

Teacher's Guide

Flowers Bloom!

Introduction

This teacher's guide helps you teach young children about flowers. These flowers are not the plant itself but the blooms that are found on almost all plants. In order for most plants to reproduce they bloom and need to be pollinated. Exploring blooms and how pollination produces seeds allows students to see the beauty and the science in the plants all around them.

National Standards

This series supports Science, and Language Arts. Go to www.enslowclassroom.com and/or www.enslow.com and click on the Curriculum Correlations tab. Click on your state, grade level, and curriculum standard to display how any book in this series backs up your state's specific curriculum standard.

Classroom Activities

Activities for teaching the five curriculum areas: Reading/Language Arts; Math, Science; Social Studies; and the Arts, can be found in this teacher's guide. Students will explore flower blooms and what role a pollination plays in keeping plants reproducing.

Guided Reading Level: M

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I like Plants! Teacher's guide
For
Flowers Bloom!

The term flower is often used to refer to flowering plants. People think of flowers as suitable for a vase or display. Daisies, roses and carnations are all flowers. The term flower can also refer to the “bloom” of a plant. Almost all plants bloom!

Location

Whether it's in a clay pot on the windowsill, the yard behind their house, or the blooming flowers found at a local nursery, plants surround children. Plants live everywhere. People plant gardens and landscape with flowering plants around their homes.

Flowers that grow in the wild without cultivation are known as wildflowers. They are equipped to grow on their own without the help of people. Some wildflowers are native plants. They are indigenous to the area. Other wildflowers were introduced from another part of the world and have become naturalized. In addition to understanding the plants that grow locally, different biomes are characterized by specific kinds of plants.

Whether they are intentionally planted or naturally present, flowers must be adapted to their biome in order to survive. Every biome has flowering plants. A biome is a large area with similar plants, animals and microorganisms. Species within a biome are adapted, or suited, to living in the soil, water, light and moisture conditions present in that biome. A clickable worldwide biome map lets you investigate biome specific plant life here:
http://www.marietta.edu/~biol/biomes/biome_main.htm

Varieties

There are many varieties of flowers but their main purpose is reproduction. It is important to distinguish between using the term flower for a blooming plant and using the term for the bloom itself. Many plants that have flowers (bloom) are not flowers (the plant). Grasses, trees and vegetables all bloom and have flowers. Even though the blooms look different they serve the same purpose—producing seeds. Some flowers attract pollinators with showy colors and sweet fragrance. Flowers may have nectar, a sweet liquid produced near the bottom of the pistil, that attracts insects. In going from flower to flower, collecting nectar, the insects pollinate the flowers. Other flowers are not showy (flowers on grass, corn, oak trees) since they depend on the wind for pollination.

Flower Parts

There are several basic flower parts. The stem, or flower stalk, attaches to the receptacle. This is where it is attached to the flower. Around the receptacle are the sepals. These are small leaves that protect the flower bud before it blooms. They are usually visible under the flower petals once the bud blooms. The petals are meant to attract insects. Sometimes they are scented or have guidelines, small lines that attract insects to the pollen. The ovule is at the center of the flower, and is protected by the ovary. Extending from the ovary is the style, which ends in the stigma. The stigma is sticky and the spot that the pollen needs to adhere to in order to pollinate the flower. The carpel, or female part of the flower, is composed of the ovule, ovary, stigma and style. The filament is a stalk that comes up from the center of the bloom ending in an anther. The anthers contain the pollen sacs. This pollen is released to the outside of the sacs and then transferred to the stigma so that the ovule is fertilized. The stamen, or male part of the

flower, is composed of the filament and the anthers. For a visual visit <http://www.enchantedlearning.com/subjects/plants/printouts/floweranatomy.shtml>

These are the basic parts of a flower but not all flowers have male and female parts. Flowers that do have both male and female reproductive parts are known as perfect flowers. Some flowers have only female parts or only male parts. These are known as imperfect flowers.

Some plants have both male and female flowers on the same plant. For some plants the male flowers are on one plant and the female flowers are on another plant. Holly trees will only produce bright red berries if a male and a female tree are planted within 100 feet. The pollen from the male plant is needed to successfully pollinate the female flowers and produce red berries

Pollen and pollination

Insects, birds and other pollinators are not concerned with whether a flower is male or female. They are attracted by the color, scent or nectar of a flower. While feeding on nectar or exploring the bloom, bees they rub against the anther and collect pollen. That pollen is transferred to the stigma of other flowers as they travel. A bee will collect nectar for honey and effectively pollinate every flower it lands on. The pollen collected from one flower sticks to the stigma of another flower. A simple video about pollination <http://videos.howstuffworks.com/hsw/7853-plant-biology-pollination-and-fertilization-video.htm>

Seeds—the goal

The ultimate goal of a flower bloom is to produce seeds. These seeds have everything necessary to reproduce or grow another plant. More than half of all plants are seed plants. They make their own seeds that can grow new plants.

Activities The Five Curriculum Activities

SAFETY WARNING:

Before any activity, make sure your students do not have any allergies to items that you might use. Never use anything that is sharp or may cut a student. Do not use anything too hot or cold which might injure any student. Always have an adult supervise all activities to ensure the safety of your students.

Reading/Language Arts activity:

Beginning readers will find easy words and repetitive phrases throughout the book. Almost all the words used in this book can be found in the Dolch word list. To learn more, visit www.dolch-words.com. Additional words, which may be specific to this book, can be found in the Words to Know on page 3.

Math activity:

Give students a paper plate and 15 construction paper petals. Have them draw a circle in the center of the plate. It's time to play petal math. Start with some easy problems. Their flower has 3 petals and it grows 2 more. How many petals are there in all? Students follow along with their flower working out the problems as you go. Increase the difficulty. A flower has 10 petals. An insect eats 2 petals and 3 are torn off by hail. How many are left? After modeling several examples, allow students to share their own with the class.

Science activity:

Have students find pictures of wildflowers. Help them work on classifying the flowers. Start sorting by similar color. Within each color have them find similarities that can be used for further grouping. Does it have thin petals? Does it have rounded petals? Does it have many little flowers on a stalk? Are the petals bunched or spread out? Have a set of pictures to model the activity for students and then have them partner to create their own sorting chart. Since they will have many different pictures each classification diagram will be different. Partners can share their classification charts with the rest of the class.

Social Studies activity:

Have students research the kinds of flowers and plants grow locally. Based on this have them draw a plan of what a garden would look like. Are there plants that do well in full sun? Are there plants that need shade? If they choose to design a vegetable garden what kinds of vegetables grow well in your area?

Arts activity:

Design a wildflower. Is it tall or short? What kind of leaves does it have? How many petals are there on the flowers? Is there more than one flower on the stalk? Does it flower more than once in a growing season? What kind of biome would it live in? How does it reproduce? What kinds of plants could be found around it? Have students share their creations and plant all the flowers on a classroom board for a wildflower garden.

Reproducible Handout

Unscramble the flower terms. Use the word bank at the bottom of the page. Copy the letters from the numbered boxes to the boxes in the phrase with the same number. What is the hidden phrase?

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Word Bank: flower, pollen, petal, ovary, pistil, stigma, nectar, seed

Hidden Phrase:

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