Makey Makey & Scratch Engineering Notebook

Student Name: _____

Student Name: _____

Date: _____

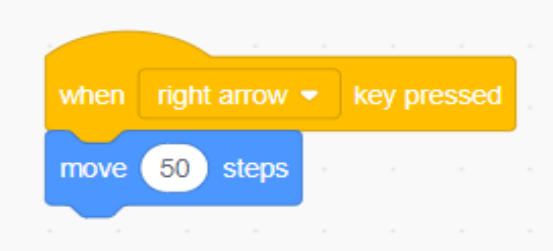
Your Assignment…

You and your partner have been given the job of creating 5 computer input devices made of unusual materials of your choosing.

The only catch is that the materials you choose for your input devices must conduct electricity.

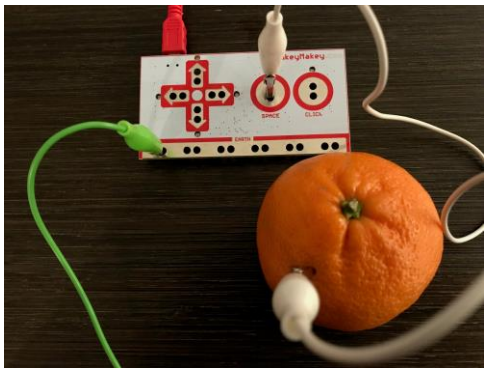
To test whether different materials conduct electricity, you will:

1. Code a simple game in Scratch to respond to 5 different inputs: space bar; up, down, right, and left arrows.



2. Connect the Makey Makey board to your laptop.

3. Connect the materials to the ports on the Makey Makey board using alligator clips. See if your sprite moves onscreen when you touch the material.



Don’t forget to connect an alligator clip to the “Earth” port and connect the other end to your skin to complete the circuit!

Scratch Notes

Questions	Answers
1) What Event Blocks did you use in your program?	
2) Did you find any bugs in your program?	
3) If you found bugs, were you able to fix them?	
4) Were you able to do everything in your program that you wanted to do? If not, what did you want to do that you couldn't?	
5) Did you add comments to your program?	
6) Did anything surprise you in Scratch?	

If you have trouble with your sprite disappearing off the side of the screen in Scratch, watch this video.

Conductor or Insulator?

Experiment with at least 7 different materials. Write down what you tested below and note whether the materials were conductors or insulators.

MATERIAL	CONDUCTOR	INSULATOR
1)		
2)		
3)		
4)		
5)		
6)		
7)		

Were you surprised by any of the materials? If so, which ones? Why?

Product Description

Write down what type of input devices you made, what material(s) you used to make them, and why you chose the materials you did.

Our input devices are: (Example: shaped like animals)	
We chose to make our input devices out of: (Example: an orange)	
We chose our material(s) because:	

Closing the Circuit

Draw a picture that shows the closed electrical circuit you made:

1. The Makey Makey connected to your laptop
2. One of the input devices you made connected to the Makey Makey
3. An alligator clip connected to Earth on the Makey Makey on one end and to you or other conductive material on the other end

Describe anything you found interesting or difficult in getting the circuit to work:

Team Roles

Describe how you divided up the work on your team.

Role	Student Name	Student Name
Electrical Engineer (Connected Makey Makey to PC & input materials)		
Material Procurement (Chose materials to use as input)		
Mechanical Engineer (Built input devices)		
Programmer		
Tester		
Presenter		

What worked well in how you divided the work?

What could have gone better?

Presentation Notes

Use this page to plan what you will present to the class. Your presentation should cover the following:

1) The type(s) of input device you chose to make.

2) The materials you used and why.

3) Any challenges you had getting your input device(s) to work (software and/or hardware issues)

4) Words of wisdom would you tell the next class doing this project