

YOU NEED:

- 2 identical drinking glasses or jars
- Water
- Thermometer
- 2 elastic bands or some sellotape
- White paper
- Black paper

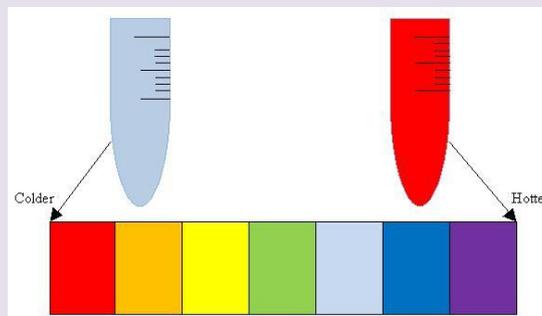
PROCEEDING:

Wrap the white paper around one of the glasses using an elastic band or sellotape to hold it on.

Do the same with the black paper and the other glass.

Fill the glasses with the exact same amount of water.

Leave the glasses out in the sun for a couple of hours before returning to measure the temperature of the water in each.

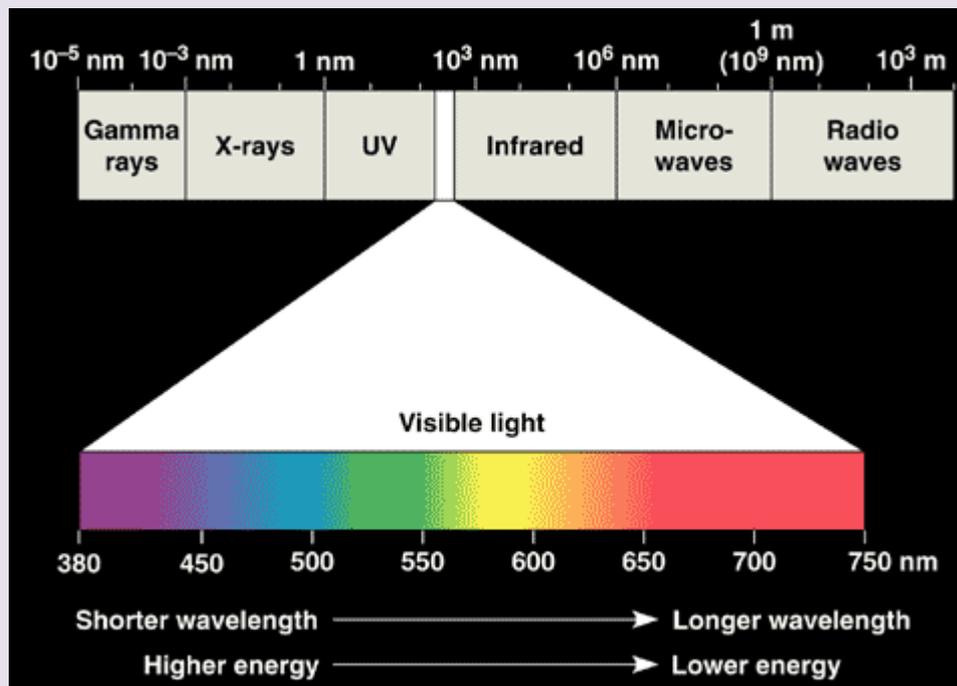


WHY DOES IT HAPPEN?

Dark surfaces such as the black paper absorb more light and heat than the lighter ones such as the white paper. After measuring the temperatures of the water, the glass with the black paper around it should be hotter than the other. Lighter surfaces reflect more light, that's why people wear lighter colored clothes in the summer, it keeps them cooler.

It is because the visible spectrum of light on the electromagnetic spectrum is the region of light that can be detected by the human eye. The wavelengths of light in this region of the spectrum give rise to different colors. Wavelength of light travel through medium at frequency and amplitude characteristic to the color of the visible spectrum, wavelengths of light travel at a higher frequency and therefore transfer more energy in the form of heat compared to the red-yellow region of the electromagnetic spectrum, where frequency of wavelength is much lower. The color

of matter including garments arises from the reflection of certain wavelengths of light and the absorption of other regions of the visible spectrum. For example, a blue or violet colored shirt reflects wavelengths of light in the blue-violet region of the electromagnetic spectrum and absorbs the lower frequency, lower energy regions of the electromagnetic spectrum such as red-yellow wavelengths. In this experiment, it is expected that red, yellow, and orange colored garments will dry faster because these garments absorb high energy, high frequency wavelengths of light that will raise the temperature of the garment and increase the rate of drying.



Credits

<http://www.sciencekids.co.nz/experiments/lightcolorheat.html>