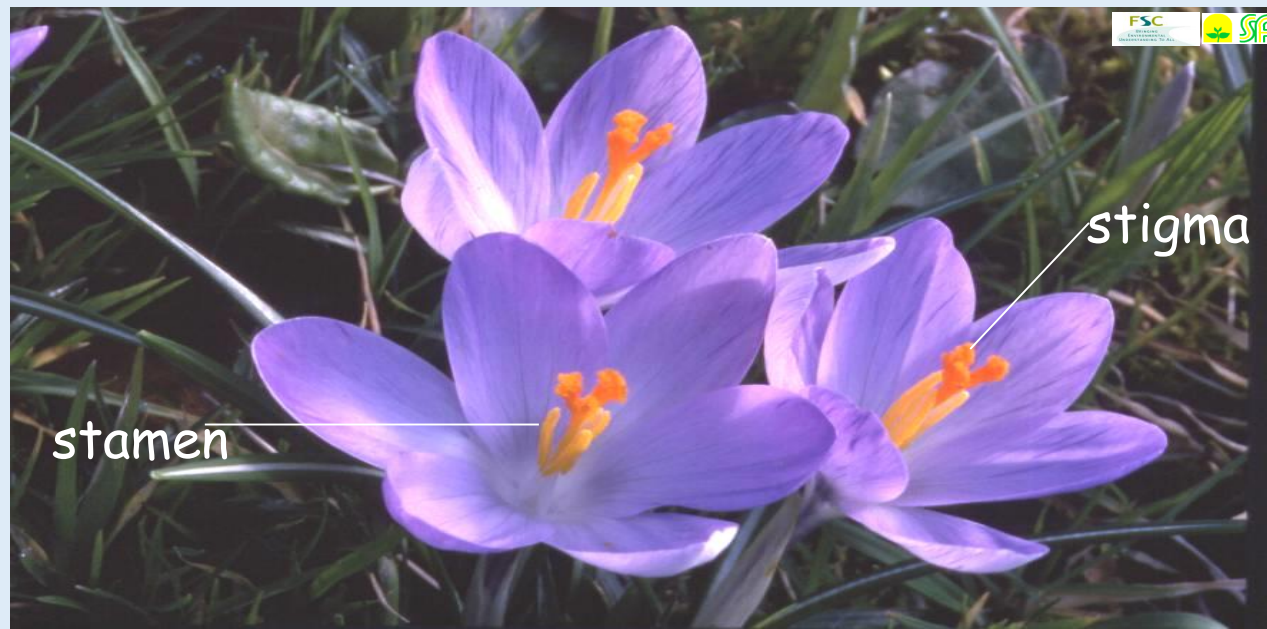


WALT pollinate a flower.

WILF:

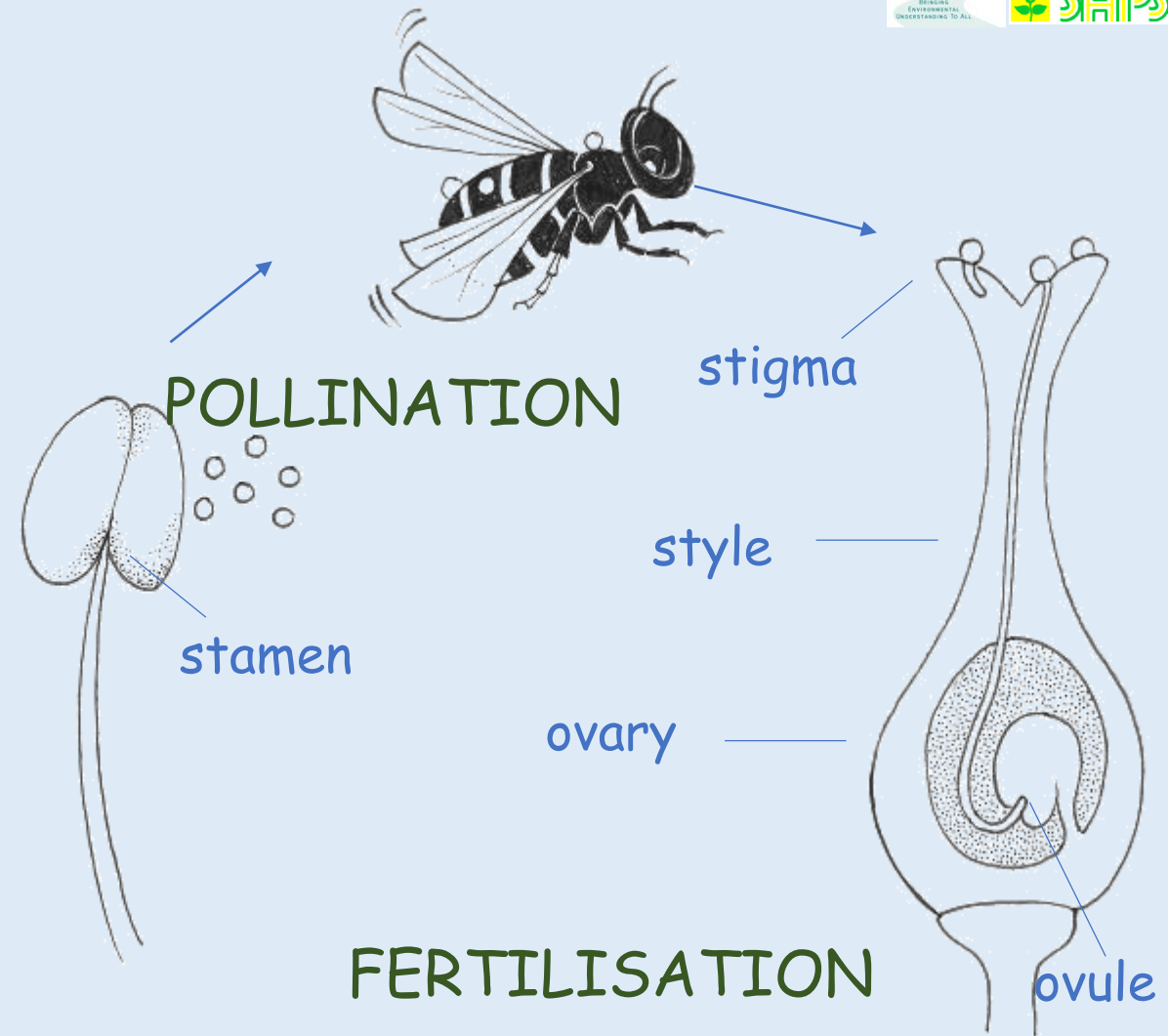
- Explain how flowers are pollinated.
- Plan pollination
- Pollinate a flower
- Predict results





In flowering plants, **pollination** is the carrying of pollen from the **stamen** (male part of the flower) to the **stigma** (on the female part of the flower).

On the stigma the pollen grain grows a **pollen tube** down the style into the ovary. **Fertilisation** takes place when the pollen tube and the ovule come together. After fertilisation the ovule develops into a **seed**.





Bee orchid



Sweet Vernal-grass



Marsh-marigold



Honeysuckle

There is an enormous variety in the size, colour shape and even smell of flowers.

This is related to the way in which they are pollinated.



In Britain pollen is usually carried either by **wind** or **insects**.

Wind-pollinated flowers, like male Hazel flowers shown here, are often small, and borne in long dangly catkins. These are blown about by the wind, releasing large amounts of pollen. This increases the chance of it finding a stigma to attach to, but can cause us to feel Hay fever!

Many insects feed on pollen.

This bee is collecting pollen in its pollen basket to feed to its larvae.



pollen basket

As an insect moves from flower to flower, pollen stuck to its body has a good chance of landing on a stigma.



pollen



bee going into foxglove

Most insect-pollinated flowers are large and brightly coloured so that insects can easily find them. If they are small they may be grouped together to look like a large flower as in this Dandelion.



As the bee squeezes into the Foxglove flower its back brushes against the stamens and stigma.

Smaller insects can't enter the flower because of the long hairs at the entrance.

Your Activity:

Today you are going to plan your own pollination of a plant, then go outside and complete your plan. This is called 'artificial pollination' and is used by scientists sometimes to replicate a species of plant.

In your plan:

Thinking of how plants are pollinated: what will you need to do? Which parts of the flower will you need to touch? With what force? How many flowers?

What equipment will you need?

Plan your experiment using the sheet and predict the result.

Then, go outside and pollinate a flower using your plan.

See the next slide for an example! 😊



Enquiry: Can I artificially pollinate a plant?

Equipment needed:

- Two living flowers outside: pistil
- A paintbrush

Hypothesis (prediction):

I predict that the pollen from flower 1 will attach to flower 2's stamen or stigma, pollinating the plant and enabling it to create seeds slowly.

Method:

- Go outside and find plant 1.
- Identify the species of the plant if possible.
- Gently brush the pistil with the paintbrush, it should collect small white or yellow pollen particles.
- Find plant 2. Identify the pistil.
- Gently brush the pollen onto the pistil.

Example video: note, this is on one flower only as it is a self-pollinating flower, however most need another flower's pollen. This will show you how to collect and disperse your pollen. 😊

<https://safeYouTube.net/w/aj6E>



Note: we would usually collect results, but it is difficult to do on this occasion. You could do so by observing the amount of pollen on the paintbrush before and after dispersal.