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Grade:

School:

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WithOnePlanet

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Q Investigate

Lesson 3

Student worksheet

Describing plants

Years 5 to 6

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INQuIRY



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WithOnePlanet

Climate change education
An x pand Foundation initiative

Describing plants

Lesson 3: Student worksheet

Introduction

Different cultures use different plants for different things. Plants can be used for shelter, food, medicine, and many other things. It is very important to know which plants are poisonous, which are good to eat, which are good to use for shelter, which are good to feed the animals, and so on. People would not be able to use plants for anything at all if they were unable to recognise the plants.

We can recognise and describe plants in different ways. In this lesson, we look at recognising and describing the shape of the plant (habit), the parts and arrangements of flowers on a plant, and the parts and arrangement of leaves, fruits and seeds on a plant.

Information about describing plants

1. Habit

The habit refers to the shape of a plant. The descriptions of the different habits are:



Tree	Palm	Shrub	Vine	Herb	Grass	Fern
Woody plant greater than 4 metres high with a single stem (tree shapes can be described as rounded, rectangular, like a cone, spreading, weeping or upright)	Tree crowned by large leaves shaped like hands with the fingers extended.	Plant that is usually woody and multi-stemmed.	Plant that climbs or sprawls.	Small plant that is not woody.	Plant having slender, strap like leaves (grasses can be described as clumping or spreading).	Flowerless, seedless plant with fronds and with reproduction by spores.

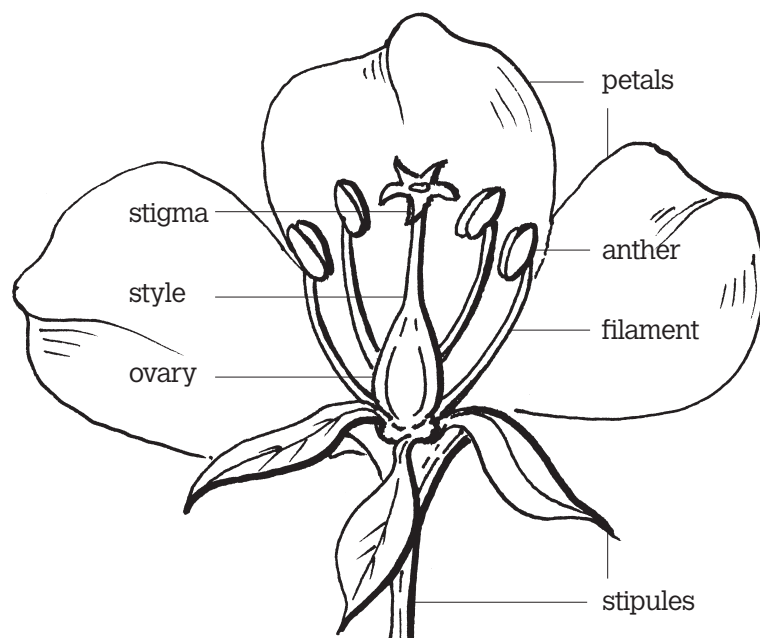
2. Flowers

Flowers and fruits can be arranged in different ways on a plant. Some of the most common ways that flowers are arranged on a plant are:

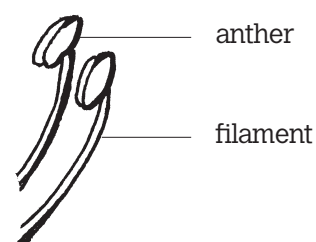


Solitary	Umbel	Raceme	Spike	Corymb	Panicle
Borne singly (a single flower).	A flower cluster with stalks of equal length arising from a common centre to form a flat or curved surface.	A flower head where stalked flowers are on an unbranched axis, the oldest flowers are at the base and the youngest at the top.	A long unbranched cluster of stalkless flowers produced along a central axis.	A cluster of flowers with lower stalks proportionally longer so that the flowers form a flat-topped head.	A loose branching cluster of flowers.

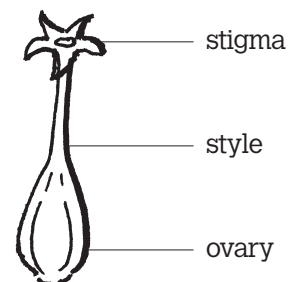
You can see the typical parts of a flower on the diagram below.



Male parts:



Female parts:

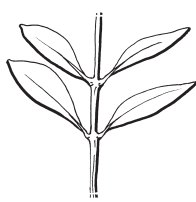


3. Leaves

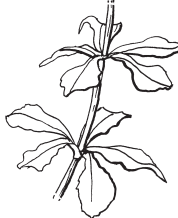
Leaves can be arranged on a plant in different ways. These are alternate, opposite, whorled and radical.



alternate



opposite



whorled



radical

There are many different names we can give leaves. These names are based on the shape of the leaf. You can see the different leaf shapes and names below:



acicular



linear



lanceolate



oblanceolate



falcate



spathulate



oblong



rhomboid



cordate



obcordate



oval



elliptic



ovate



obovate



lyrate



deltoid



reniform



orbicular

Finally, we can also classify leaves based on the types of veins in the leaf. You can see the different types of veins in and their names below:



pinnate



parallel



reticulate



palmate



dichotomous

Activity 1: Thinking about describing plants

Q1: Why do you think it is important to know how to recognise and describe the plants around us?

Q2: Imagine if we couldn't tell different plants apart. What are some of the things that could happen if we didn't know what different plants were?

Activity 2: Recognising and describing plants

Your teacher will put you into a group, and assign you one of four topics: habit, flowers, fruits or leaves. In your group, you need to get four pictures related to your topic. The Habit group will find pictures of different shaped plants, the Flowers group will find pictures of different flowers, and the Leaves group will find pictures of different leaves. Use the sheet below to attach your pictures, and write notes about your pictures.

My pictures	My topic
(stick your picture here)	<hr/> <hr/> <hr/>
(stick your picture here)	<hr/> <hr/> <hr/>
(stick your picture here)	<hr/> <hr/> <hr/>
(stick your picture here)	<hr/> <hr/> <hr/>

You now know about some of the types and parts of some plants, flowers or leaves. Together with your group, plan and give a two minute presentation to the class, sharing what you have learned.

[illegible]

Extension activity: Making a plant press

Identifying plants and leaves can be fun, but pressing them can be even more fun! In this activity you will make your own plant press, and then press some plants.



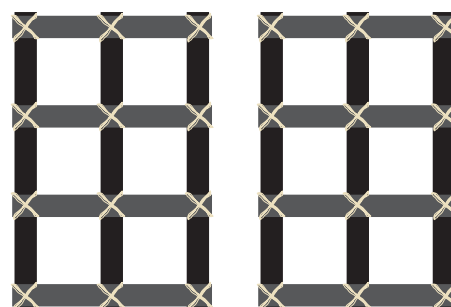
Equipment to make a plant press

To make a plant press you will need:

1. 6 x 30 cm long sticks
2. 8 x 21 cm short sticks
3. natural rafia (for tying sticks together)
4. 2 x A4 sheets of cardboard
5. sheets of A4 absorbent paper
6. 1m of cord (for tying the frames together).

Constructing the frames

1. Place sticks in grid pattern (as shown below)
2. Use natural rafia to tie the sticks together to make a strong frame.



Constructing the frames

Pressing the plants

1. Place the first frame down
2. Place the first layer of cardboard on top of the frame
3. Place the first layer of paper on top of the cardboard
4. Place a plant specimen on top of the paper
5. Place a second layer of paper on top of the specimen
6. Place the second layer of cardboard on top of the paper
7. Place the second frame on the top of the cardboard
8. Tie the frames together using a cord to hold the plant press tightly together.



Making the plant press



Tying the press together

Source:

Graphics produced by WithOnePlanet 2015

If you don't have the equipment you need to make a plant press, you could also dry plants by putting them between sheets of newspaper on a flat floor or table, and then putting a small weight on top. You only need about six books on top. If the weight on top of the plants is too heavy it can damage the plants.

Over the next week

You will need to change the paper at least three times in the week after you have pressed the flowers.

Did you know ...

Children in Timor Leste have also done the same activity that you are doing, and have made their own plant presses too! Have a look at the following video/photos, to see some children in Timor creating the plant presses.



Students collect local plants to study, draw and press.



Students collect plants that can be used in different ways, such as for food, shelter or bush medicine.



Students use a magnifying glass to study different parts of plants in detail.



Students draw the plants they have collected.



Students can also write a short description of their observations of the plants.



Students make plant presses to press and store their plant specimens.



A student constructs his plant press.



Students follow instructions to add plant specimens to the plant press.



Students tie the frame to press their plant specimens.

Source:

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