

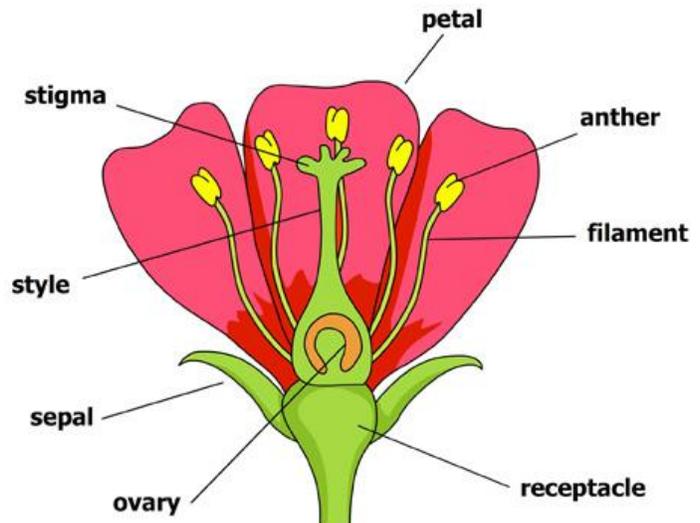


Honor Element 6: Flowers of a Color

| Plant Biology | Flowers of a Color |
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| <p>Grade level: 2-6</p> <p>Time: 30 minutes</p> <p>Resources: Reading material Food coloring A clear glass A white petaled flower Loose leaves of an edible wildflower A mesh or cloth bag and tie</p> <p>Objectives</p> <p>Learners will:</p> <ul style="list-style-type: none">• Explore the variety and purpose of color in the reproductive process of a flower.• Know how to use experimentation as a means of observing biological processes.• Appreciate pollinator gardens.• Appreciate human uses for flowers as food or dye. | <p>Teachers, Parents or Self-Guided Learners will:</p> <ul style="list-style-type: none">• Read about the parts of a flower and the reasons for its color.• Experiment to create color in a white-petaled plant, such as a white carnation.• Create a bag of edible flower tea as a gift (optional). |

Introduction

The colorful feathers of some birds help attract a mate, so the birds can start a family. Flowers have offspring in a different way, by reproducing seeds. Since they do not need a mate, who do their bright colors attract? That's right. Pollinators!



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The “skin” of a plant’s stem plays an important role. This vascular tissue, called the xylem, sends color up from the roots to the petals to “dress up” the colorful blossoms. The plant can then attract the helper species who will move pollen from one part of the plant (the anther) to another part (the stigma), soaking the seeds with pollen to fertilize new plants.

Wasps, bees, butterflies, moths, and birds, and even bats, can spread pollen as they gather nectar for their own hives. When you take a walk, watch for fields with flowers of varied colors, and see if you spot these pollinators.

“Coloring” a White Flower

To see how flowers become colorful enough to attract pollinators, try this experiment.

1. Assemble: A. a flower with white petals and a firm stem, such as a carnation; B. a container of food coloring; and C. a clear glass or vase.
2. Fill the glass halfway full of water.
3. Add 3-5 drops of red food coloring to the water.

4. Snip off the flower at the bottom of its stem.
5. Place the flower in the glass.
6. Observe the flower petals after an hour, after two hours and the next day. What happened to the petals?

Humans Need Flowers

Have you ever eaten a flower? (Always make sure you know a flower is safe to eat, as some can be dangerous to humans.) People enjoy nasturtiums and dandelions in salads, calendula as a spice on rice, and chamomile or bergamot in tea. People grow sunflowers for the seeds. They also plant sunflower hedgerows, to keep pests and wind out of a farmyard and to attract pollinators.

Native peoples also make dyes from sunflowers and from larkspur. Porcupine quills soak up the dye and spread it on parchment in beautiful paintings.

If you used flowers to make dyes, which ones would you choose? Look at the photos on the following pages, photographed by Lily T. Ning.

Preserve Your Favorite Flower

If you find an edible tea flower, dry it out on a screen in the sun for a few days on a window ledge. Make sure it is clean and dust free. Bag it as a gift.

Think about honor when you smell the faithful fragrance.



A field of wildflowers includes orange poppies.



See how many flower parts you can name in this flower.

Colorful flowers attract bees. As they carry pollen back to their nest to make honey, the sticky nectar rubs off on the blossom, fertilizing its parts.



Like a painter's palette, nature blends colors together to attract the birds, bees and wasps. The best pollinator garden has flowers of many colors. Fruit growers plant such pollinator gardens near orchards, to make sure the bees visit the blossoms at various times of the season.

