

Lesson Title: Gardening for Pollinators and a Healthier Planet

Targeted Grade Level: Grades 1-4

Student Learning Objectives

SWBAT:

Students will gain a greater appreciation for the natural world, specifically plants and pollinators.

Students will learn that having a variety of garden habitats available outside their school, such as trees, shrubs, perennials, and annuals will attract a diversity of beneficial insects and pollinators.

Extended: Students will learn why pollinators are essential to our food supply and why having a variety of plants benefits not only animals, but our planet because they clean the air, help trap CO₂ from the atmosphere, hold moisture, and prevent soil erosion.

Materials

List anything needed to conduct the lesson

Record-keeping worksheet (Flower & Pollinator Chart attachment), several flowering plants (including wildflowers/weeds) to observe outside, magnifiers

For extended study: potted flowering plants such as coneflower, hyssop, black-eyed susans, catmint, lavender, iris, daisies, butterfly weed, etc., and/or annuals (marigolds, lantana, alyssum, zinnia, salvia...) compost or organic topsoil, gardening tools.

Possible misconceptions

Identify possible previously held ideas

Students may think that pollinators are limited to honey bees or butterflies and that plants / flowers have limited value.

Prior knowledge needed

Connect to previous content

Knowledge of habitats, pollination, flower parts, and insects may be helpful, but not necessary.

Lesson Section/Time

**Teacher and Student Activities
(Include formative assessment)**

<p>Engage The purpose for the ENGAGE stage is to pique student interest and get them personally involved in the lesson, while pre-assessing prior understanding.</p>	<p>Show students the DisneyNature video “The Beauty of Pollination – Wings of Life” https://video.disney.com/watch/the-beauty-of-pollination-wings-of-life-4da84833e06fd54fff590f49</p> <p>Following the video, ask students what they saw and how they feel after watching it.</p>
<p>Explore The purpose for the EXPLORE stage is to get students involved in the topic; providing them with a chance to build their own understanding.</p>	<p>(Depending on the weather & season) Working in teams of 2 or 3, students will go outside to see how many flowering plants they can find in their schoolyard or adjacent park, record the flower colors, and record if they saw an insect on the plant, and what type, if possible. (Using the Flower & Pollinator Chart attachment.)</p>
<p>Explain The purpose for the EXPLAIN stage is to provide students with an opportunity to communicate what they have learned so far and figure out what it means.</p>	<p>Back in the classroom, we’ll create a chart together to compare our findings.</p> <p>Were the flowers and plants we found all the same size? Shape? Color? How many different types of insects did you observe?</p> <p>Can we make a hypothesis about certain flower colors?</p> <p>From the video (or prior discussion), can you name other pollinators besides honey & bumble bees and butterflies? [solitary bees – mason, sweat, miner, leafcutter, squash), moths, birds (hummingbirds, honeyeaters, sunbirds...), bats, wasps, beetles, flies, ants, even mammals – bears, deer, rabbits & rodents.]</p> <p>Why do you think pollinators are important for our planet? [Pollinators are responsible for 1 out of 3 bites of the food we eat. They help plants make more plants. They pollinate plants that provide fiber for clothing and many other uses.]</p> <p>Can we think of other reasons why trees, plants, and flowers help the earth? [They produce fruits, vegetables, nuts and seeds, clean the air, provide important raw materials, prevent soil erosion, trap CO2, support other wildlife.]</p>
<p>Elaborate/Extend The purpose for the EXTEND stage is to allow students to use their new knowledge and continue to explore its implications.</p>	<p>Our school’s butterfly garden needs several more plants in one section. We’re going to decide which ones to plant there and why.</p> <p>Let’s look at our chart again to see which flower colors and types of insects we observed. Should we plant just 1 type of flower? Should we plant only the colors we observed and recorded? Should we plant flowers in our garden that</p>

	<p>only butterflies will like?</p> <p>(Actual planting to be done on a separate day.)</p>
<p>Evaluate The purpose for the EVALUATION stage is for both students and teachers to determine how much learning and understanding has taken place.</p>	<p>Students will list 3 things they learned about pollinators and plants on a coloring worksheet that has pictures of flowers, gardens, and/or pollinators.</p> <p>http://tigersroar.info/free-printable-coloring-pages-flowers-and-butterflies/ http://www.coloring.ws/flowers3.htm http://xsibe.us/coloring/parts-of-a-flower-coloring-page.html</p> <p>After the gardening activity, students will create a mini book of drawings of the flowers we planted, including the flower color, plant name, and the pollinators that may visit it. Flowers may be hand-drawn or they can choose from pre-selected coloring pages. (ex. http://www.coloring.ws/flowers4.htm)</p>