



Topic: External features of living things

Examining external features of plants

Lesson concepts

- Living things have a variety of external features
- Science involves asking questions
- _A People use science in their daily lives
- Questions can be responded to and posed
- Observations can be collected and recorded
- Observations can be compared with others
- _A Observations and ideas can be represented and communicated

Today students will:

- ▶ identify external features of plants.

Resources

Digital

Slideshow — External features of plants

Sheets

Sheet 6 — Variety of plants

Sheet 7 — Indoor plants

Sheet 8 — External features of plants

Find and prepare

Prior to the lesson, if possible, locate indoor plants suitable for students to observe (or use Sheet 7 — Indoor plants)

Access to outside areas suitable for observations of plants

Protective gloves

Protective eyewear

Hat

Key terms

botanist, flower, leaf, root, shoot, stem, trunk

For definitions and explanations of terms, please see the

[Glossary](#).

Learning alerts

Be aware of:

- students using generalisations rather than observations of plants
- students not recognising that plants include trees, shrubs, flowers and weeds.

Suggested next steps for learning

- Encourage students to look carefully at a plant to observe it, and ask questions to elicit observable details and descriptions.
- Explain to students that plants include all of these things. Use images or actual plants of various types to reinforce this.

Lesson

Recall that a plant is a living thing

1. Ask students to recall some examples of living things.
 - a. Confirm that plants are living things (if not suggested).
 - b. Observe a nearby plant, for example, a pot plant or by looking out the window.

Focus questions

Q. *What are the basic needs of most living things?*

A. For example: food, water, air

Q. *What are the basic needs of some plants?*

A. water, air and light

Q. *Do plants need shelter, like animals do? If so, in what ways?*

A. For example: Some plants grow in only part shade rather than full sun, so they need shelter from light for part of the day; some plants don't grow well when it's too windy, so they need to grow in a place where they are protected from the wind.

Say to students

“ People use science in their daily lives when they ask questions about how to care for living things in the environment. ”

Identify the parts and purpose of plants' external features

2. Show students some pictures of different plants on **Sheet 6** — [Variety of plants](#).

Say to students

“ Carefully observe these pictures of plants, as scientists would. ”

Focus questions

- Q. *What parts of this plant can you see?*
 A. For example: leaves, stem, trunk, roots
- Q. *What is the same about all the plants?*
 A. For example: They all have leaves.
- Q. *What are some differences in some of the plants?*
 A. For example: the size of the stem or trunk, the size and shape of leaves
- Q. *How do you think this part is used by the plant?*
 A. For example: collecting water/nutrients/sunlight

Examine plants with different levels of need

Say to students

“ You are going to observe plants that grow in a variety of habitats. First of all, you will observe some plants that may live indoors. ”

3. Lead students to any indoor plants, or view **Sheet 7** — [Indoor plants](#), and ask them to observe these plants.

Focus questions

- Q. *What types of plants might live inside?*
 A. For example: pot plants, small plants, plants that don't need a lot of sun
- Q. *How are their needs met?*
 A. For example: We water the plants and give them plant food; they get light through the window.

Say to students

“ A plant's external features help the plant to meet its needs, for example, the leaves collect sunlight and the roots take in water. Let's go outside to observe some plants growing in the local environment. ”

Remind students of safety precautions:

- Wear a sun-safe hat and protective shoes.
- Be careful when touching certain materials, for example: thorns.
- Be on the lookout for tiny creatures that may harm or be harmed.
- Leave the plants intact by not removing any parts.
- Wash their hands when returning from the walk.

4. Lead students outside to observe plants that live in different places in the local environment, for example, in a garden, in a paddock, in the bush, by a creek or in a park.

Focus questions

Q. *What types of plants live outside?*

A. For example: cabbages, flowers, grass, water lilies, trees

Q. *How are their needs met?*

A. For example: We water the garden; the rain waters the yard; plants have enough sunlight; they have shade from buildings or trees; they get nutrients from soil.

Q. *How do the external features of plants help them meet their needs?*

A. For example: The leaves collect sunlight; the roots take in water.

Ask student to think about the plants living in the inside and outside environments, and how their needs are met.

Focus questions

Q. *Which plants, if any, need people to care for them?*

A. For example: indoor plants, a vegetable garden, the park

Q. *How are they cared for?*

A. For example: People water them, give them food and pull out the weeds.

Q. *Which plants don't need people to care for them?*

A. For example: the ones in the bush, weeds

Q. *How are their needs met?*

A. For example: They get lots of sunlight, food from the soil and water from rain.

Say to students

Scientists ask 'What could happen if ...?' questions to help them find out about plants.

They ask questions like:

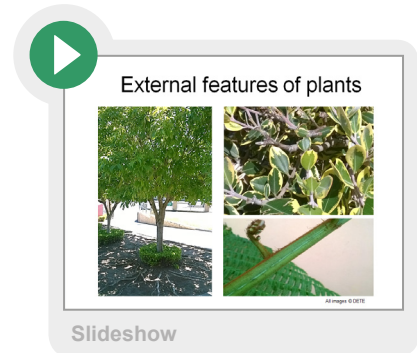
- What could happen if the plant had no roots?
- What could happen if the top of the plant was cut off?
- What could happen if the plant didn't receive any water?

Think of your own 'What could happen if ...?' questions about the external features of plants.

Represent plants using scientific drawings

5. Display the **Slideshow — External features of plants**.

Discuss each slide (and plant part) in turn.



Focus questions

Q. *What plant part can you see?*

A. For example: roots, shoots, stems

Q. *What is the purpose of the plant part?*

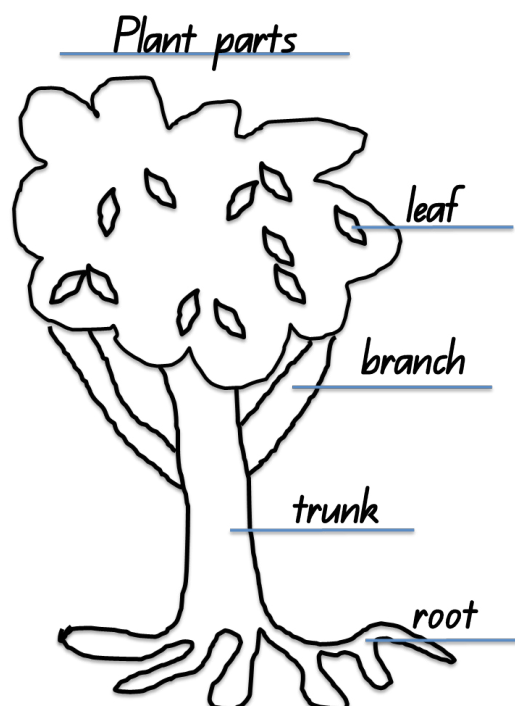
A. For example: to help the plant get the water it needs

- a. Display the last slide and discuss the external features (plant parts) that can be seen.

Say to students

Scientists, such as **botanists**, often draw their observations in detail to record their findings.

You will make a scientific drawing of a plant by observing carefully and then drawing the plant's external features.



6. Review with students what they need to do to make a scientific drawing:
 - Use a pencil.
 - Draw the features of the plant observed.
 - Write words to label the features.
 - Draw lines to link the words to the features.
 - Avoid crossing the lines.
- a. Display **Sheet 6 — Variety of plants** or ask students to choose a plant that they have observed during the lesson.
- b. Give students **Sheet 8 — [External features of plants](#)**.

Say to students

- Now you are going to:
- observe the external features of the plant
 - complete a scientific drawing showing these features of the plant.

Remember to include as much detail as possible and to label the plant parts in the drawing (for example: stem/trunk, leaves, shoots, branches, roots).

In the next lesson, you will learn about habitats that plants and animals live in.