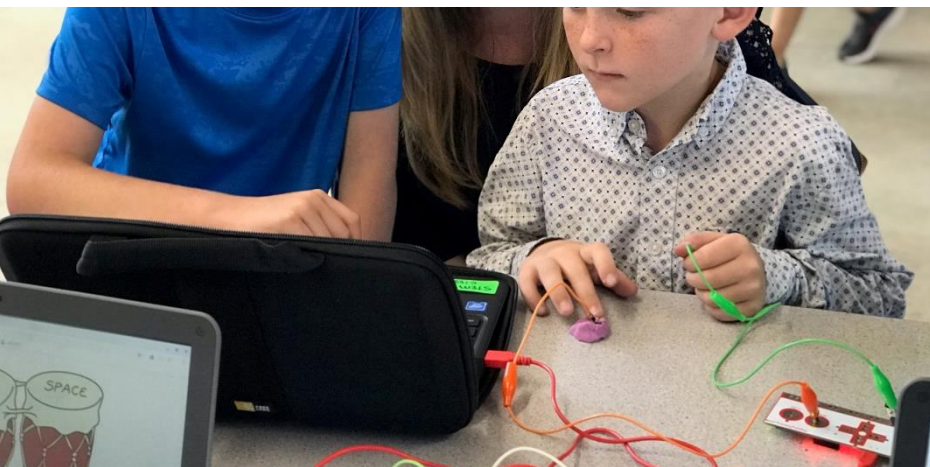
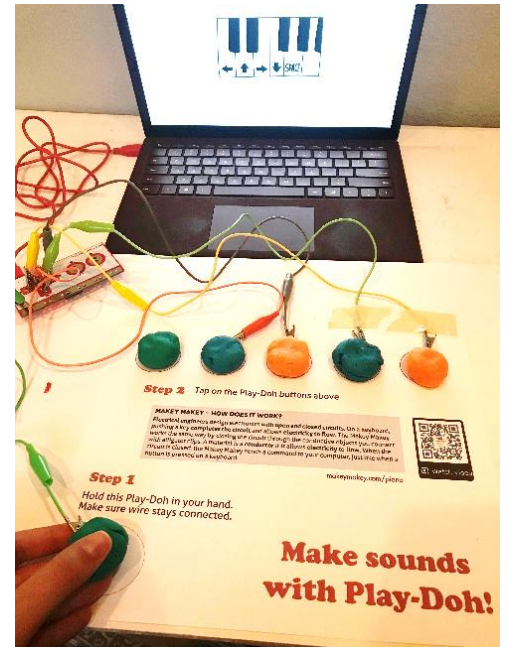
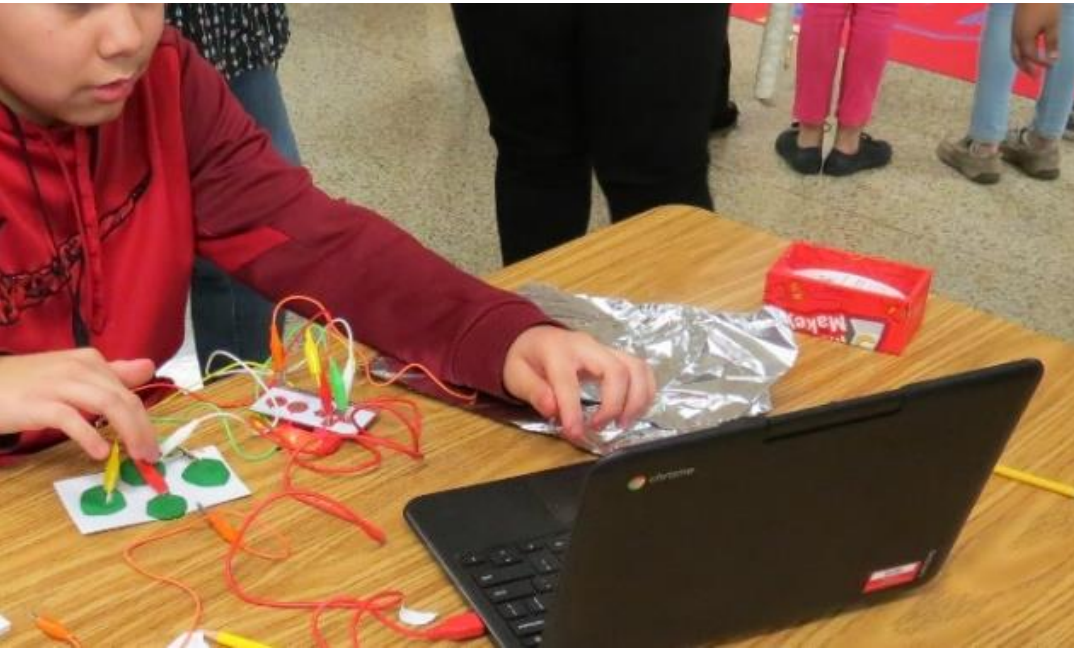


# Makey Makey STEM Activity



Explore circuits to design a video  
game controller

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# Thank You!

Thank you so much for your download. We hope you and your students enjoy this product.

We take pride in knowing that our products empower teachers with a high quality activity that is rich in content. Engaging and equipping students in S.T.E.M. is our passion! We would love to get your feedback on how we may continue to provide for you. Please email us at [VivifySTEM@gmail.com](mailto:VivifySTEM@gmail.com) with any comments or questions you may have.

- Claire & Natasha, The Vivify Team

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# Overview

If you haven't already discovered [Makey Makey](#), stop everything and watch this [video](#)! These cheap little circuit boards bring together coding, invention, creativity, and electronics. Just plug into any computer, and with no software download required, watch as your students turn conductive items (PlayDoh, oranges, pencil led) to create a controller that replaced a keyboard or mouse! We love using these with from elementary all the way to high school!

Included are instructions on how to use the Makey Makey with students through individual projects, group rotations, or during a family event.

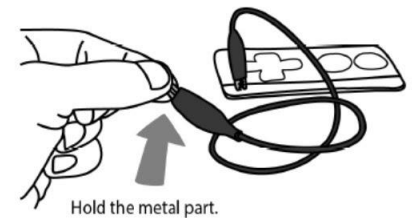
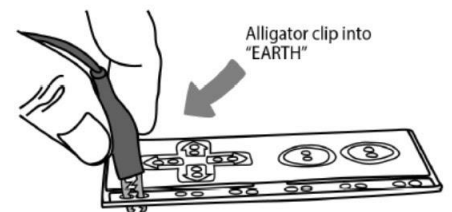
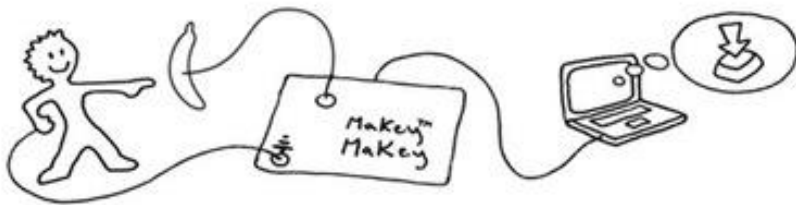
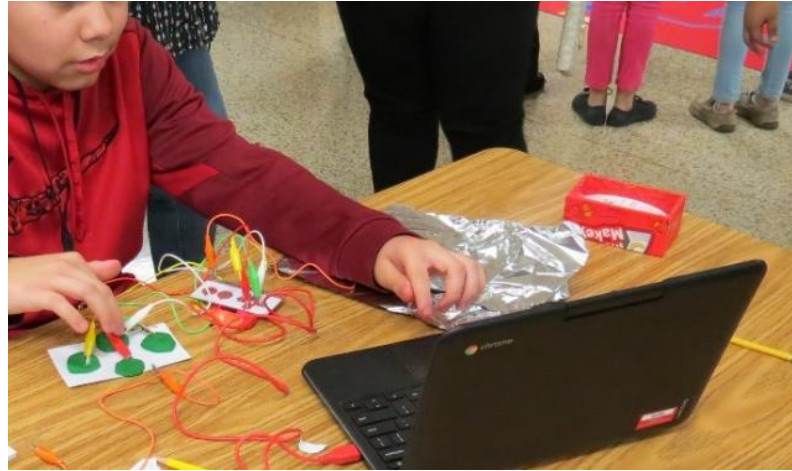
NGSS	TEKS (Texas)
4-PS3-4 Energy 4-PS3 Energy	Science 4.6 B, C

# MAKEY MAKEY

## Design and use your own video game controller

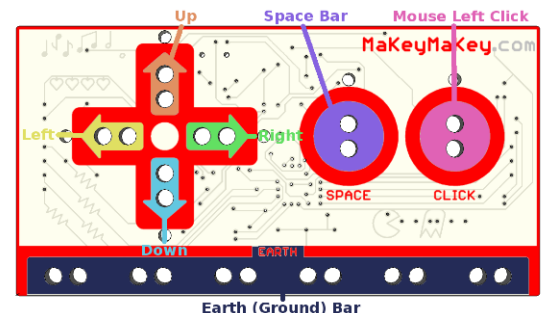
### Materials

- ❑ Makey Makey
- ❑ Play-Doh
- ❑ Index Cards
- ❑ Pencils
- ❑ 2 – 6 laptops
- ❑ Assortment of conductive and insulative materials



### Makey Makey Instructions

- 1. Plug in USB.** Small side of the USB plugs into the Makey Makey and the big side to the computer. No software installation needed
- 2. Connect You to Earth:** Connect one end of an alligator clip to the Earth bar at the bottom of the Makey Makey. Hold the other end of the same alligator clip between your fingers. Make sure to touch the metal end. You can also make an aluminum foil bracelet and attach the clip.
- 3. Connect to "Space" and Try it:** While you're still connected to Earth, touch the round "Space" pad. A green light will blink on the Makey Makey, and your computer will think the space bar was pressed.
- 4. Find Conductive Items:** Find a conductive materials to test such as aluminum foil.
- 5. Make your Controller:** Get an alligator clips. Connect one to the "Space" and the other end to a conductive item.
- 6. Play Some Drums:** Open [makeymakey.com/bongos](http://makeymakey.com/bongos). Make sure you are touching the alligator clip connected to Earth. Now touch a conductive item. This should make a Bongo sound!

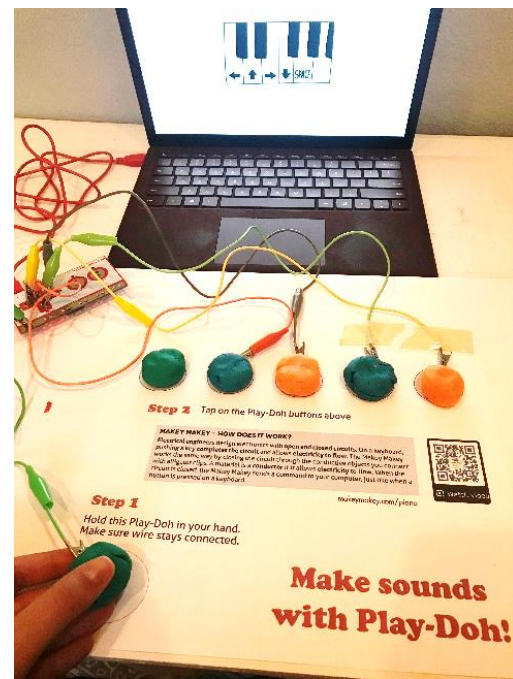




# MAKEY MAKEY

## Station Set-up: Demo Version

1. At least one demo station should be set-up to allow students to interact with the Makey Makey. This is a great teaching moment on open and closed circuits and conductive versus insulative materials.
2. Three templates are provided for the demo station:
  - **Piano with Play-Doh:** Access [makeymakey.com/piano](http://makeymakey.com/piano). See photo to the right for set-up.
  - **Is it conductive?** Access [makeymakey.com/piano](http://makeymakey.com/piano). Connect various conductive and insulated objects. Have students guess before testing each material.
  - **Try with a Friend.** Access [makeymakey.com/bongos](http://makeymakey.com/bongos). Students discover the human body is conductive by using 2 people to connect Makey Makey.



## Station Set-up: Make Your Own Controller

1. For older students, allow participants to make their own Makey Makey controller!
2. Set-up laptops to [www.makeymakey.com/apps](http://www.makeymakey.com/apps). Select a game such as Tetris.
3. Provide each laptop station the following:
  - Index cards
  - 2 bins Play-Doh
  - Aluminum Foil
  - 1 Makey Makey
  - 5 Pencils or Graphite stick
4. After students test out the demo Makey Makey, give them the following task: *Create your own controller with at least 2 buttons using 2 different conductive materials. Don't forget to create the Earth connection!*





**Step 2** Tap on the Play-Doh buttons above.

#### **MAKEY MAKEY – HOW DOES IT WORK?**

Electrical engineers design electronics with **open and closed circuits**. On a keyboard, pushing a key **completes the circuit** and allows **electricity to flow**. The Makey Makey works the same way by closing the circuit through the conductive objects you connect with alligator clips. A material is a **conductor** if it allows **electricity** to flow. When the circuit is closed, the Makey Makey sends a command to your computer, just like when a button is pressed on a keyboard.

[makeymakey.com/piano](http://makeymakey.com/piano)



#### **Step 1**

Hold this Play-Doh in your hand.  
Make sure wire stays connected.



# **Play Piano with Play-Doh!**



**Step 2** Touch each object above. If it makes a sound – the object is **conductive!**

**MAKEY MAKEY – HOW DOES IT WORK?**

Electrical engineers design electronics with **open and closed circuits**. On a keyboard, pushing a key **completes the circuit** and allows **electricity to flow**. The Makey Makey works the same way by closing the circuit through the conductive objects you connect with alligator clips. A material is a **conductor** if it allows **electricity** to flow. When the circuit is closed, the Makey Makey sends a command to your computer, just like when a button is pressed on a keyboard.

[makeymakey.com/piano](http://makeymakey.com/piano)



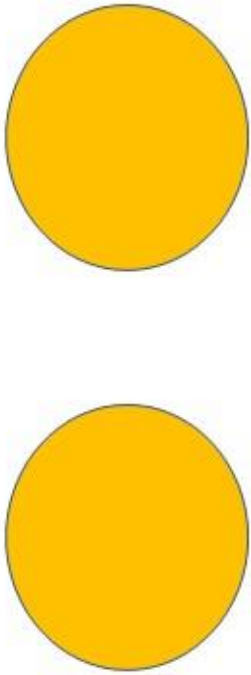
**Step 1**

Hold this Play-Doh in your hand.  
Make sure wire stays connected.



**Is it  
conductive?**





### Step 3

Person 1 & 2  
high-five!

**Step 2** Person 2 presses on the Play-Doh.

#### MAKEY MAKEY – HOW DOES IT WORK?

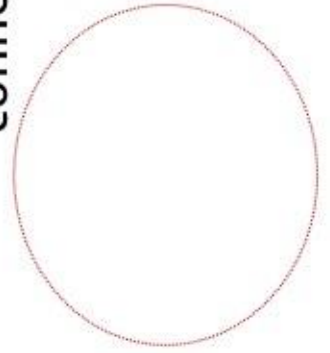
Electrical engineers design electronics with **open and closed circuits**. On a keyboard, pushing a key **completes the circuit** and allows **electricity to flow**. The Makey Makey works the same way by closing the circuit through the conductive objects you connect with alligator clips. A material is a **conductor** if it allows **electricity** to flow. When the circuit is closed, the Makey Makey sends a command to your computer, just like when a button is pressed on a keyboard.

[makeymakey.com/bongos](http://makeymakey.com/bongos)



### Step 1

Person 1 places this Play-Doh in their hand. Make sure wire stays connected.



# Try with a friend!

# STEM Family Night Station



**STEM Family Night**

**BUNDLE!**

**Complete Planning Guide**

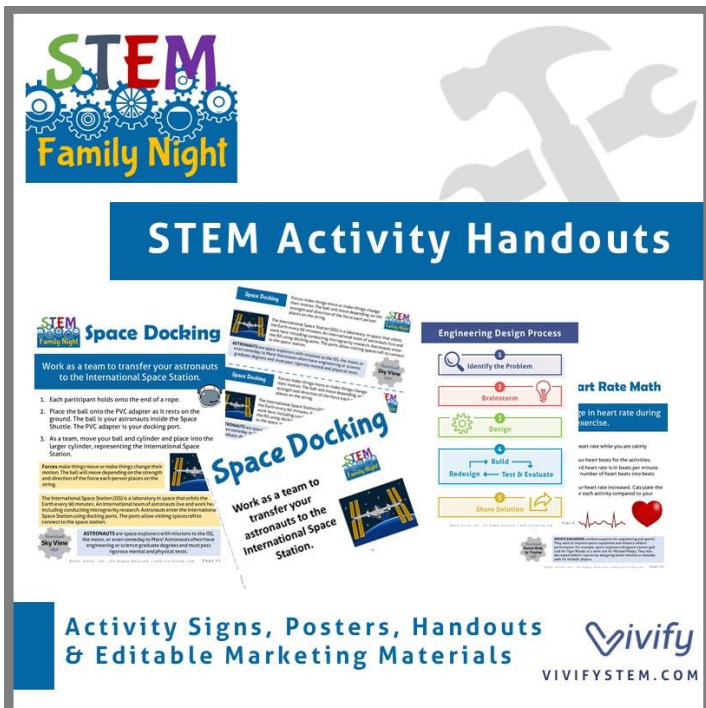
**14 STEM Activities & Station Handouts**

**Vivify**  
VIVIFYSTEM.COM

This activity is a great station for a STEM Family Night! For a complete planning guide along with 14 stations, check out our STEM Family Night Guide and Activities [here](#).

Learn more about STEM Family Nights [here](#).

The next page is a poster for this station to be a part of your event!

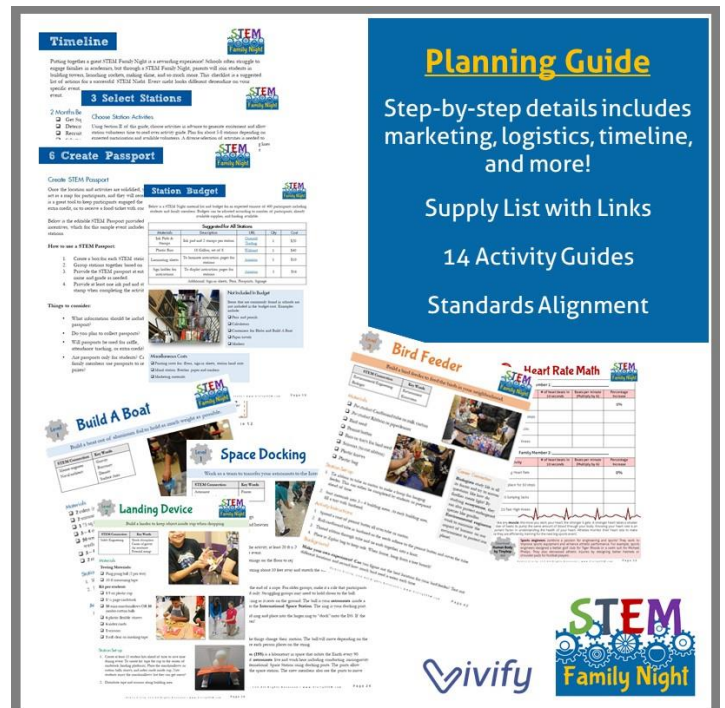


**STEM Family Night**

**STEM Activity Handouts**

**Activity Signs, Posters, Handouts & Editable Marketing Materials**

**Vivify**  
VIVIFYSTEM.COM



**STEM Family Night**

**Planning Guide**

Step-by-step details includes marketing, logistics, timeline, and more!

Supply List with Links

14 Activity Guides

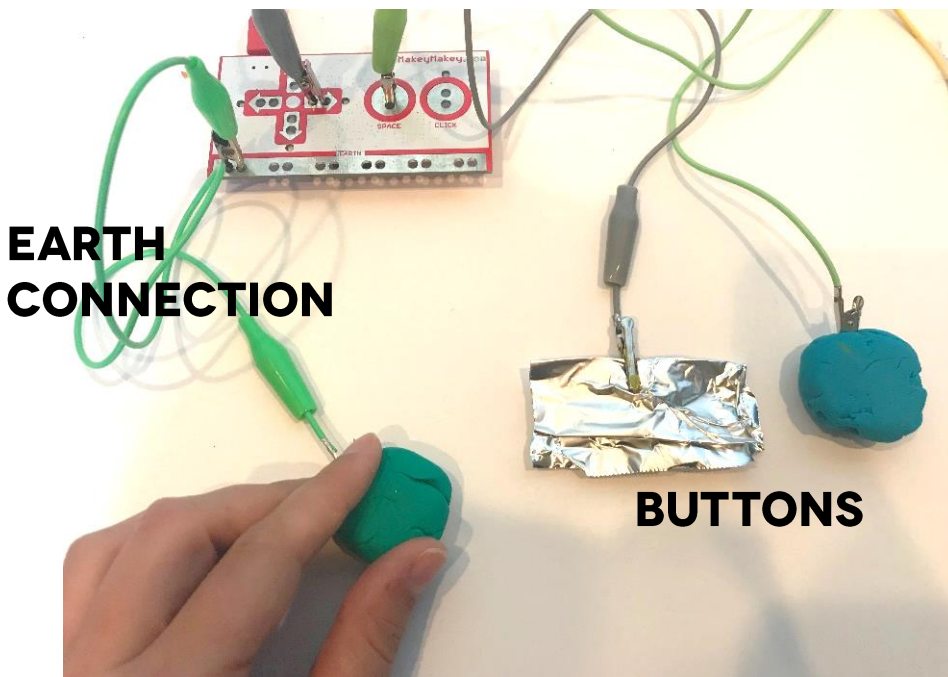
Standards Alignment

**Vivify**  
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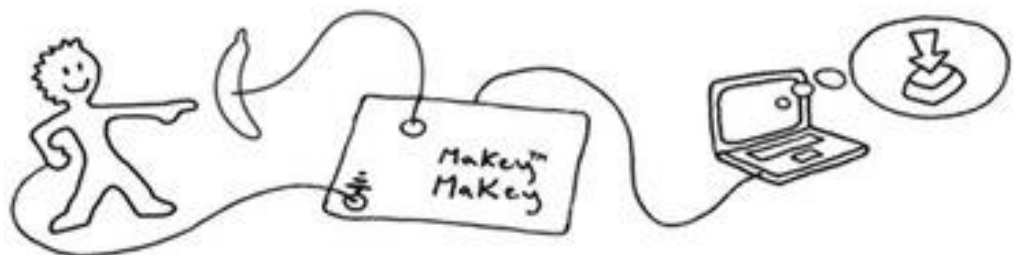
# Makey Makey

Create your own video game controller.

1. Use conductive materials to create at least two buttons
2. Must use TWO different types of conductive materials
3. Person must also be connected to the Earth bar



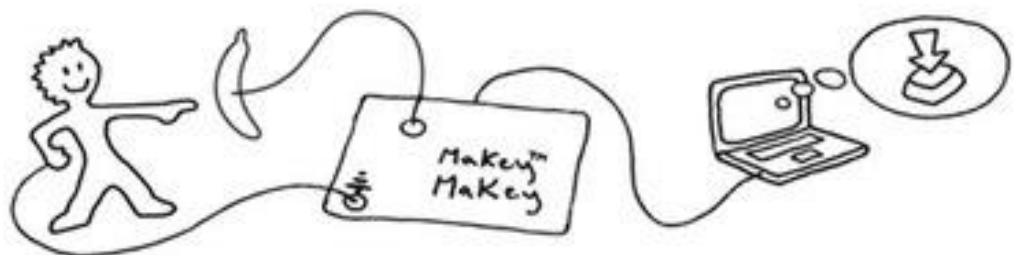
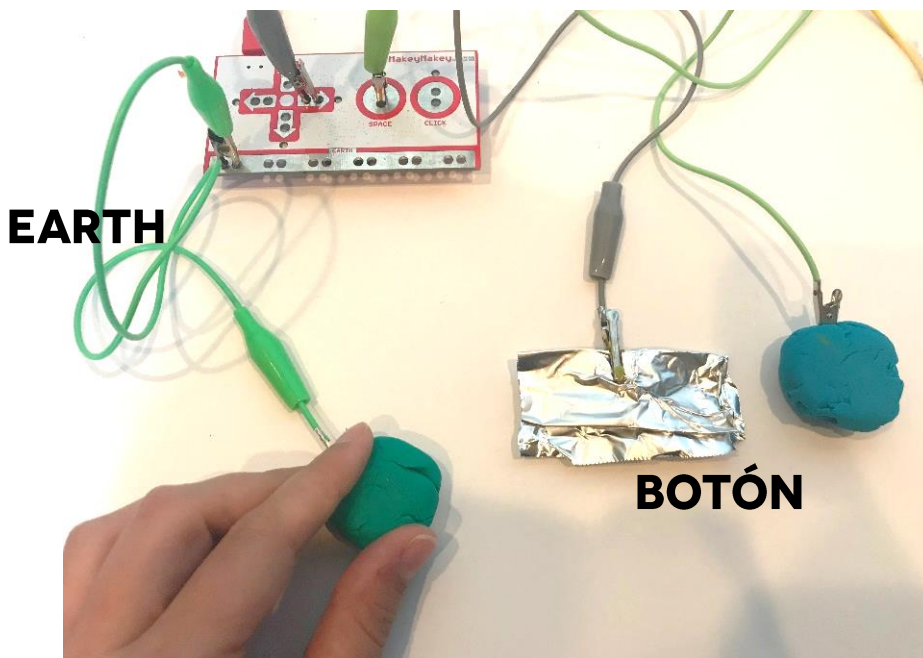
*Remember: You are always connected TWICE to Makey Makey to complete the circuit.*





Crea un circuito con los materiales provistos.

1. Use materiales conductivos para crear al menos dos botones.
2. Debe usar DOS tipos diferentes de materiales conductivos
3. La persona también debe estar conectada a la barra de "Earth"



# Makey Makey

**Design and use your own video  
game controller**

