



The Kit:

Materials:

- 2 Photosensitive (cyanotype) paper
- 1 Envelope (store paper here until ready to use!)

1. Collect some objects

The first step is to collect some objects. You will place these on your sheet of cyanotype paper to create your image.

2. Get The Paper Out

Now you need to take out a sheet of paper. Open the card envelope while out of direct sunlight. Inside you will find a black ziplock bag, open this and carefully pull out one sheet of paper.

3. Create Your Image

Next, Place the paper in direct sunlight and quickly arrange objects on the sheet. Alternatively, arrange the objects in a shaded area and place in direct sunlight.

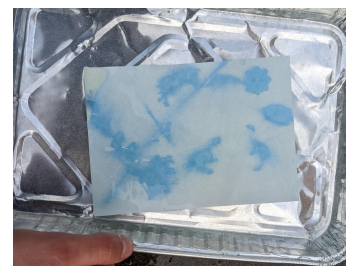


You then leave the paper to expose. In bright sunshine it will expose in 2 minutes, on an overcast day it will take closer to 20 minutes. The paper will begin to change colour during exposure. The blue will fade and it will become very pale, signalling that it is ready.



4. Wash It

Rinse the paper in water for 2 minutes and you will see the colours reversed. This will also fix your exposed image. If you do not have water, place your exposed paper back in the packet to wash later.



5. Dry It

Allow your paper to dry fully. The paper will darken over time. Flatten the paper under a book.

Tips

- Find interesting objects. Flowers, plants, leaves, keys, glasses, scissors and anything with a distinctive shape works well.
- Shield from sunlight. Try to keep the inner black bag inside the envelope when removing the paper to minimise any daylight affecting the unexposed paper.
- Keep it flat. Lay a piece of glass over plants and flowers, it will give you a sharper image.
- Handle with care. The paper is fragile when wet, handle carefully, holding it by the edges.
- If your prints are curled after drying, they can be placed under a heavy object, such as a book, to flatten.

What's going on?

Before cell phones, computers, and even the first cameras, the Cyanotype was the original photo-reproduction process. It uses ultraviolet light (UV) from the sun to change the color pigments in the paper. The paper contains iron, in the form of *ferric* ammonium citrate and potassium *ferricyanide*. These chemicals are soluble (can be dissolved by water) and cause the paper to have a blue color. When UV light from the sun hits the paper, it causes a change in the iron molecules that make them insoluble (cannot be dissolved in water). When the paper is washed, the water soluble iron molecules are washed away and that part of the paper stays white. The exposed parts, containing the insoluble iron (ferric ferrocyanide) turn back to a new blue known as Prussian blue. These two separate reactions work together with your creativity to form a picture.

Follow this link to watch a video on how to make your Sun Print:

https://vod.video.cornell.edu/media/Making+a+Sun+Print/1_zw7niwav

Cornell Center for Materials Research (CCMR) works with families to improve the quality of STEM programs. The funding from the National Science Foundation enables CCMR to provide resources for the Take and Make STEAM kit program.

You can help out by taking a short, anonymous survey using the link below:

https://cornell.cal.qualtrics.com/jfe/form/SV_ehXj6hCQQFNaL2K