

# Pollinators

Lesson #

# Overview

Students will learn about pollinators and their role in plant reproduction.

# Objectives

- **Identify** when pollinators visit flowers
- **Understand** how a pollinator works
- **Learn** different pollinators and which plants they visit

# Vocabulary

- **Cross pollination**

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**Pollination:** necessary step in reproduction of flowering plants; where pollen is transferred from male stamen to female stigma enabling fertilization and reproduction

# Vocabulary

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**Pollinator:** an animal (such as insects or bats) that involuntarily transfer a flower's pollen from the stigma to the stamen

**Stigma:** the pollen receiving tip of a flower (female part)

**Stamen:** the pollen producing reproductive organ of flower (male part)

# Introduction

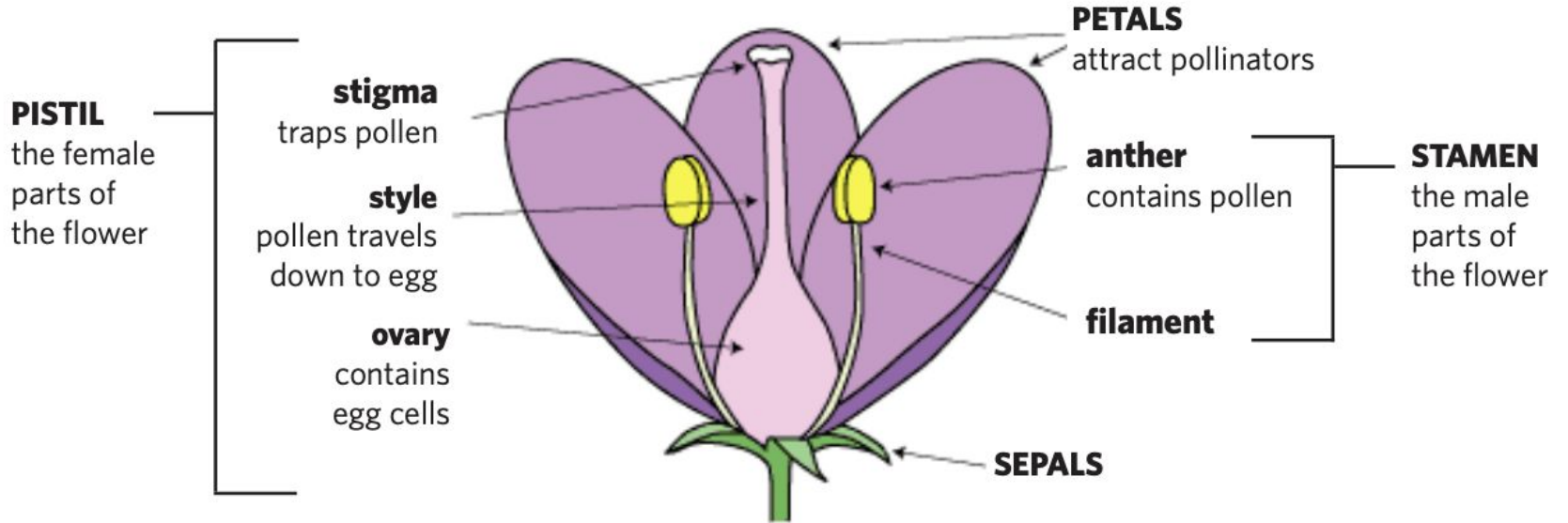
- i. Angiosperms go through a process of four steps: flower, pollination, fruit, and seed dispersal.
- ii. **Pollination:** Transfer of pollen from stamen to stigma of flowers. Pollen can be carried by insects, other animals, wind or water. There are two types of pollination, self-pollination which is when pollen lands on stigma of its own flower and cross-pollination which is when pollen is transferred to another plant or flower.

# Pollination For Kids



# Flower Diagram

## INSIDE A FLOWER





# Cross Pollination

## CROSS-POLLINATION

1. The **pollinator** receives **pollen** from the **stamen** of the first flower.

(The pollen brushes onto the pollinator's body while the pollinator drinks nectar from deep inside the base of the flower.)



2. And deposits it on the **stigma** of the next flower.

(This also happens while the pollinator drinks **nectar**.)

3. The **pollen** moves down the **style** to join with the **ovules** in the **ovary**.

# Pollinators

# Birds

- i. Birds visit flowers during the daytime
- ii. Birds use their beaks to reach inside flowers to drink nectar and do not rest on the flower
- iii. Birds have good vision but a poor sense of smell
- iv. Birds are attracted to bright colors like red or orange and very little scent
- v. Example of pollinator birds are hummingbirds, spiderhunters, sunbirds, honeycreepers, and honeyeaters



# Bees

- i. Bees visit flowers during the daytime.
- ii. Bees land on flower petals to gather pollen.
- iii. Bees are attracted to sweet smelling flowers.
- iv. Bees seek bright colors like yellow, blue, and violet and can see colors in the UV spectrum.



# Moths

- i. Moths visit flowers during the nighttime.
- ii. Moths use their long mouth parts to reach inside flowers to drink nectar.
- iii. Moths do not rest on the flower petals to eat.
- iv. Moths are attracted to flowers that are pale colors, or white.
- v. Moths are attracted to sweet smelling flowers.



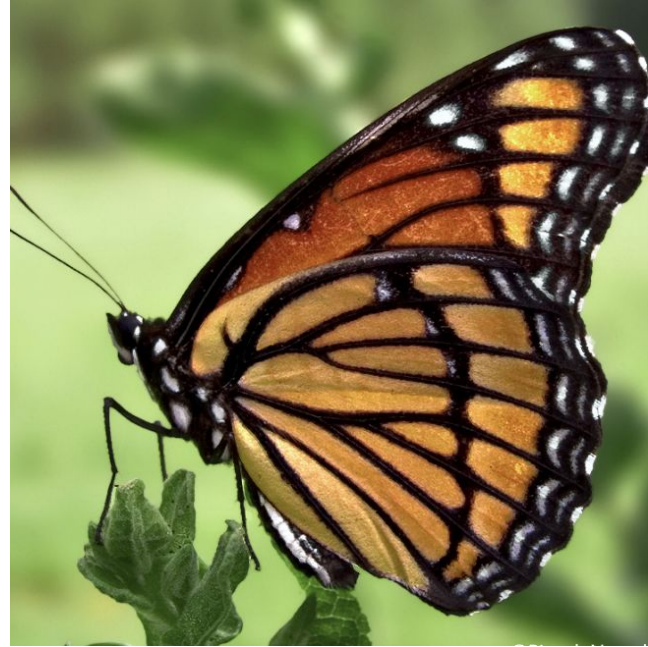
# Flies

- i. Flies visit flowers during the daytime.
- ii. Flies land on flower petals to gather pollen.
- iii. Flies are attracted to flowers that smell like rotting meat because they lay their eggs on rotten meat.
- iv. Flies like to visit flowers that are low to the ground.
- v. Flies like to visit flowers that are pale colors with dark brown or purple patches.



# Butterflies

- i. Butterflies visit flowers during the daytime.
- ii. Butterflies use their long mouth parts to reach inside flowers to drink nectar.
- iii. Butterflies rest on the flower petals when they eat.
- iv. Butterflies are attracted to flowers that are bright colors like violet, red, or orange.
- v. Butterflies have good vision but a weak sense of smell.



# Bats

- i. Bats visit flowers during the nighttime.
- ii. Bats land on flower petals to feed on the nectar deep inside the flower.
- iii. Bats are attracted to large flowers with strong smells.
- iv. Bats like to visit flowers that are white because they are visible at night.





# Activity: Imaginary Garden

Use the pollinator table to match the flower to the pollinator!





- Tube-shaped flowers
- No smell
- Blooms during the daytime



- Tube-shaped flowers
- No smell
- Blooms during the daytime

Butterfly



B

- Sweet nectar at base of flowers
- Blooms during the daytime
- No smell



B

- Sweet nectar at base of flowers
- Blooms during the daytime
- No smell

Bird



- Sweet, fragrant smell
- Blooms during the nighttime



- Sweet, fragrant smell
- Blooms during the nighttime

Moth





D

- Rotten, odious smell
- Blooms during the daytime



- Rotten, odious smell
- Blooms during the daytime

Fly



- Sweet, fragrant smell
- Sturdy petal platform
- Bull's eye design in center of flower
- Blooms during the daytime



- Sweet, fragrant smell
- Sturdy petal platform
- Bull's eye design in center of flower
- Blooms during the daytime

Bee



- Blooms during the nighttime
- Strong, musky smell



- Blooms during the nighttime
- Strong, musky smell

Bats

Activity

Snack



# Reflection Questions

What are your favorite flowers?

Why do plants have flowers?

Do you think all flowers are trying to attract the same pollinators?

Why are there so many different flowers?