The Scenario

Students examine innocent looking white beads and record their observations. They are instructed to make a bracelet using pipe cleaners, to wear the bracelet for the next 24 hours and record their observations. During that time, they likely will go outside and the beads will magically turn brilliant colours! When they are out of the sun, the beads become white again.

Open-Ended Inquiry Questions

Why do the beads turn colour?

How can the properties of the beads be used to investigate the sun protection abilities of different sunscreens?

How could you create a way to make the bracelet into a useful scientific measuring tool?

Process Skill(s)

Observing, Predicting, Hypothesizing, Planning, Measuring, Comparing, Contrasting, Reporting, Defending

Instructions

This activity can be used as a simple investigation that opens up questions about light or it can be very open ended. Decide on the basis of your students’ age or experience with science investigation skills.

The second inquiry question leads to rich conversations about experimental design and controlling variables. Make sure you insist that students share their design with you before they begin the investigation. Use our experimental design materials at...

Curriculum Connections

This is a wonderful activity for developing science investigation skills. It could be placed anywhere in the curriculum but especially at the beginning of a course. The second question, about sun protection qualities, could be positioned at the start of many human systems units. Measuring the intensity of ultraviolet brings up a numeracy skills exercise on developing units of measure.