

Pollinators & You

Teaching Guide For K - 2



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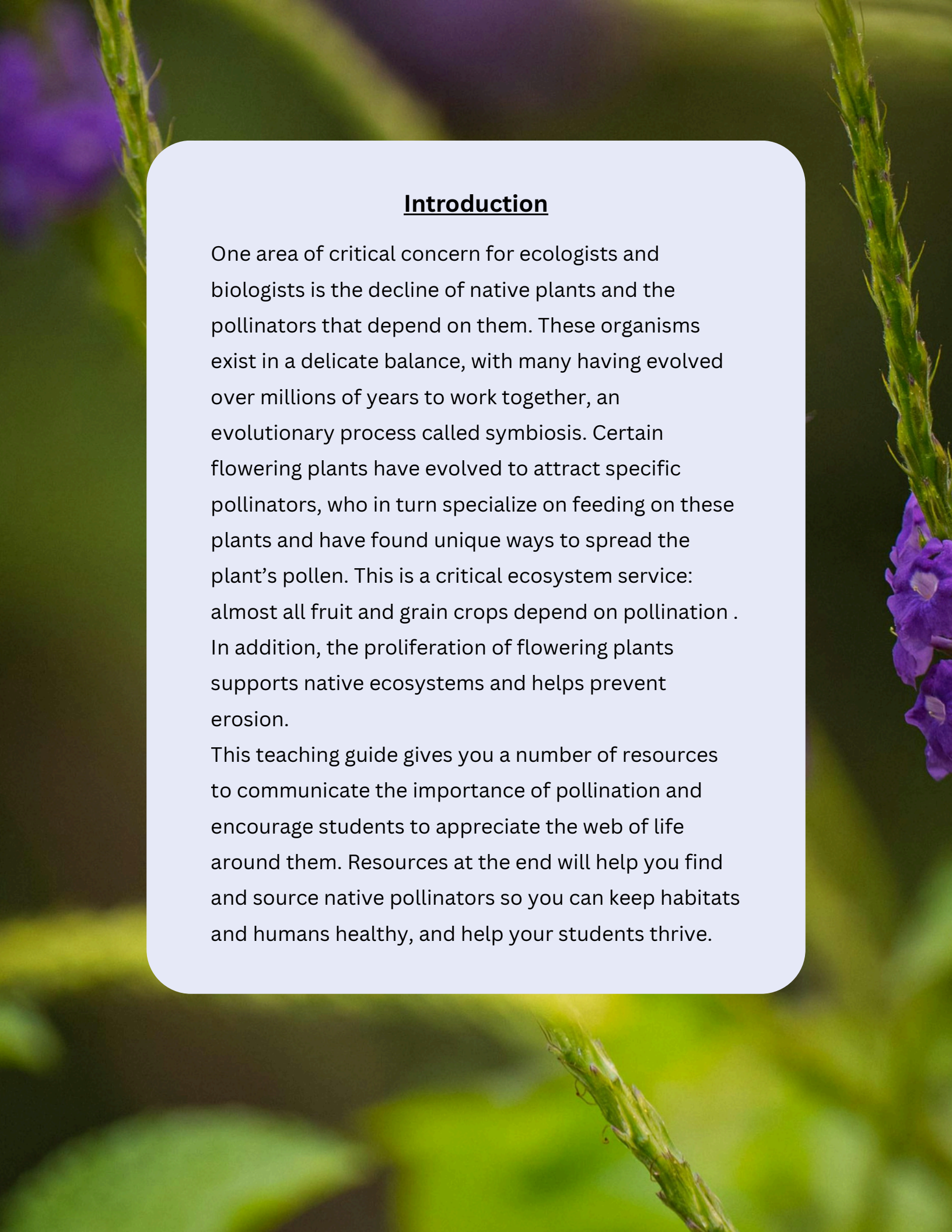


International Coalition of
SITES of CONSCIENCE



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The background of the page is a close-up photograph of purple flowers and green stems. The flowers are small and clustered, with a vibrant purple color. The stems are green and have small, pointed leaves. The background is slightly blurred, creating a soft focus effect.

Introduction

One area of critical concern for ecologists and biologists is the decline of native plants and the pollinators that depend on them. These organisms exist in a delicate balance, with many having evolved over millions of years to work together, an evolutionary process called symbiosis. Certain flowering plants have evolved to attract specific pollinators, who in turn specialize on feeding on these plants and have found unique ways to spread the plant's pollen. This is a critical ecosystem service: almost all fruit and grain crops depend on pollination . In addition, the proliferation of flowering plants supports native ecosystems and helps prevent erosion.

This teaching guide gives you a number of resources to communicate the importance of pollination and encourage students to appreciate the web of life around them. Resources at the end will help you find and source native pollinators so you can keep habitats and humans healthy, and help your students thrive.

Key Themes

- Connection to Land
- Ecological Communities
- Scientific Methodology

2-LS2-2

Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants

2-LS4-1

Make observations of Plants and animals to compare the diversity of life in different habitats

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1-LS1-1

Use materials to design a solution to a human problem by mimicking how plants and /or animals use their external parts

1-LS3-1

Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

K-ESS3-1

Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live

Objectives

Upon completion of this unit, students will be able to:

- Identify different pollinators
- Identify the parts of a flower
- Model how pollinators spread pollen from one flower to another
- Explain why pollination is important to habitats
- Visually model the different structures of a plant
- Visually model the different structures pollinators use to obtain and spread pollen

Suggested Vocabulary

Flower: the petals and reproductive system of flowering plants (also called angiosperms)

Stigma: where plants receive new pollen (the female part of the flower)

Anther: the pollen producing organ in flowers (the male part of the flower)

Pollen: tiny particles that flowers produce to make more flowers

Pollination: the transfer of pollen from one flower to another (or one part of a flower to another part)

Pollinator: any organism (living thing) that helps carry pollen from one flower to another (or to another part of the same flower)

Proboscis: A long tube that functions as a butterfly's "mouth"

Adaptation: a behavior or feature of an organism that helps it survive

ISM Video Resource

Butterflies and Moths: Exploring Pollinators

Click the image below to open the video!



Engage! Ask students to consider the following questions:

- “What do you think butterflies eat?”
- “What color flowers have you seen outside?”
- “Why do you think flowers have all those pretty colors?”
- “What makes you think that?”
- “Have you ever seen a bee buzzing near flowers?”
- “Do you know anybody who sneezes a lot when the seasons change?”

Explore! Go outside to stop and smell the roses

Going outside will allow your students to see pollinators and pollenizers in their natural habitat. You can use local guidebooks for your region or the [iNaturalist](#) app to help identify plants with them. If you can, have students each collect a flower to identify, or have one to show the different parts of a flower.

[More information about iNaturalist from the San Diego Museum of Natural History](#)

Activity: Flower Dissection

Depending on available time and your students' grade level, use the following sheets to familiarize students with the different parts of a flower.

[Flower Dissection Sheet](#)

Explain: Have Students justify their identifications

- How did you decide which part was which?
- What do you think each part of the plant does?
- What flowers did you see outside? Do you think you could identify the parts of more than one plant?

ISM Video Resource

The Lifecycle of Plants

Click the image below to open the video!



Activity

The activity linked below is an excellent way for students to model pollination with household materials. Try it with different colors and materials.

[Bee and Jello-Pollen Experiment](#)

Engage! After their activity, Ask students to consider the following questions:

- “Why might some pollinators only use one kind of plant?”
- ”Why do you think bees buzz?”
- “What other animals do you think pollinate?”
- “What makes you think that?”
- ” Why do you think pollination is important?”

ISM Video Resource

How do bugs pollinate plants?

Click the image below to open the video!



How a Butterfly uses its Proboscis

Click the image below to open the video!



A butterfly's proboscis is an adaptation to suck nectar out of flowering plants. When butterflies fly from flower to flower, they spread pollen just like bees. Students can model this with the activity linked below from Hoyt Arboretum.

[Butterfly Activity](#)

Evaluate!

Have students creatively model how pollination happens through drawings, sculptures, or actions.

Ask students what's different about the way butterflies and bees spread pollen.

More Resources:

- [Plant ID Activity from the Habitat Organization](#)
- [What is that Plant? From the National Park Service](#)
- [How Pollinators Pollinate from Alabama Outdoor Classroom](#)
- [Hive Alive Lesson Plans](#)
- [Parts of a Flower from the New Jersey Agricultural Society](#)
- [Bee and Pollinator Activities](#)
- [Urban Pollinator Curriculum Guide from North Dakota Game and Fish](#)
- [National Wildlife Federation Native Plant Finder](#)
- [How to Build a Pollinator Garden from the US Fish and Wildlife Service](#)