



# national science week 2020

## Backyard Bioblitz – Flower Dissection

*Flowers might look pretty but take a closer look and you will see that flowers are packed with amazing structures to attract pollinators and to help them reproduce.*

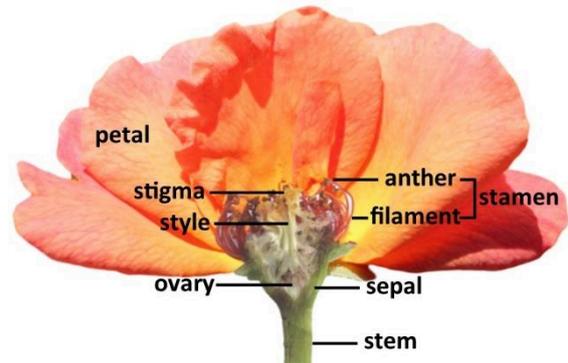
### Safety

When doing science activities outdoors, wear sun protection and comfortable, closed-in shoes. Wear gardening gloves or food handling gloves to avoid skin irritation from plants. Steps that require a sharp knife should be performed by an adult, or by an older child under close adult supervision. Allergy advice: pollen is a common allergen. If you experience sneezing or other respiratory symptoms, do not continue with the activity.

### What you need

Large flower\*, chopping board, sharp knife (small kitchen knife or craft knife), tweezers and sticky tape.

\*First, try dissecting an exotic flower, such as a daffodil, hibiscus, tulip, or rose, before repeating the activity with an Australian native flower, such as a grevillea or banksia. It might be easier to identify the parts in a common exotic flower compared to a native.



Rose flower parts

### What to do

Place the flower on the chopping board. As you dissect out each part of the flower, record it by taking a photograph, or tape the flower parts to the results table on the next page. Use the tweezers to handle small and delicate flower parts.

1. Carefully remove the sepals and petals from one side of the flower.
2. Cut off a stamen at its base and remove an anther from one filament.
3. Cut off a style at its base and remove the stigma from the style.
4. Cut the ovary from the stem.

### What's happening?

Flowering plants have flowers so they can reproduce to make new plants. A flower has female parts (ovary, style and stigma) and male parts (filament and anther). Some flowers are brightly coloured and scented to attract pollinators such as birds, insects, and mammals. In return for transferring pollen from one place to another for the plant, pollinators are rewarded with food from the flower in the form of nectar. Other plants rely on wind or water to spread their pollen. When pollen reaches the stigma, the pollen grows a pollen tube down the style to reach the ovary. If fertilisation occurs, the ovary becomes the fruit of the plant and the ovules become seeds. The flower pictured here has both male and female parts, and flowers like this can self-pollinate, as well as cross-pollinate with other flowers. Some plants produce different flowers that have either all male parts or all female parts, or the male and female parts of a single flower may mature at different times to prevent self-pollination.



## Results

Locate each part of the flower and tape the flower parts to the table or take photographs.

<b>petal</b>	<b>sepal</b>	<b>stem</b>
<b>stigma</b>	<b>style</b>	<b>ovary</b>
<b>anther</b>	<b>filament</b>	<b>stamen</b>

## Did you know?

Botanists (plant scientists) identify plants based on a number of different features, such as the size and shape of leaves and how the leaves are arranged on the stem. For flowering plants, the flowers can make plant identification much easier, but this can mean waiting until the plant is ready to flower. Plants can make their own food by using energy from the Sun and carbon dioxide gas from the atmosphere, and plants provide food and oxygen for other living things. Declining populations of bees and other pollinators around the world could lead to less pollination of plants, including food crops. By protecting pollinators, you can help protect the plants that are vital to all life on Earth. Simple ways to help pollinators include planting a diverse range of native plants; creating habitats suitable for nesting pollinators; providing a source of water for pollinators; and avoiding the use of pesticides.

Plants are held in place by their roots, so they can't move around, but they can spread their seed around. Some plants use wind and water to spread their seed, while others rely on birds, insects, and other animals, to transport their seeds, for example, by having spiky seeds that stick to an animal's fur (or a scientist's sock!).

## Find out more

- Discover the botanic gardens around Australia [www.anbg.gov.au/chabg/abg/index.html](http://www.anbg.gov.au/chabg/abg/index.html)
- Identify plants using an app for smartphones, such as PlantSnap [www.plantsnap.com](http://www.plantsnap.com)
- Explore Indigenous uses for plants <https://bit.ly/3762GEi>
- Learn about zucchini flower pollination with Earthwatch Australia <https://youtu.be/snbG4Q4CQC0>



*Plant identification app*