

Sunscreen Your Sunprints!

Overview

Have you ever wondered if the sunscreen you're smearing all over your body actually does anything to protect your skin? You can use Sunprint paper to test different sunscreen products and find out. The ultraviolet rays (U.V. rays for short) that come from the sun can cause sunburn or even skin cancer. Since the chemicals on Sunprint paper react with these damaging rays, you can do an experiment on paper to show how well your sunscreen protects you. You can also compare different brands with various sun protection factor (SPF) ratings to see if there are any differences between them.

What you need:

- pencil
- Sunprint paper
- acrylic sheet
- several samples of sunscreen (preferably with different SPF numbers on them)
- tray to carry Sunprint
- shallow pan of water

Doing the Experiment:

1. Find a place out of direct sunlight to prepare your experiment.
2. Use a pencil to draw some squares on the blue side of your Sunprint paper. Make enough squares for the number of sunscreen products you will be testing plus one extra square.
3. Write the brand name and the SPF rating at the bottom of each square and label the last square "no sunscreen."
4. Place the paper on a tray (or something flat and transportable) and place the acrylic sheet on top.

5. Keeping with the lines you drew on the paper, smear a very thin layer of the appropriate sunscreen with your finger in each square on top of the acrylic.
6. Take the tray out to the sun and leave it in direct sunlight for about one minute, or until the “no sunscreen” square turns white.
7. Bring the tray back out of the sun. Immerse the paper in water for about thirty seconds, then lay it flat to dry.
8. As the paper dries and the print develops, the white areas will turn deep blue. The bluer they are, the more U.V. rays came through.

Some questions to ask:

- What differences do you notice in the squares after developing your print?
- Which product blocked the most U.V. rays? How can you tell?
- Do different brands carrying the same SPF rating block out the same amount of U.V. rays?
- What was the reason for leaving one square free of sunscreen?

Going Further:

- Put varying amounts of one type of sunscreen on the acrylic to see if the thickness affects the amount of light that can get through.
- Compare other sunscreen products such as hand lotion, face makeup, lip balm, hair gel, or zinc oxide ointment
- Test the sun-screening capabilities of some greasy things you might find around the house: baby oil, shortening, cocoa butter, salad oil, dairy butter, etc.
- Try placing a pair of U.V. protective sunglasses on your Sunprint paper and compare the print left by clear lenses or inexpensive non-U.V. protective sunglasses.