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THE COLORS OF LIGHT: CREATING A SPECTROSCOPE

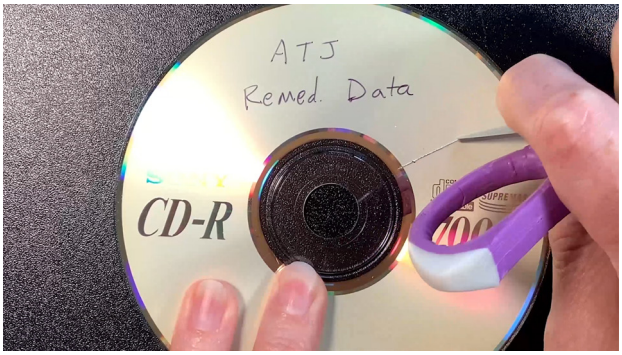
Did you know white light is actually a combination of different colors? Construct this easy-to-assemble spectroscope to examine incoming light and see its breakdown of colors.

MATERIALS:

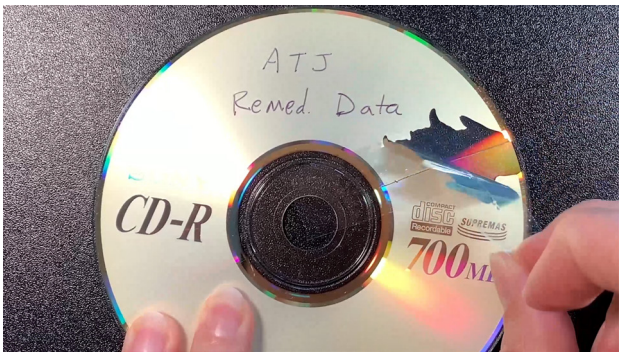
- Cardboard tube
- Scissors
- CD
- Tape
- Aluminum foil

PROCEDURE:

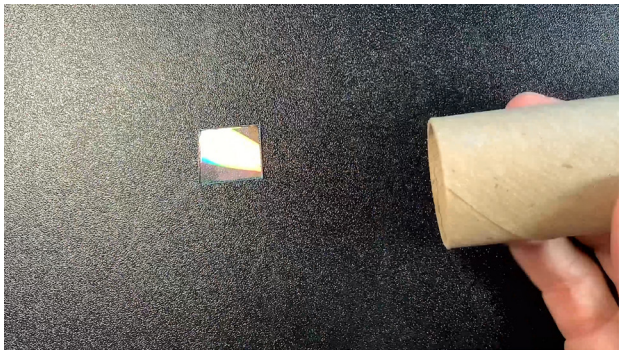
Step 1: Scratch a line half way across the top of the CD using your scissors. You want to scratch through the top coating of paint on the CD.



Step 2: Tear off a piece of tape and press it against the scratch on the CD. Pull the tape off the CD so that it removes some of the paint on the CD. Repeat as necessary so about 1/5 of the paint is removed.



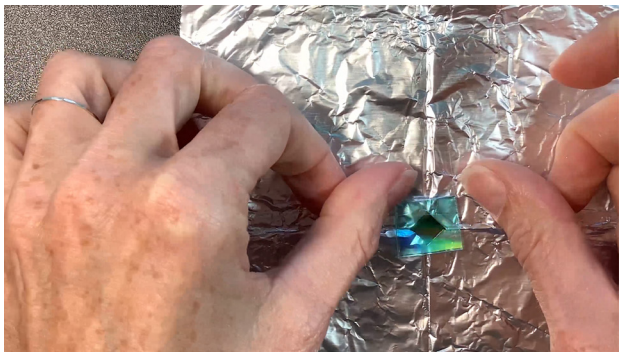
Step 3: Using scissors, cut a small square out of the CD where the paint has been removed. The square should be smaller than the opening of your cardboard tube.



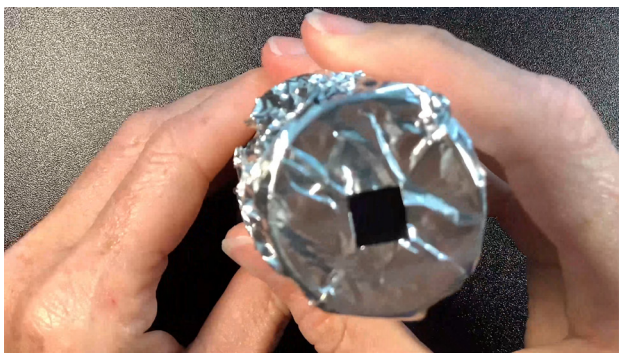
Step 4: Cut out an aluminum foil square that is about 4" x 4". Fold the square in half. Then fold it again so it creates a smaller square.

Step 5: Cut off the corner where all the folds come together. When the aluminum is unfolded, there will be a small hole in the middle of the square.

Step 6: Place your CD square over the top of the hole cut out of the aluminum foil and tape it in place.



Step 7: Place your cardboard tube on top of the CD cut out and wrap the aluminum foil around the tube. Tape the foil in place.

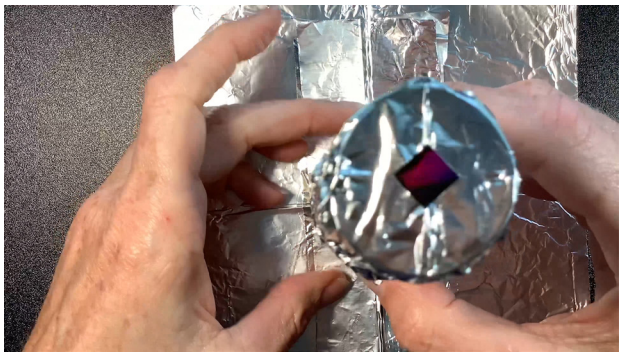


Step 8: Repeat steps 4 and 5.

Step 9: Cut out two long strips of aluminum foil. Fold each strip in half hotdog style.

Step 10: Place the two strips of aluminum foil over the hole of the aluminum square so that there is a narrow slit cutout. Tape the aluminum strips in place.

Step 11: Take the other end of the cardboard tube and place it over the slit of the aluminum foil. Then wrap the foil around the tube.



Step 12: Point a light through the slit side of the spectroscope, and you'll be able to see a rainbow spectrum of color.