



Binary BRACELETS

COMPUTATIONAL THINKER

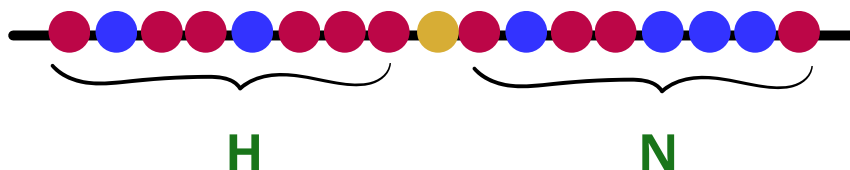
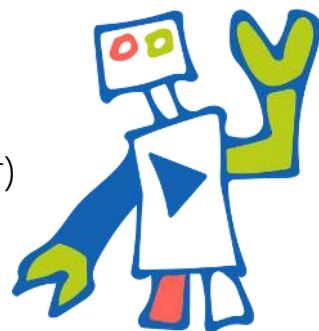
Binary Code is the way computer store information. Binary is a way of representing data using only two option (yes/no, true/false, 1/0). Each line of binary code is made of up 8 units called a **byte**. Each unit of the byte is called a **bit**. We can represent letters in the alphabet using binary code.

CHALLENGE



Create a bracelet that represents the first letter of your first name and the first letter of your last name.

1. Locate your letters on the Binary Decoder Key
2. Choose a color bead to represent the 0 bit (or the dark color)
3. Choose a color bead to represent the 1 bit (the white color)
4. Choose a color for a spacer between the letters
5. Cut and tie off the vinyl lacing on one side
6. String the beads onto the lacing - being sure to put a spacer between the letters





Unplugged

Name: _____

Date: _____

Binary Bracelets

Binary Decoder Key



A	■ □ ■ ■	■ ■ ■ □
B	■ □ ■ ■	■ ■ □ ■
C	■ □ ■ ■	■ ■ □ □
D	■ □ ■ ■	■ □ ■ ■
E	■ □ ■ ■	■ □ ■ □
F	■ □ ■ ■	■ □ □ ■
G	■ □ ■ ■	■ □ □ □
H	■ □ ■ ■	□ ■ ■ ■
I	■ □ ■ ■	□ ■ ■ □
J	■ □ ■ ■	□ ■ □ ■
K	■ □ ■ ■	□ ■ □ □
L	■ □ ■ ■	□ □ ■ ■
M	■ □ ■ ■	□ □ ■ □

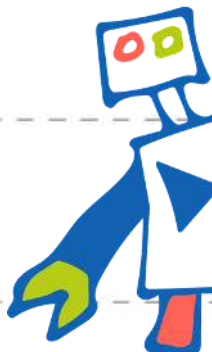
N	■ □ ■ ■	□ □ □ ■
O	■ □ ■ ■	□ □ □ □
P	■ □ ■ □	■ ■ ■ ■
Q	■ □ ■ □	■ ■ ■ □
R	■ □ ■ □	■ ■ □ ■
S	■ □ ■ □	■ ■ □ □
T	■ □ ■ □	■ □ ■ ■
U	■ □ ■ □	■ □ ■ □
V	■ □ ■ □	■ □ □ ■
W	■ □ ■ □	■ □ □ □
X	■ □ ■ □	□ ■ ■ ■
Y	■ □ ■ □	□ ■ ■ □
Z	■ □ ■ □	□ ■ □ ■

Find the first letter of your first name.

Fill in the squares of the bracelet below to match the pattern of the squares next to the letter that you found.

Cut the bracelet out and tape it around your wrist to wear it!

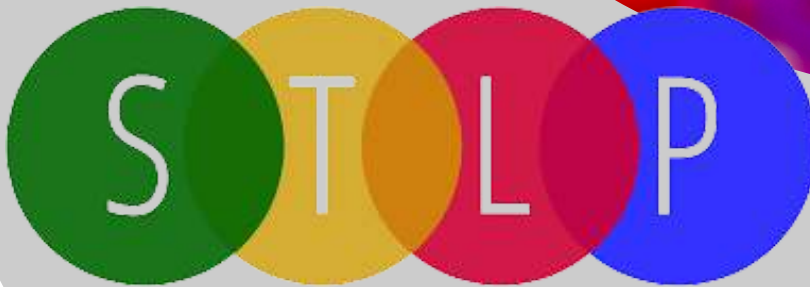
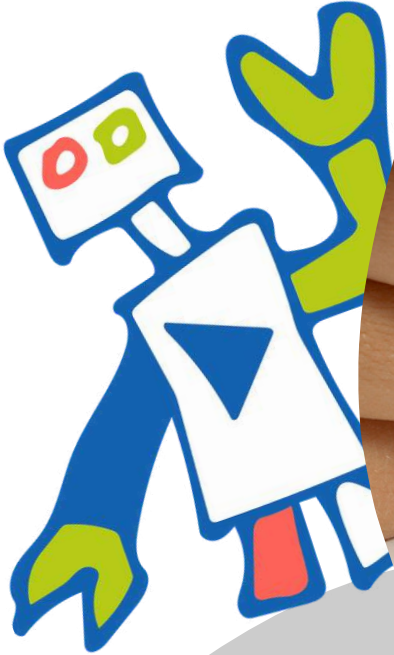
□	□	□	□	□	□	□	□
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3D Pens

Make a dragon

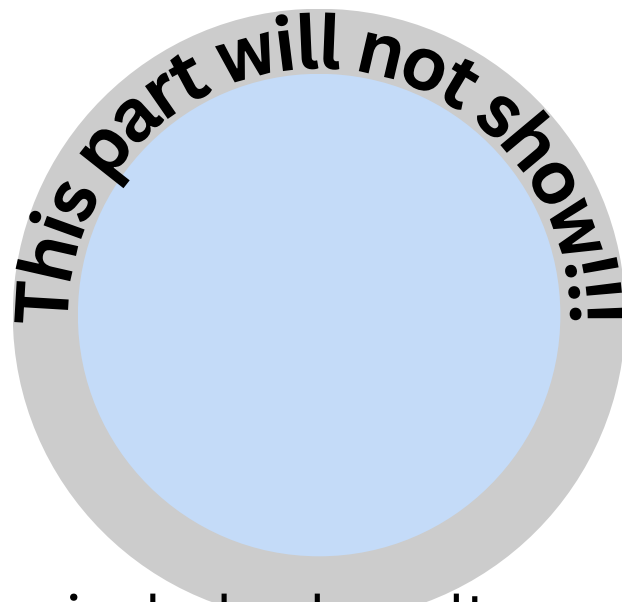


Text inspiration: *Little Red Riding Hood and the Dragon*

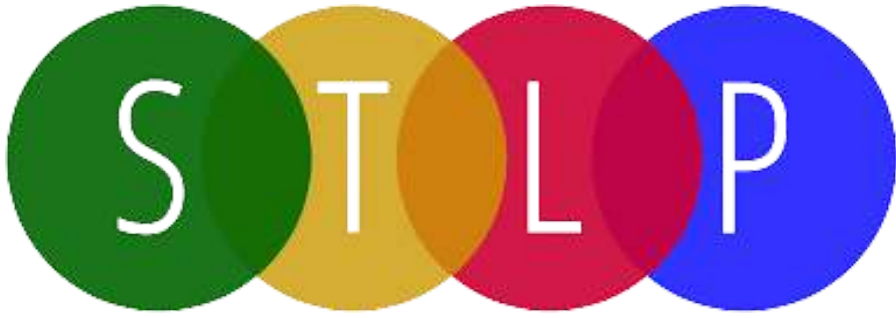


23-24 Nominee

Make a Button



Do not cut out the circle by hand!



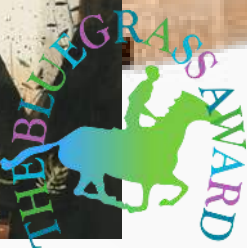
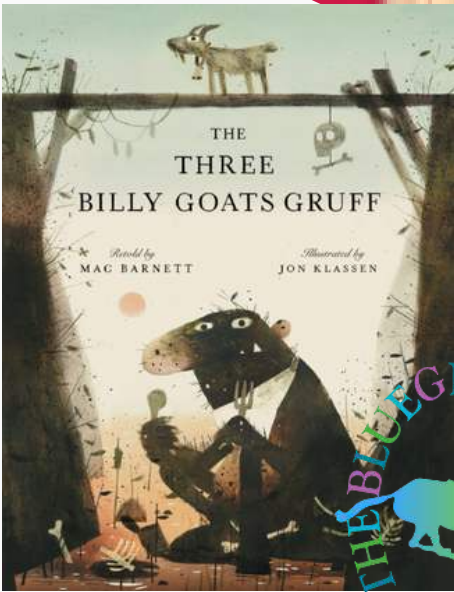
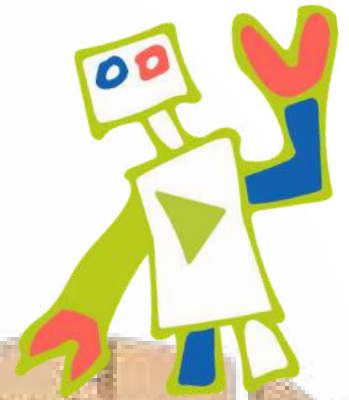
Build Challenge

INNOVATIVE DESIGNER

Build a tunnel, bridge, or road that would reduce the impact on animal habitats



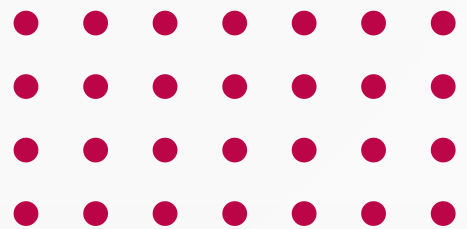
Some inspiration from: kevaplanks.com



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Bridge image from: kevaplanks.com

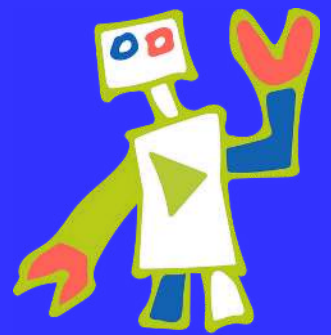
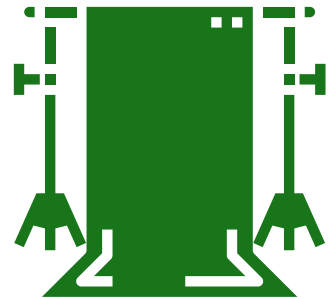


Inspired by: *The Three Billy Goats Gruff*



Green Screen

CREATIVE COMMUNICATOR



**REACT TO THE
SCENE AND
RECORD**

AIRDROP
RECORDING TO
YOUR IOS DEVICE

APP USED: DOINK GREEN SCREEN

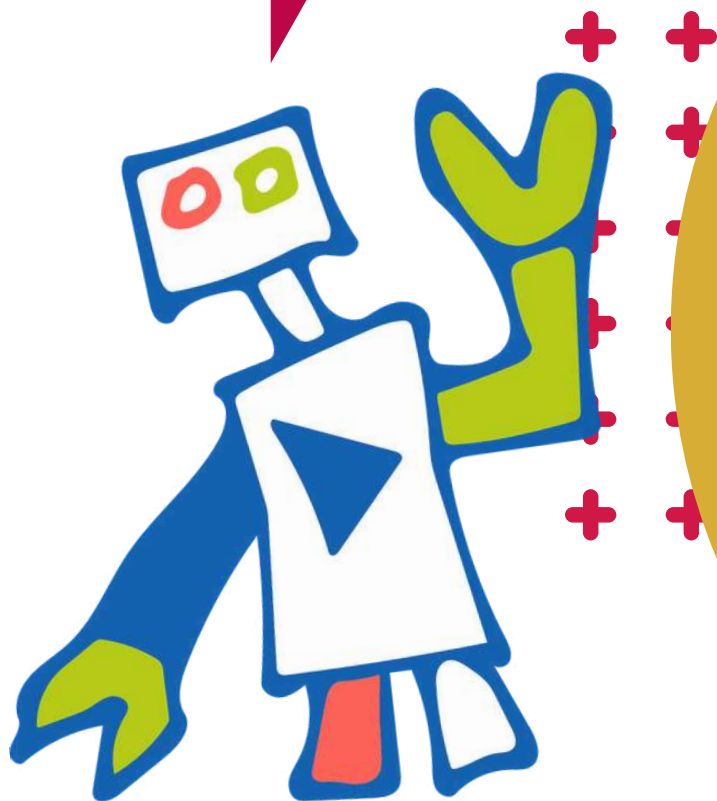


PUPPET MAKING

KNOWLEDGE CONSTRUCTOR



Create a puppet for
Unicorn School





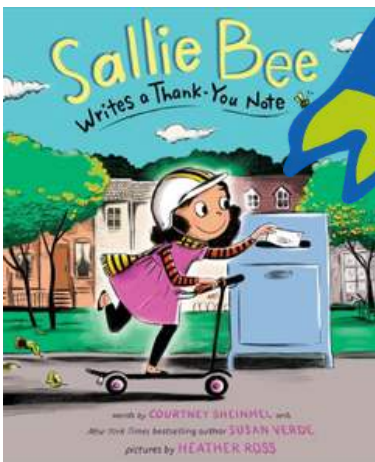
LED THANK YOU



Some general directions/ideas
from: www.sciencebuddies.org



INSPIRED BY THE BOOK
SALLIE BEE WRITES A
THANK-YOU NOTE
CREATE A LIGHT UP
THANK YOU CARD



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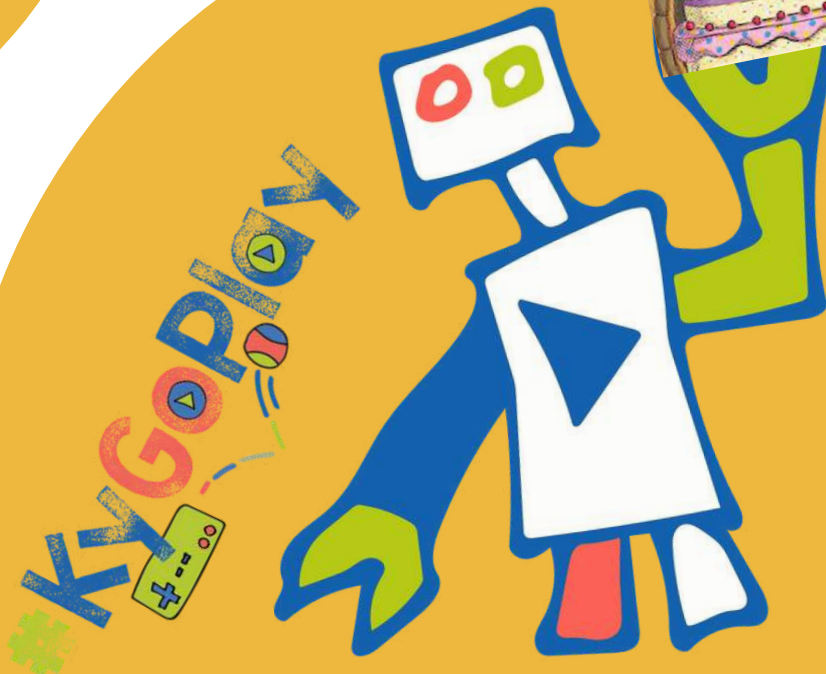
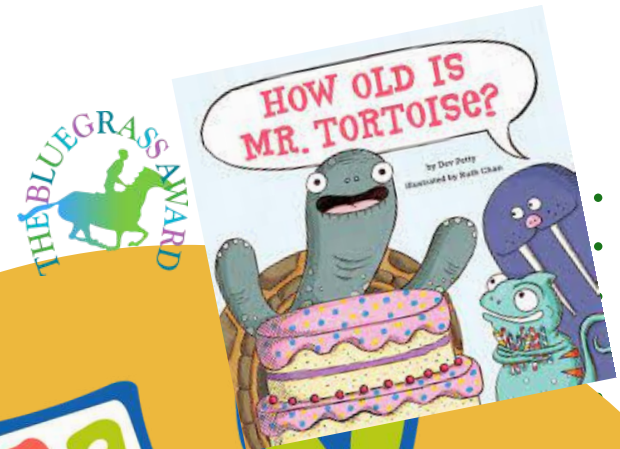
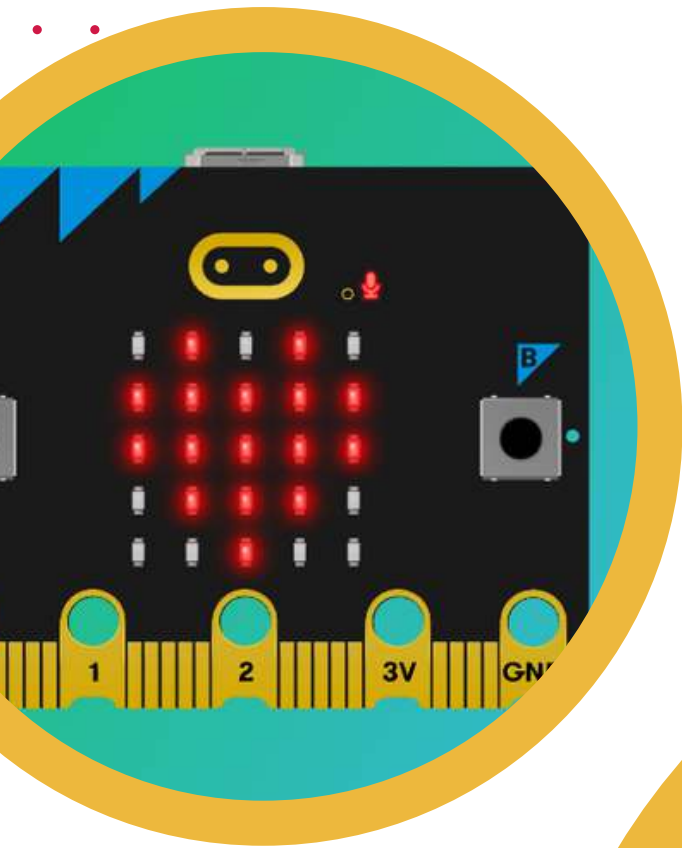




MICROBITS

COMPUTATIONAL THINKER

INSPIRED BY THE BOOK HOW
OLD IS MR. TORTOISE,
PROGRAM A BIRTHDAY CAKE



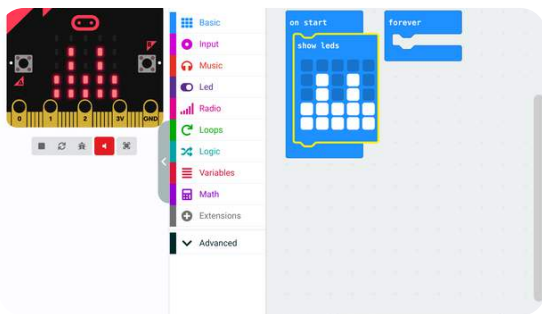


MICROBITS

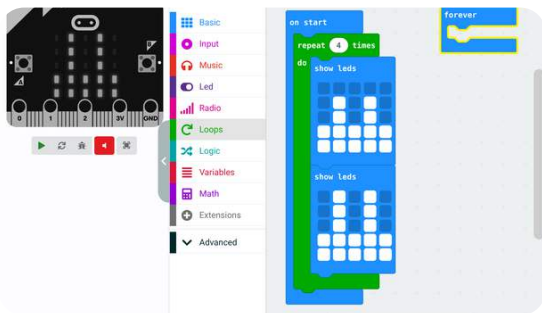
BASICS



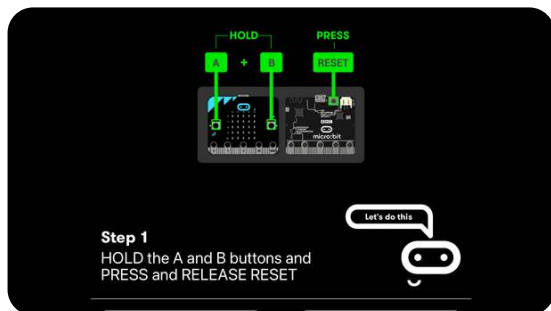
YOU ARE USING THE MICRO:BIT APP



- Press Basic
- Drag "Show LEDs" into on Start
- Touch the boxes to create a cake with candles



- Repeat the steps
- add another cake to make it look like it has lit candles
- Press Download



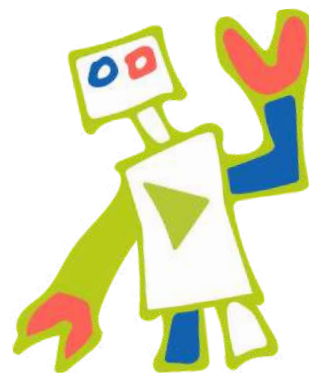
- Enter pairing mode by pressing and holding A and B and pressing and letting go of the Reset
- Modify the code by trying something new
 - Choose a "Loop" to make the candles flash multiple times
 - Add a "Show String" that says Happy Birthday
 - Choose a different input mode
 - What else?





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Lego Robotics



COMPUTATIONAL THINKER

“**LEGO SPIKE APP**”



Use the building instructions for Animal Alarm in the Spike App to create a burglar alarm inspired by *Chickadee Criminal Mastermind*



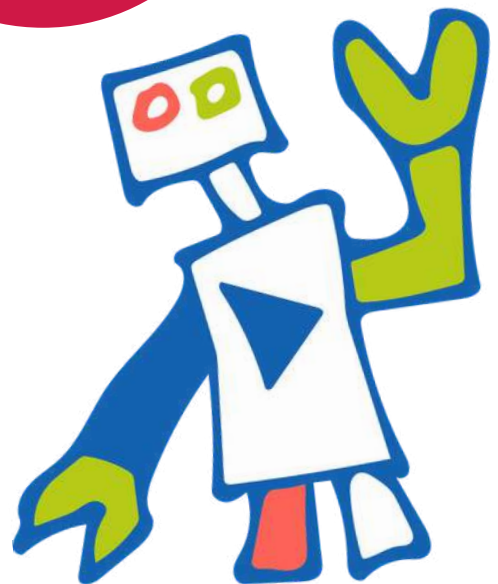
Explore LittleBits

Computational Thinker



Try the task
cards

Learn about
circuits





ROBOT CHALLENGES

Dash Robot

Program Dash to draw - inspired by the book *I Can't Draw* by Stephen Martin



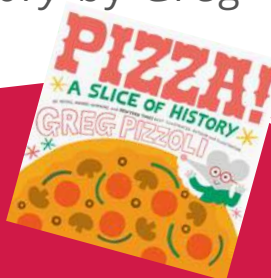
Sphero Mini Kit

Try your hand at getting the Sphero through the obstacles



RVR Robot

Deliver a Pizza to the destination. Inspired by the book *Pizza a Slice of History* by Greg Pizzoli



23-24 Nominees