Circuit Puzzles

Predict whether each circuit will light all the LEDs . Then build the circuits. If the circuit doesn't work make changes! Add or remove copper tape. Add more or different LEDs.

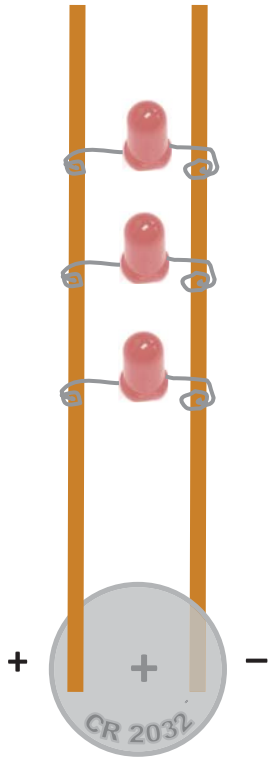
LEDs have positive and negative legs. Typically the longer leg is positive and the shorter leg is negative, check each LED before placing it in your circuit. In this activity the picture shows the tightly wound leg as positive, and the loosely wound leg as negative.

1.) Will all three LEDs light?

Predict:

ALL? TWO? ONE? NONE?

What actually happens?

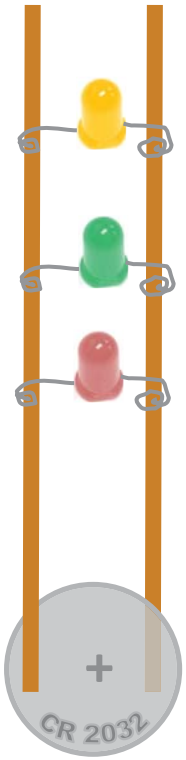


2.) Will all three LEDs light?

Predict:

ALL? TWO? ONE? NONE?

What actually happens?

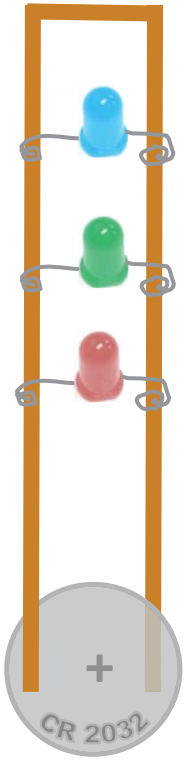


3.) Will all three LEDs light?

Predict:

ALL? TWO? ONE? NONE?

What actually happens?

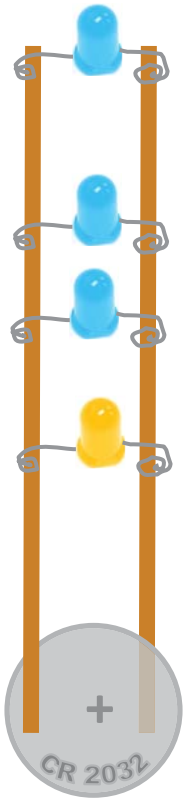


4.) Will all four LEDs light?

Predict:

ALL? THREE? TWO? ONE? NONE?

What actually happens?

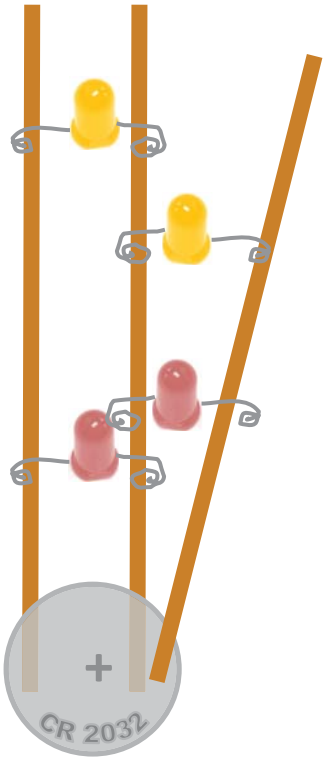


Will all four LEDs light?

Predict:

ALL? THREE? TWO? ONE? NONE?

What actually happens? Add two more LEDs so all six light.



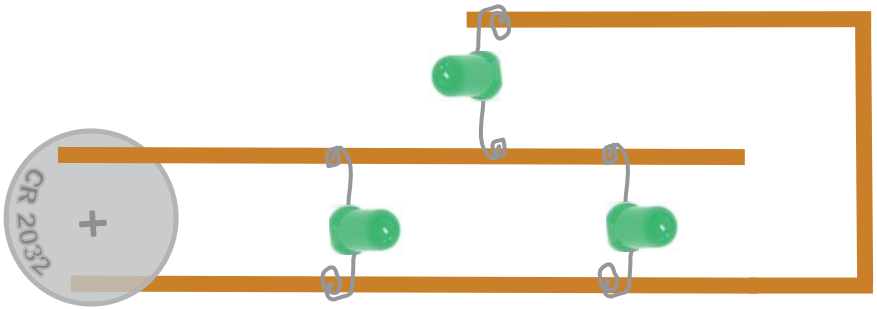
6.) Will all three LEDs light?

Predict:

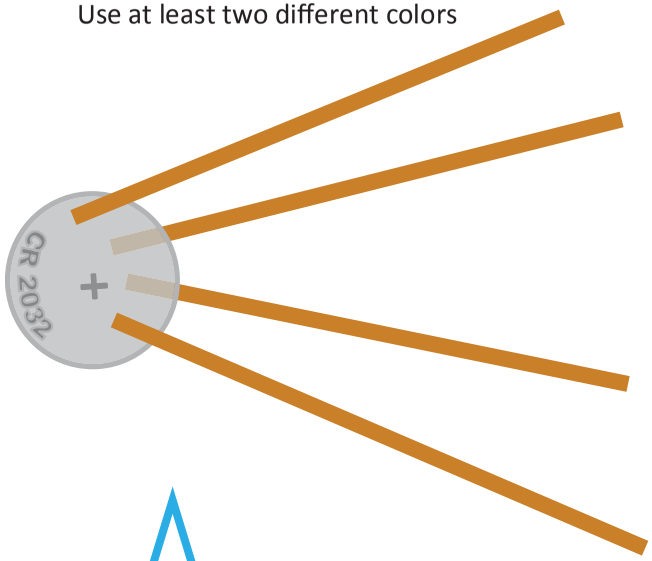
ALL? TWO? ONE? NONE?

What actually happens?

Add three more LEDs so all six light.



7.) Place four LEDs so that they all light. Use at least two different colors



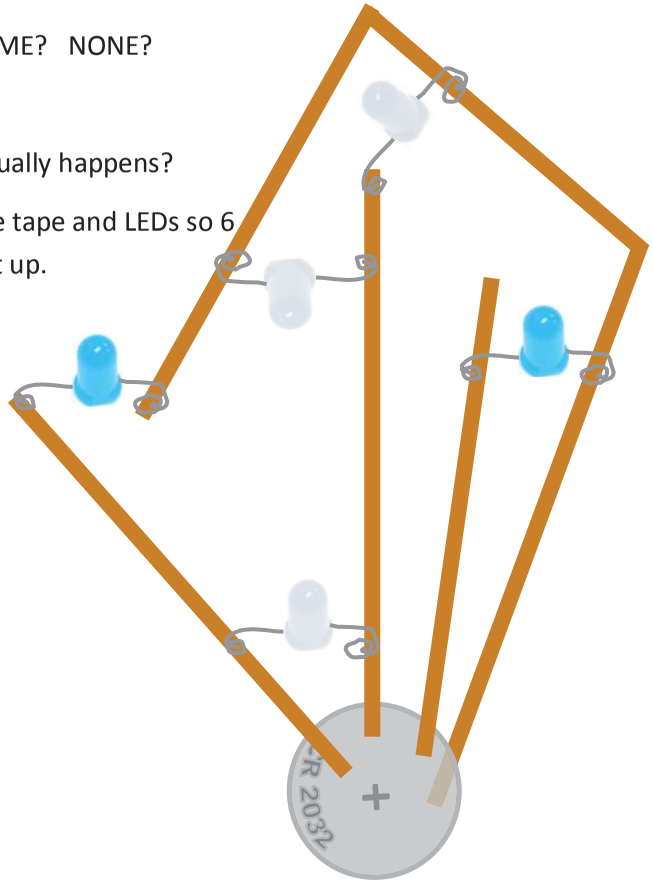
8.) Will all five LEDs light?

Predict:

ALL? SOME? NONE?

What actually happens?

Add more tape and LEDs so 6 LEDs light up.



9.) Design a circuit that will light the five corners of the star and use LEDs of at least two different colors.