



# Leaf Detectives

AN ACTIVITY TO DO AFTER VISITING GEELONG BOTANIC GARDENS

Leaves are often the first things we notice about a plant, but it's easy to miss what they tell us about the plant.

Botanists classify plants by many ways, and one of the main ones is by the shape and arrangement of leaves (or lack of leaves). The shape, size, texture and thickness of leaves can provide a lot of information about the climate zone in which the plant naturally occurs.

Use this activity to illuminate how plants adapt to their environment, to collect and analyse data about plants and also begin to learn to 'read' plants by observation, a key botanist's skill.

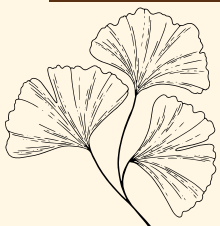
## Resources:

[Illustrated Glossary of Leaf Shapes](#) (PDF)

[How the Leaf Got Its Shape](#) (article)

Resources at the [Australian National Botanic Gardens](#)

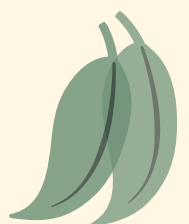
[Australian Tropical Rainforest Plants](#)



Victorian Curriculum Links:

Level 3, Level 4 - Science: VCSSU058

Level 5, Level 6 - Science: VCSSU074, VCSSU075, VCSIS085



FOR MORE ABOUT THE GARDENS, VISIT  
[WWW.GEELONGAUSTRALIA.COM.AU/GBG/](http://WWW.GEELONGAUSTRALIA.COM.AU/GBG/)



# Leaf Detectives

AN ACTIVITY TO DO AFTER VISITING GEELONG BOTANIC GARDENS

## resources

## directions

### You will need:

- Several living plants, of different leaf shapes.
- A wet area, perhaps outside.
- A watering can full of water.

### Exploring leaf shapes

- Learn the names of the parts of leaves and stems.
- Examine the leaf shapes of the plant samples you have available.
- Use the [glossary of leaf shapes](#) to identify the types of leaves you have in your sample.
- Demonstrate and observe where water falls when you pour it from the watering can over the plant. Do the leaves direct the water to the roots or not?
- If yes, does this suggest that this is a plant that needs as much water as it can get? If no, does this suggest that this is a plant that naturally occurs in semi-dry areas?
- Look up the needs of the plants you are exploring and find out if you are right. For example, the leaves of many vegetable plants such as cabbages, zucchini, squash and lettuce act as 'scoops' to catch and direct water towards the central roots.
- This short video from Gardening Australia may help students [experience a tropical garden](#).

### Leaf detectives

- Direct students to conduct surveys of the school grounds or garden area. What leaf shapes do they find?
- They categorise and collect data on leaf shapes using the Glossary on page 1 as a guide.
- Data collection can be made into Excel spreadsheets or on paper, for example, one column per leaf type.
- Use the data as a graphic and visual representation exercise, e.g. producing a bar chart showing which leaf shape is most prevalent in our garden.
- Students conduct research into leaf shapes of plants from arid areas (including but not limited to atriplex/saltbush, spinifex, carpobrotus/pigface) and leaf shapes of plants from high-rainfall areas such as abutilon/chinese lanterns, brachychiton/kurrajong). They will need to find pictures of these plants and how large the leaves are.
- Students propose a 'detection sheet' with the most likely characteristics of plants from arid ecosystems and plants from wet tropics or sub tropics. (Many common indoor plants are tropical species, so even in Victoria, you should have access to some live tropical plant specimens.)



FOR MORE ABOUT THE GARDENS, VISIT  
[WWW.GEELONGAUSTRALIA.COM.AU/GBG/](http://WWW.GEELONGAUSTRALIA.COM.AU/GBG/)