



Botany

BOX NOTICE

Name of the activity	Botany
Activity duration	Sequence to be carried out over several days
Material needed	Sheets of cotton paper, a paintbrush, coloured pencils, a sheet of glass, a blender, plants, vegetables, or fruits, surgical alcohol, a UVA lamp (if no sun), rubber gloves, an old t-shirt or apron, old newspapers
Number of pupils involved (per box)	2-3

Step 1: Preparation

You may start by showing examples of Maria Sibylla Merian works and examples of anthotype. You can ask the children how they think it's created.

Step 2: Anthotype technique

After collecting flowers and leaves during the outdoor explorations, the children will be asked to experiment with anthotype (from the Greek anthos meaning "flower"), an ancient process invented before photography that exploits the photosensitivity of certain plants, such as berries, vegetables, and flowers, to prepare a photosensitive emulsion suitable for printing. The invention is attributed to Sir John Herschel, who wanted to take colour photographs (1842). This technique will be used to create images.



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- **ANTHOTYPE TECHNIQUE**

Put on your rubber gloves, an apron, or an old shirt, cover the work area with old newspapers, and you're ready to go. Get some spinach leaves, blackberries or cooked beets, marigold flowers or dark red dahlias depending on the time of year, elderberries, or other vegetables. Blend and crush the leaves or petals immersed in a solution of water and surgical alcohol. (If you are using a blender, a dozen plants will be necessary for one print.) If the plants, leaves or berries are too dry, dilute them a little with tap water, purified water or surgical alcohol. Then, filter (through a cheesecloth, a piece of cotton rag or a coffee filter) to obtain a liquid free of impurities. Be careful to change or wash the filter between the different emulsions. Using a paintbrush, prepare the paper by applying three passes of colour, alternating vertical and horizontal strokes.

Let them dry. Place a leaf or flower on each sheet prepared with the solution. Cover everything with a sheet of glass (you can use one from a frame). Then, expose them to the sun for 45 minutes or an hour; sometimes, even a whole day may be necessary. Alternatively, UVA lamps can be used. Remove the flower or leaf, and you will find its trace, a coloured shadow, imprinted on the paper. (Important, do not expose it to the sun again, or the trail will be erased).

STEPS:

1. Cut sheets of cotton paper in A5 or A6 format.
2. Prepare the photosensitive emulsion
3. Make three passes with a brush on the paper
4. Place the selected plant element.
5. Cover with a sheet of glass.
6. Expose to the Sun.



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Step 3: Storytelling and botanical tables

The second activity involves drawing from life, i.e., making illustrations (botanical tables) like Maria Sibylla Merian, a German naturalist and illustrator who lived in the 1600s. Maria travelled the world to draw plants, flowers, and insects (especially butterflies).

The images thus created will be used to develop the “artist's herbarium”.

Start by reading the story of Maria Sibylla Merian and show some examples of her work.

- **BOTANICAL PLATES PROCEEDINGS:**

1. Select the flowers and plants to be "portrayed". (You can also divide the children into small groups, giving each one a plant). At the end of the illustration, the groups can exchange plants. The children should draw the plant as accurately as possible, making details of the leaf or flower. Imagining as Maria Sibylla also what insects or animals, if any, feed or find shelter near it.
2. Prepare the appropriate A5-sized paper
3. Draw with a pencil.
4. Colour in the colours of the chosen plant.

Step 4: Assembling the artist's herbarium

Assemble your artist's herbarium with the works produced by the students using the anthotype technique and the botanical plates drawn.

After familiarising themselves with the identification keys, pupils can complete their herbarium with the names of the plants.



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