

Abstract

Purpose:

To determine which color of construction paper absorbs the most radiant energy.

Hypothesis:

I predict that if each square of colored paper is placed in the sunlight for equal amounts of time, then black will absorb the most radiant energy.

Procedure:

Cut an 11 square centimeter square of paper out of each color of construction paper. Place the squares in the sunlight, not touching each other. Wait a few minutes for the temperatures of the squares to stabilize, and then take the temperature of each square, as well as the temperature of the surroundings three times over a period of one minute. Record the results in your lab book. Average the results of each square. Using these averages, calculate the energy flow and photon absorption and radiation. Graph the temperature, power output, and photon absorption. Graph the photon absorption again, this time with all squares relative to black.

Conclusion:

My hypothesis was correct. The black square far exceeded all of the other squares of paper in terms of temperature, power output, and photon flow.