# **UV Detectives**



#### WHICH MATERIAL PROTECTS THE BEST?

## Problem

Which material blocks the most ultraviolet light: cloth, roofing shingle, UV protective lens, non-UV protective lens, SPF 4 sunscreen or SPF 45 sunblock?

#### Research

Answer the following True or False questions:

True/False	Ultraviolet light has a shorter wavelength than visible light.
True/False	Ultraviolet light and visible light are both forms of radiation.
True/False	Since I can't see ultraviolet light, it can't hurt me.
True/False	Ultraviolet light can easily pass through any material.
True/False	Ultraviolet radiation can cause sunburns.

# Identification of Variables

Identify the **Independent Variable**, **Dependent Variable**, **Constants** and **Control** of this experiment:

Independent Variable	
Dependent Variable	
Constants	
Control	

# Hypothesis

If cloth, roofing shingle, a UV protective lens, a non-UV protective lens, SPF 4 sunscreen and SPF 45 sunblock are exposed to ultraviolet light, then the \_\_\_\_\_\_ will block the most ultraviolet light.

# Data Collection and Analysis

**Directions:** Place 5 ultraviolet sensitive beads in each test chamber and expose them to ultraviolet light for **2 minutes**. On a scale of 1 to 4, quickly estimate and record how much the beads changed color on the chart below.

#### **UV Detectives Data Chart**



1 = No Change 2 = Little Change 3 = More Change 4 = Maximum Change

# Conclusion

APPEARS TO HAVE RLOCKED THE MOST ULTRAVIOLET LIGHT.

## **Questions to Think About**

- 1. Which material or materials allowed the beads to change the most? The least?
- 2. What are some other materials that could protect you from ultraviolet radiation?
- 3. Why is the ozone layer important?
- 4. What is ultraviolet radiation?