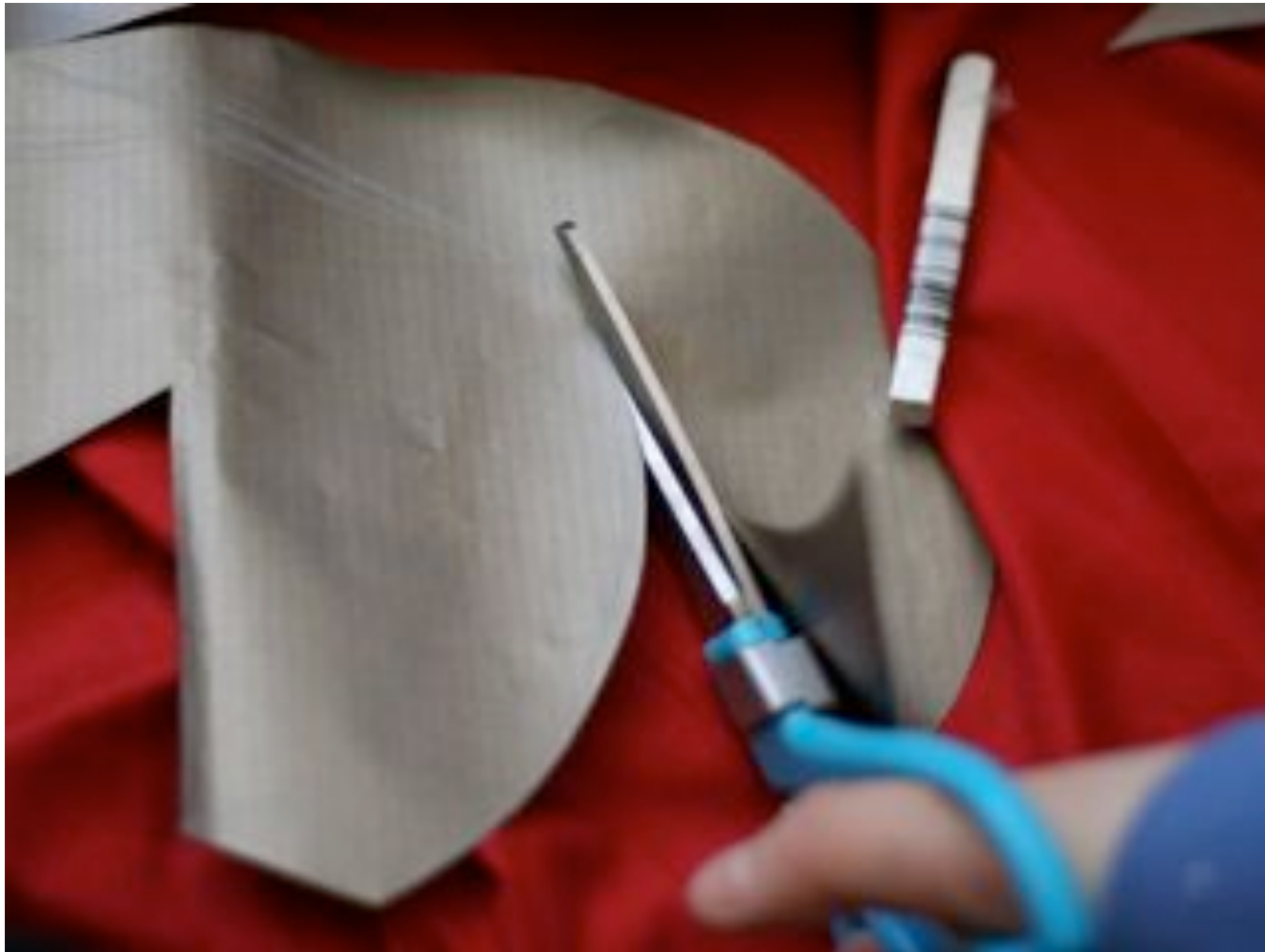
load the code onto your LilyPad

- go to step #3 on the 4. lights(LEDs) page for reference
- press the reset switch on the LilyPad
- quickly press the upload button in the Arduino software
- wait...and listen



step 3: sensor

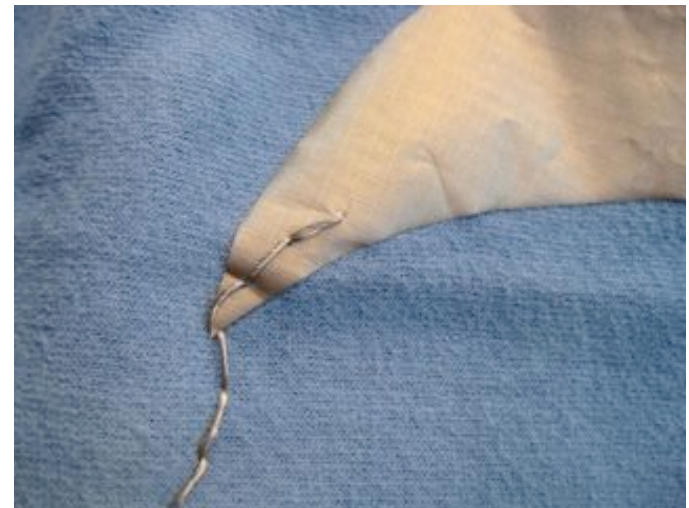
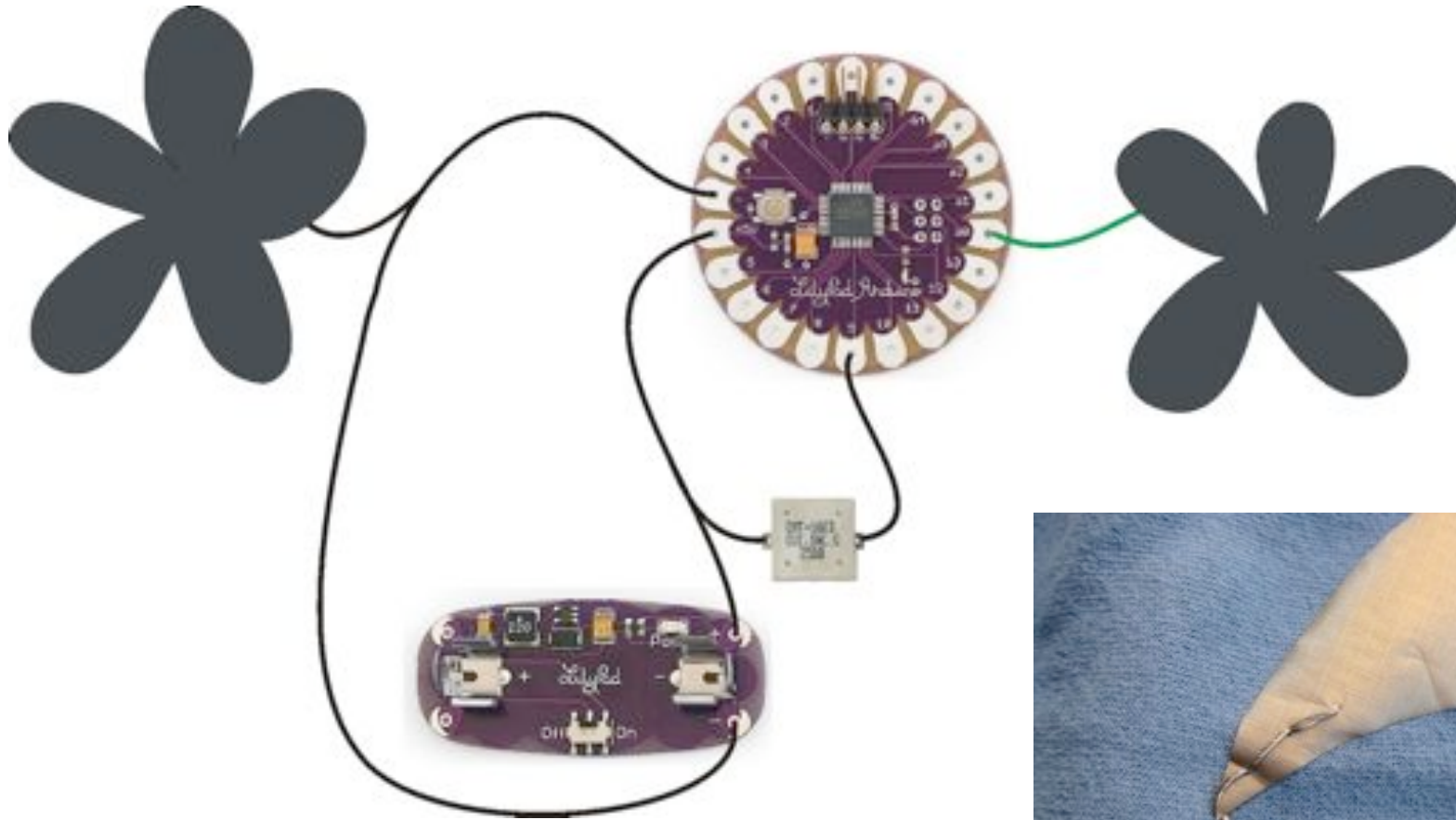
cut out your patches



iron them on



sew one patch of fabric to – and
one to a0



program & test

- go to step #3 on the 4. lights(LEDs) page for reference

- code:

www.media.mit.edu/~leah/LilyPad/etech_soundie_code.html

play!

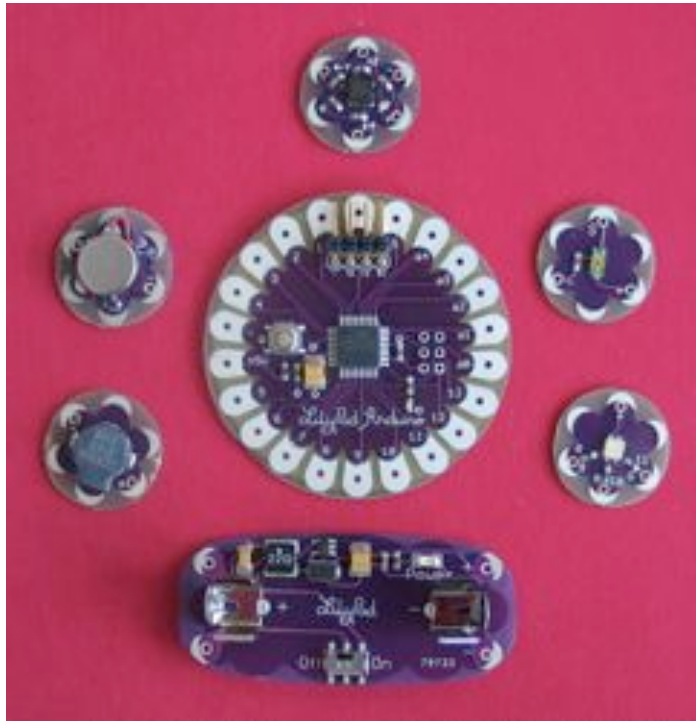
after today

- washing
 - remove battery
 - hand wash
 - drip dry
- wearing & wear
 - silver tarnishes: silver polish, fabric paint
 - platings crack

after today cont.

- where to get stuff
 - electronics: SparkFun, Maker Shed, etc.
 - materials: lessemf.com,
media.mit.edu/~leah/grad_work
- community
 - Arduino: arduino.cc, ladyada.net
 - LilyPad: Flickr group, LilyPad Arduino tags on Flickr, Instructables, etc.

Thank you!



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