

Classification

When there are large numbers of things, our senses become overwhelmed by information. Sorting and grouping helps us to make sense of this information.

- We can sort objects into groups according to their similarities and differences.
- This helps us to remember what they are like and often makes it easier to find them.



In a supermarket, similar items are displayed near to one another, so the fruit and vegetables are all together, the frozen food is together, the breakfast cereal is together and so on. We sort and divide the foods into different **categories** based on similarities. This makes it easier to find things when we shop. Can you think of other shops or collections which are also sorted into an order?

In order to decide which group to sort an item into, we have to be able to describe its characteristics. In nature, this is what we call classification: all living things are sorted into groups based on their characteristics.

The first activity we are going to do for this unit is all about *describing* plants carefully and accurately. Then we will use some of this learning to find out about how we can use these careful descriptions to help us *sort* our plants. We will learn about *keys* which are diagrams which scientists can use to help to *identify* the living things that they observe. Finally, we will make our own keys and challenge someone else to use them to identify some unidentified living things.

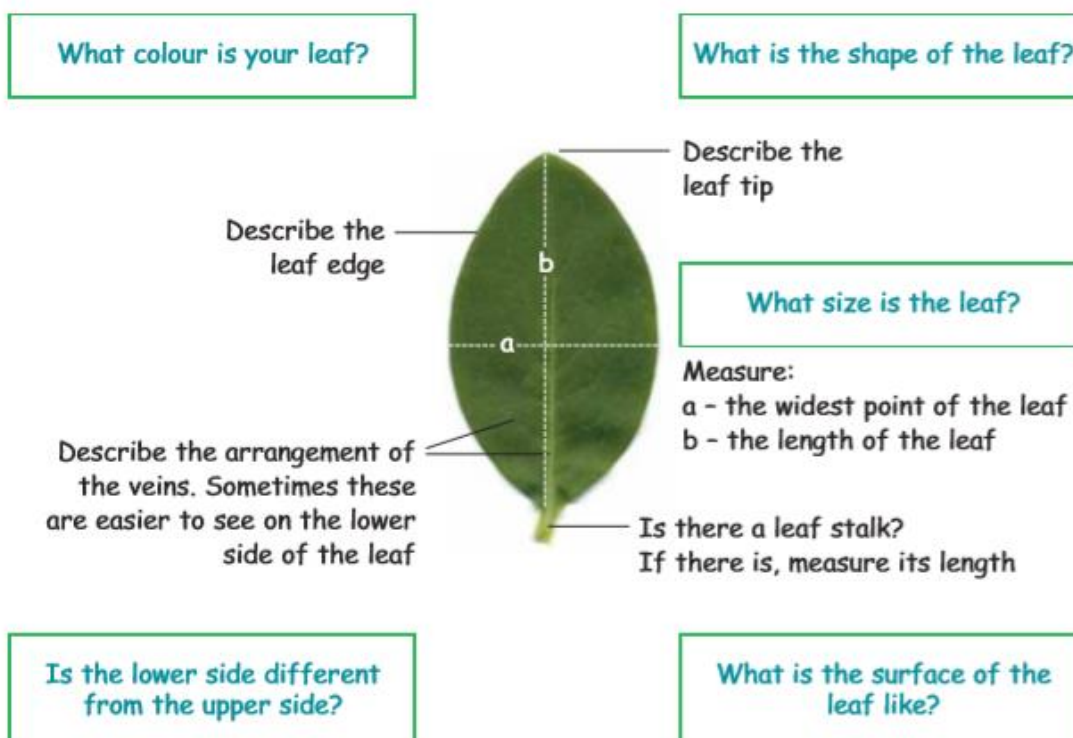
Activity 1: Observing and describing leaves. The first part of the activity can be done on your own, but you'll need to find someone else in your household to help you with the second part (or you could play with someone else in the class via a video-call/facetime if your parents are happy for you to do that – please check first!).

Part 1 – do this on your own.




To begin this activity, you will need a selection of different leaves. It would be best if these can be real leaves, but you could use the ones in the pictures on the separate file (8. Describing leaves pictures). If you are going to get real leaves, then collect together one leaf from *each* of 8-10 different plants outdoors. Take care not to pick leaves from any plants which are special/precious, and look out for prickles and stings – it's probably best to check with a grown-up before picking leaves if you are not sure. Choose leaves from plants which are as **different** from one another as possible – look for plants which have leaves of different shapes, different colours and different sizes.

We're going to look carefully at features which are different between leaves, as well as some features which are common to several different types of leaf.

Choose two of your leaves – it doesn't matter which ones. Place each one in the centre of an empty page of your exercise book – one page for each leaf. You can stick them down or draw around them if you would like to. Then, around each leaf I would like you to describe it in as much detail as possible. Try to answer each of these questions about the leaf:



You might choose to use some of these words in your descriptions:

Colour	green, brown, yellow, red
Leaf edge	smooth, toothed, wavy, prickly
Leaf surface	smooth, rough, wrinkly dull, glossy hairy, furry, not hairy
Leaf tip	pointed, rounded
Leaf stalk	present, absent
Veins	<div> one main vein with branches</div> <div> several veins starting from the bottom of the leaf and coming together again at the tip</div> <div> several main veins spreading out from the bottom of the leaf</div>

Part 2 – do this with someone else.

You are player 1 - you need to hide your leaf collection from player 2.

Player 2 needs a pencil and some paper.

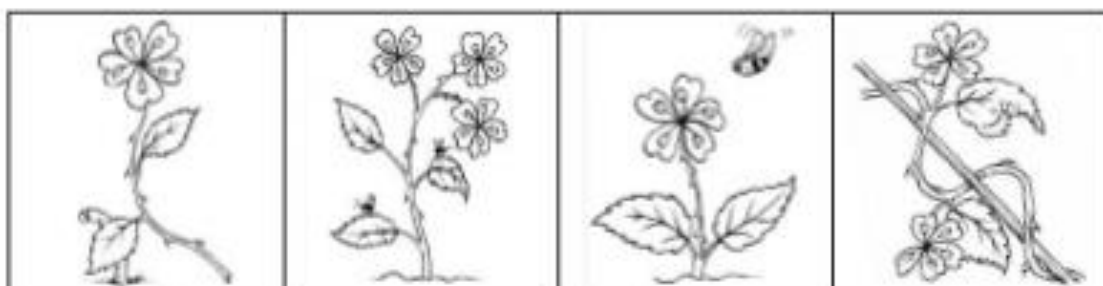
Player 1 describes one of their leaves in as much detail as possible. Use the words and phrases from the wordbank above to help. Player 2 has to listen carefully to the description and try to draw the leaf as accurately as they can, following the description they are given. When the drawing is finished, reveal the real leaf and compare it to the drawing. How good was your description?

Now swap over and have another go. Who gave the best descriptions? Who was able to follow the descriptions accurately? Keep going until you have done all of your leaves. Does it get easier to describe the leaves clearly with more practice?

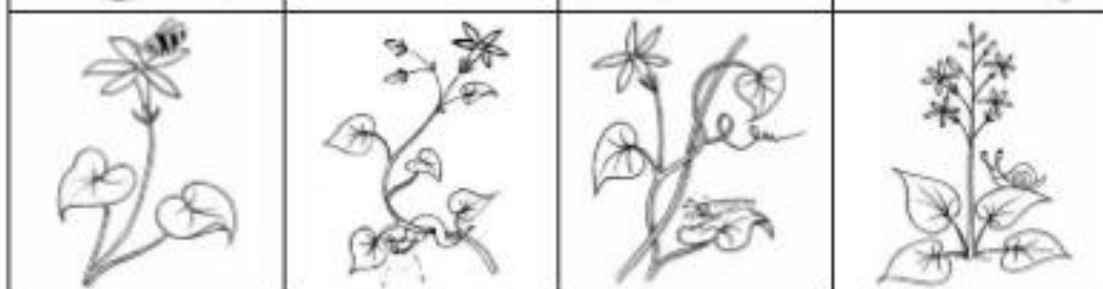
Activity 2: Sorting plants

Here are a number of different plants:

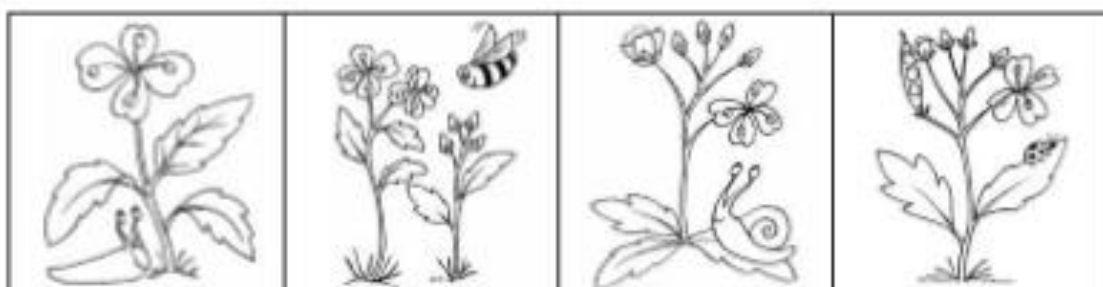
Family 1



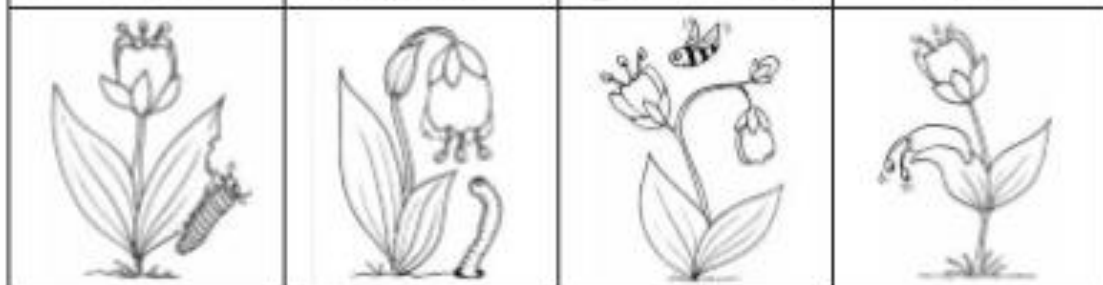
Family 2



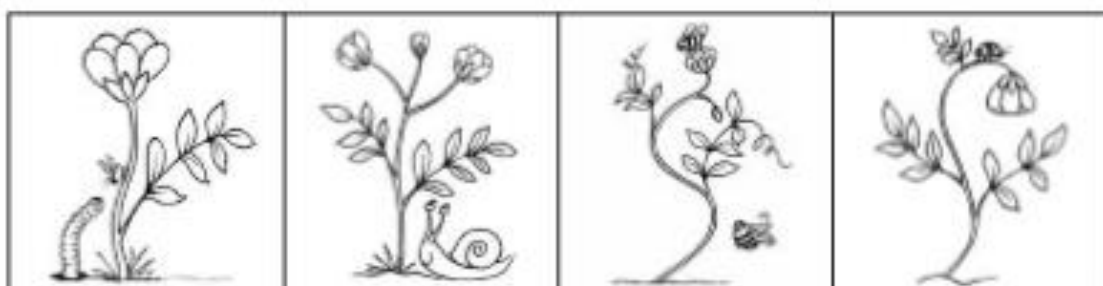
Family 3



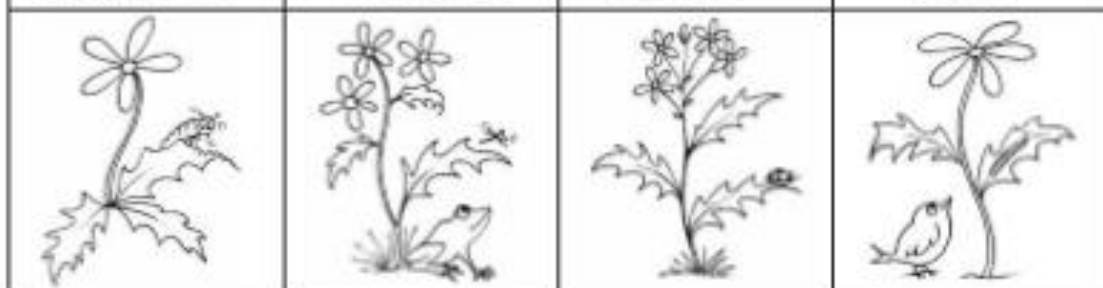
Family 4



Family 5



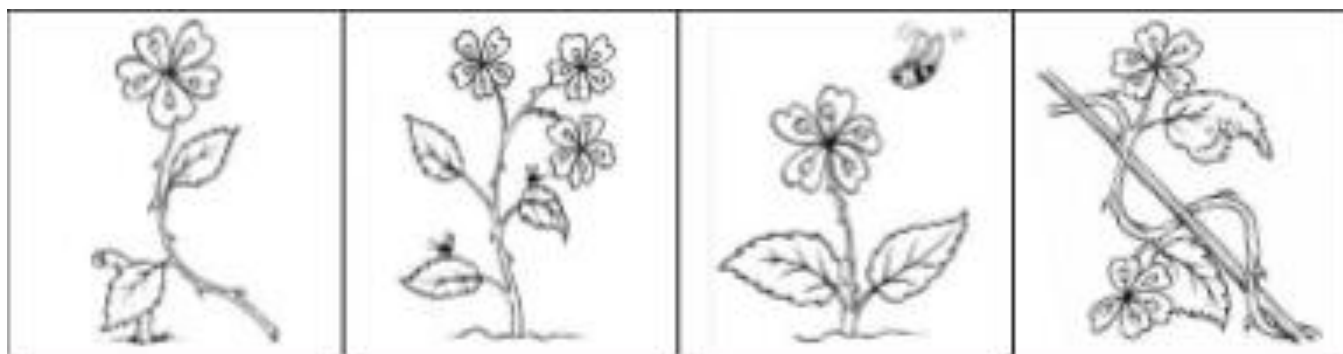
Family 6



Each of these plants has been sorted into a family – every row of four plants is one group.

Look really carefully at the top row. Can you see how and why each of the plants in this row fits into its family?

Here they are again:



What is it about each of these plants that makes them similar? Can you describe the features that they all have in common? Look particularly at their leaves and the shape of their flowers – what is similar? However, even though they have been put into a group, they are not all the same – how many differences can you spot?

Now compare this family with another row on the first picture – can you see how none of these plants would fit into that family?

See if you can describe the characteristics of each family or row of plants. What is it about all the plants on one row that makes them one family?

If you are able to print, you could print out all of the plants and cut them into separate cards. You could then use these cards to play sorting and matching games, like pairs or even happy families. You could also colour each family with a different colour of the rainbow.