

# Science in the early years: Plant treasure hunt

## Activity description

Children explore ideas about plants in an outdoor environment. They build on their understanding of what a plant is by drawing one and then go outdoors to find examples of plants (a 'treasure hunt'). This activity allows children to learn about different examples of plants other than flowers, or plants that are grown in a pot. Children often discount other examples of plants such as trees, grass and vegetables.



## Links to the EYLF

### Outcome 2

Children are connected with and contribute to their world.

### Key components

Children become socially responsible and show respect for the environment.

### Outcome 4

Children are confident and involved learners.

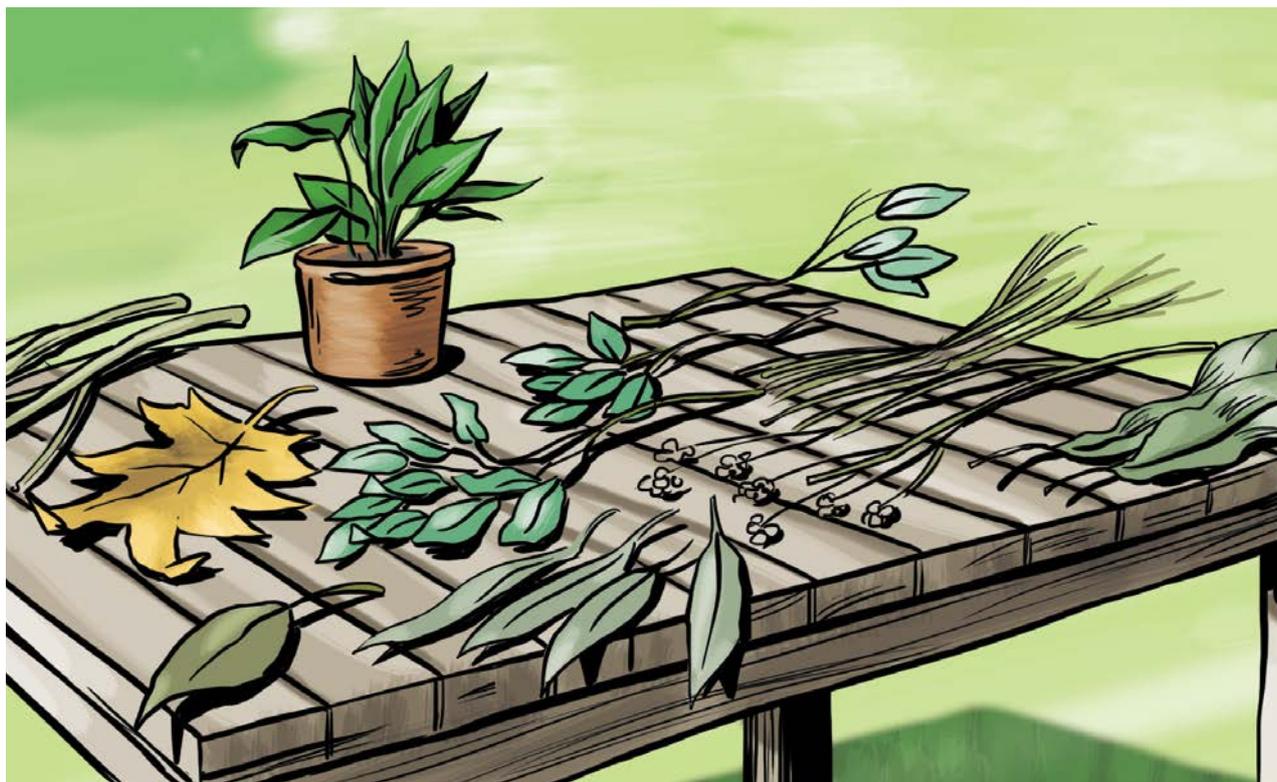
### Key components

Children develop a range of skills and processes such as problem solving, inquiry, experimentation, hypothesising, researching and investigating.

## Link to the Australian Curriculum (Foundation to Year 2)

	Foundation	Year 1	Year 2
<b>Science Understandings</b>	<b>Biological science</b> Living things have basic needs, including food and water (ACSSU002)	<b>Biological science</b> Living things have a variety of external features (ACSSU017) Living things live in different places where their needs are met (ACSSU211)	<b>Biological science</b> Living things grow, change and have offspring similar to themselves (ACSSU030)
<b>Science as a Human Endeavour</b>	<b>Nature and development of science</b> Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE013)	<b>Nature and development of science</b> Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE021)	<b>Nature and development of science</b> Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE034)  <b>Use and influence of science</b> People use science in their daily lives, including when caring for their environment and living things (ACSHE035)
<b>Science Inquiry Skills</b>	<b>Questioning and predicting</b> Pose and respond to questions about familiar objects and events (ACSIS014)	<b>Questioning and predicting</b> Pose and respond to questions, and make predictions about familiar objects and events (ACSIS024)	<b>Questioning and predicting</b> Pose and respond to questions, and make predictions about familiar objects and events (ACSIS037)
	<b>Planning and conducting</b> Participate in guided investigations and make observations using the senses (ACSIS011)	<b>Planning and conducting</b> Participate in guided investigations to explore and answer questions (ACSIS025)	<b>Planning and conducting</b> Participate in guided investigations to explore and answer questions (ACSIS038)
	<b>Processing and analysing data and information</b> Engage in discussions about observations and represent ideas (ACSIS233)	<b>Processing and analysing data and information</b> Use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions (ACSIS027)	<b>Processing and analysing data and information</b> Use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions (ACSIS040)
		<b>Evaluating</b> Compare observations with those of others (ACSIS213)	<b>Evaluating</b> Compare observations with those of others (ACSIS241)
	<b>Communicating</b> Share observations and ideas (ACSIS012)	<b>Communicating</b> Represent and communicate observations and ideas in a variety of ways (ACSIS029)	<b>Communicating</b> Represent and communicate observations and ideas in a variety of ways (ACSIS042)

Source: <https://www.australiancurriculum.edu.au/f-10-curriculum/learning-f-2>



## Notes about the scientific classification of plants

Botanists use certain features of plants (Kingdom Plantae) to divide them into vascular and non-vascular plants.

*Vascular plants* contain series of vascular 'tubes': xylem and phloem that carry water and nutrients through the plant. There are three categories of vascular plants:

- Pteridophytes: seedless plants (have spores instead of seeds); includes ferns (has roots, stems and leaves).
- Gymnosperms: have needle-like leaves, and produce seeds (in cones) but not flowers. Have leaves, stems and roots: includes pines and fir trees.
- Angiosperms: are flowering plants (includes trees, shrubs, herbs, bulbs, grass) with leaves, stems and roots.

*Non-vascular plants* do not have vascular tubes to transport water and nutrients. They lack true leaves, stems and roots, and they don't have seeds or flowers. These include mosses, liverworts and hornworts.

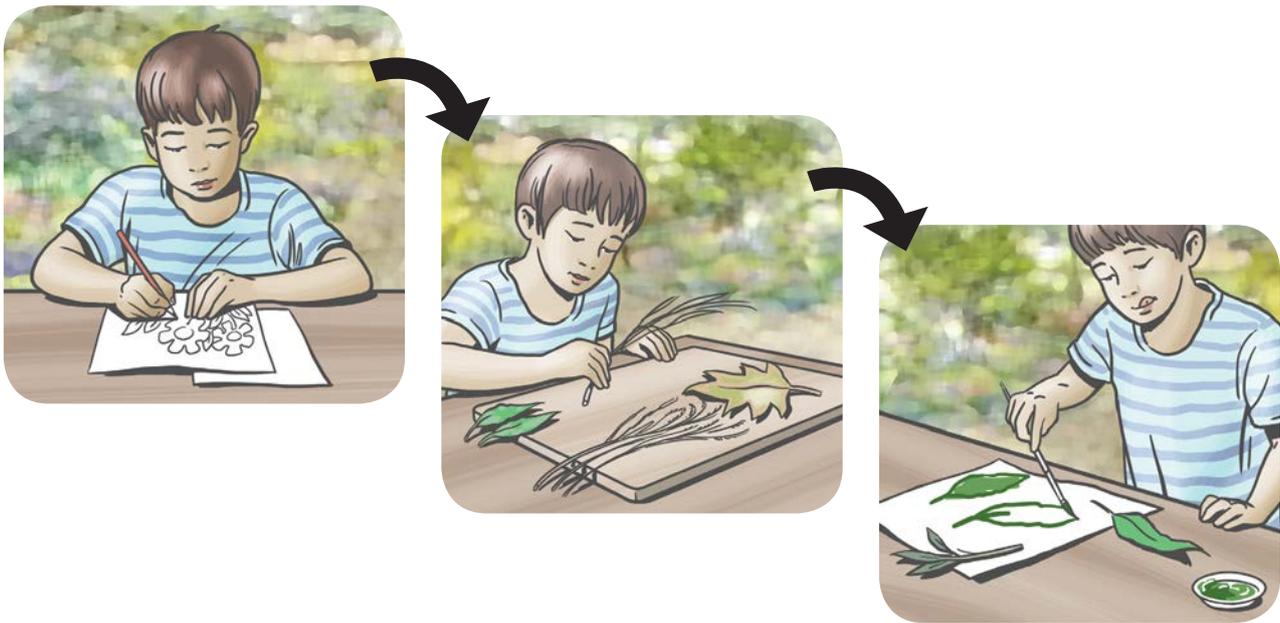
What about *fungi, lichen and algae* – where do they fit?

- Fungi includes yeast, moulds, mushrooms and lichen (lichen is a fungus and an algae) are classified in a separate Kingdom to plants: Kingdom fungi.
- Algae (including green algae) can carry out photosynthesis like plants; and can be one-celled or multicellular. They are often classified in the Kingdom Protista: where algae are described as 'plant-like'.

## What to provide?

- Paper and pencils/crayons
- A number of plants available in the outdoor play space: include at least one plant in a pot (as this is likely to be most familiar to children), but also some less likely to be identified as plants: trees, grasses, weeds, vegetables and plants with different coloured foliage.
- Plastic gloves.

Remind children not to pick up insects and spiders.



**Learning intention**

- To understand what a plant is (EYLF, F-2)
- To know the different parts of a plant (F-2)

**Success criteria**

- I can recognise features common to all types of plants (EYLF, F-2)
- I can describe features of a plant (F-2)

**What to do?**

**Have children begin by drawing their idea of a plant.**

**Tell me about your drawing of a plant. What is the most important thing to show in your drawing?**

Listen to gauge children’s initial ideas about what a plant is. Give them feedback.

*Responses to look for:* They are green, they grow in pots, they have flowers, and they have leaves. These ideas are good observations, but they don’t account for *all plants*.

**Children go on a ‘plant treasure hunt’ and explore the outdoor space to find some examples of plants. After five minutes or so, they then point out and share examples with the educator (or in a small group).**

**Why is this an example of a plant?**

Affirm all correct selections of a plant.

*Responses to look for:* Children might include fungus or lichen: these are not plants. Moss is a plant. If children do not include, or few mention, less familiar plants (trees, grasses etc.), point these out as examples.

**Why do you think we might have missed these types of plants in the treasure hunt?**

(SIS: Processing and analysing – compare observations with predictions)

*Responses to look for:* The leaves are not green, the plant doesn’t have flowers, the plant grows straight from the ground rather in a container, the plant might be larger than a pot plant, it is a weed not a plant.

**Have children draw another example of a plant.**

*Responses to look for:* Check that each child has drawn a plant that is different to their initial drawing. If it isn’t, ask them to describe what they have drawn, and why.

**What other types of plants did we find on the treasure hunt?**

Will depend on what is found. See 'Notes about the scientific classification of plants' to help the children classify their plants.

**At the end of the activity, ask:****What have you have learned about plants?**

*Responses to look for:* Reflect on how children have expanded their understanding of examples of plants that might not have obvious features such green leaves and flowers.

**What to record?**

Use the 'before' and 'after' drawings of plants as evidence of learning and annotate these with important points you notice: the children show how their idea of the meaning of a plant is evolving (probably from a stereotypical pot plant with flowers and green leaves, to a wider range of plants).

**What comes next?**

Extend the learning by placing examples of plants that do not have the typical features of stems, leaves and roots on a display table. Or look at examples of plants that have flowers and those that haven't (e.g. moss, pine cones from conifers).

