# Contents

# Introduction

Have you ever seen a Daisy on sand dunes, Poppies in a wood or Wood Anemones in a field? Probably not because every plant is adapted to its habitat, as with all wildlife. In this book you will find descriptions of over one hundred common British wild flowers arranged by the habitat they *usually* grow in (although some may grow in several). To identify plants by the colour of their flowers, check the photographic Flower Colour Index, page 154. When you find a flower you can tick the box at the bottom of the relevant page and make some notes. For each plant its average height, type of pollination and main flowering season is given.

Each plant description starts with the common name, followed by its scientific name and the family the plant belongs to. The three-sectioned description begins with a general part, the second describes the flowers, seeds and fruit, and the third the leaves and stem. You certainly should never try to eat a wild plant you don't know as some are poisonous and potentially deadly.

It is best not to pick wild flowers. Leave them growing for others to enjoy (also they might be poisonous). Better try to draw them or take a photo instead. Many smartphones have very good cameras and you can buy a clip-on macro lens for a few pounds. Remember to take the book to the plant to identify it and not the other way round. Actually, it is against the law to uproot a plant without the landowner's permission.

## Symbols

general information

flowers, seeds and fruit

leaves and stem

Caution! Poisonous!

Height (cm or m)

insect pollination

wind pollination

spring

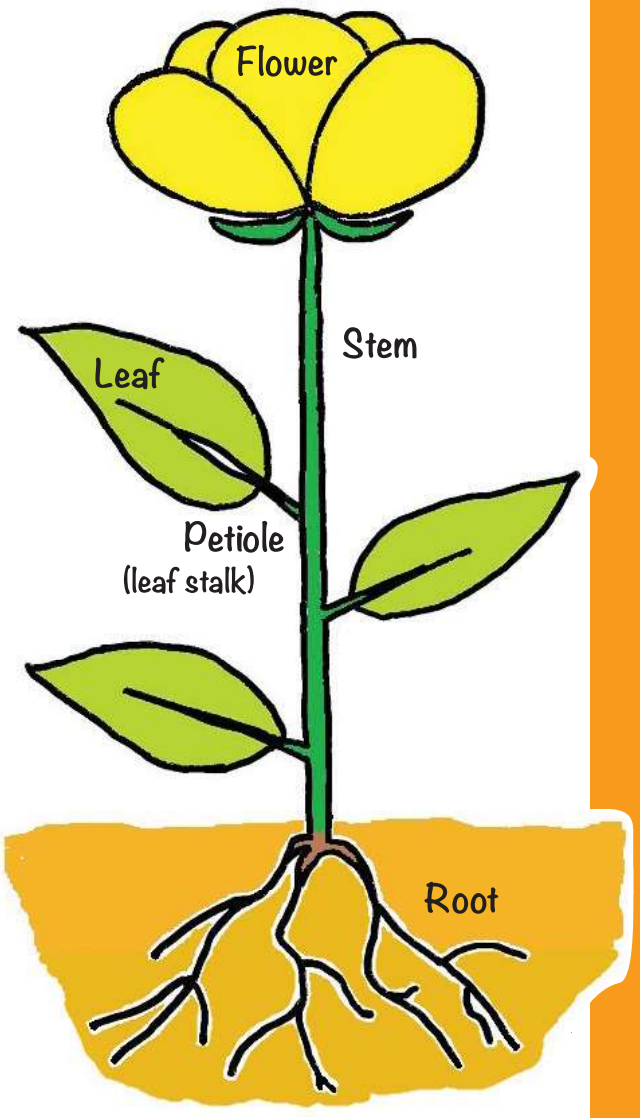
summer

autumn

winter

## Parts of a plant

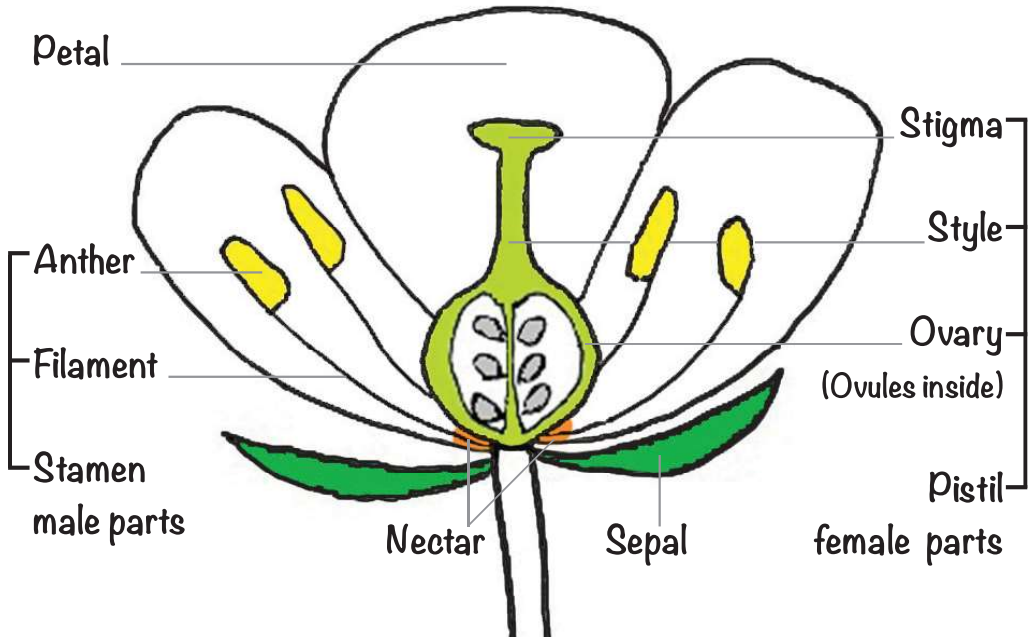
Flowering plants have a stem with leaves and flowers above ground. The leaves are green and use energy from sunlight to make the plant's food. They grow on stalks called petioles. The flower (or flowers) grows at the end of the stem. The roots grow in soil and anchor the plant. They form a network which absorbs water and nutrients from the soil. Some plants have a large, thick root called a tap root. The carrots you eat are just very large tap roots.



# Parts of a flower

It is important to recognise the parts of a flower to be able to identify it. A buttercup is a good example of a flowering plant as it shows the flower parts clearly.

There are four parts to a typical flower – sepals, petals, stamens and pistil. These are best illustrated using a cross-section through a flower, as shown below.




The **sepals** are green and protect the flower when it is in bud and then support the petals when the flower opens. They are also known as the calyx. They can be joined into a tube as in primroses and campions.

The **petals** are usually coloured, e.g. bright yellow in a buttercup, and showy to attract insect pollinators (see opposite). They sometimes have lines or spots on them to guide insects to their nectar reward – these are known as honey guides. Remember that bees see colour differently from us, so a flower that looks one colour to us may be very different to a bee's ultra-violet vision.

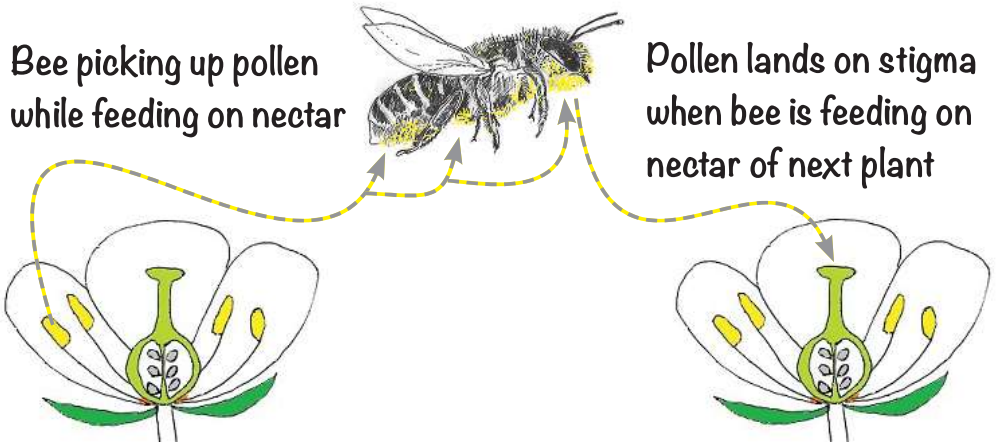
The **stamens** are the male part of the flower with **anthers** on **filaments** containing the **pollen**. They are often yellow but can be other colours. Poppies have black stamens for example.

The female part of the flower is the **pistil**, with the **ovary** in the centre of the flower and a **stigma** on the top of the **style** to catch the pollen. The ovary contains one or more **ovules** which develop into seeds when fertilised. Buttercups have many separate ovaries called **carpels**, each with one ovule.

## Pollination and Fertilisation

For an ovule to develop into a seed two things need to happen – first pollination then fertilisation.

Pollination occurs when pollen (from the male flower parts) lands on the stigma (from the female parts). If pollen and stigma are on the same plant then the flower is self-pollinated (like tomatoes); however, most other plants only allow pollen from a different plant of the same kind; this is termed cross-pollination. In the next step, the pollen produces a tube to transfer its DNA (genetic material) downward to mix with the DNA of the ovule. This is now fertilised and will become a seed.

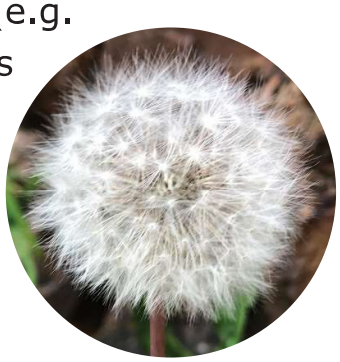


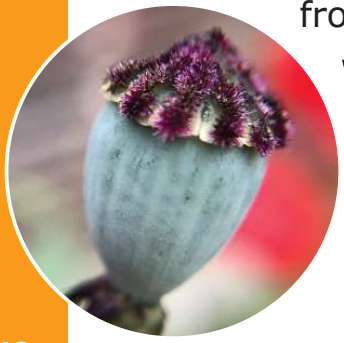
How does the pollen travel from one flower to another? Mainly by insects or in some plant species by wind.

- In Britain, bees are the main insect pollinators, less so butterflies, moths and flies. Insect-pollinated flowers are usually showy and coloured to attract the insects, often with scents and a nectar reward.
- Wind-pollinated plants like grasses and trees need to produce a lot of pollen to increase the chance that some pollen grains will land on the target stigma. Their flowers are usually tiny, often green and arranged in catkins as they don't need to attract insects.

## Seed Dispersal

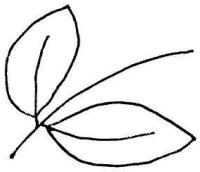
Once the ovule has developed into a seed, it has to be dispersed away from the parent plant to give it the best chance to grow. Some plants have ovaries which develop into tasty edible fruits or berries (e.g. blackberries) to attract birds and mammals to carry them farther away. If they eat them the seeds pass through their gut undamaged and land in their dung, ready to germinate and grow. Other seeds are carried away on the wind such as Dandelion parachutes or shaken out like Poppy seeds from their capsule. Some seeds are expelled with an explosive action – Geraniums are an example which use this method. Water plants sometimes have floating seeds which are carried away down the river or lake they grow beside.





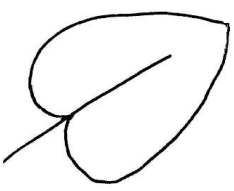
# Leaf Shapes

Leaf shape also helps to identify a plant. Many leaves are simple in shape such as oval, heart-shaped or long and narrow.



Oval: Chickweed

Heart shaped: Violet



Long: Iris