

## Parts of a flower

➔ Teacher Guidance

# Introducing the parts of a flower

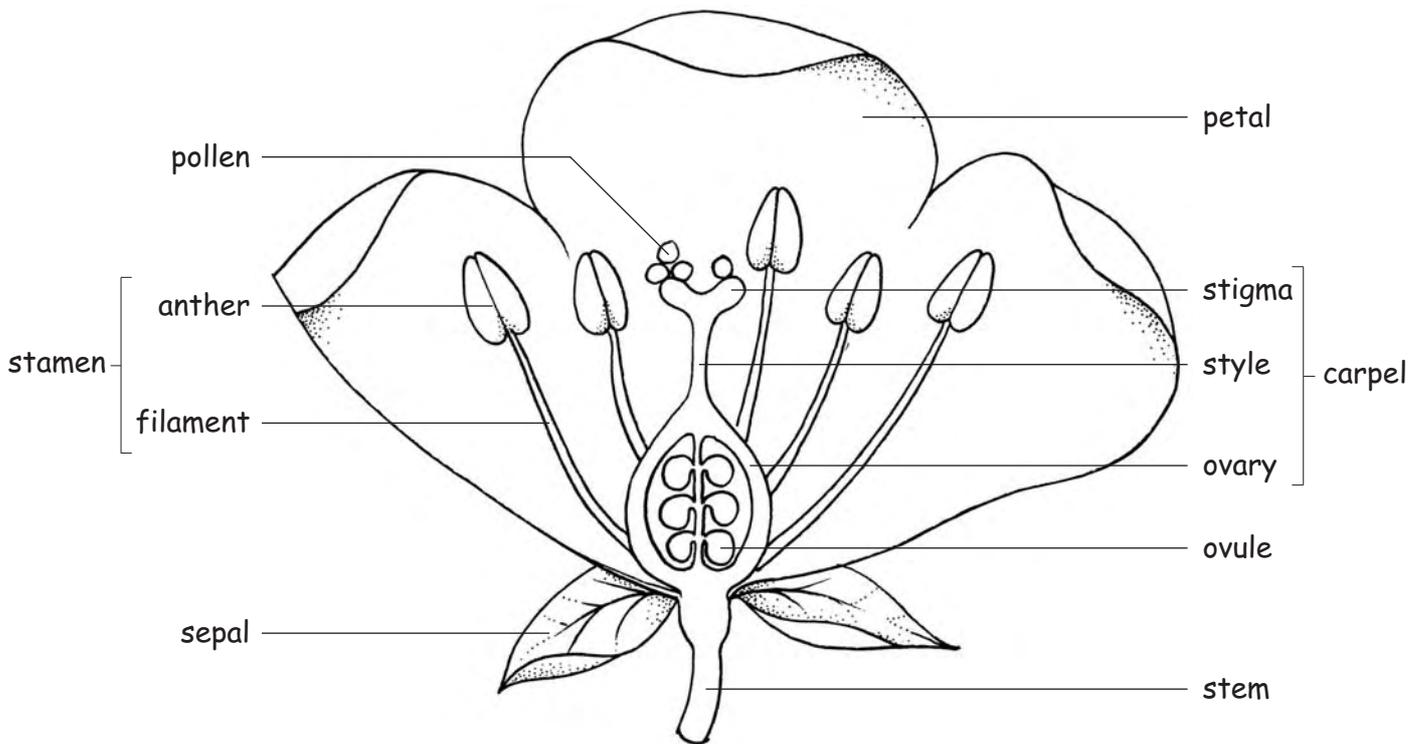


Figure 2. A half flower, showing the basic parts: sepal, petal, stamen (anther, filament), carpel (stigma, style and ovary with ovules), and stem

This 'ideal' flower shows the basic parts of a flower. Children need to recognise these parts in different flowers and understand their role or function in flowering plant reproduction.

For the first activity, it is often a good idea to give children the opportunity to dissect a flower. Different methods are suggested in the 'Teacher Guidance' for this activity. When doing the dissection, the children look closely at the different parts and become aware of their arrangement in the flower. This can be followed by using one or both of the Pupil Sheets (*Finding out more about flower parts*). Depending on which are selected, these sheets give opportunities for development of literacy and numeracy skills, or they can be used as revision or assessment activities.

Flowers don't all look the same, so for whatever flower you use you will need to work out which are the sepals, petals and so on. You will find guidance as to which flowers are suitable for study on page 31, together with two examples of dissected flowers. Further examples are provided on the CD (Part 1) and also on the SAPS website.

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# Dissecting a flower

## The activity

You need a suitable flower for each child. The choice of flower depends on the time of year and what is available. (For suggestions and diagrams of some dissected flowers, see *Background information for teachers*.)

To make it easier for the children to carry out the dissection, the child can push the flower stalk into a lump of Blu-tack or into a bung with cross-cuts in it.

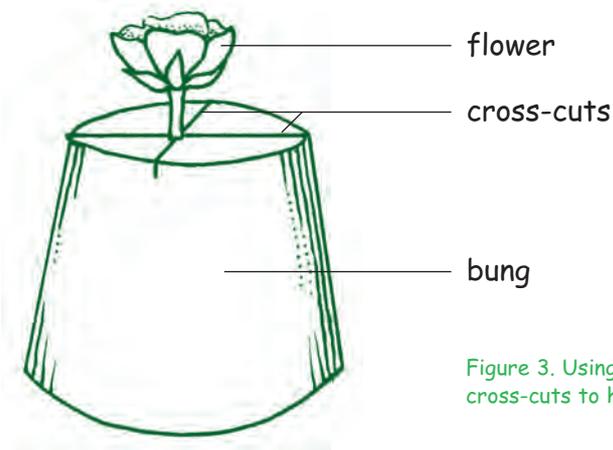


Figure 3. Using a bung with cross-cuts to hold a flower.

The parts of the flower that are removed can be displayed in a number of different ways. Three suggestions are given below.

### Method 1

Cut a piece of Sellotape, approximately 25 cm in length. Make it into a loop by sticking the ends together but with the sticky surface facing outwards. Stick this loop on a piece of card, about 12 cm x 8 cm.

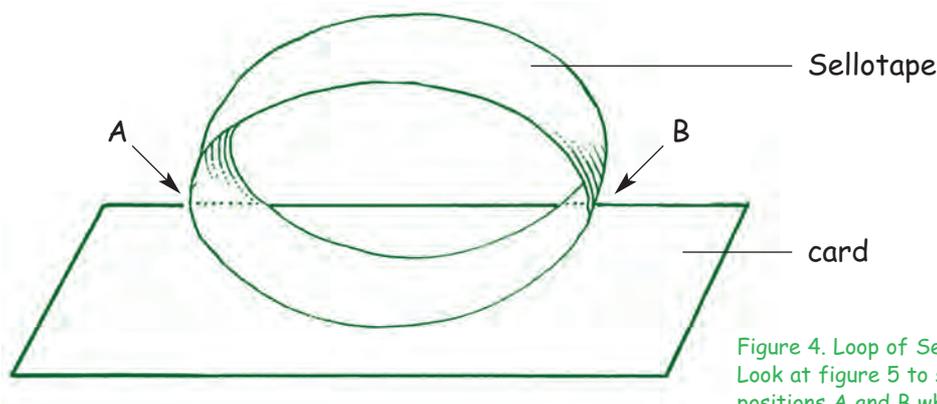


Figure 4. Loop of Sellotape on a piece of card. Look at figure 5 to see what happens to positions A and B when the loop is cut and then stuck down on paper.

Let the children carefully dissect the flower as follows.

- Start at the base of the flower and first remove the outer whorl (ring) of parts. These are the sepals. Use either fingers or tweezers (forceps) to do this.
- Then, starting at the **right hand** end, place these sepals on the sticky loop. Try to arrange them so they are at approximately half cm intervals along the loop, moving from the right hand end, along to the left. To make sure the parts are arranged in the correct sequence, you must start at the right hand end.
- Next remove the second whorl of parts. These are the petals.
- Place the petals onto the loop, to the left of the sepals.
- Repeat the process with the stamens and finally the carpels. Continue sticking them on the loop, in sequence, to the left of the sepals and petals.
- Cut the Sellotape at the positions marked A and B.
- Turn the tape over and stick it down on a worksheet or in a workbook.

You now have a row of flower parts in the order they occur in the flower, starting from the outside of the flower.

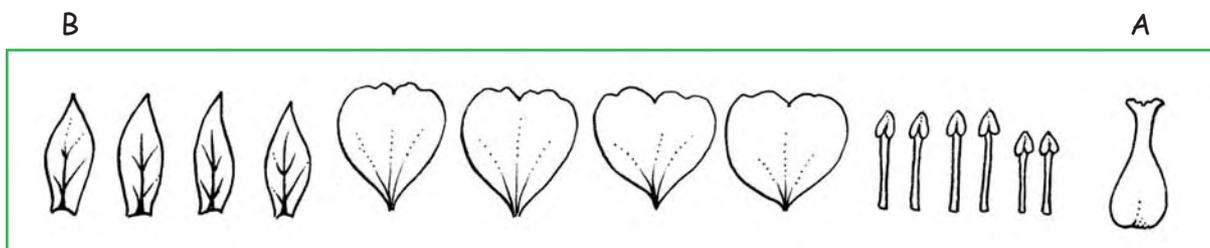


Figure 5. Drawing of a dissected flower, prepared using Method 1, showing the loop after it has been cut, turned over and stuck down. You will see, starting from the left hand side of the diagram (letter B), that the parts are in the order in which they were dissected. This flower has 4 sepals, 4 petals, 6 stamens and 1 stigma, style and an ovary.

### Method 2

Cut a piece of double-sided Sellotape, approximately 15 cm in length. Stick it down on a worksheet or in a workbook.

Dissect the flower as described in Method 1, removing each whorl in turn. Stick the parts in order onto the strip of Sellotape but in this method, start the sequence from the **left**. When complete, cover the flower parts with a piece of wider Sellotape or sticky-backed plastic.



Figure 6. Photograph of dissected cultivated blue geranium flower (Crane's-bill), prepared using Method 2. The flower parts are held on double-sided Sellotape and covered with sticky-backed plastic. This flower has 5 sepals, 5 petals, 10 stamens, a 5-branched stigma, a style and an ovary.

### Method 3

Prepare a sticky square (15 cm x 15 cm) using several strips of double-sided Sellotape and put this on a worksheet or in a workbook.

Dissect the flower as described in Method 1, removing each whorl in turn. Then arrange the parts of each whorl in concentric circles, as they are arranged in the flower, with sepals forming an outer ring and so on with the carpel(s) finally in the centre. When complete, cover the flower parts with sticky-backed plastic.



Figure 7. Photograph of pink geranium with parts displayed as described in Method 3. The flower parts have been arranged on a sticky square of strips of Sellotape and covered with sticky-backed plastic. This flower has 5 sepals, 5 petals, 10 stamens, a 5-branched stigma, a style and an ovary.

**Reminder** – see *Background information for teachers* for examples of dissected flowers

### Further activities

1. Finding out about the numbers of flower parts (Pupil Sheet and Teacher Guidance).
2. Graphic organiser: whole-parts relationship (Pupil Sheet and Teacher Guidance).

## Curriculum links

National Curriculum (Sc2)	<b>KS2: 3d</b>
QCA guidelines – Scheme of work	<b>Unit 5B</b>
Scottish ISE 5-14 framework/attainment targets	<b>LT-D2.5</b>

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# Finding out more about flower parts

These two activities encourage children to find out more about the parts of a flower that they may have dissected. In particular the activities give opportunities for development of literacy, numeracy and thinking skills. For each activity, a 'Pupil Sheet' is provided and some suggestions as to how these can be used with, or adapted for, your children are given in the relevant section of the *Teacher guidance*. (See also note *Reference to literacy, numeracy, assessment and investigative skills*, on page 2 of the booklet.)

## Activity 1: Finding out about the number of flower parts

This activity (see Pupil Sheet on page 9) is useful to help develop numeracy skills, as the children have opportunities for work on numbers and then link the pattern of numbers or parts in different flowers.

Using the 'Dissecting a flower' instruction sheet, let the class either all dissect the same species of flower or dissect different species of flower. During or after the dissection, they can record how many sepals, petals, stamens and carpels they found in their flower.

Then here are some things they can do.

- See if there are any links between the numbers of different parts (e.g. are there the same number of petals and sepals?). Discuss why there are links, if any.
- Compare their results with those of others in the class.
- Record everyone's results on a class chart and discuss the findings. This could be an opportunity to use IT skills, by using a spreadsheet.

Children should begin to see a pattern in the relationship between parts. Usually the flower parts are multiples of 2, 3 or 5 (see also *Background information for teachers*).

Suggestions for suitable flowers to use for this activity are given in the *Background information for teachers*.

## Finding out about the number of flower parts

Name of your flower \_\_\_\_\_

The flowers of most plants have sepals, petals, stamens and carpels.

The **number** of sepals, petals, stamens and carpels is not the same in all plants. Count the number in your flower.

sepals \_\_\_\_\_

petals \_\_\_\_\_

stamens \_\_\_\_\_

carpels \_\_\_\_\_

The carpels are sometimes joined together (look for the join marks) or they can be separate. What happens in your flower?

In my flower the carpels are \_\_\_\_\_

Can you describe any pattern that you see in these numbers?

\_\_\_\_\_

\_\_\_\_\_

(Clue - Are the numbers of the different sets of flower parts all the same?)



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### Teacher Guidance

## Activity 2: Whole-parts relationship - using a graphic organiser

This activity (see Pupil Sheet on page 11) can be used to invite the children to identify the relationship between the parts of a flower and their function and to make the connections between them become more obvious.

A graphic organiser caters for a variety of learning styles, but uses a visual framework that enables children to develop an awareness of their own thinking.

Here are some suggestions as to the best way to use the graphic organiser:

- use the graphic organiser part way through a topic to review what has been learnt and to inform the next steps in learning
- use the graphic organiser at the end of a topic to measure pupil understanding
- you can use the graphic organiser as an individual or a small group activity. As an individual activity, you can use it to inform you of the individual child's ideas. Used as a small group activity, you can use it to encourage discussion and provide opportunities for collaborative working.

### Further activities

1. Dissecting a flower (Teacher Guidance)
2. Games with cards (Teacher Guidance)

### Curriculum links

National Curriculum (Sc2)	<b>KS2: 3d</b>
QCA guidelines – Scheme of work	<b>Unit 5B</b>
Scottish ISE 5-14 framework/attainment targets	<b>LT-D2.5</b>

# A graphic organiser

Can you name these flower parts?

What would happen if one of the parts was missing?

petal

stigma

stamen

ovary

sepal

Pollen would not be made and there would be no pollination or seed formation