Description
Sun prints are great for kids, but they're much more. A simple, inexpensive program that uses ultra-violet reactive paper, sunlight, and creativity, patrons make cards for themselves or as gifts. As a single session program or in a series about photography, light, or chemistry, this program provides an opportunity for patrons to work hands-on and to participate in learning that is practical, creative, and collaborative.

Audience
Teen/Adult

Budget/Costs
Durable Goods Investment: $13.00
Consumables: $75
Cost/participant: $3.00

Number of participants
24

Program Time
1.5 hour plus .5 hours staff setup time

Collection and Dewey Connections
Photography - 771
The Sun - 523.7
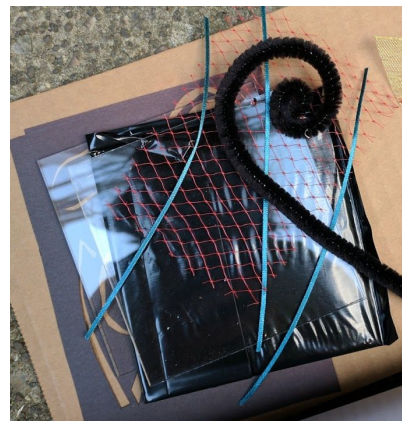Solar System - 523.2
Light - 535

STEAM Tie-ins
Science: light, astronomy
Technology: photography, printing
Art: positive and negative space, printmaking, shape, texture
Math: Measuring time

Sun Print Greeting Cards Method

Method [TOTAL TIME: 2 hours (Prep - Cleanup)]

Prepare area: 15 minutes

1. Print patron handouts
2. Arrange equipment and supplies on tables

Introduction: 10 minutes

- Introduce yourself
- Provide overview - http://www.sunprints.org/how-it-works/
  - How does it work?
    - The paper is embedded with ultraviolet sensitive molecules.
    - Parts of the paper turn white when exposed to light.
    - The exposed parts then wash away and react with water, oxidize, and turn blue.
  - We will make 2 prints, one with arranged materials and one with a design/stencil to block light. For each, we'll
    - Expose it to light
    - Rinse the paper
    - Let it dry
    - Attach it to the card
- Timeline, and safety precautions for activity.

Make print 1 with arranged materials (20 minutes)

1. In low light, place a piece of sun paper on cardboard (support)
2. Arrange provided materials on the paper.
   Blocked areas will be white. Exposed areas will be blue
3. Put the acrylic sheet on top.
4. Expose to light until exposed paper is white
   a. Direct sunlight: 2-5 minutes
   b. Under cloudy conditions: 5-20 minutes
5. Remove the print from the objects and rinse in water until exposed parts of paper are blue.
   To get the most intense blue, leave the print in the water 1-5 minutes.
6. Remove from water and place on a towel or absorbent surface to dry. You can blot excess water.

Make print 2: Design and create an image stencil: 40 minutes

1. Use scissors to cut pieces or a stencil that will make your image.
   * the black parts/parts you block are the POSITIVE space of your image
   * hard edges/clean cuts usually work best
2. Assemble your print on cardboard
   a. Paper - **blue side up**
   b. Stencil and/or objects
   c. Acrylic sheet
3. Put another sheet of cardboard on top to keep the print dark.
4. Follow the steps in print 1 to expose, rinse, and dry the prints.

5. Optional: Iron the dried print. Use low setting.

Attach the dry print to the card and get ready to mail (5 minutes)

1. When the print is dry, use double-face tape or glue stick to attach it to the card.
2. Give out stamps - this could be optional, but real cards have become an unusual treat. Make someone's day!

Discuss, take photos, clean up, complete program survey: 10 minutes

Final Clean up: 15 minutes

Sun Print Greeting Cards Budget

Item	Price	Quantity	Total	Link
Equipment				
wood tray or heavy-duty cardboard for support		8	$0.00	scrap/library supplies
bucket for water transfer or sink		2	$0.00	library supplies
9x13 containers or pitcher for washing prints		8	$0.00	
scissors			$0.00	library supplies
Kitchen Dish Towels (set of 13)	$12.99	1	$12.99	https://www.amazon.com/Liliane-Collection-Kitchen-27-Inch-14-Inch/dp/B00H1HYZ9C/ref=sr_1_14?s=home-garden&ie=UTF8&qid=1499283202&sr=1-14&keywords=bar+towel
Subtotal			**$12.99**	
Supplies				
Sun Print kit	$5.99	8	$47.92	http://store.lawrencehallofscience.org/Category/sunprint-kits
4 1/4" x 5 1/2" White Greeting Card Sets - 40 Cards and Envelopes	$12.99	1	$12.99	https://www.amazon.com/Heavyweight-Blank-White-Greeting-Card/dp/B00IIPRQCO/ref=redir_mobile_desktop/147-3005308-3341253?_encoding=UTF8&dpID=31DwsBampgL&dpPl=1&keywords=blank%20greeting%20cards%20with%20envelopes&pi=AC_SX236_SY340_QL65&qid=1502301762&ref=plSrch&ref_=mp_s_a_1_

				5&sr=8-5
Glue (to attach print to card)			$0.00	from library supplies
heavy or black paper to cut out shapes			$0.00	scrap/library supply
3M Double-Sided Tape, Permanent, 1/2 X 250 Inches, 6-PACK	$9.89	1	$9.89	https://www.amazon.com/dp/B013OBN3C8/ref=twister_B01MS1JPWB?_encoding=UTF8&psc=1
Stamps	$0.45	10	$4.50	
Subtotal			**$75.30**	
Total			**$88.29**	
Cost per participant (24 in 3 classes of 8)			$3.14	
Optional				
Exacto knives				
objects to arrange on paper - a variety of objects with visual and/or textural appeal: feathers, yarn, thread, wires, etc			$0.00	

Sun Prints

Cyanotype, also referred to as "blueprinting", is the oldest non-silver photographic printing process.[1] It involves exposing materials which have been treated with a solution of potassium ferricyanide and ferric ammonium citrate to a UV light source such as the sun. Negative or positive images can be obtained by blocking UV light from reaching the sensitized material.
https://en.wikipedia.org/wiki/Sun_printing

Related links

- http://www.sunprints.org/how-it-works/
- http://www.sunprints.org/wp-content/uploads/2010/01/howsunprintswork.pdf
- http://www.sunprints.org/sunprint-blog/
- https://en.wikipedia.org/wiki/Sun_printing

Lifelong Learning Survey

Your response to this brief survey helps to improve programming in the short and long term. Thanks in advance for your input!

You learned something new that is helpful
  Agree
  Disagree

You feel more confident about what you just learned
  Agree
  Disagree

You intend to apply what you just learned
  Agree
  Disagree

You are more aware of applicable resources and services provided by the library
  Agree
  Disagree

What did you like most about the program?

What could the library do to improve your learning?

What other projects would you like to learn?

Program Survey

Your response to this brief survey helps to improve programming in the short and long term. Thanks in advance for your input!

On a scale of 1 to 5, rate your knowledge of and confidence about the activity BEFORE the program.
1 - I've never heard of it.
2 - I've heard of it but don't have much knowledge of it. I haven't participated in it.
3 - I have participated in this activity once. I am a novice.
4 - I have some knowledge about the activity and have participated in it as a hobby or past time.
5 - I am an expert or professional in this field or activity.

On a scale of 1 to 5, rate your knowledge of and confidence about the activity AFTER the program.
1 - I've never heard of it.
2 - I've heard of it but don't have much knowledge of it. I haven't participated in it.
3 - I have participated in this activity once or twice. I am a novice.
4 - I have some knowledge about the activity and have participated in it as a hobby or past time.
5 - I am an expert or professional in this field or activity.

What did you like most about the activity?

How likely is it that you will recommend this program to someone?
Very likely
Not likely

If you answered "Not likely" above, why not?
It needs to be better organized.
It wasn't fun.
I didn't like the materials.
I wasn't happy with my finished product.
Other:

Where did you hear about the program?

What suggestions do you have for making the activity better?

What suggestions do you have for other programs at the library?