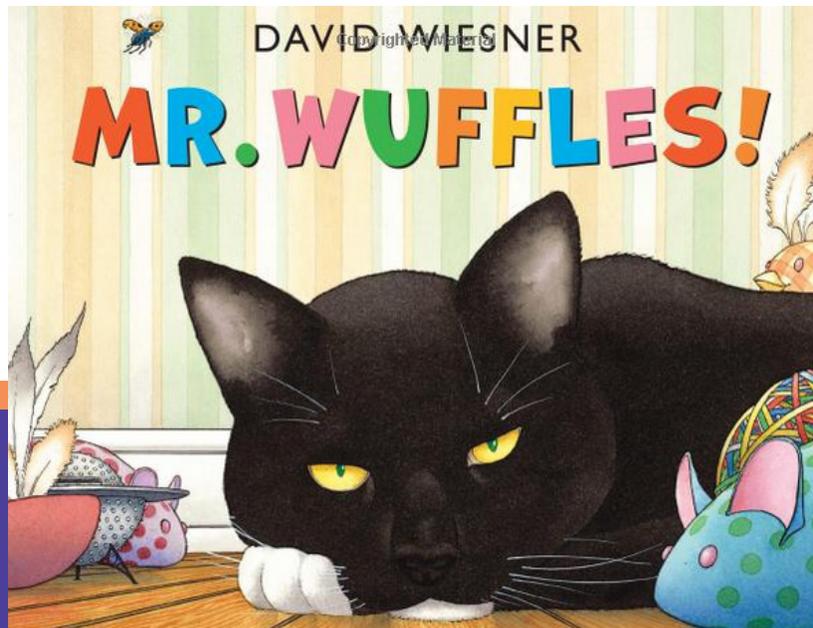# TECH *style* TALES

MAKE. LEARN. SHARE.

Explore technology with your family! Learn about circuitry, robotics, and programming together—use old and new technology to bring your stories to life.

Your Family's Name

Greetings, Friends!

Δ! Δ!

Gather your family & let's get started!

1 **Read the story Mr. Wuffles together.** Talk about the questions on the next pages.

2 **Connect your laptop to the internet.**

3 **Open your laptop and click on the icon labeled Mr. Wuffles on the desktop.** This is your guide as you build your project with your family. (www.bit.ly/mrwufflesbackpack)

Mr Wuffles

4 **Use this booklet to brainstorm & doodle.** It's yours to keep!

5 **Work together, be creative, and have fun!**

Read and Reflect

Mr. Wuffles is a book with very few words.
How can you tell what is happening in the book?

How do the aliens and insects communicate with each other?

What story are the characters telling with their wall-drawings?

Cave drawings, kind of like the ones made by the insects, have been used throughout human history and all around the world to tell stories.

Caves of Lascaux

Talk About It

Are there words, phrases, or actions that have a meaning which is only understood by you and your family? This is a type of code.

What are the stories behind these words or phrases?
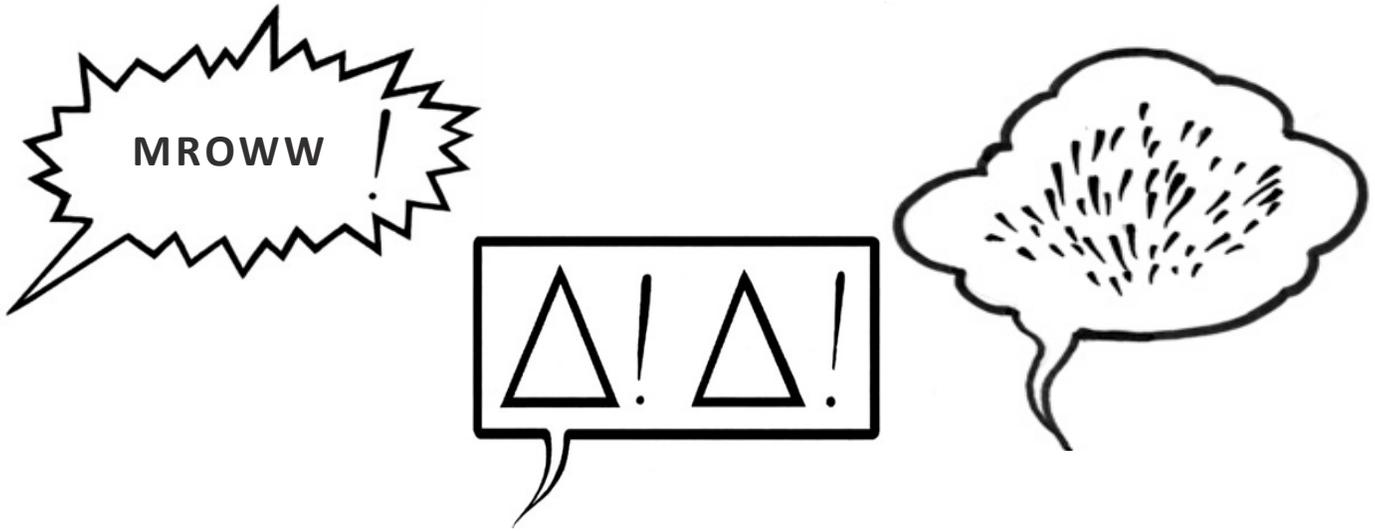Why are they important?

Code:
A system of signals or symbols for communication
(sometimes for secrecy)
or
Instructions for a computer

The languages in <u>Mr. Wuffles</u> may be made-up, but they have rules just like the languages that we speak. Do you see any patterns?

Computer programming languages also have a set structure and rules like you see here:


```
                              ☰ BLOCKS    { } JAVASCRIPT
1  light.showRing(
2  `purple purple purple yellow yellow yellow yellow purple purple purple`
3  )
4  pause(2000)
5  light.showRing(
6  `black black black black black black black black black black`
7  )
8
```
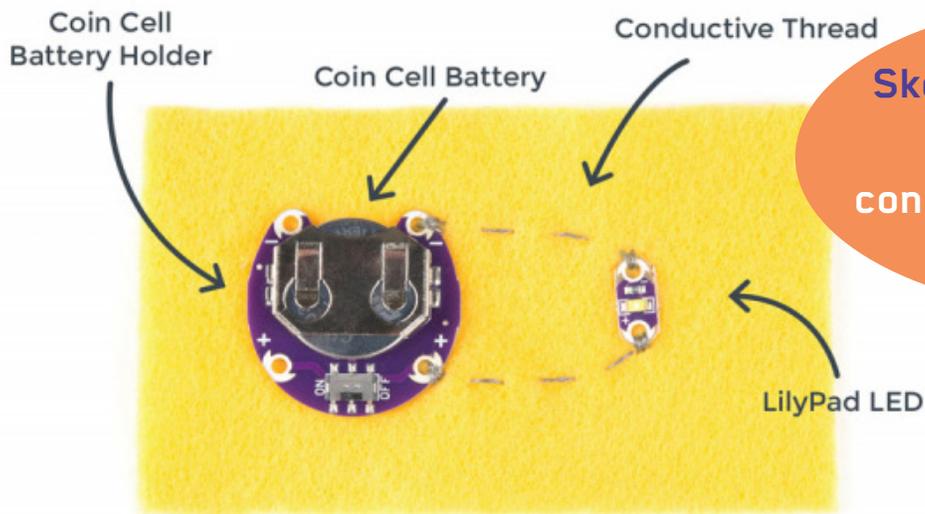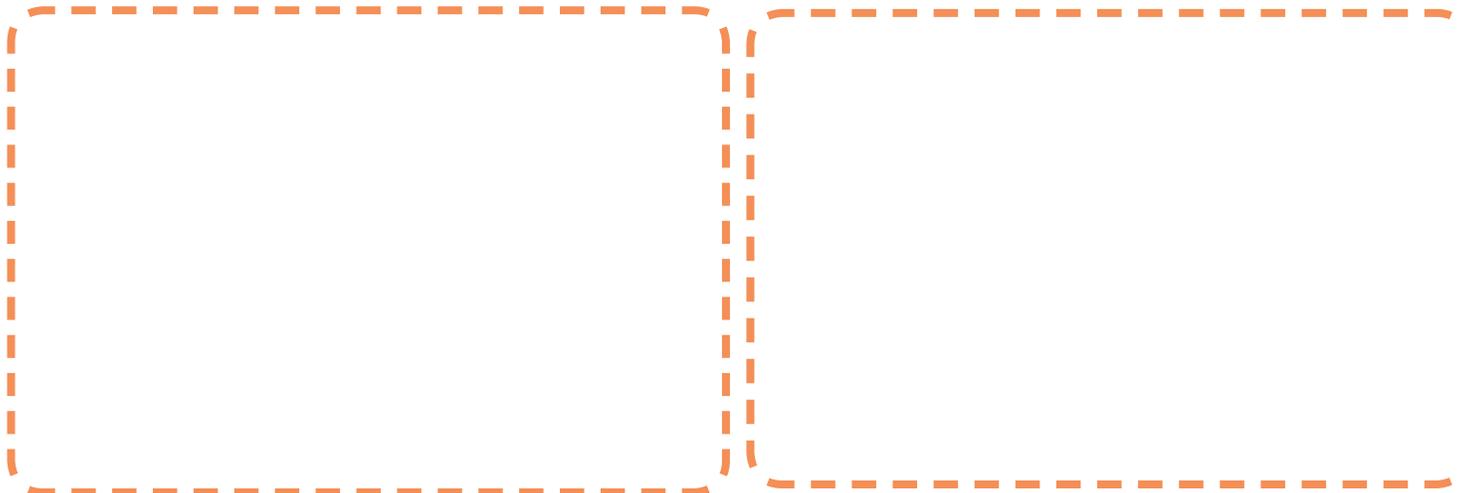
From https://makecode.adafruit.com
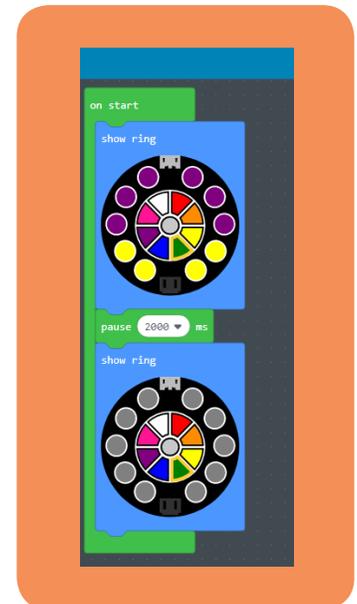
Design

What are you planning to make? Sketch your stuffie designs here.
Look at Page 7 for more help planning your circuit.

Parts of a LilyPad Circuit

Coin Cell Battery Holder
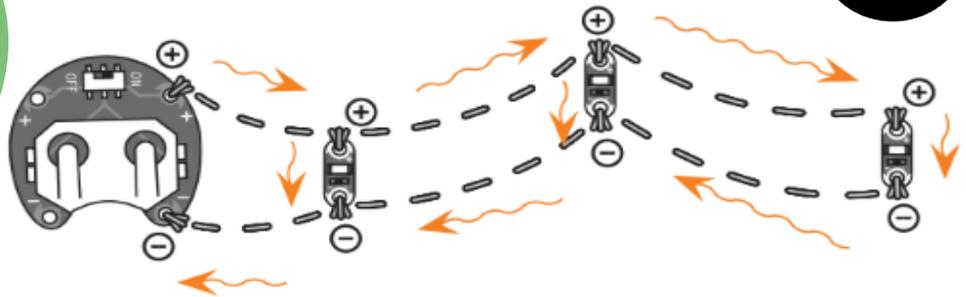
Coin Cell Battery

Conductive Thread

LilyPad LED

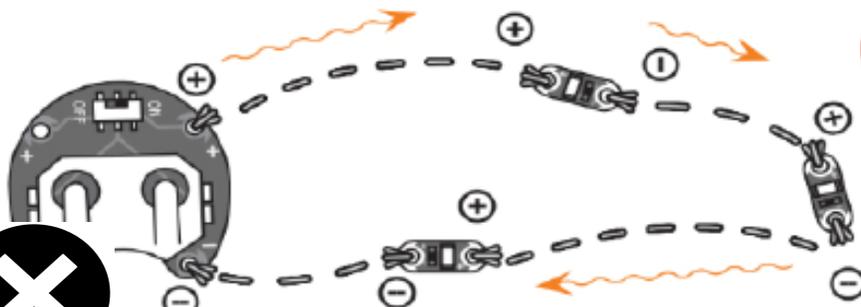Sketch your design first. Then, draw your connections on your fabric before sewing.

Designing a Circuit

If you wish to connect more than one LED to one 3V coin cell battery, you must use a parallel circuit.
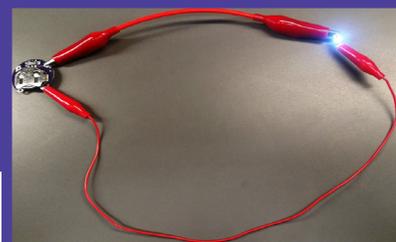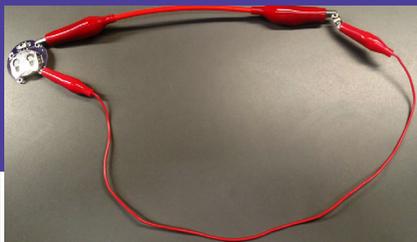
PARALLEL

A series circuit is another way to connect more than one LED to one battery. However, it will NOT work with a single 3V coin cell battery.

SERIES

Test the Battery Holder, Coin Cell Battery, and Lilpad LED with alligator clips before sewing with conductive thread.
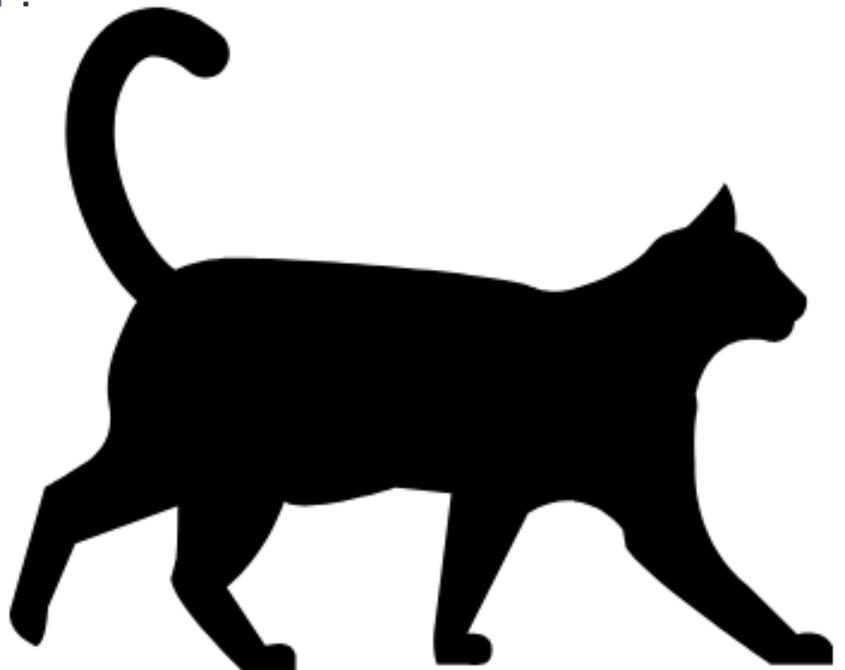
Troubleshoot

What were the problems facing the aliens in Mr. Wuffles?
How did the aliens and insects work together to engineer solutions to those problems?

Did you have any trouble creating your stuffie?
Who did you work with to solve these problems?
What solutions did you engineer?

"Cat" icon by Marco Hernandez, from thenounproject.com.

Tell a Story

Write or draw a short story about your stuffies.

What are their names? What are they doing?

How will they escape Mr. Wuffles?

Learn More

Questions? Talk to us!
https://techtales.online/contact/

Sparkfun
https://learn.sparkfun.com/tutorials/lilypad-basics-e-sewing

Sew Electric!
http://sewelectric.org/

Make Code
https://learn.adafruit.com/adafruit-circuit-playground-express/makecode
https://makecode.adafruit.com/examples

Circuit Playground Express
Video from Hackster.io
https://www.youtube.com/watch?v=JpjpGAfAkuU

The Story Behind the Languages in Mr. Wuffles
http://www.davidwiesner.com/work/say-what/