Title: *"Makey Makey - Classifying Triangles"*

Using a dark graphite pencil and card stock, students will be making an interactive poster to show off their knowledge of classifying triangles by angle measure and length of sides.

Student Objectives

- Using a Makey Makey board, students will apply their knowledge of electrical circuits and use graphite pencils to create a circuit.
- Using the Scratch website http://scratch.mit.edu , students will record their voice describing four different types of triangles and their properties. They will then tie these recordings to four different key presses on the keyboard.

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, graphite pencils and alligator clips

Materials

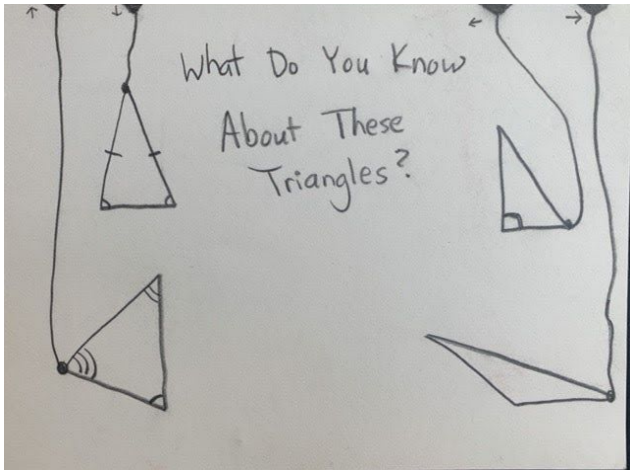
- Makey Makey board with alligator clips
- Graphite pencils, 6B
- Computer with Scratch Program open http://scratch.mit.edu

Standards

- **5.G.6** Classify triangles by properties of their angles and sides
- **ISTE Standard for "Innovative Designer"**
  - 4c --- Students develop, test, and refine prototypes as part of a cyclical design process.

Procedure

1. The teacher models with the Makey Makey board and the Triangles Interactive Poster how the circuits work using graphite pencil lines.
   - Connect alligator clips to your Makey Makey so that the following functions work:
     - all four arrow keys
     - Space Bar
     - Earth (Ground)
     - USB power from the computer
   - Clip the other ends of your alligator clips to the Triangle clip locations on your interactive poster:

- 

    - Go to the Scratch website http://scratch.mit.edu and open the “Makey Makey Triangles” Project. Test out your poster.
2. Now give students the task of drawing out four different triangles on their poster, along with the pencil lines to the edges where the alligator clips will be.
    - Using Scratch, they record four different sound files describing each triangle and use the Control blocks to tie them to different keypresses.
    - Test it out! Re Record as necessary.

Extension Activities

- For students who need a challenge, they can also use foil inside their triangle shapes to make better touch points. If it doesn’t work, can they figure out a way to make the foil contact the pencil lines better?
- In the Scratch program they design, can they add costume changes and dialogue bubbles to make their project more user friendly?