



Sun-Earth Day

Celebrate the Connection!

www.sunearthday.nasa.gov

Public Outreach: Make and Take Activities

What You'll Need

- printed copies of the UV Bead Bookmark Handout (see next page)
- Cardstock or (optional) Manila Folders
- Scissors
- Glue, Gluesticks, or Paste
- Hole Puncher
- Colorful Ribbon, 1/4" wide
- "UV detectors" a.k.a UV Detecting Beads. These can be ordered inexpensively from <http://www.teachersource.com>

UV Bead Bookmark

About this Activity



Make your own bookmark with Ultraviolet Detecting Beads! Includes a handy chart on the Electro-Magnetic Spectrum.

Left: An image of the completed bookmark with Ultraviolet Detecting Beads. These beads are in full color in the sunlight

Preparation

Print out the following page, either directly on white cardstock (to make the bookmark sturdier) or print on white copy paper, and have the participant glue or paste onto cardstock or manila folders.

To Do and Notice

- 1) Have the participants cut out the front and back and glue them together. (Or if printed on regular copy paper, have them paste onto cardstock or manila folders first, and then cut them out and paste the rectangles together).
- 2) Punch a hole at the end of the bookmark, preferably at the top of the Electromagnetic Spectrum.
- 3) Have the participant cut out a length of ribbon. We find that 12" is about right.
- 4) Loop the ribbon or tie it through the hole punch in the bookmark.
- 5) String a few UV Detecting Beads on the ribbon. Knot the ribbon to keep the beads in place

Activity Notes

You can extend this activity by having the participants experiment with their UV Detecting Beads by testing various blockers, the shade, etc. Please see the Make and Take Activity called "Exploring Ultraviolet (UV) Light from the Sun" for instructions.

Adapted from Stanford Solar Center Activity "What is Ultraviolet Light?" (see link in Related Websites section below).

Related Websites

Stanford Solar Center
<http://solar-center.stanford.edu/activities/uv.html>

DETECTING BEADS
SOLAR CENTER

Under fabrics • Under water • Behind dark glasses
 Sunny day at noon • Sunny day at sunset
 Cloudy weather • Behind glass • Under paper
 Electric Light • Full sunlight • Shade

Do your beads look white, faint, or colored in these? In which of these are you best protected from dangerous UV radiation?

For more information, visit: <http://solar-center.stanford.edu/activities/uv.html>

The Electromagnetic Spectrum

Wavelength

About the size of . . .

Our eyes can see visible light, the colors of the rainbow, but the Sun also gives off light our eyes cannot detect. Ultraviolet light is an invisible part of the Sun's electromagnetic spectrum. The Earth's ozone layer protects us from most of the Sun's dangerous UV, but too much can burn our skin, damage our eyes, and destroy our cells. These beads contain a special pigment that changes color when exposed to UV light. You can use them to detect UV radiation and learn what best protects you from it.