



## Pigments of the Flowers

### BOX NOTICE

Name of the activity	Pigments of the flowers
Activity duration	1h
Material needed	<p>Pigments of the flowers box, testing tubes, little bowls, Kettle, syringe, white laces, any types of flowers (flowers with strong or bright petals: rose, dahlia, hibiscus sabdariffa calyx, or dried fruits: grapes, blueberries, plums, red onion skin, carrots, beetroot), wooden sticks (or paintbrush) -Sequence 1.</p> <p>Bicarbonate of soda, soap, detergent, lemon juice, white vinegar -Sequence 2</p>
Number of pupils involved (per box)	1-2

### Step 1: Preparation

You may start the sequence by showing your pupils pictures with different flowers. Ask students what makes flowers so colorful and fragrant. Note their answers that may come in handy for further study.

### Step 2: Storytelling resources

Begin discovering the box by reading the story and end the reading by asking the pupils to speak about their own favourite flowers.



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## Step 3. Manipulation (for Sequence 1)

Following the instructions in “How to create your elements” students will insert a white lace into each bowl (or testing tube) to color the lace with natural dye.

The oldest known fabric dyed is indigo, dated to 6,000 years ago, was discovered in Huaca Prieta, Peru. Many Asian countries, such as India, China, Japan, and Southeast Asian nations have used indigo as a dye (particularly for silk) for centuries.

Ancient Greek, Roman and neighbouring civilisations used a range of plant and animal dyes to create coloured textiles. Plant dyes included crocus sativus (ochres), madder, woad, weld (yellow), walnut hulls, oak gall (brown and black), orchil lichen (pink/purple), alchanet (red), and saffron crocus (yellow).

## Step 4: Extension (for Sequence 2):

Following the instructions in “How to create your elements” students will add a sprinkle of bicarbonate of soda, or detergent, or soap to different solutions. They will analyse how alkaline (basic) pH will shift the colour to a darker orange/red.

The second type of colour changing is to add some lemon juice, or white vinegar to different solutions. They will analyse how acid will instantly turn the dye yellow, and it may look almost neon.

The advantages of using natural colorants are manifolds as they are eco-friendly, safe for body contact, unsophisticated and harmonized with nature, obtained from renewable sources, and also their preparation not required added chemical reactions. They are in harmony with nature, therefore obtained from renewable sources. Something really important and beautiful to think about.



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