Lab 1-11 Diodes

1. Get yourself an Electronic Playground.
2. Locate the diode on the kit and draw each of them below:

Draw the diode	Draw the symbol that means diode

3. Get 2 long wires and 3 short wires from me.
4. Connect a short wire between LED 3 and the 11 at the end of your diode.
5. Connect a longer one between 11 and 43.
6. Connect the other end of your resistor to one side of the switch (55)
7. Connect the other side of the switch to the other side of the LED (4 to 56)

The job of a diode is to only allow electricity to flow in ONE direction. Note the symbol. Which way do you believe this diode allows a flow? **(Circle one)**

a. From 10 to 11
b. From 11 to 10

8. Push the switch.
9. What just happened?

10. Now reverse the wires to the diode (just swap 10 and 11).
11. Push the switch and record what happened.

12. Why did that happen?

13. So what is an LED?

Aha! The word DIODE is in there isn't it? That's because diodes made of Gallium Arsenide (say that three times fast) required at least 1.5V to turn them on. When the voltage is that high, it generates light. Let's play with our LEDs.

14. Wire as follows
    a. 37 to 42
    b. 43 to 1 to 4
    c. 2 to 3 to 26
    d. 36 to an unconnected wire
15. We're not using diodes because the LEDs ARE diodes.
16. Now touch the loose wire to the positive battery spring (27). What happens:

    a. To LED1

    b. To LED2

17. Why does one light up, but not the other?

18. Now touch the loose wire to the negative battery spring (26). What happens:

    a. To LED1

    b. To LED2

19. Why does this happen? What does this tell you about the direction of the LED diodes?