



Snowflake Ornament Instructions
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Assembly Instructions

- Carefully open the pack of six LEDs. The six tips of the snowflake are where each of the six LEDs will be placed. The LEDs have green dots on one end. There is also a small black dot on each LED pad. The side of the LED with the green dot should be matched with the black dot on the board. This will insure correct polarity of each LED.
- Using tweezers to hold the LED in place, lightly solder one end to tack it down. Once cooled, solder the other end carefully. Add more solder to the other side if needed to make a good connection. Continue to solder all the LEDs.
- Flip the board to the reverse side. Place the battery clip in the middle of the board with the opening facing the hanging hole on the PCB. Using tweezers to hold the battery clip in place, solder the two tabs on the clip. The solder should spread well onto the clip and pad. Do not touch the clip while soldering as it will be very hot.
- Place the microcontroller on the printed circuit board. The microcontroller will set on the rectangle outline on the back of the board. One end on the rectangle has a notch. The microcontroller has a notch on one corner. Insure the notch on the microcontroller and notch on printer circuit board are on the same side.
- Center the leads on the pads and hold the controller firm with the tweezers. As with the LEDs, use a small amount of solder to tack one pin of the chip to the board. This will hold the chip in place as you solder the other pins. You may remove the tweezers. Starting with the opposite side, slowly and carefully, solder each pin, being careful not to use too much solder or create solder bridges. If you use too much solder, you can use solder wick to correct. Finally solder the pins on the side which was tacked.

Hints

- **solderguy.com** is a great free resource with tips and help for surface mount soldering. I recommend the SMD chip and SOIC tutorials on the site as being useful for building this kit.

Operating Instructions

- Insert the included CR2032 battery and watch the lights work! The microcontroller has been programmed to maximize the efficiency and lifespan of the battery. To turn off, simply remove the battery by pushing on the bottom of the battery until it can be removed from the top.

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