

Solar-Powered Prints (art + science)

A “cyanotype” is a photographic print made when UV light is exposed to a photo-sensitive paper. It changes the chemical structure of the paper only where the light reaches it. When placed in water, the UV-altered areas remain permanently fixed and deep blue in color, while the un-altered chemicals on the surface was away and expose white paper.

There are many techniques used to make a cyano type. This lesson plan is a simple new process involving two safe and familiar classroom favorites — Nature Print Paper® and Scratch Art®. The finished artwork has the appearance of a linoleum block print — without the use of cutting tools or ink.

NOTE: This project works best in bright, direct sunlight. Overcast skies and late or early morning light may produce different results and lighter prints.

Grade Levels 3-8

Note: Instructions and materials based on a class of 25 students. Adjust as needed.

Preparation

1. Cut Clear-Scratch™ into 4-1/2" x 6-1/2" pieces to fit Nature Print Paper® size.
2. Have a pan — at least 8" x 8" size — ready with approximately 1/2" of cool water.
3. Keep Nature Print Paper® indoors and sealed in the package until ready to use.

Process

1. Preliminary drawings are recommended. Solar-Powered Prints will be reversed, so areas that will be black on the Clear-Scratch™ will be white on the print. This is a good way to practice “reverse” thinking for further printmaking projects.
2. Scratch the design onto the matte black side of the Clear-Scratch™ film using a wooden stylus. Scratch



Materials

Nature Print Paper®, 30-sheet package, 5" x 7" (11216-1001); need one per student

Scratch-Art® Clear-Scratch™ Film, 30-sheet package, 8" x 9-3/4" (13524-1030); need 1/2 sheet per student

Scratch-Art® Sticks, 100-piece package (14907-1045); need one per student

8" x 10" picture-framing glass or Clear Acrylic Sheet (18973-1008); share 4 or 5 across classroom

Optional:

Blick® 140-lb Premium Cardstock, assorted colors (11408-); cut 18" x 24" sheet in eighths to 9" x 7" pieces, need one piece per student

Blick® Art Tissue, 12" x 18" sheets (11308-1007); share one 20-color assortment across classroom

Sharpie® Fine Point Markers (21316-0129); share three 12-color sets across classroom

Process, continued

the design to the edges of the sheet for best print design.

3. Remove a sheet of Nature Print Paper® from the package and step outdoors into the sunlight. Place the paper blue side up on a flat surface. Center the Clear-Scratch™ drawing scratched-side up on the Nature Print Paper®. Cover with a piece of clear glass or styrene. Wait about 2 minutes, then remove glass and bring both papers together back into the shade or indoors.
4. Place Nature Print Paper® in pan of cool water for two minutes to develop, then lay flat on paper towels to dry.



Options

1. Glue the finished print to a piece of cardstock, posterboard or matboard to display.
2. Repeat the process to make more prints so that students can exchange their art with one another.
3. Once all prints are made, make a “stained glass” suncatcher from the Clear-Scratch™ drawing by gluing tissue paper or coloring with permanent markers on the back (smooth) side of the film. Display in a window.
4. Color on the Nature Print® with colored pencils or watercolor.



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National Standards for Visual Arts Education

Content Standard #1 — Understanding and applying media, techniques and processes

K-4 Students use art materials and tools in a safe and responsible manner

5-8 Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas

Content Standard #6 — Making connections between visual arts and other disciplines

K-4 Students identify connections between the visual arts and other disciplines in the curriculum

5-8 Students describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts

