

# Family Activities

## Sun Art

### SUPPLIES

#### Materials supplied

SunArt Paper

Acrylic panel or transparency

Clothespins to hold transparency in place

#### Materials needed

Tub filled with water or quick access to the sink

Interesting objects to print (such as plants, flowers, feathers, a handful of buttons, nuts and bolts and screws)

### TRY

1. Gather the objects you plan to use. If you like, practice positioning them so that you know exactly how you'll arrange your items when you take out your photo paper.
2. Take out your SunArt paper and place the clear acrylic on top. Quickly arrange objects above the clear acrylic to keep the SunArt paper underneath clean, or arrange objects below the acrylic and fasten it with clothespins to hold objects in place in a breeze. Be sure to stay out of direct sunlight until the next step! The blue molecules in the paper are sensitive to **ultraviolet (UV) light**.



3. Carefully place the arrangement in direct sunlight for 1-5 minutes (longer if it's cloudy). Florescent light can also change the paper, but exposure time may be longer. The areas exposed to sunlight will fade from blue to white. This is due to a **molecular redox reaction** (a type of chemical reaction that involves a transfer of electrons) causing iron molecules to change color and bind with the paper fibers.

4. Remove the SunArt paper from direct sunlight and quickly rinse in water for 1-5 minutes. Iron molecules that aren't exposed to sunlight are **water soluble** (able to dissolve in water) and rinse away while the water causes another redox reaction, returning the bound iron to a blue that deepens over time. So don't worry if it looks like a lot of the color is washing out—the color will deepen again as it dries.

5. Allow SunArt paper to dry fully. SunArt paper will continue to darken for several hours. Flatten your art under a large heavy object for a day or two: if you can resist reading them for long enough, stack heavy library books on top.

6. Hang your paper up for everyone to look at.

## EXPLORE

Before cell phones, computers and cameras, the Cyanotype was the original photo reproducing process. The British scientist Sir John Herschel discovered it in 1842. It uses ultraviolet (UV) light from the sun to change the color pigments in the paper. By casting shadows from an object you might find, you can create designs unaffected by the light that at first remain blue. During the development stage, these areas turn white and the exposed areas return to dark blue! Two separate reactions work together, with your creativity, to form a picture.

## LEARN MORE

Visit our digital resource **Gale In Context: Biography** by clicking on the link at [www.sclcd.org/biography](http://www.sclcd.org/biography) and search for "John Frederick William Herschel."



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