

Name: _____

SUNSCREEN TEST

In "Burned by the Sun" (p. 20), you learned about the importance of wearing sunscreen to protect your skin from the sun's ultraviolet (UV) radiation. Drugstores carry many different sunscreens ranging in sun protection factor (SPF) from 4 to 50 and above. Dermatologists recommend sunscreens with an SPF of at least 30. Try this hands-on activity to test how well different sunscreens block the sun's rays.

PREDICT:

Which SPF rating of sunscreen will block the most UV rays?

MATERIALS:

5 pieces of masking tape, 5 cm (2 in.) long • 5 sealable plastic sandwich bags • marker • 100 UV-sensitive beads (available online) • 4 bottles of sunscreen: SPF 4, SPF 15, SPF 30, SPF 50

PROCEDURE:

1. Place a piece of masking tape along the top of each of the five plastic bags.
2. Use a marker to write the following labels on the masking tape: No Sunscreen, SPF 4, SPF 15, SPF 30, SPF 50.
3. Place 20 UV-sensitive beads in each of the plastic bags and seal the bags. UV beads change color when they are exposed to UV radiation. The beads are white if no sunlight hits them. The more UV radiation they are exposed to, the more the color of the beads changes.
4. Squirt a dime-size amount of SPF 4 sunscreen into your hand. Apply it to the outside of the plastic bag labeled SPF 4.
5. Repeat Step 4 for the bags labeled SPF 15, SPF 30, and SPF 50, using the same amount of the appropriate sunscreen for each bag. Leave the bag labeled No Sunscreen unprotected.
6. Place all five bags in direct sunlight for five minutes.
7. Observe any changes in the beads' color. Compare the beads in each bag and rate the color change from 1 to 5, with 1 representing the least amount of color change and 5 the most. Record your results.

CONCLUSION

1. Which sunscreen provided the least protection from the sun's UV rays?
2. Which plastic bag served as the control in your experiment? (The control is the standard to which results are compared.)
3. Which sunscreen would you use to best protect your skin, based on your results? Explain your answer.

TAKE IT FURTHER! Try coating the bags in other materials, such as regular lotion or cooking oil. Compare your results.