**ACTIVITY: Let’s look at flowers**

**Activity idea**

In this activity, students will look at flowers and identify the different reproductive parts.

By the end of this activity, students should be able to:

* identify different parts of a flower and understand their functions
* use some of the vocabulary of botany.

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**Introduction/background**

Flowers are the reproductive structures of flowering plants. They have a number of different specialised parts involved in pollination, fertilisation and the production of seeds. Botanists use a special vocabulary when naming flower parts.

To identify the different parts of a flower, name them and understand their functions, the best thing to do is look at some actual flowers. There is a bewildering array of arrangements of parts in flowers of different species, and some flowers do not have all the parts common in the majority. That is a good reason for students to get to know a range of flowers, so they can start to recognise common features.

It would help if students are familiar with the contents of the articles [Flower parts](https://www.sciencelearn.org.nz/resources/78-flower-parts) and [Attracting pollinators](https://www.sciencelearn.org.nz/resources/80-attracting-pollinators).

When choosing flowers to use in class, start with larger ones, but don’t ignore the smaller ones – just use a magnifying glass.

There are several sources of flowers, depending on the time of year. A garden or the school grounds can provide a range of flower types – try and use native as well as exotic species. Remember not to collect flowers of protected or endangered species from the wild or from protected areas. Florists can be a good source of large and interesting flowers, but this can get a bit expensive when supplying a whole class.

**What you need**

* A range of flowers (different size, shape, colour, native/non-native)
* Magnifying glasses
* Paper plates to restrict mess
* Drawing and colouring materials
* Forceps and craft knives (optional)
* Copies of the student handout [Looking at flowers](#looking)

**What to do**

1. Hand out copies of the student handout [Looking at flowers](#looking) and discuss.
2. Provide each pair or small group of students with a flower and assist them to work through the handout.
3. Compare and discuss the different flowers examined.

**Extension ideas**

* Grow some plants at school and use flowers from them – students can see the whole life cycle and where flowers appear in it.
* If you use flowers from plants in the school grounds, go back later in the year and look for fruit. Better still, visit them more often and watch the flowers develop into fruit.
* If you have access to a microscope, use it to look at pollen and other flower parts.

**Looking at flowers**

1. Draw your flower and make a note of size and colour.
2. Does it have a scent? (Some people might be able to detect a scent when others cannot. Some scents can be lost after flowers are picked.)
3. Label on the drawing the parts that are visible and how many of them there are. The main parts to look for are:
* petals
* sepals
* stamens – made of anther and filament
* carpel(s) – made of stigma, style and ovary.
1. Lay the flower on a paper plate. If you can’t see inside the flower, carefully open it up by removing some petals.
* Look for pollen.
* Cut open an ovary and look for ovules.
* Draw and label the cut-open flower.
1. Can you see all the parts you expected to see in a flower? If not, why not? (For example, some plants have male and female parts in separate flowers or parts are hard to detect.)
2. What does each flower part that you have found do?

***How some flowers can confuse you***

Most flowers have the same basic parts, but there are exceptions and arrangements that can be confusing. Here are just a few.

Some plants have male and female reproductive parts on separate flowers, which may be on the same plants (called monoecious, for example, red beech, pumpkin and maize) or on different plants (called dioecious, for example, kawakawa, willow and kiwifruit).

Pōhutukawa produces lots of nectar and has masses of red flowers to attract pollinators. However, the flowers only have very small petals – it is the red filaments of the stamens that produce the show of colour.

Grasses, such as toetoe, maize and lawn grasses, are flowering plants. However, they do not have petals or sepals. Instead, the male and female parts are enclosed in leaf-like bracts. There are often many very small flowers on a spike. If it is in season, you could look at maize, but pick some well before the cobs ripen. Maize has separate male and female flowers on the same plant. Like other grasses, maize is wind pollinated, so it has its anthers in many small flowers on branches at the top of the plant where the pollen can be picked up by the wind. The silky female stigmas can be found at the top of what will become a cob, sticking out above protective leaves. If you peel back the leaves carefully, you should see that each silky thread (style) is attached to a different ovary. Each ovary will become a corn kernel.

Some things that look like a single flower are actually lots of flowers in a group (an inflorescence). Daisies, sunflowers and dandelions are like this. They have a central disc made up of lots of small flowers with no petals. Some of the flowers around the edge have a single petal, so the whole thing appears to be a single large flower.

Lilies and tulips tend to have petals and sepals that look exactly the same.

Poppies have sepals to protect the flower bud, but these drop off as soon as the flower opens, so you probably won’t find them on a picked flower.