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ABSTRACT

In this experiment three different colored polarized lenses were tested along with a piece of clear plastic wrap to determine if each color had an effect on blocking out UV rays. I Hypothesis that the darkest polarized lens will have the most protection against the UV rays. It was found that each color of the polarized lens successfully blocked the UV rays coming from the black light. The clear plastic wrap however did not block out the UV rays coming from the black light.

EXPERIMENT

Problem:

Which pair of colored polarized lenses will protect against ultraviolet (UV) rays?

Materials and Equipment:

One black light used as the UV ray source. One pair of gray, pink and mirror colored polarized sunglasses. A sheet of clear plastic wrap. A ring containing a stone that fluoresced or glowed when a black light was turned on. A pencil and paper to write down the observations.

Procedure:

The ring was put under a black light and the stone fluoresced. Then each of the three pairs of sunglasses and the one piece of clear plastic wrap was put between the ring and the black light. A distance of about one-inch was used between the ring and the sunglasses and the one piece of clear plastic wrap. Then in each trial it was observed if the stone in the ring continued to glow. The results were written down on a piece of paper after each test.

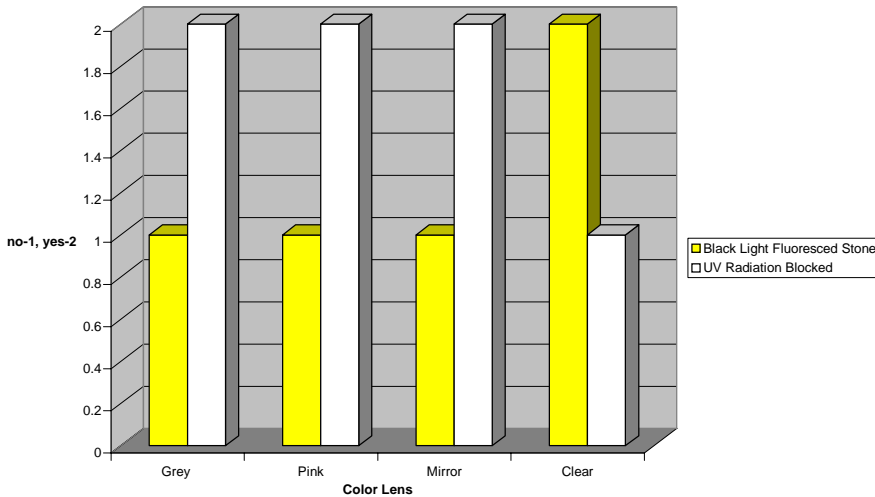
DATA

The gray pair of polarized sunglasses when placed between the ring and the black light stopped the stone from fluorescing. This showed that the gray polarized lenses successfully blocked the UV rays coming from the black light. The results were the same for each different colored lens of sunglasses. However, the stone in the ring continued to fluoresce when the clear plastic wrap was placed between the ring and the black light. This showed that the clear plastic wrap did not block out the UV rays from the black light. The results are shown below in Table I: Black Light Trial Results.

Table I: Black Light Trial Results

<i>Polarized Lens Tint</i>	<i>Black Light Fluoresced Stone (Yes/No)</i>	<i>UV Radiation Blocked (Yes/No)</i>
Gray	No	Yes
Pink	No	Yes
Mirrored	No	Yes
<i>Clear Plastic Wrap</i>	Yes	No

Black Light Trial Results



CONCLUSION

My hypothesis was not supported. It was found that each color of the polarized lens successfully blocked the UV rays coming from the black light. Each pair of lens stopped the ring from fluorescing. The clear plastic wrap however did not block out the UV rays and allowed the stone in the ring to continue to fluoresce.

In conclusion it was found that the color of a polarized lens does not change the ability to block out UV rays in sunglasses.

Can You See the Difference?

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