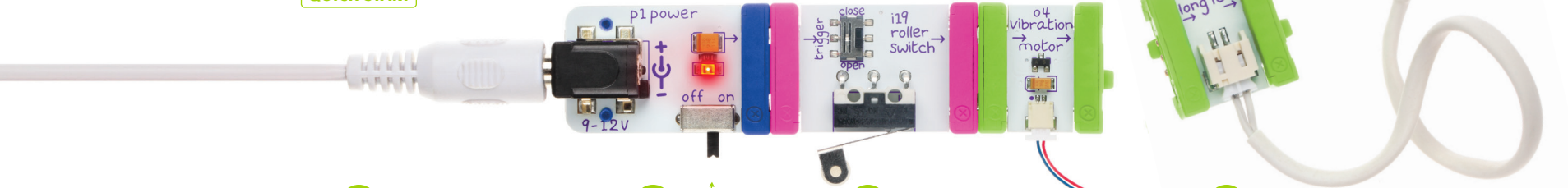
PREMIUM KIT

30 SECOND QUICK START



1 CONNECT BATTERY AND CABLE TO BLUE MODULE.

2 TURN IT ON.

3 PINK MODULES AFFECT MODULES AFTER THEM.

4 GREEN MODULES DO SOMETHING.

let's go!

⚠ WARNING

• This product contains small magnets. Swallowed magnets can stick together across intestines causing serious infections and death. Seek immediate medical attention if magnets are swallowed or inhaled.
• Most littleBits are small parts. DO NOT allow children under 3 years old to play with or near this product.
• NEVER connect any littleBits or circuits to any AC electrical outlet.
• Do not touch or hold any moving parts of littleBits while they are operating.
• Keep conductive materials (such as aluminum foil, staples, paper clips, etc.) away from the circuit and the connector terminals.
• Always turn off circuits when not in use or when left unattended.
• Never use littleBits in or near any liquid.
• Never use in any extreme environments such as extreme hot or cold, high humidity, dust or sand.
• littleBits are subject to damage by static electricity. Handle with care.
• Some littleBits may become warm to the touch when used in certain circuit designs. This is normal. Rearrange modules or discontinue using if they become excessively hot.
• Discontinue use of any littleBits that malfunction, become damaged or broken.

VERY IMPORTANT NOTE

• Several projects in this kit involve the use of a box cutter, grill skewers and/or a hot glue gun.
• These tools should be used ONLY under direct adult supervision and ONLY by children capable of using them safely.

INSTRUCTIONS

We recommend using littleBits brand 9-volt batteries, but standard alkaline or standard rechargeable batteries may also be used. Properly discard and replace exhausted battery. Do not connect the two battery terminals with any conducting material.

CARE AND CLEANING

Clean Bits modules ONLY by wiping with a dry cloth. If necessary, isopropyl alcohol on a cloth may be used sparingly, and then wipe with a dry cloth.

DO NOT use any other cleaning products on Bits modules. Congratulations for reading this fine print. Your dedication and persistence will serve you well.

FC RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and the receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

SEND US YOUR LOVE

Contact support@littleBits.cc with any questions or comments.

www.littleBits.cc

littleBits Electronics Inc.
60 E. 11th Street
NY, NY 10003
(917)464-4577

You are a proud owner of the **Premium Kit v1** from the Exploration Series. Over 600,000 combinations?! Are you serious? Yep, www.littleBits.cc/mathmagic

littleBits Electronics, Inc.
Made in Dongguan City, China


MAKE SOMETHING THAT DOES SOMETHING™

THE LITTLEBITS™ BASICS

1 CIRCUITS IN SECONDS™

littleBits™ is an expanding library of modular electronics that snap together with magnets.

You always need a Blue and a Green, Pink and Orange are optional, in between

2 COLOR CODED

littleBits™ are grouped into 4 different categories, which are color coded:

POWER needed in every circuit and the start of all your creations.

INPUT these Bits modules accept input from you and the environment and send signals to the modules that follow.

OUTPUT these Bits modules DO something–light, buzz, move...

WIRES these Bits modules expand your reach and change direction–great for helping to incorporate littleBits into your projects.

3 ORDER IS IMPORTANT

Power Modules always come first and **Input Modules** only affect the **Output Modules** that come after them.

4 MAGNET MAGIC

littleBits™ snap together with magnets. The magnets are always right, you can't put modules together the wrong way.

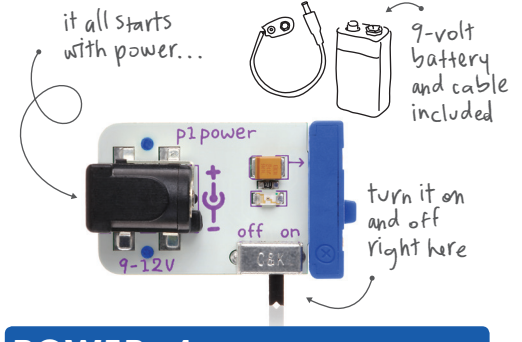
5 littleBits™ + anything

littleBits are just the beginning. Combine them with craft materials, building sets, and other toys to electrify your life. We'll show you how!

no soldering
no programming
no wiring

KNOW YOUR BITS™ MODULES

This is the Premium Kit, Version 1
Learn more and shop for individual
Bits Modules at littleBits.cc/Bits

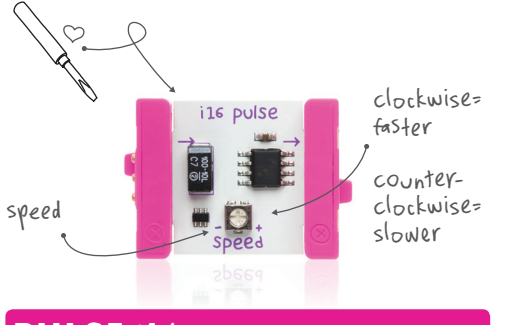


POWER p1

This power module lets you use a 9-volt battery to supply electricity to your littleBits. Snap in the battery + cable (both included) and flip the switch to turn it on.

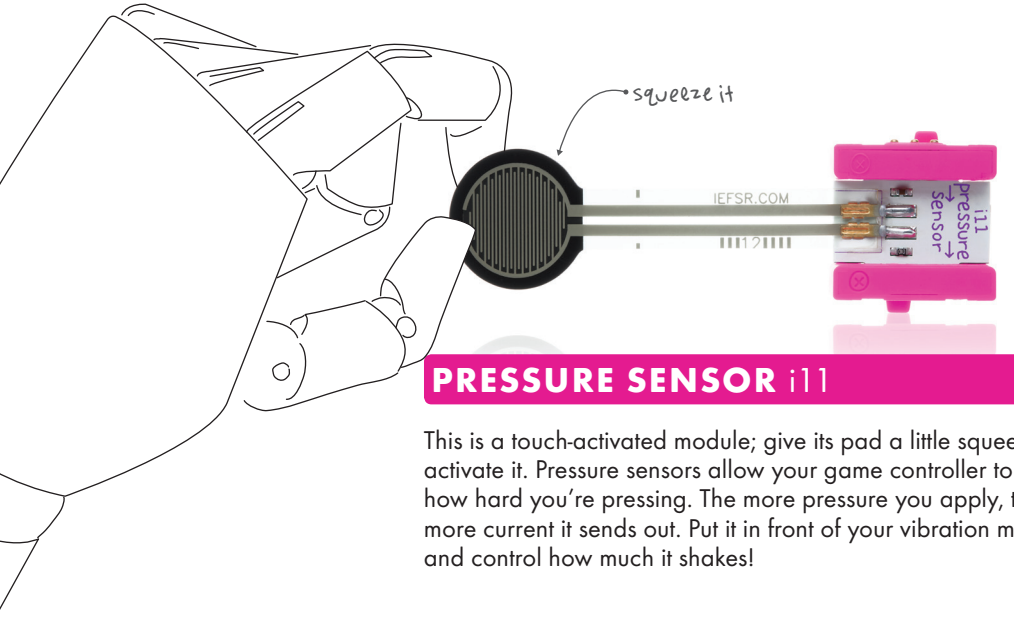
SLIDE DIMMER i5

Move the slider from one end to the other. It functions just like a light dimmer you might find at home or a volume fader in a recording studio. Experiment with how it affects output Bits modules that follow.



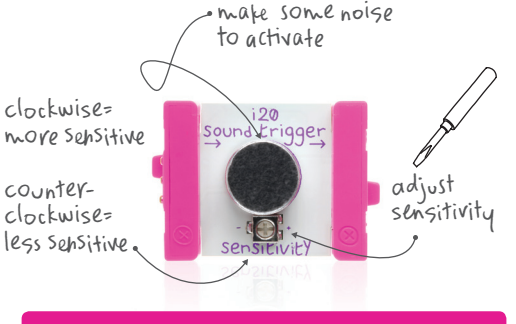
PULSE i16

The pulse is like an electronic heartbeat. It sends out a stream of short ON signals. You can make the speed of the pulses faster or slower using the included screwdriver. It's great for making LEDs blink!



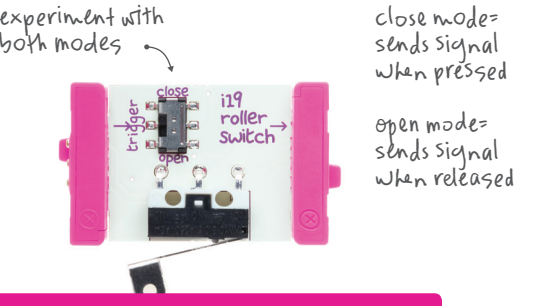
PRESSURE SENSOR i11

This is a touch-activated module; give its pad a little squeeze to activate it. Pressure sensors allow your game controller to know how hard you're pressing. The more pressure you apply, the more current it sends out. Put it in front of your vibration motor and control how much it shakes!



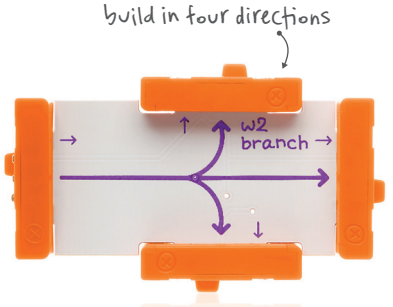
SOUND TRIGGER i20

This module senses the noise level in your room, and sends an ON signal when it gets over a certain level. You can make that threshold louder or softer using the included screwdriver.



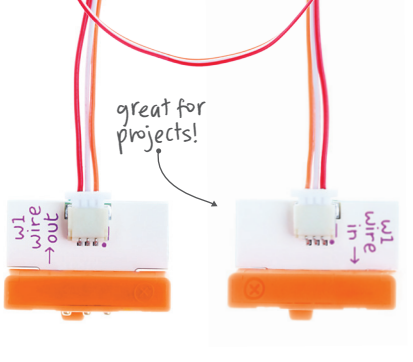
ROLLER SWITCH i19

The roller switch is handy – it has a little lever with a wheel and activates when something presses it – just like inside your fridge. You can also flip the mode switch to make it turn off when the lever is pushed in.



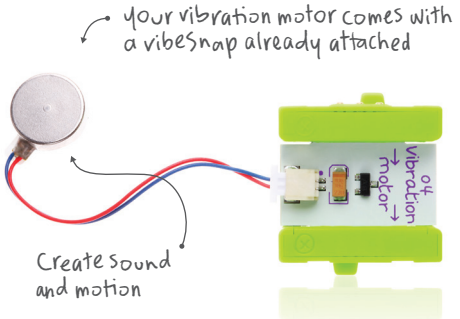
BRANCH w2

The branch gives you more options for connecting your littleBits: it lets you connect the output of a single module to as many as three others, oriented in different directions. It's just like a power strip.



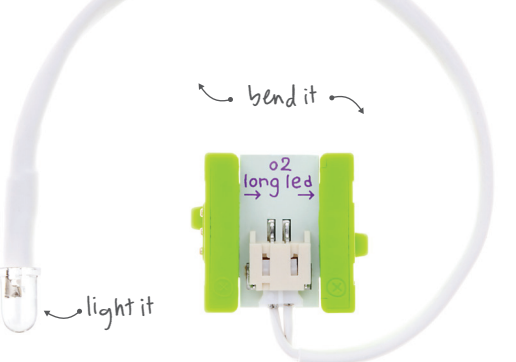
WIRE w1

The wire allows you to physically separate your littleBits. Try it whenever you need to break up your chain of littleBits, like when you need to put a light at the top of a model building.



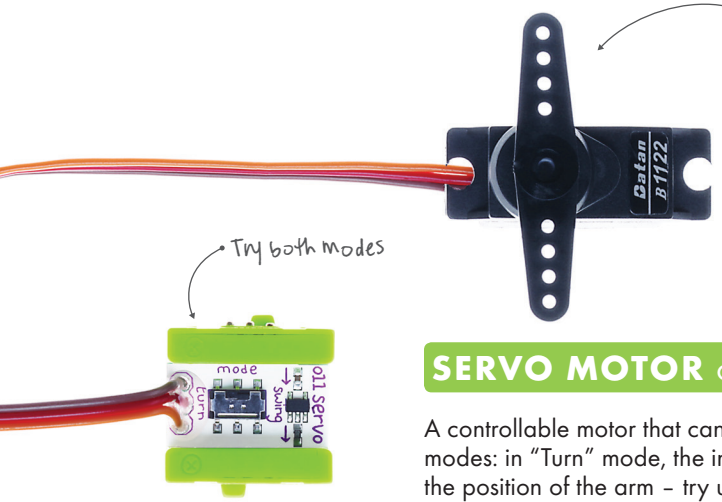
VIBRATION MOTOR o4

The vibration motor is very similar to the device that makes your cellphone shake when you get a text. You can make anything vibrate and buzz. The vibeSnap helps you connect to paper, tin foil, a pipecleaner...



LONG LED o2

The long LED (or "Light-Emitting Diode") is another lighting option. We call it the "long" LED because the light is tethered to the board by a cable. This lets you put the light in some interesting places.

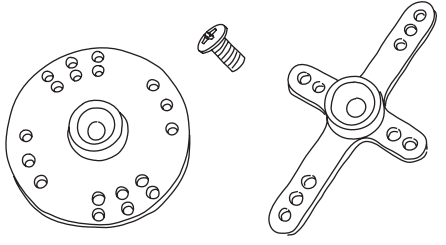


SERVO MOTOR o11

A controllable motor that can swing back and forth. It has two modes: in “Turn” mode, the input from other littleBits determines the position of the arm – try using your slide dimmer to set the angle you want. In “Swing” mode, the servo will move back and forth on its own – the input controls how fast it goes.

FAN o13

Yep, just what you’d think: a small electric fan tethered to a littleBits module. Use your little fan to create fluttering movement in your creations or just to keep yourself cool.



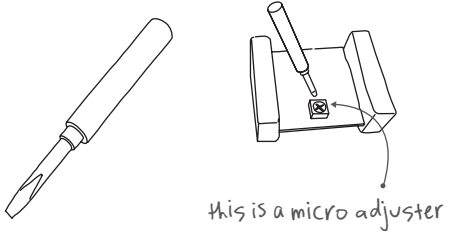
SERVO ACCESSORIES

Your servo motor comes with a couple great arms to help you in your projects. Use a Phillips screwdriver* to change the arms.

*not included

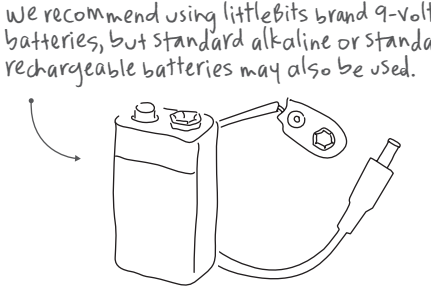
VIBESNAP™ a17

You'll find this little guy attached to your vibration motor. The vibeSnap helps you attach stuff – like paper or tin foil – to your vibration motor. Remember to keep it light!



SCREWDRIVER a4

This little purple screwdriver is used to modify any littleBit that has a micro adjuster.

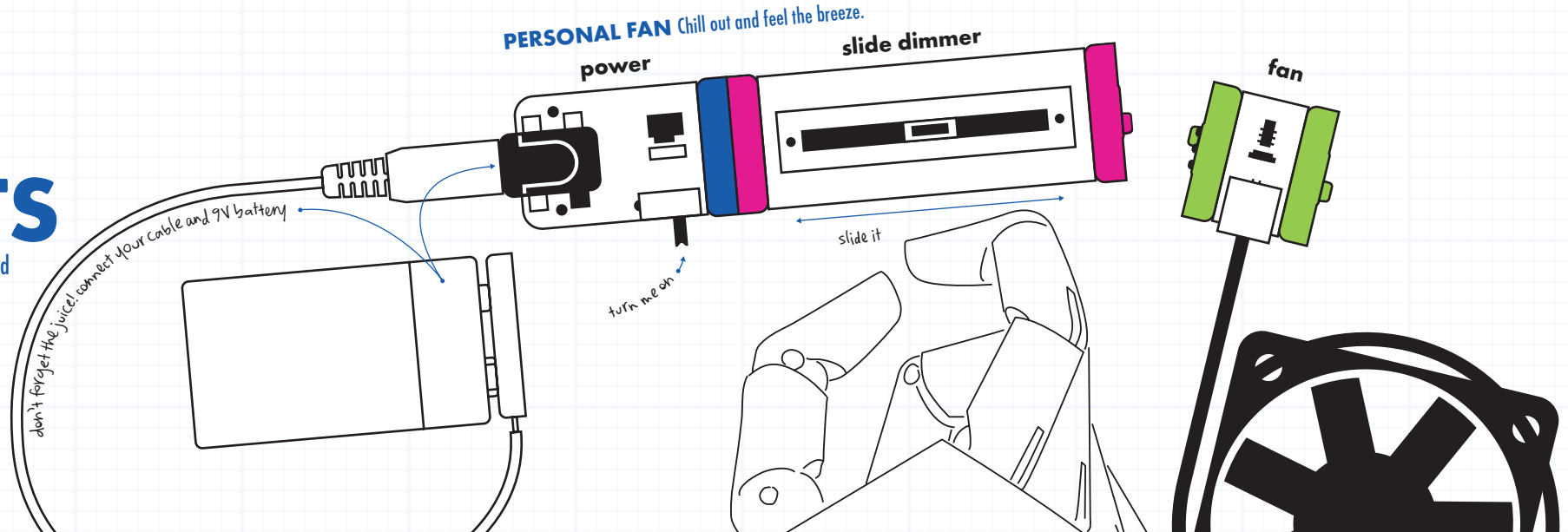


BATTERY AND CABLE a1

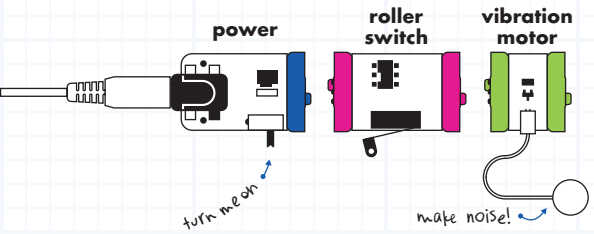
This Kit contains a 9-volt alkaline battery and a cable to connect it to the power module. Connect it and then flip the switch to power all of your creations!

TRY THESE CIRCUITS

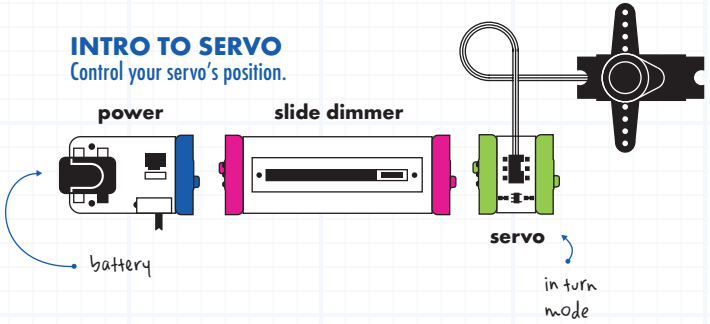
Get started with these, but don't let us hold you back – every module fits with every other module – feel free to experiment.



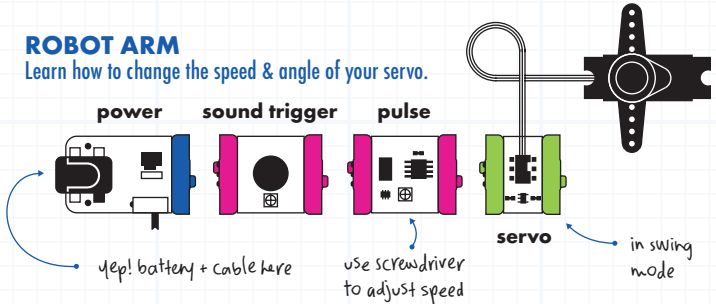
INTRUDER ALERT Create your own security system.



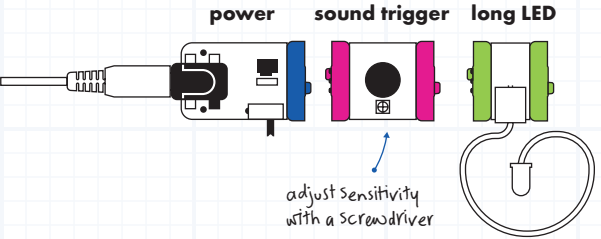
INTRO TO SERVO
Control your servo's position.



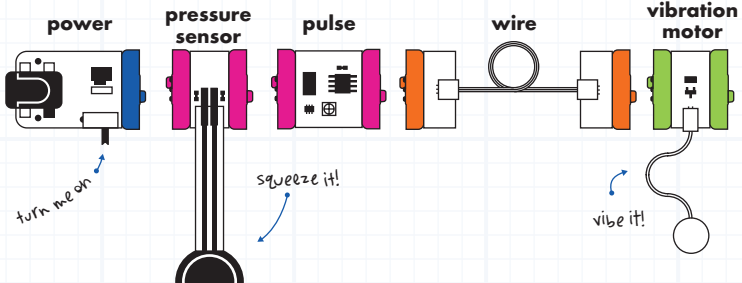
ROBOT ARM
Learn how to change the speed & angle of your servo.



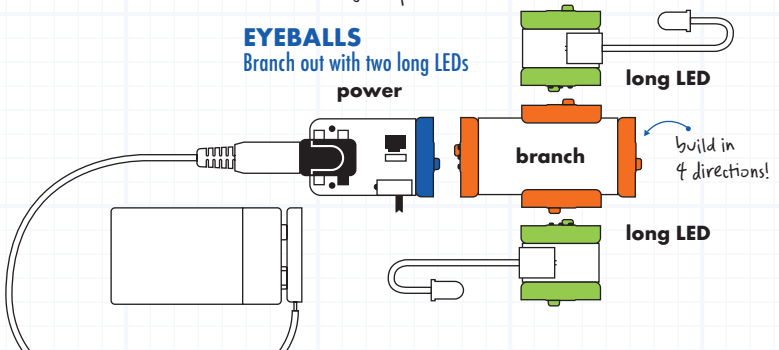
MAKE SOME NOISE Transform sound into light.



BACK MASSAGER Keep calm and vibe on.



EYEBALLS
Branch out with two long LEDs



PROJECTS

TRY THESE AND INVENT YOUR OWN

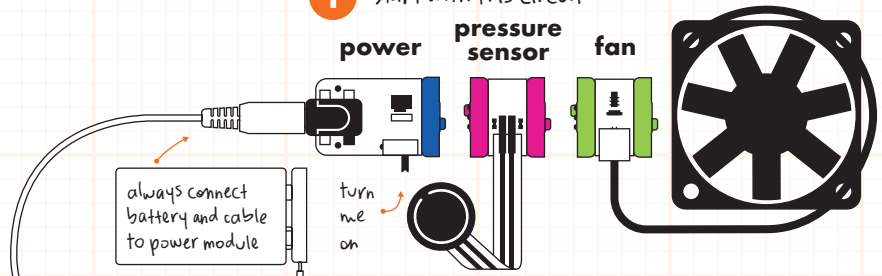
1 Cooling Campfire
2 Hypnotizing Wheel
3 Auto Greeter
4 Truck Crane
5 Funny Face
6 Drawer Alarm
7 Box Monster
8 Bristle Bot
9 Bubble Flute
10 Playful Pet

Plus tons more projects online littleBits.cc/premium

PROJECT 1: Cool down and camp out.

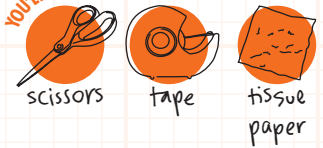
COOLING CAMPFIRE

1 Start with this circuit

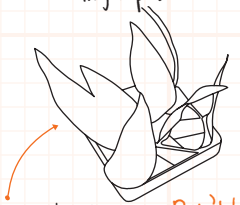


TIME: 30 mins
DIFFICULTY: ●●○○○

YOU'LL NEED



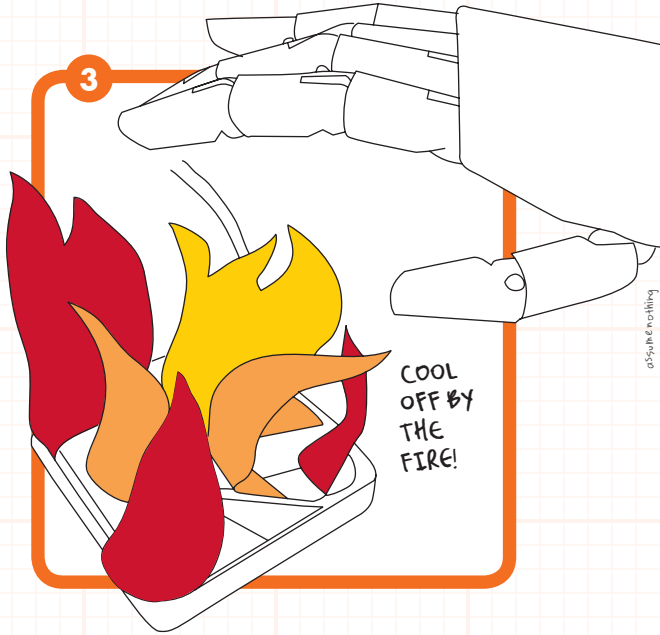
2 Feel which end air is coming out from, and attach tissue paper to that side using tape!



cut colored tissue paper to look like flames

Don't have any? Try tissues or feathers

3



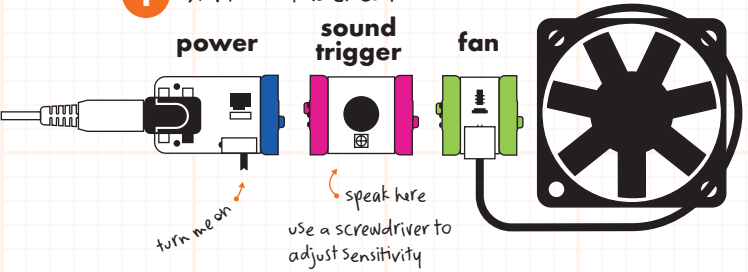
PROJECT 2: Create a simple machine to hypnotize your friends!

HYPNOTIZING WHEEL

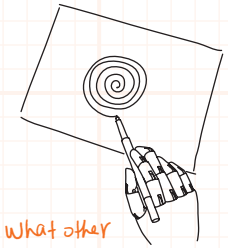
TIME: 15 mins
DIFFICULTY: ●○○○○

YOU'LL NEED

1 Start with this circuit

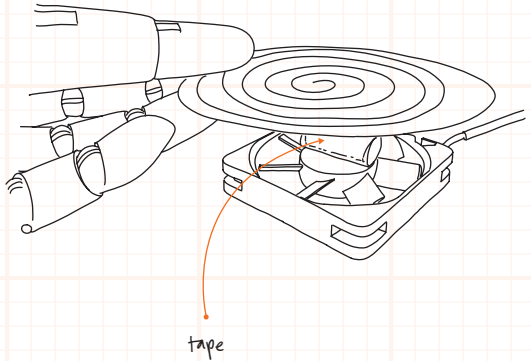


2 Draw a hypno circle on paper and then cut it out



What other patterns do you find mesmerizing?

3 Attach paper wheel to fan with tape (on the fan piece that spins)



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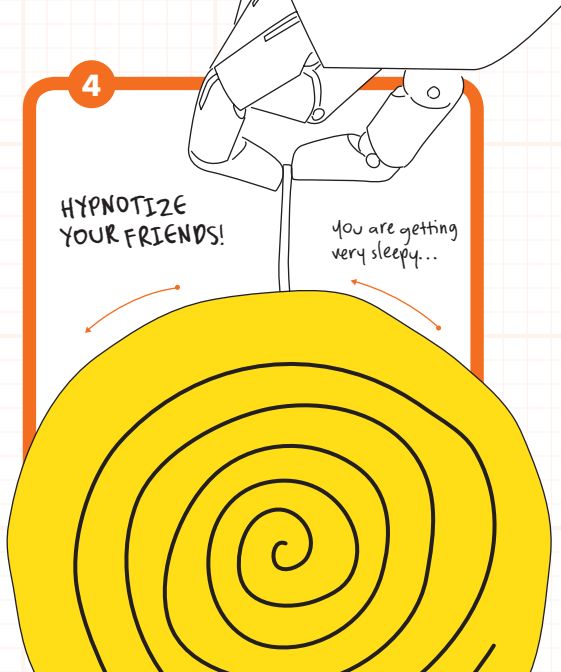
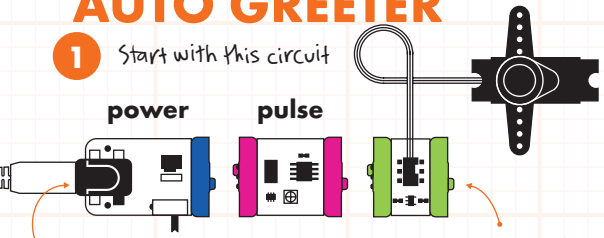


PROJECT 3: How can you use a servo to imitate a human wave?

AUTO GREETER

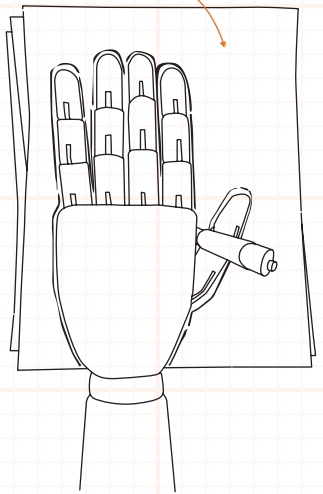
1 Start with this circuit



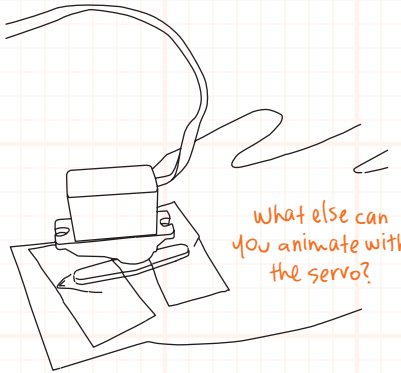
TIME: 15 mins
DIFFICULTY: ●○○○○

YOU'LL NEED

2 Trace hand on paper and cut it out



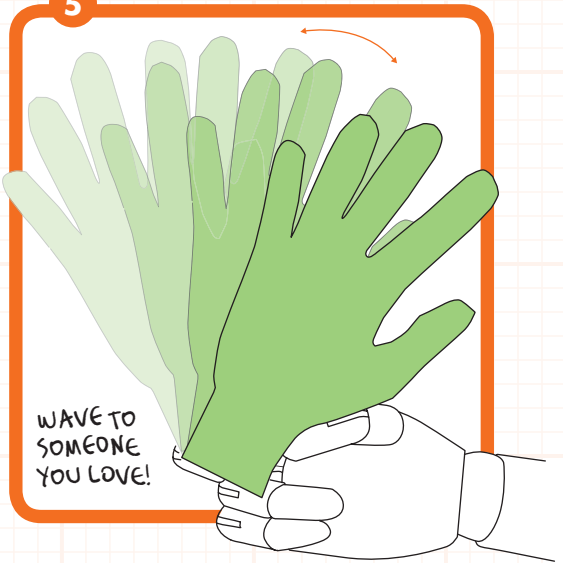
3 Tape paper hand to servo



4 Use a screwdriver to adjust pulse if you want to wave faster or slower

What else can you animate with the servo?

5



PROJECT 4: How can you use a servo to pick things up?

TRUCK CRANE

TIME: 30 mins
DIFFICULTY: ●●○○○

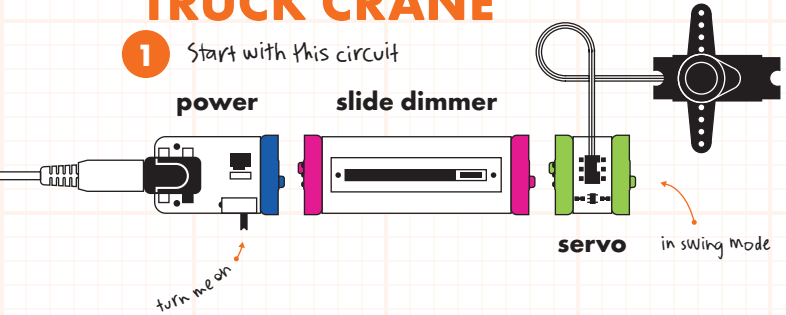
YOU'LL NEED


rubber bands


paper clip


popsicle stick

1 Start with this circuit



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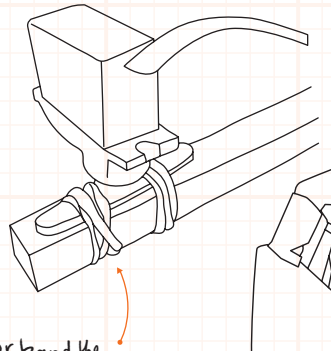

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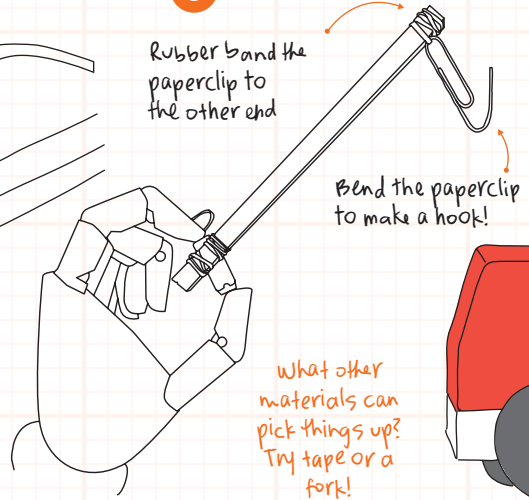
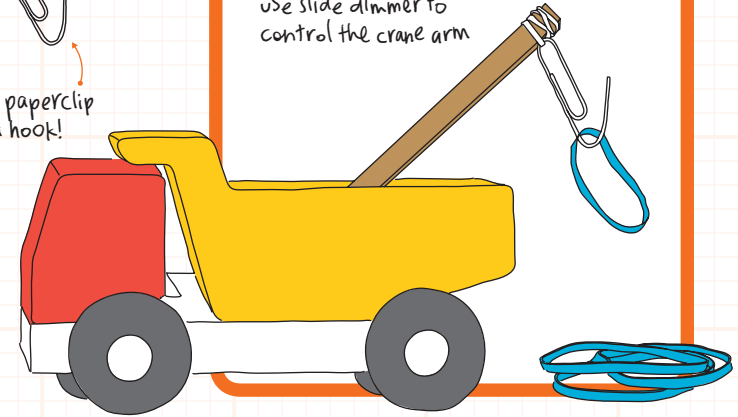


What other materials can pick things up? Try tape or a fork!

4

PICK THINGS UP!

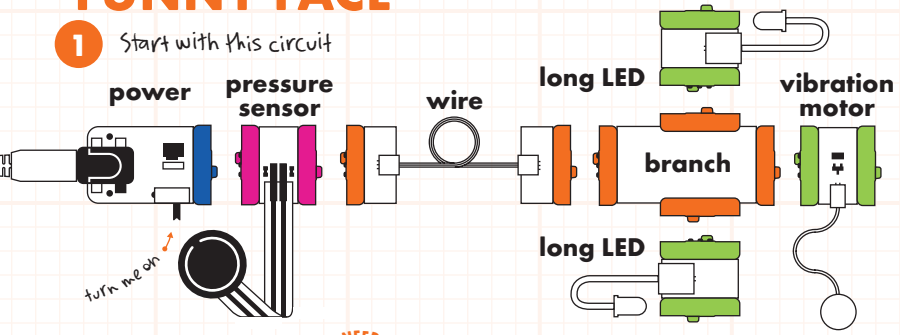
use slide dimmer to control the crane arm



PROJECT 5: Make someone smile with this silly project.

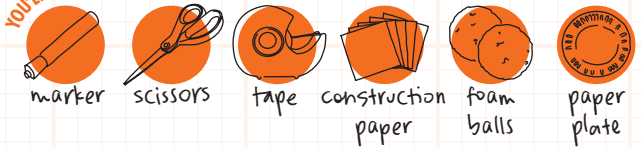
FUNNY FACE

1 Start with this circuit

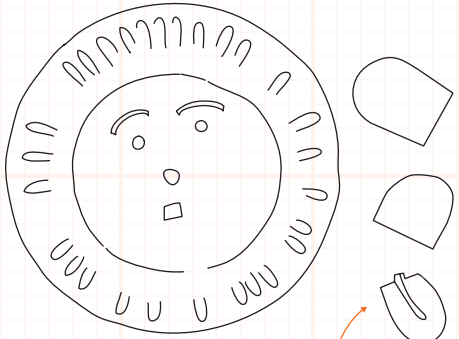


TIME: 30 mins
DIFFICULTY: ●●○○○

YOU'LL NEED

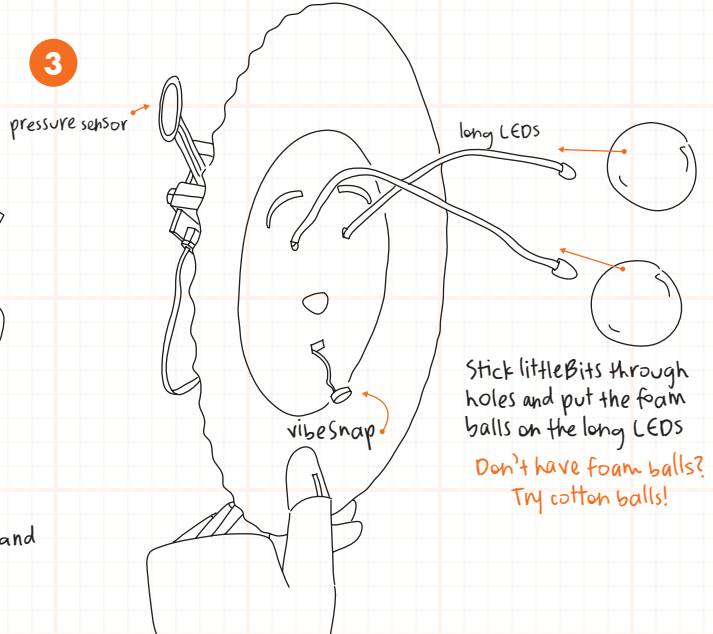


2 Draw a face on the plate and cut out holes for eyes and mouth



Draw ears and tongue on paper and then cut them out

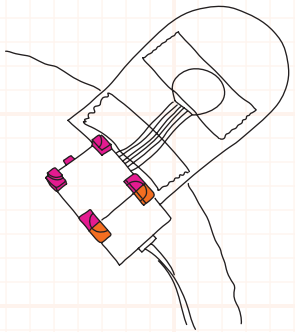
3

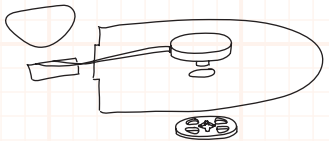


Stick littleBits through holes and put the foam balls on the long LEDs

Don't have foam balls? Try cotton balls!

4 Tape ear to pressure sensor on the back of the plate

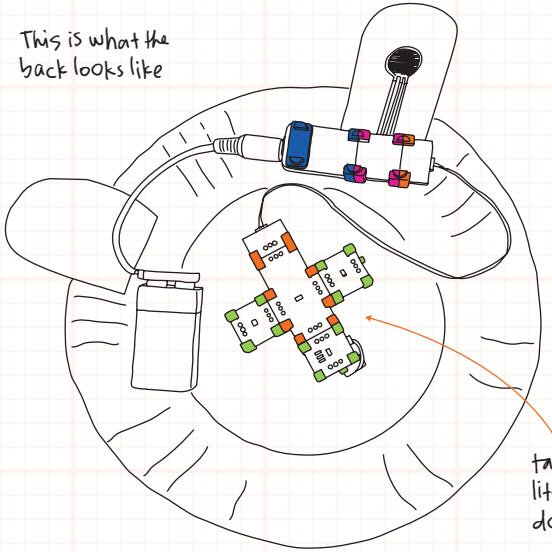




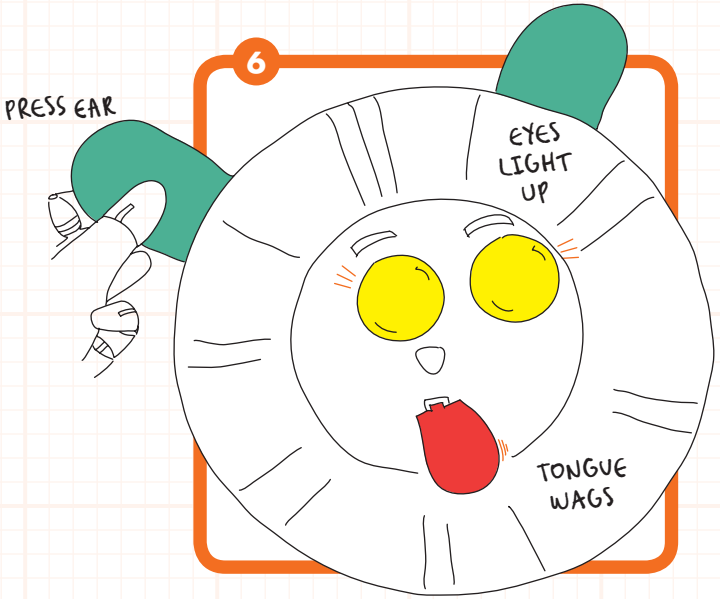
use vibeSnap to attach the tongue

See this tutorial with video extras at littleBits.cc/premium

5 This is what the back looks like



tape littleBits down

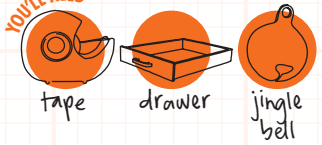


PROJECT 6: How can you design a system to prevent someone from going through your things?

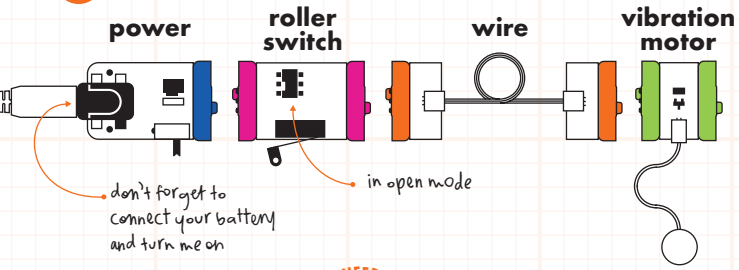
DRAWER ALARM

TIME: 30 mins
DIFFICULTY: ●●○○○

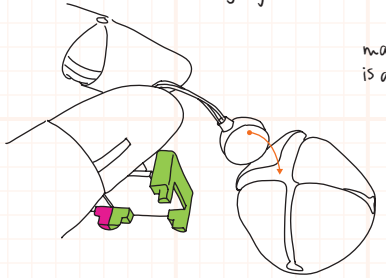
YOU'LL NEED



1 Start with this circuit

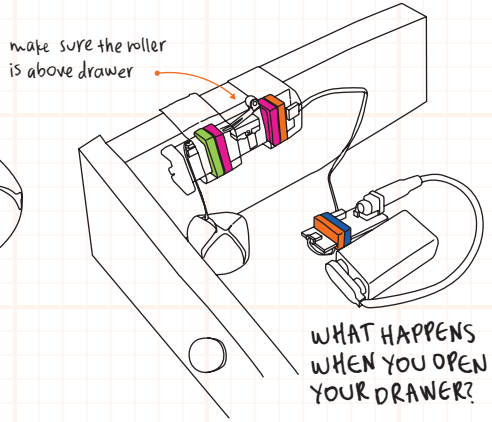


2 Insert the vibration motor into the jingle bell



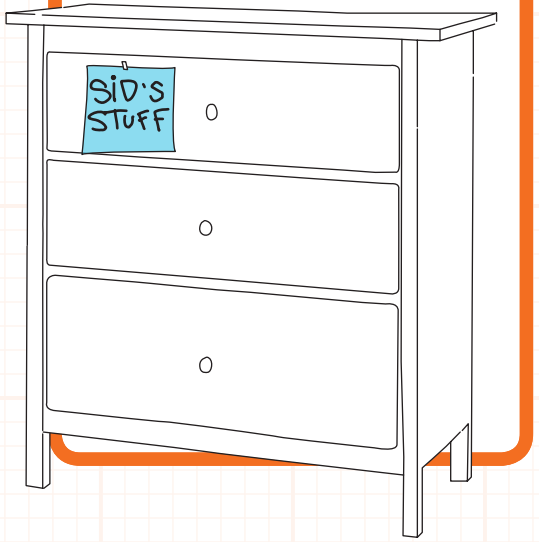
What other material would make a loud noise?

3 Tape the circuit to the inside of your drawer



WHAT HAPPENS WHEN YOU OPEN YOUR DRAWER?

4 PROTECT YOUR THINGS!



And now a brief intermission from the projects.

VISIT US AT LITTLEBITS.CC/TIPS FOR SOME AMAZING TIPS & TRICKS

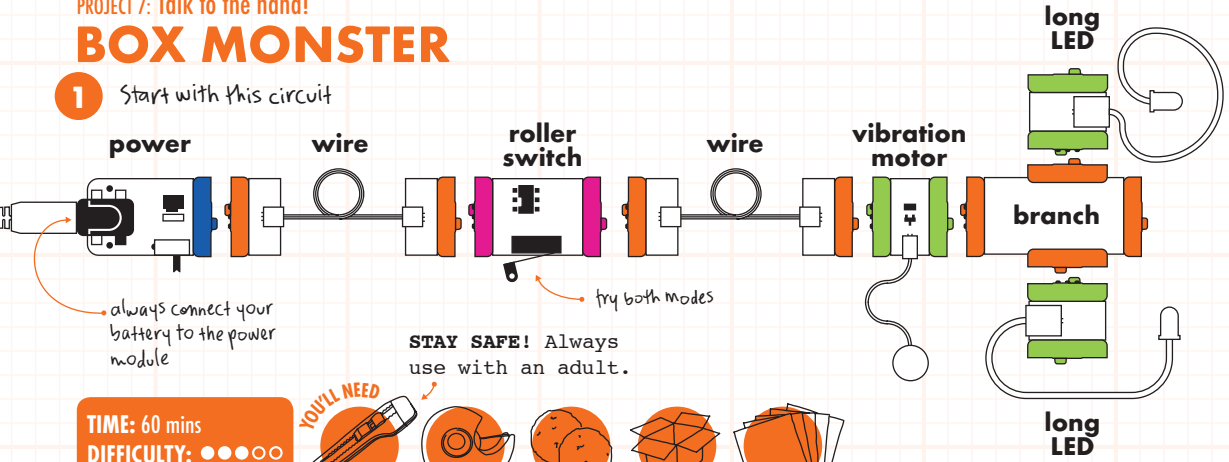
15 ways to make stuff move with the vibration motor ... Find out why the pulse is the life of the party ... 5 ways to attach materials to the servo motor ... 10 techniques for creating the goofiest eyeballs ... Find out why the wire is the second most important littleBit ... Learn how to levitate with the fan ... bitFeet™ + cardboard – 5 different attachment techniques ... Don't throw that away! It could transform your next project ... What household item enhances any lighting project? We'll show you ... 7 fun ways to set off the sound trigger ... 5 ways to make noise with the vibration motor ... How many wires would it take to circle the globe? Find out! ... plus lots more tips for how to use your littleBits!

PROJECT 7: Talk to the hand!

BOX MONSTER

TIME: 60 mins
DIFFICULTY: ●●●○○

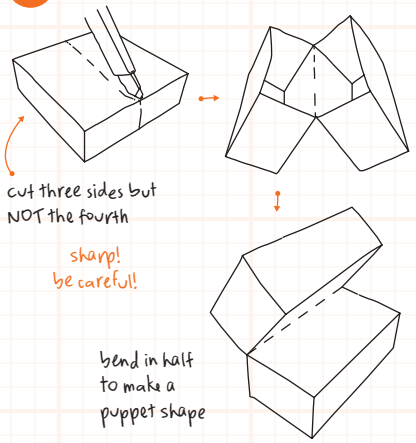
1 Start with this circuit



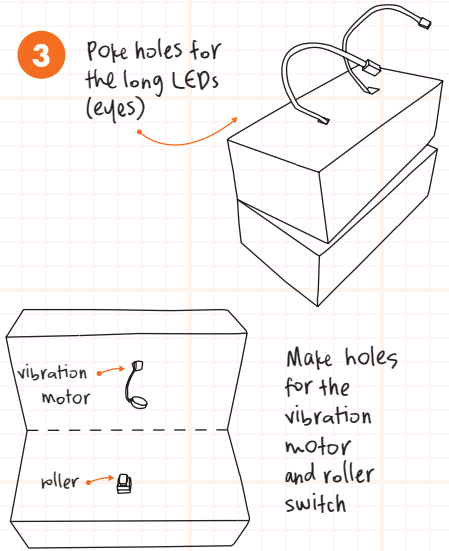
STAY SAFE! Always use with an adult.

YOU'LL NEED

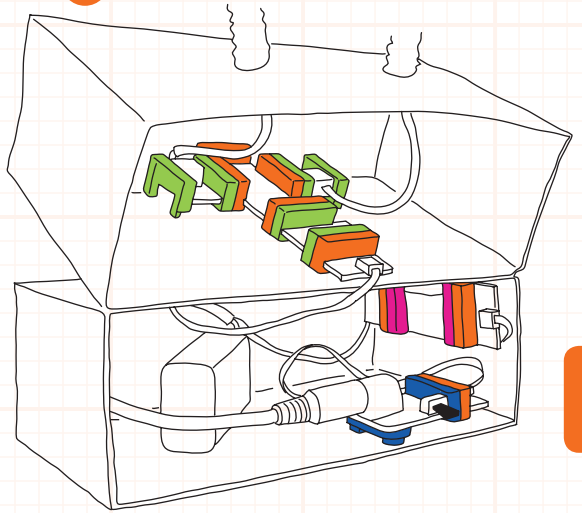
2 Find a box and cut it in half



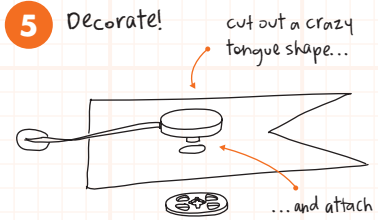
3 Poke holes for the long LEDs (eyes)



4 Tape littleBits in place inside the box

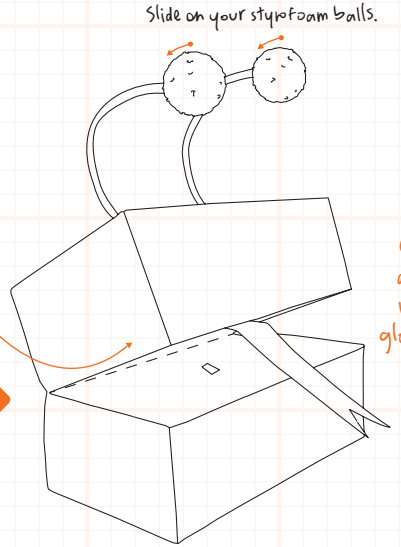


5 Decorate!



use markers, paint, glitter, colored paper and anything else you can think of to make your monster uniquely yours

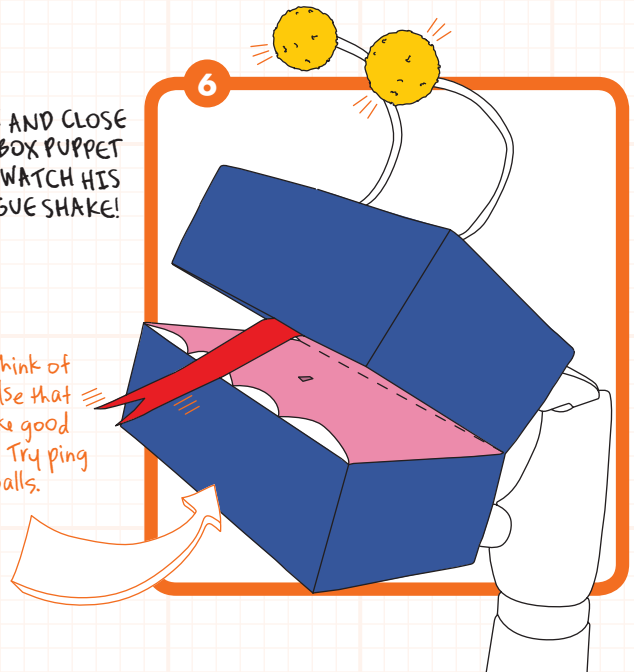
Got some cool colors or decorating techniques? We want to see your Box Monster! Upload it here littleBits.cc/upload



6

OPEN AND CLOSE THE BOX PUPPET AND WATCH HIS TONGUE SHAKE!

Can you think of anything else that would make good glowy eyes? Try ping pong balls.

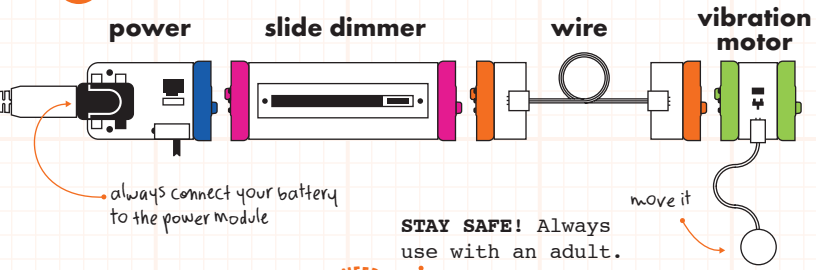


PROJECT 8: How can you make a robot from a toothbrush?

BRISTLE BOT

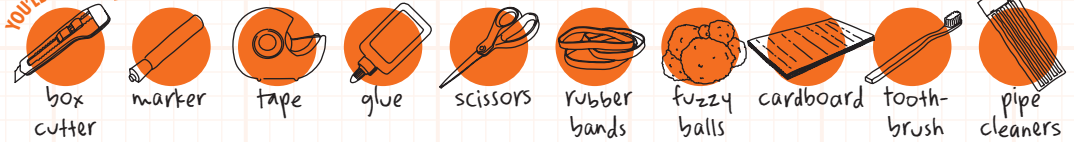
TIME: 60 mins
DIFFICULTY: ●●●○○

1 Start with this circuit

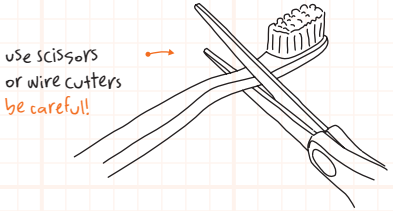


STAY SAFE! Always use with an adult.

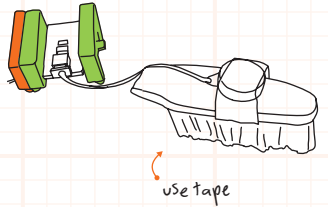
YOU'LL NEED



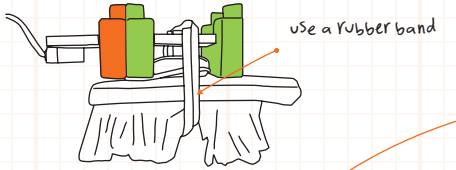
2 Have an adult cut the head off a toothbrush



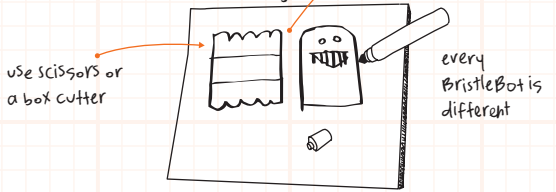
3 Attach the vibration motor to the back side of the bristles



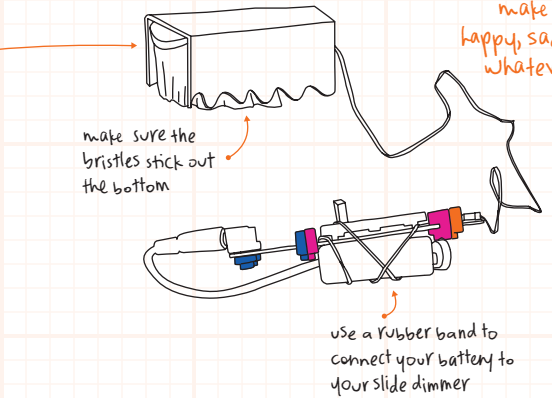
4 Now, attach the bristles to the actual vibration module



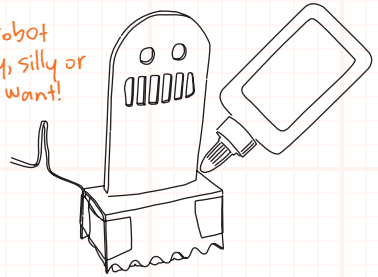
5 Draw and cut out your BristleBot design



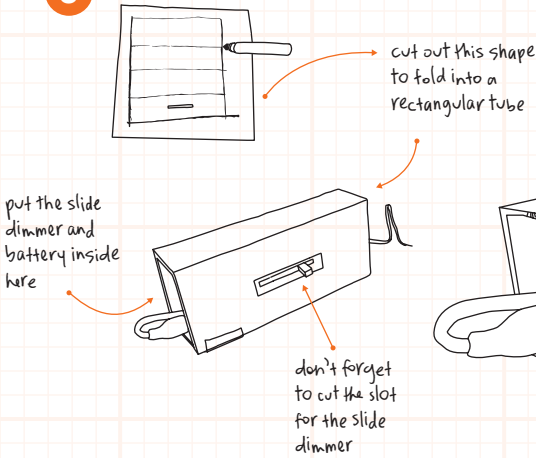
6 Wrap the cardboard base around the bristles and glue or tape in place



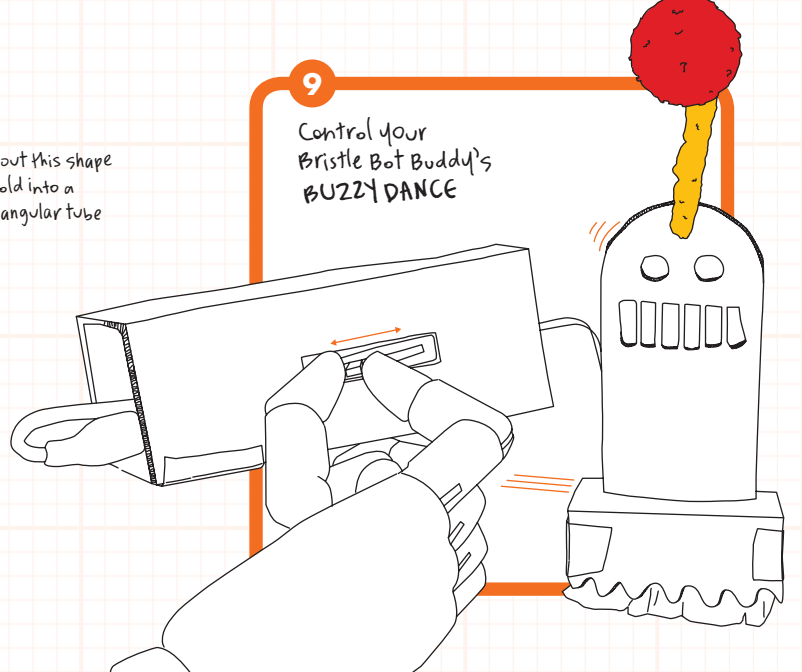
7 Glue the body to the base



8 Make a control box



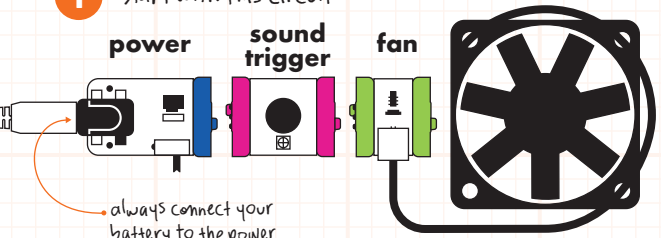
9 Control your Bristle Bot Buddy's BUZZY DANCE



PROJECT 9: Create bubbles with the sound of your voice.

BUBBLE FLUTE

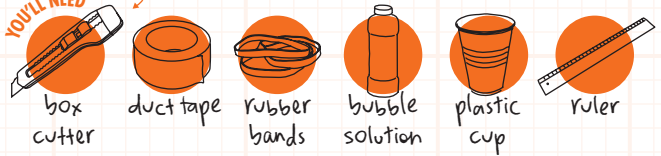
1 Start with this circuit



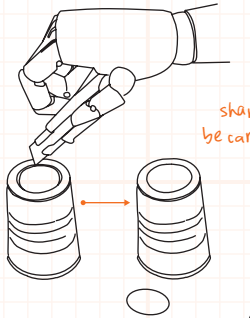
TIME: 60 mins
DIFFICULTY: ●●●○○

STAY SAFE! Always use with an adult.

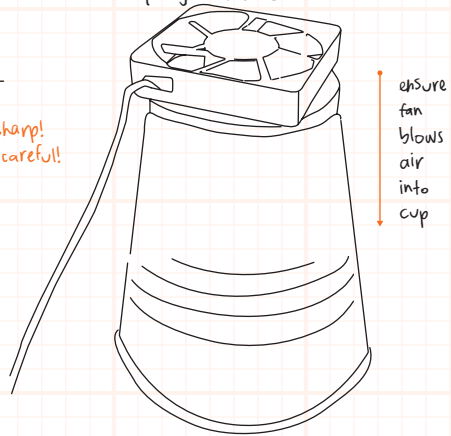
YOU'LL NEED



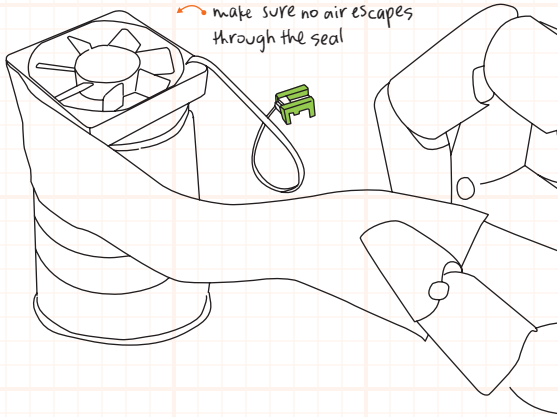
2 Cut a hole in the bottom of the cup



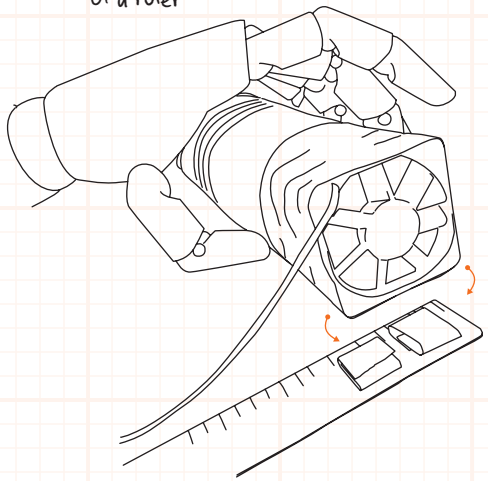
3 Place fan on the hole you just made



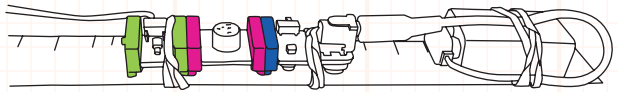
4 Tape in place



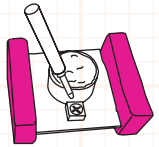
5 Tape to the end of a ruler



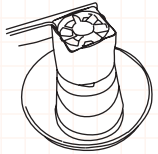
6 Connect Bits modules to other end of the ruler with rubber bands



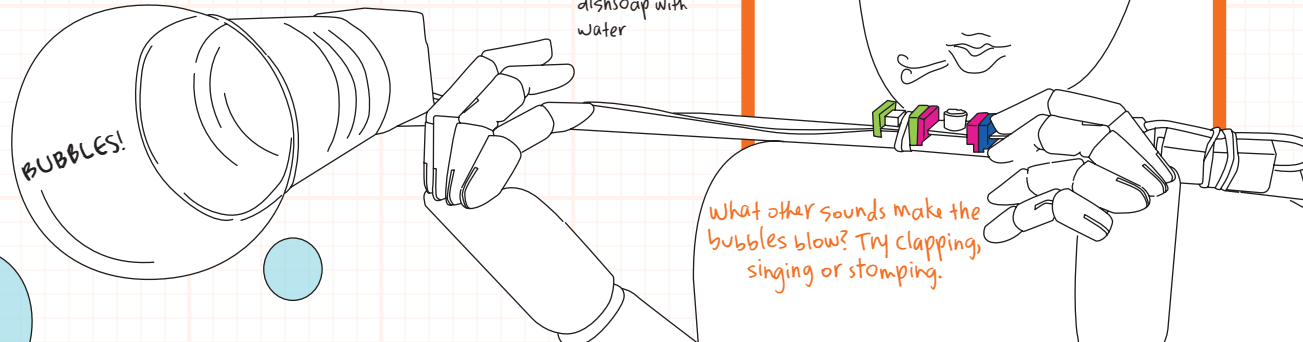
7 Use the screwdriver to adjust the sensitivity of the sound trigger to your liking



8 Dip the rim of the cup in a bowl with bubble solution



PRO TIP: don't have bubble solution? mix dishsoap with water



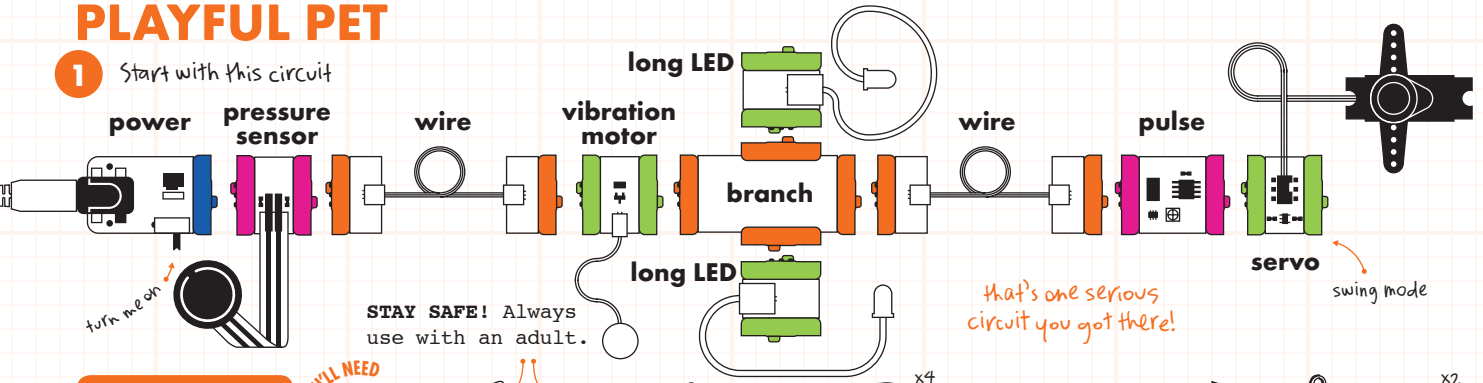
9 Blow into sound trigger and watch the bubbles come out

What other sounds make the bubbles blow? Try clapping, singing or stomping.

PROJECT 10: How can you use littleBits to create your own interactive friend?

PLAYFUL PET

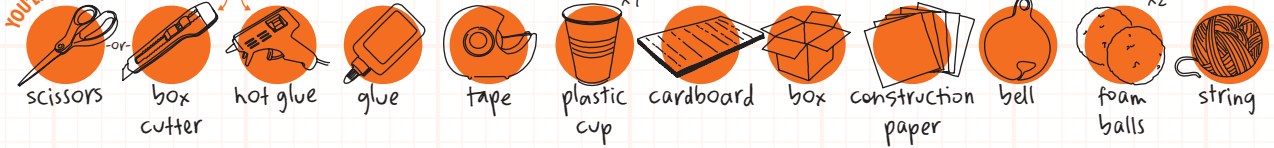
1 Start with this circuit



STAY SAFE! Always use with an adult.

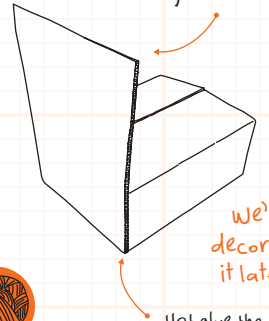
TIME: 2.5 hrs
DIFFICULTY: ●●●●○

YOU'LL NEED

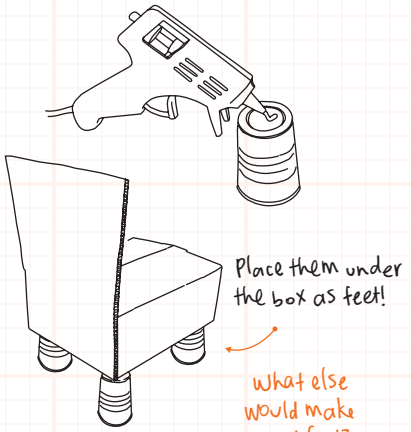


2 Find a box to be the dog's body

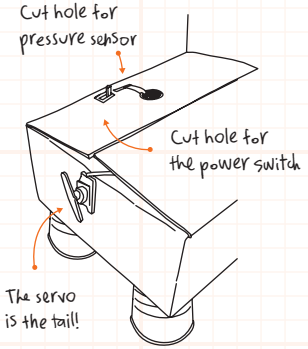
3 Cut piece of cardboard to be the dog's head



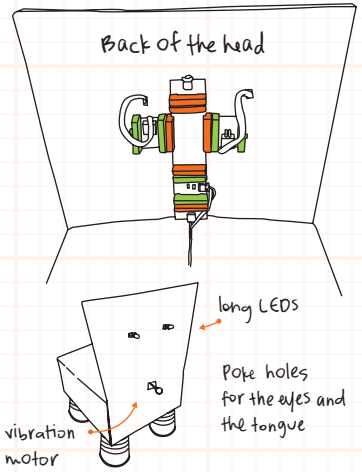
4 Put hot glue on the top of 4 cups



5 Insert littleBits into the dog's body

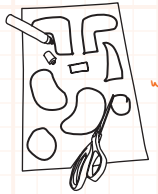


The behind



Front of the head

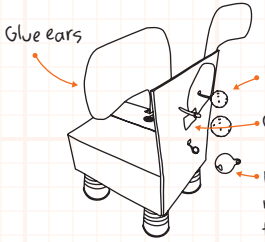
6 Decorate your dog!



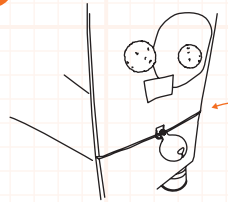
Draw and cut out ears, nose, tail, and spots

sharp! be careful when cutting!

7 Add styrofoam balls and bell

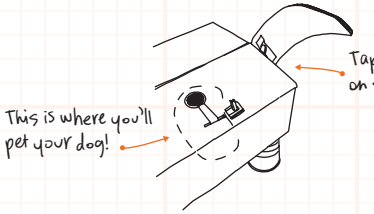


8 Tie string with bell around neck

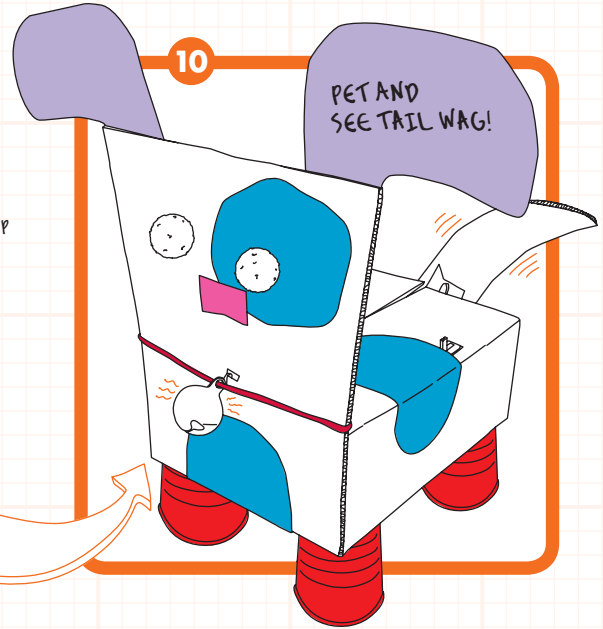


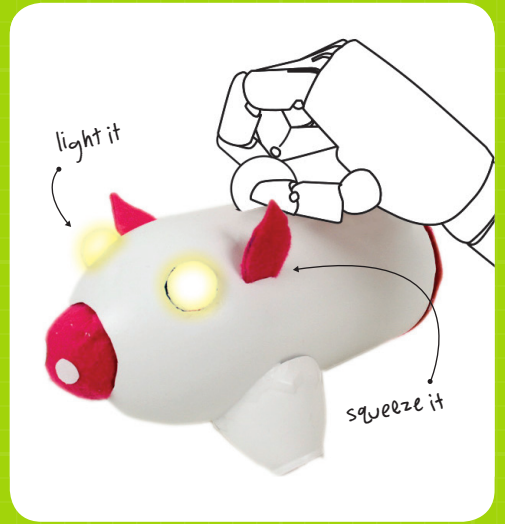
The string will keep the bell in place

9 Add spot of paper over pressure sensor and add tail



10





This booklet's over but the fun's not done.

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