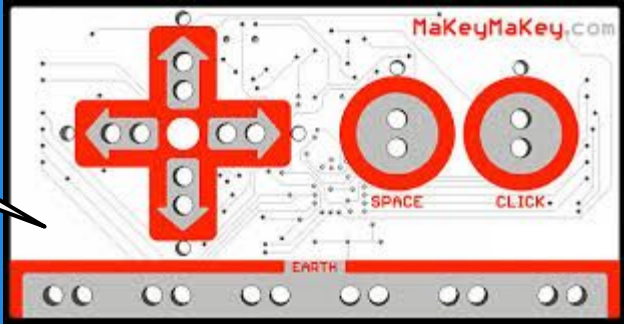


MAKEY MAKEY

Challenge of the Month

What can you
create?

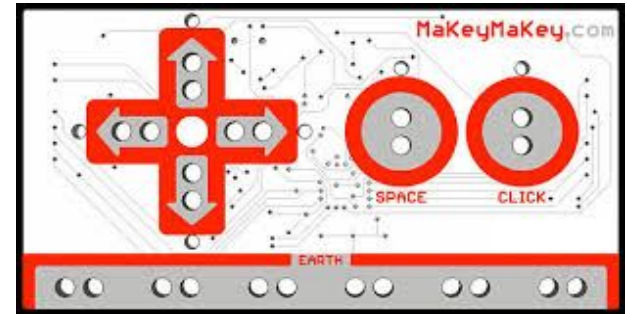


Your only limit is your imagination.

WHAT IS A MAKEKEY MAKEKEY?

Have you ever performed a song using a banana piano or used playdough to make controllers for Mario Brothers?

No? Well, here's your chance! Come join in the fun with this invention kit. It includes the MaKey MaKey unit, a USB cable, alligator clips, and connector wires. Use these things along with a computer to get your creativeness on.



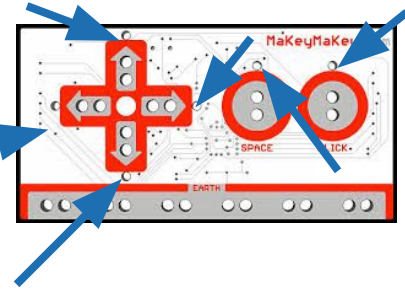
The creators of MaKey MaKey believe that everyone is creative, inventive, and imaginative. They built the MaKey MaKey in the hope that everyone can create the future and change the world.

WATCH A 2-MINUTE VIDEO



HOW DOES IT WORK?

The MaKey Makey is a printed circuit board that lets you turn anything that conducts electricity into a key, button, or gamepad. It has **six sensors** into which you plug alligator clips. These sensors link to your computer's **four arrow keys, space bar, and mouse click**. Any program that is controlled by these six keys can be operated by the MaKey Makey.



Here are some **Conductive Materials** into which you can hook alligator clips:

fruits & veggies • marshmallows • gummy bears • macaroni & cheese • leaves • flowers
playdough • clay • people • graphite from a pencil • coins • magnets • bolts • aluminum foil

Find a game or app that uses these six keys: **four arrow keys, space bar, and mouse click**.

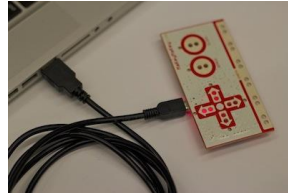
Visit <https://makeymakey.com/apps> or scan this QR code to check out some games.



Hook it up. Have fun!

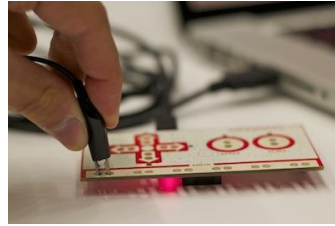
SETTING IT UP

1) Plug in USB: The small side of USB cable plugs into MaKey MaKey, the big side plugs into computer.

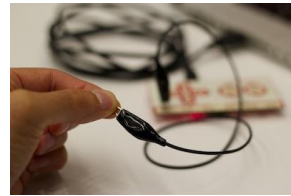


2) Close Pop-Up Window: Your computer may ask you to install drivers or do other setup. You can click cancel or close the window.

3) Connect to Earth: Connect one end of an alligator clip to "Earth" on the bottom of the front side of MaKey MaKey.

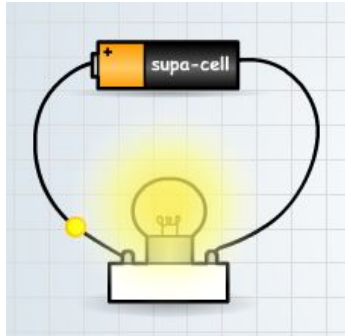


4) Connect to Yourself: Hold the metal part of the other end of the "Earth" alligator clip between your fingers. You are now "grounded" and the circuit is completed.

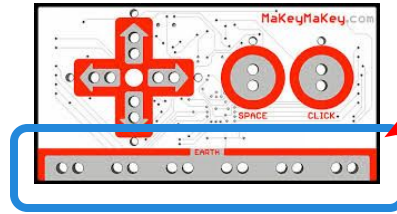


5) Hook it Up: While you are still grounded, connect the alligator clips from the 6 sensors to other conductive objects. Find an app that can be controlled with arrow keys, space bar, or clicking. Have fun!

BASIC CIRCUITRY



A circuit is a path through which current flows. In order to work, a circuit needs a full loop from the power source and back again.



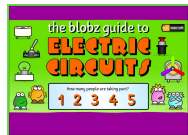
The MaKey MaKey is part of a circuit. In order to work, **one alligator clip must be hooked up to "Earth"** on the bottom of the board. The other needs to be **connected to you**. If you let go of the alligator clip or it comes unclipped from the MaKey MaKey, it won't work.



Learn more!



Click the BrainPop icon to watch a video that explains the basics of circuits.

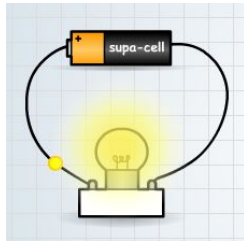


Click the icon to go through five quick modules about: how circuits work, conductors and insulators, switches, changing circuits, and diagrams.



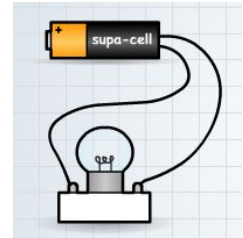
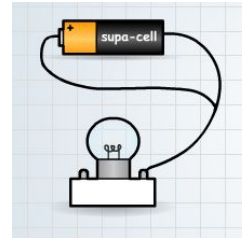
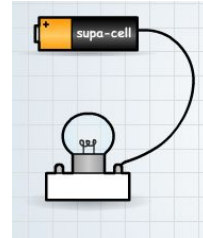
Click the icon to learn more about voltage, conductors, and insulators.

COMPLETE AND INCOMPLETE CIRCUITS



Complete Circuit:

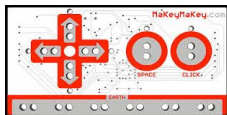
The current must flow in a loop from the power source and back again in order to work.



Incomplete Circuit:

If the current doesn't flow in a loop from the power source and back, the circuit isn't complete and will not work.

[Source: http://www.andythelwell.com/blobz/guide.html](http://www.andythelwell.com/blobz/guide.html)



Remember, if the alligator clip disconnects from the "Earth" bar or you stop holding it, the circuit will be incomplete and it will not work.

CONDUCTORS AND INSULATORS

Conductors	Insulators
<p>Conductors are made of materials that electricity can flow through easily. Examples are: copper, aluminum, gold, water, people, or trees.</p>	<p>Insulators are the opposite of conductors. They prevent or block the flow of electricity. Examples are: glass, porcelain, plastic, or rubber.</p> <p><small>Source http://www.fpsafetyworld.com/?ver=kkblue&utilid=fplforkids&id=16185</small></p>

Did you know?

Electricity will always take the shortest path to the ground. Your body is 60% water and that makes you a good **conductor**. If a power line has fallen and you touch it, you will become the conductor and could get electrocuted.



Rubber or plastic on an electrical cord provides an **insulator** for the wires inside. By covering the wires, the electricity cannot go through the rubber and is forced to follow a path on the wires inside.



MONTHLY CHALLENGES



October <u>Playdough Piano</u>	November <u>Pacman</u>	December <u>Dance Dance</u> <u>Revolution</u>	January <u>Musical Art</u>
February <u>Flabby Physics</u>	March <u>Fingertip</u> <u>Drum Set</u>	April <u>Photo Booth Cam</u>	May <u>Design a</u> <u>Challenge</u>

At any time, you can create your own invention and challenge others to design one that does the same thing.

OCTOBER: PACMAN CONTROLLER

Challenge:

Use the arrow keys to move, eat the dots, and avoid ghosts.

Resources:

- Pacman

Bonus Points:

Challenge yourself to a game of Mario Brothers.

Materials:

- MaKey MaKey
- Alligator clips

NOVEMBER: PLAYDOUGH PIANO

Challenge:

Create a piano that plays 6 different notes.

Resources:

Piano Website

Bonus Points: Use your playdough piano on this keyboard. 5 key piano

Materials:

- MaKey MaKey
- Alligator clips
- Playdough

DECEMBER: DANCE DANCE REVOLUTION

Challenge:

Keep the beat and use aluminum foil to create four dance pads to play DDR.

Resources:

- [Dance Dance Revolution Website](#)

Bonus Points:

Play with a partner and share the dance pads.

Materials:

- MaKey MaKey
- Alligator clips
- Aluminum foil

JANUARY: MUSICAL ART

Challenge:

Draw or paint a picture that plays musical notes.

Resources:

- [YouTube Demo Video](#)
- [Virtual Piano](#)

Bonus Points:

Play a duet with a friend. Or use the back side of the MaKey Makey to play an additional 12 notes.

Materials:

- MaKey MaKey
- Alligator clips
- Pencils
- Art materials

FEBRUARY: FLABBY PHYSICS

Challenge:

Use your physics knowledge and a beach ball to pop the stars and advance levels.

Resources:

- [Flabby Physics Website](#)
- [YouTube Video Demo Link](#)

Bonus Points:

Find other fun materials and design a new controller.

Materials:

- MaKey MaKey
- Alligator clips
- Beach ball

MARCH: FINGERTIP DRUM SET

Challenge:

Keep the beat and play the drums along with your favorite music video.

Resources:

- Fingertip Drum Set

Bonus Points:

Write your own song in GarageBand and accompany it with your fingertip drum set.

Materials:

- MaKey MaKey
- Alligator clips
- Song Idea

APRIL: HIGH 5 CAM

Challenge:

Develop a camera that takes a picture when two people high five each other.

Resources:

- PhotoBooth Software (found on any Mac computer)
- Photo booth video idea

Bonus Points:

Create a motion-activated cam for a new spot.

Materials:

- MaKey MaKey
- Alligator clips
- Aluminum foil

MAY: DESIGN A CHALLENGE

Challenge:

Be inventive and design a challenge for other students. Fill out the form and leave it near a workstation so others can try it.

Resources:

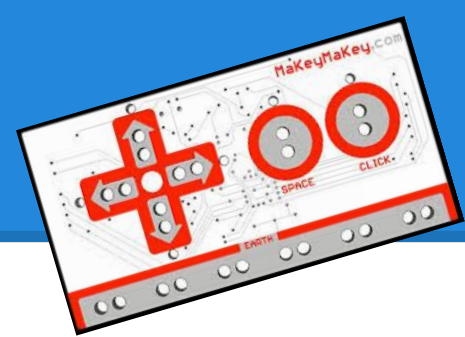
- List of Ideas

Bonus Points:

Try to carry out another student's challenge.
Sign the back of their sheet if you complete it.

Materials:

- MaKey MaKey
- Alligator clips
- Form



DESIGN A CHALLENGE

Designer's Name	
Name of Challenge	
Challenge Statement	
Materials Needed	

CHECK OFF SHEET & BADGES

Name: _____ Grade: _____

October <u>Playdough Piano</u>	November <u>Pacman</u>	December <u>Dance Dance</u> <u>Revolution</u>	January <u>Musical Art</u>
February <u>Flabby Physics</u>	March <u>Fingertip</u> <u>Drum Set</u>	April <u>Photo Booth Cam</u>	May <u>Design a</u> <u>Challenge</u>

After you complete a project, check in with the Library staff. We will issue badges to attach to this sheet.

WEBSITES TO TRY

Click on a link below, or [click here](#) to see a page with more ideas.

Bongos: Play some bongo drums with the space bar and left arrow. Turn anything into a drum!

Piano: A piano designed for MaKey MaKey. Play a melody with the arrow keys and space bar (and click, too).

Scratch Piano: This is a piano you can play with the arrow keys. It was created using Scratch, an easy-to-use graphical programming language, so you can remix it and make your own version.

Tetris: You can play this Tetris game with the arrow keys... or make your own custom controller.

Simon Says : Play Simon Says using your playdough. Make your own Simon board.

Sound Effects: This page turns your keyboard into a sound effects machine. By connecting to the letters on the back of your MaKey MaKey, you can create your own way to trigger sounds.

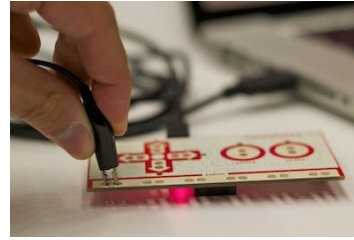
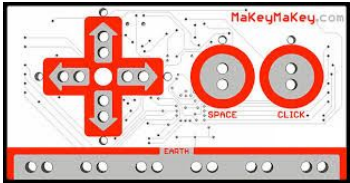
Chamber Music Piano: You can play 10 different notes on this piano (using w, a, s, d, f, left, up, right, down and space). Play along with the video for a piano duet!

Whack a Mole: Use the arrows to whack the mole back into it's hole.

WEB RESOURCES [click to link](#)

MaKey MaKey

Website



Setting it Up



Project Ideas



Scratch projects

CAN I GET ONE AT HOME?



MaKey MaKey Kits are available for anyone to purchase. They can be purchased from any of these websites.

- [MaKey MaKey website](#)
- [Barnes and Noble](#)
- [Amazon.com](#)

MaKey MaKey Kit

\$49.95 USD

Add to Cart