

Pollinators: How They Pollinate



What is pollen?

- Powdery substance
- Tiny yellow grains
- Made by male flower parts



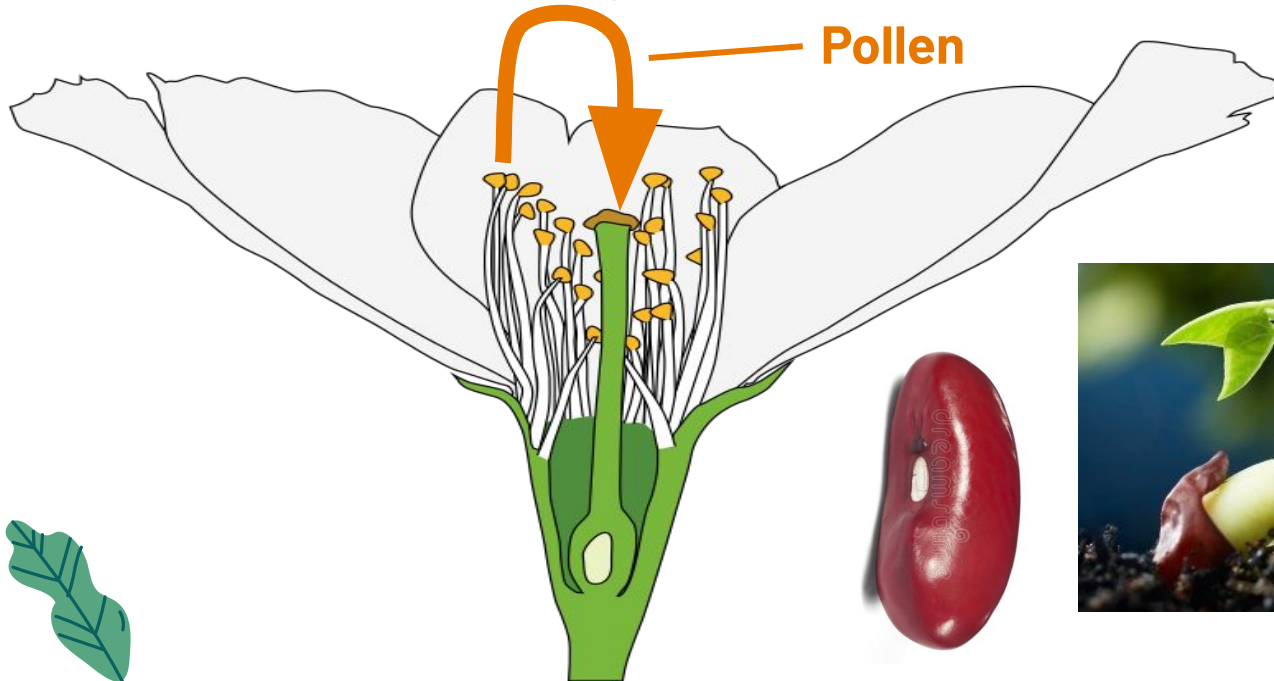
What is pollen?

- Powdery substance
- Tiny yellow grains
- Made by male flower parts
- Must get from the male to the female flower part to make seeds and baby plants...



What is pollination?

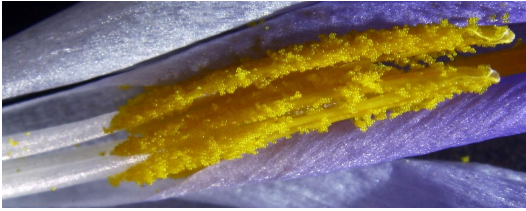
- Pollen is moved from the male to the female flower part so seeds and baby plants can be made.



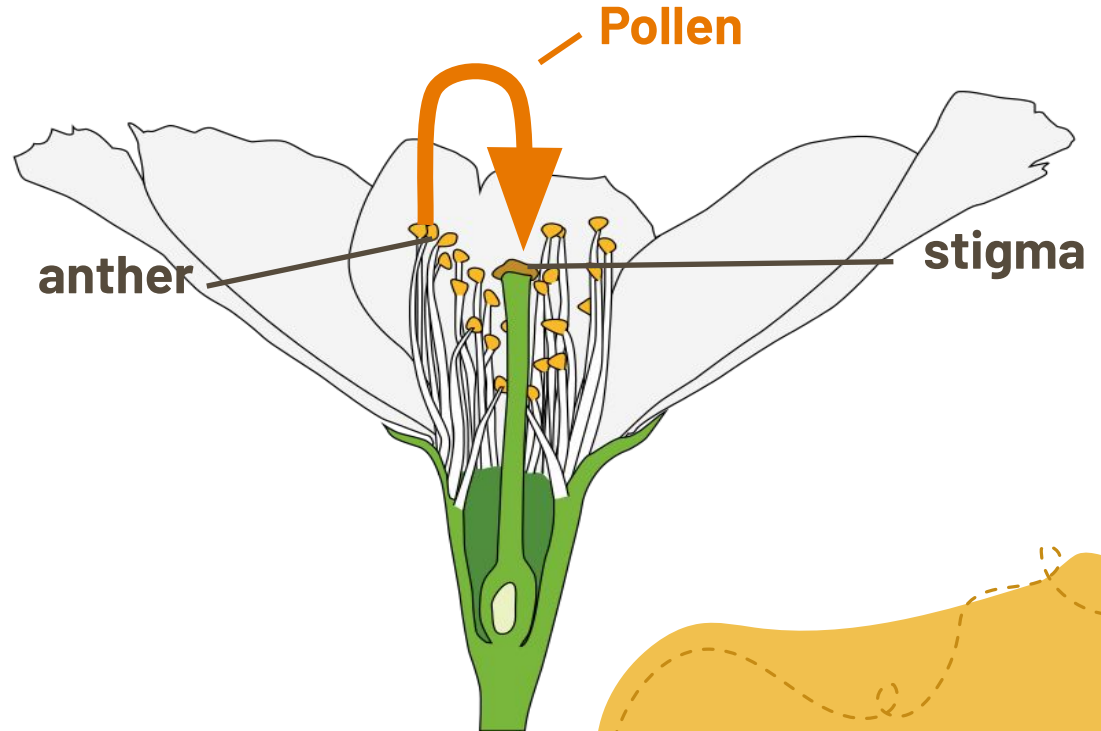
The pollination process

- Pollen needs to go from the **anther** to the **stigma**

Anther: male flower part
Makes pollen

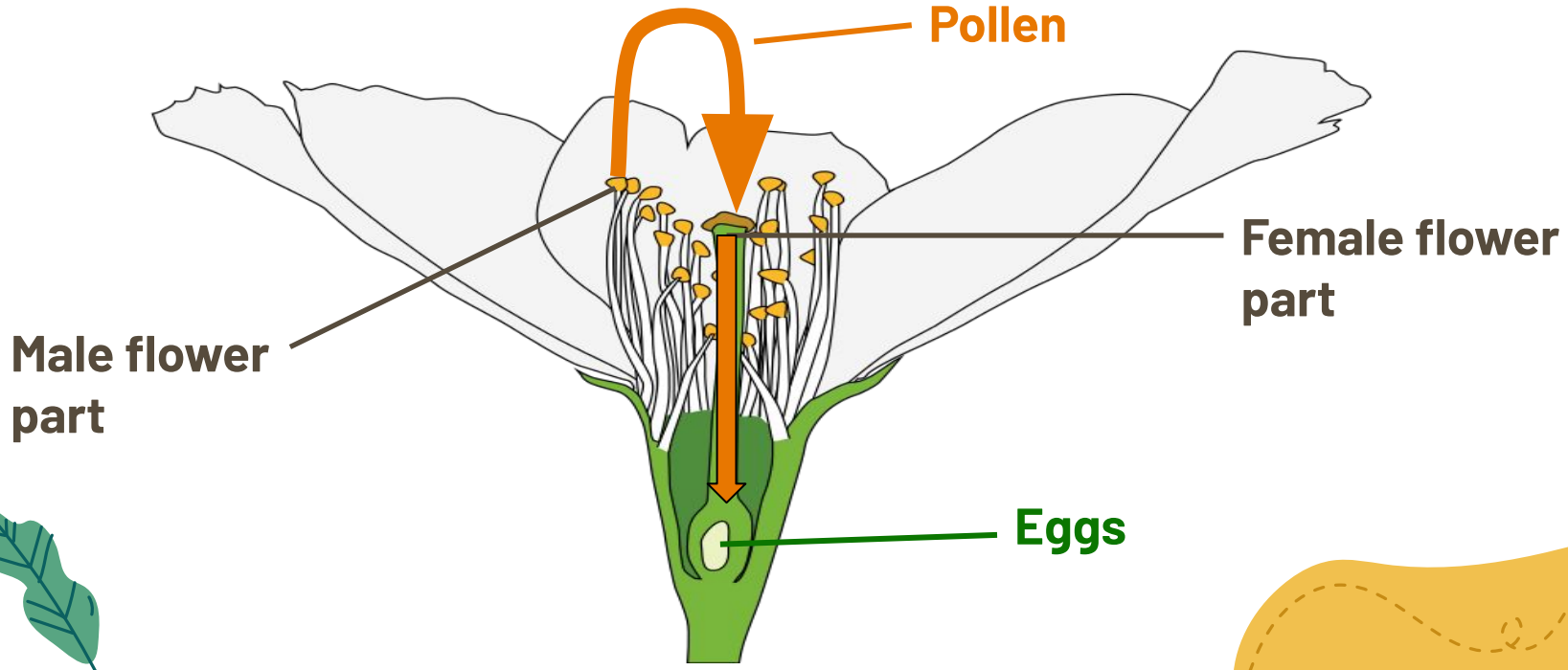


Stigma: female flower part

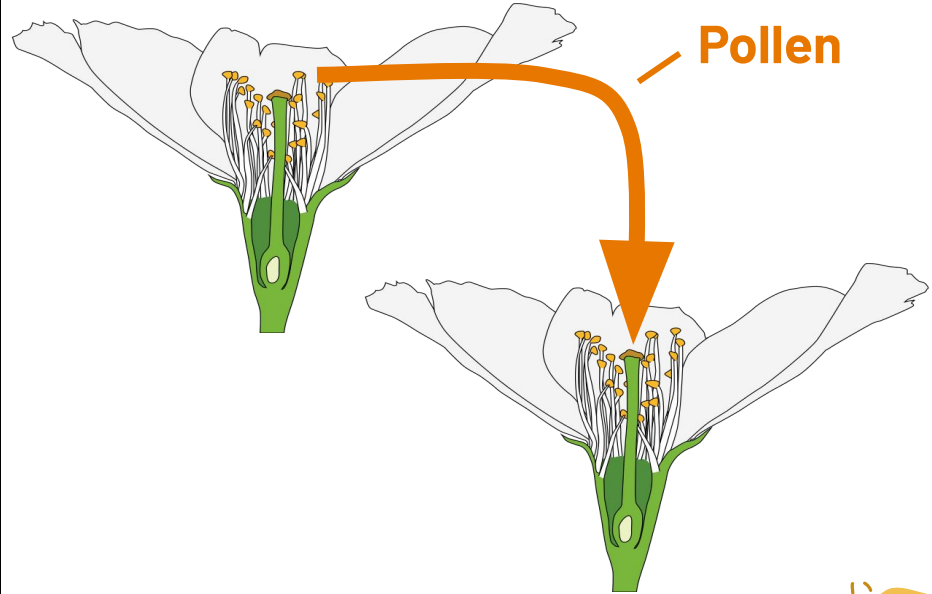
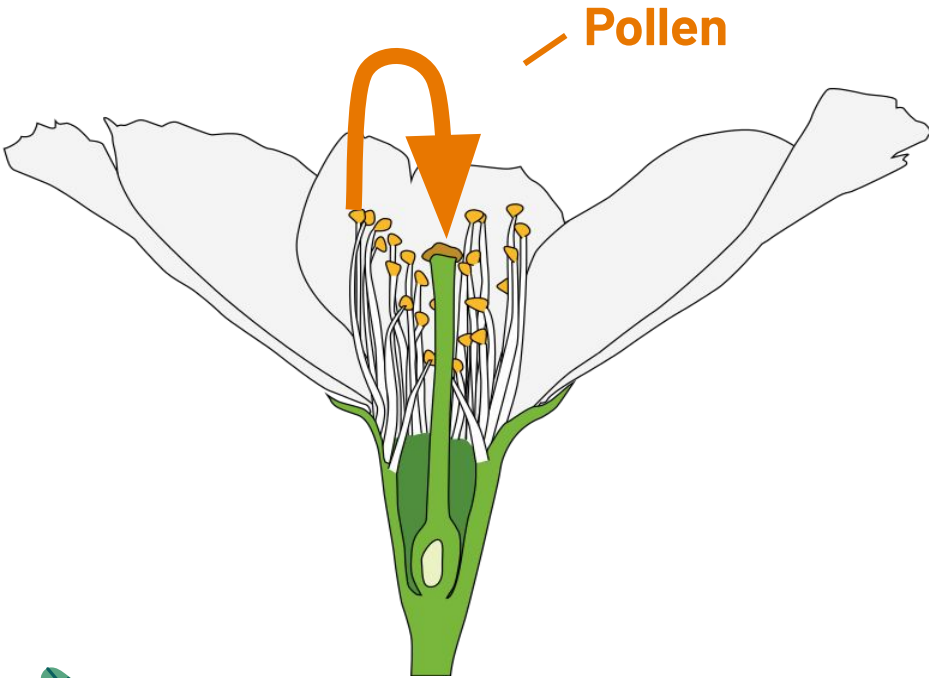


The pollination process

- The pollen then travels down to fertilize the eggs



Self-pollination vs. cross-pollination



Common types of cross pollination



- **Wind pollination**



Examples:

- Pine trees
- Corn, wheat and other grains



Common types of cross pollination



- Wind pollination

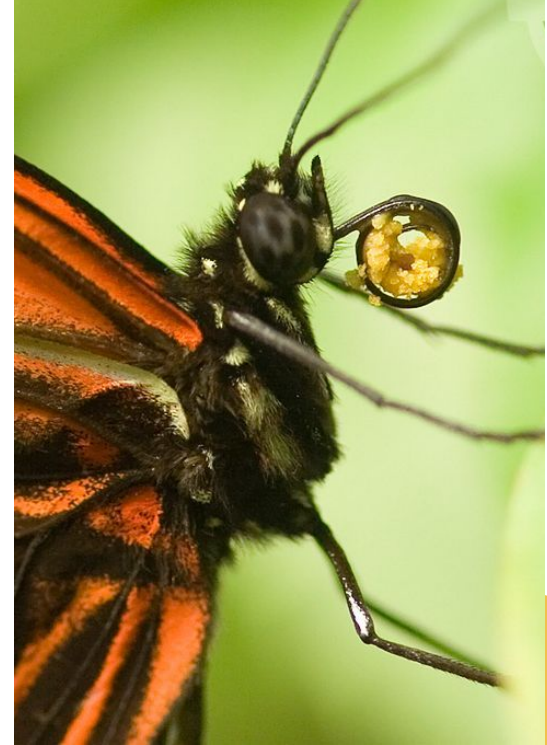


- Animal Pollination



Animal Pollination: HOW DOES IT WORK?

- Pollen sticks to animals that visit flowers
- That pollen rubs off on another flower
- Plant's mission accomplished!





Why do Pollinators Pollinate?

What do the pollinators get out of it?

Animal pollination: Why do they pollinate?

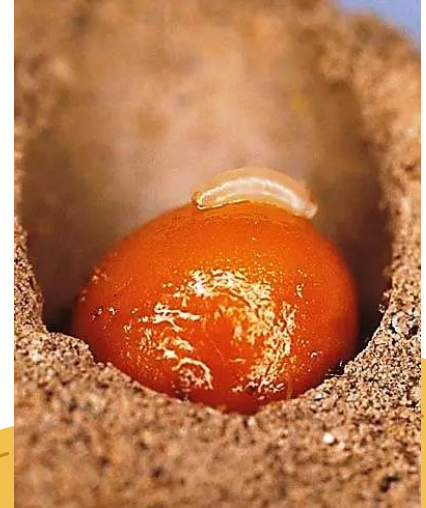


To get food for themselves and their babies (bees)

- How do plants attract these pollinators? With **pollen** and...



Baby bee eating pollen



Animal pollination: Why do they pollinate?



To get food for themselves and their babies (bees)

- How do plants attract these pollinators? With **pollen** and...

Nectar:

- A sugary liquid plants make in their flowers to attract pollinators



Bees

- Feed babies pollen
- Fuzzy bodies help collect pollen
- 4,000 native bee species in US
- Pollinate over $\frac{1}{3}$ of the world's crops



Butterflies and Moths



- Butterflies are common daytime pollinators
- Moths take the night pollination shift!
- Over 180,000 species of butterflies and moths
- Long proboscis for reaching nectar



Types of pollinators: Birds



- 2,000 bird species globally feed on nectar
- Specialized beaks



Hummingbirds



Brush-tongued parrot

Honeycreeper



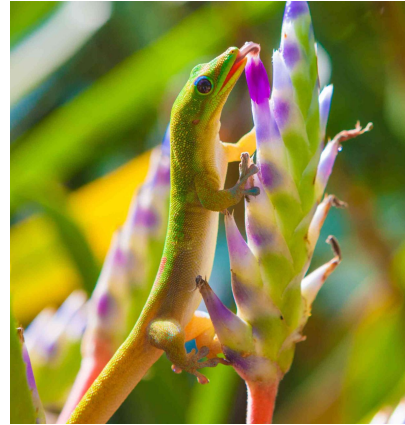
Bats

- Pollinate bananas and mangos
- And 300 + other fruits



Many others

- Beetles
- Flies
- Wasps
- Small mammals
- Lizards
- Slugs
- And MORE!





Why do we care about pollination?



- Over $\frac{1}{3}$ of food crops are animal pollinated
 - Fruits, vegetables, nuts and beans, hay for livestock!



- Have you eaten any of these foods this week?



Why do we care about pollination?



- Without pollinators many plants could not make seeds or baby plants!
- 80% of flowering plants rely on animal pollinators



Why do we care about pollination?



- Without pollinators many plants could not make seeds or baby plants!
 - 80% of flowering plants rely on animal pollinators
- Lots of animals in the ecosystem depend on these plants!



Sometimes pollinators cheat!



- They chew holes in the side of a flower and lap up the **nectar**
- They don't touch the **anthers** or **pollen** while doing this
- Meaning they don't do the job of pollination!

