

## ***MIS Flower Project Suggested Approach***

### **Resources**

**Soldering Irons (Pre-Heat)**

**Soldering Material**

**Electrical Tape**

### **Materials** **(per student)**

**1 x Origami Paper Sheet (preferably shiny, not stiff)**

**1 x Paper Coffee Cup**

**3 x lengths of wire (15cm), 1cm stripped**

**1 x Coloured 5mm LED Diode Bulb**

**1x Lithium Battery "CR2032"**

**1 x Matching Cell Battery Holder**

**1 x Circuit Switch**

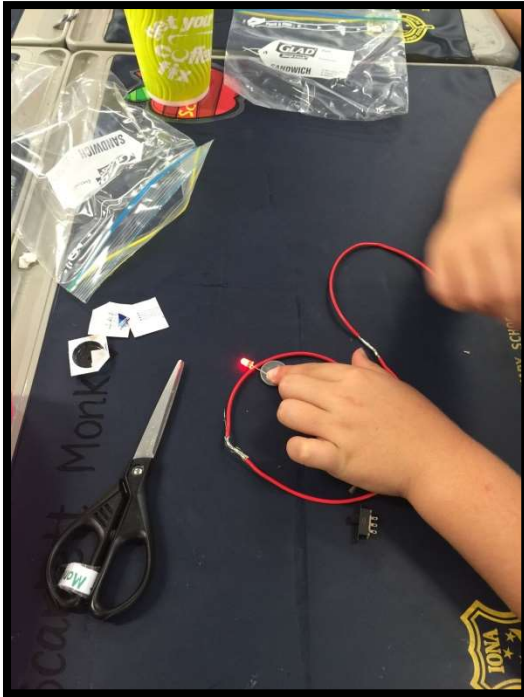
### **Introduction**

Hand out bags to students and ask them to remove all the contents from the bags. Show them your illuminate lotus flower, and tell them that today they will be making something like this, and that they have everything at their table already.



### **Preparation**

For our preparation we had all the circuit materials in a zip lock bag, and the paper cup and origami sheet separate. These items were all inside a pink bag. This creates excitement and engagement for the students to open and find out what is about to happen next!



### Take a Break!

Let the students stand up, shake it off and have a drink of water. The process can be tiresome and frustrating, but that is ok, that is part of the learning process!

### Origami Flower

Ask students to take their piece of origami paper out of the bag.

For instructions on how to create a lotus flower, please check the Weebly site for a how-to video (coming soon), or YouTube "Origami – How to Make a Lotus Flower" by cozyandwarm.

Make lotus flower with the students.

Show students to put a hole in their paper cup approximately 2cm down. The hole is to sit in here to turn it on and off. Get students to insert the globe through the middle of their lotus flower and feed the rest of the circuit into the cup.

Now they have a working illuminating lotus flower!

### Questions?

<http://stemminists.weebly.com/>  
[MISSteminists@gmail.com](mailto:MISSteminists@gmail.com)

### Lighting up the Globe! [30 mins max]

Ask the girls to put the origami and paper cup back into the bag and place these on the floor out of the way. They should now have the zip-lock bag in front of them.

Say: "I wonder how you could make the bulb light up?"

Now allow your students to experiment with the materials. Do not tell them how to create a circuit, but prompt them with questions:

- If it doesn't work this way, what else could you try?
- How can you make sure that the wire stays where you want it to?
- How can you turn the light on and off?

If some of the girls have "aha!" moments with their circuits, let them teach or help others. This is a great collaborate moment that gives students opportunities to teach and consolidate their knowledge.

### Soldering the Circuit

If you do not wish to solder the circuit, electrical tape works also.

\*\* Please warn students about the dangers of soldering irons. Do not let students solder their own circuits as they may badly burn themselves. Supervision required at all times around a soldering iron\*\*