**Electric Circuits – Create, Observe, Explain**

1. Create a circuit that turns on a light bulb with a switch to turn it on and off.
   1. Draw the circuit below
   2. Flip the switch open. What happens? Why does this happen?
2. Create a circuit that has two light bulbs and a switch.
   1. Draw the circuit below.
   2. Compared to the first circuit are the bulbs shining more brightly? Why is this?
   3. What do you think would happen if you added a third bulb?
   4. Add a third bulb to your circuit. What happened? Why?
   5. Now take one bulb out of it’s socket. What happened? Why?
3. Create a circuit that has one light bulb again. Now add a second battery.
   1. Draw the circuit below.
   2. What happened when you added the second battery? Why did this happen?
   3. What do you think would happen if you added a third battery?
4. Create a circuit with three lightbulbs where you can turn off one bulb without turning off the others. Hint: you need to make more than one path for the electrons to follow.
   1. Draw your circuit below.
   2. Explain why you can turn off one light bulb and still have the other bulbs stay lit.