



Title: *"Makey Makey - With Gamepads"*

A gamepad with four directional arrows and two buttons can be created with your Makey Makey board. Take a look here for how to set up your gamepad with Play Doh and using Scratch and some online websites, let's have some fun!.

Student Objectives

- Using a Makey Makey board, students will apply their knowledge of electrical circuits and use various Play Doh to create a gamepad.
- Students will use online websites to play with their gamepad and get some ideas for how they can create similar games with Scratch.

Teacher Technology Skills Needed

- Simple coding with blocks from Scratch <http://scratch.mit.edu>
- Recording sound with Scratch
- Making a simple circuit with a Makey Makey board, conductive material and alligator clips
- How to access online games that work with Makey Makey circuits, not Flash!

Materials

- Makey Makey board with alligator clips
- Play Doh
- Computer with Scratch Program open <http://scratch.mit.edu>
- Online [Gamepad Games](#) --- Google Doc

Standards

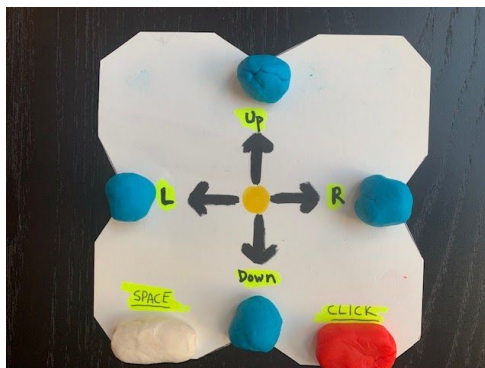
- **3-PS2-3:** Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
- **4-PS3-2:** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- **HS-PS3-3:** Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.
- **ISTE Standard for "Innovative Designer"**
 - 4c --- Students develop, test, and refine prototypes as part of a cyclical design process.

Procedure

1. Connect alligator clips to your Makey Makey so that you the following functions work:
 - a. all four arrow keys
 - b. Space Bar
 - c. Mouse Click
 - d. Earth (Ground)

Teq-tivities[®]

- e. USB power from the computer
2. Clip the other ends of your alligator clips to the Play Doh locations on your GamePad:



3. Go to the Scratch website <http://scratch.mit.edu> and open the "Makey Makey Practice" Project (or any other project that uses the keypresses listed in #1 above). Test out your GamePad.
4. Open the Google Doc or pdf version of the "[Makey Makey Online Games List](#)". Choose several for your GamePads test:
 - a. Frogger
 - b. Ms. PacMan
 - c. Tanuki Sunset
5. Discuss with students how they will be using Scratch in the near future to create games where they can use their GamePads. The goal is to extend their understanding of coding/programming and develop their own games but also using circuit-building with their Makey Makey.

Extension Activities

- With Scratch, can students create a simple game of their own that simulates a mouse click, spacebar and four directional arrows of their keyboard?
- After remapping their Makey Makey, can students add more keypresses to their created games?