

## Mathematics learning objectives

### Framework:

- **U&A:** Answer a question by selecting and using suitable equipment, and sorting information, shapes or objects; display results using tables and pictures.
- **HD:** Answer a question by recording information in lists and tables; present outcomes using practical resources, pictures, block graphs or pictograms.

**NC:** Ma2, 1g ; Ma2, 5a

## Science learning objectives (NC)

- **Sc1, 2f:** Explore, using the senses of sight, hearing, smell, touch and taste as appropriate, and make and record observations and measurements.
- **Sc1, 2g:** Communicate what happened in a variety of ways, including using ICT (for example, in speech and writing, by drawings, tables, block graphs and pictograms).

## Vocabulary

Colour names, pictogram, sort

## Resources

- Real leaves from trees and shrubs, (smaller leaves will be easier to stick onto the pictogram sheet), sorting rings and glue sticks

## CD-ROM slideshow:

- Activity sheets: 'Pictogram' (enlarged to A2) and 'Sorted leaves' (also p7)
- Images: 'Autumn leaves', 'Flowers', 'Spring leaves' and 'Mixed leaves'
- Pictogram tool

## Introduction

Look at the image 'Autumn leaves' from the CD-ROM. Talk about what the children see: the leaves are different colours, shapes and sizes. Provide each group with some leaves collected earlier, or, if time allows, take the children outside to collect their own. Explain to the children that you would like them to look closely at the leaves. Ask questions such as:

- What colours can you see?
- Do you think all the greens are the same?
- What other colours can you see?
- Now what about shape. Are all the leaves the same shape? Tell me what you can see.

Discuss the structure of the leaves: the veins, the stalks. Encourage the children to look carefully at the leaves.

## Children's task

Working in small groups, with leaves, sorting rings and the activity sheet 'Pictogram' from the CD-ROM, ask the children to sort the leaves by colour. They should use the sorting rings to help them and then place their leaves onto the pictogram for you to check. If necessary, remind the children that the leaves should be evenly spread. Ask them to count how many leaves there are for each colour. Now ask the children to repeat this for a different way of sorting that they choose for themselves. They can glue the leaves onto their sheet as a record.

## Differentiation

**More confident:** Suggest to the children that they choose a leaf and draw it. Check to see what features of the leaf they include.

**Less confident:** Children may benefit from having an adult work with them. The adult should encourage the children to describe the leaves carefully, and then count how many of each colour they have.

## Review

Ask each group to show how they have sorted their leaves. Ask:

- How did you sort your leaves?
- How many brown/yellow/spiky leaves were there?
- Has everyone sorted in the same way?
- How else could we sort these leaves?

Reveal the pictogram tool. Take one group's work and ask the children to say how many leaves there are in each of their groupings. Using the leaf icons or coloured counter icons to represent each leaf, place these into the pictogram. Discuss how the counters are equally spaced so that it is easy to see how many each column/row has, and which have more or fewer.

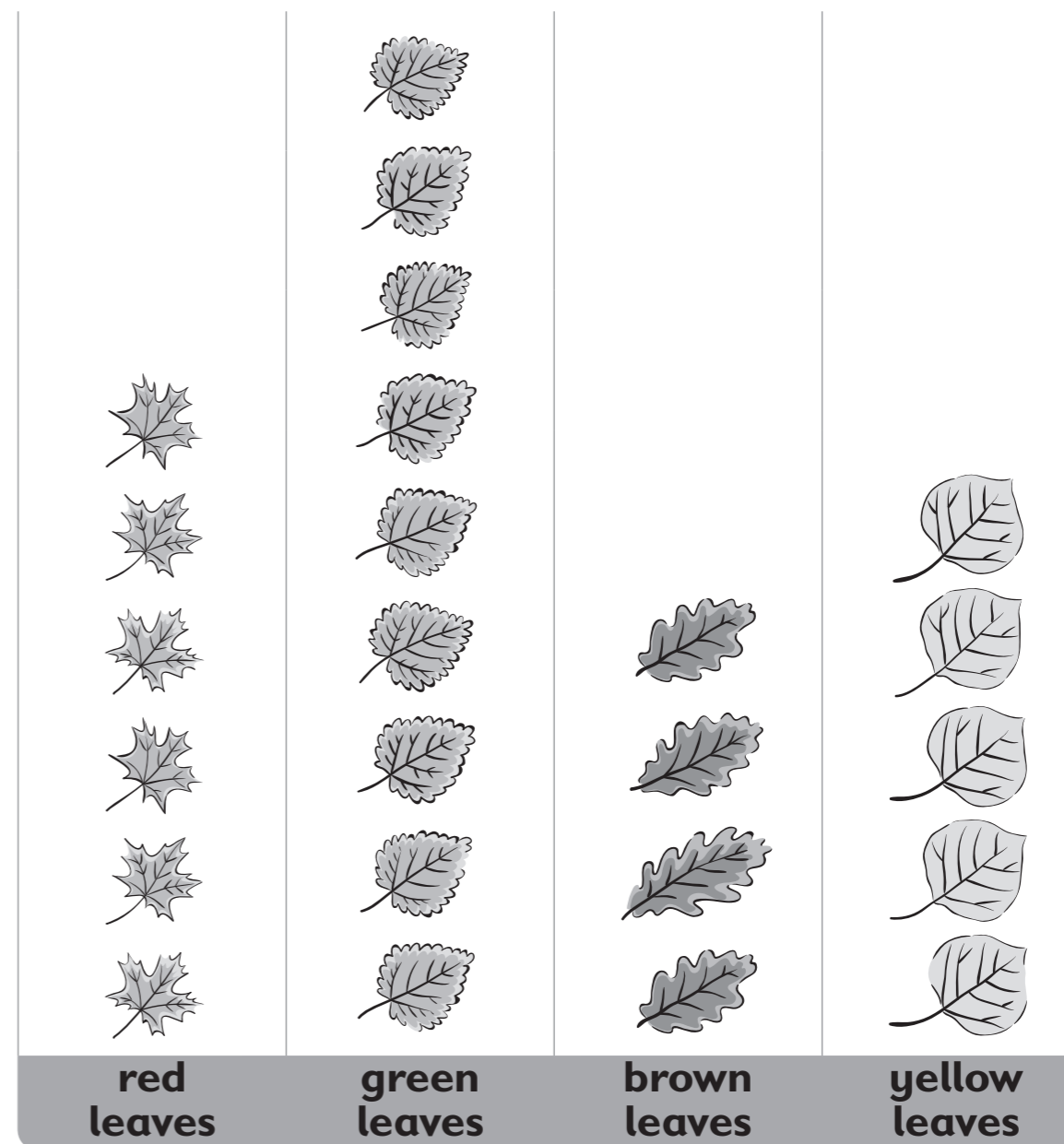
Look at the pictogram on the activity sheet 'Sorted leaves'. Ask: *Is this the same as your pictogram?* Discuss the questions on this page with the class.

## Now try this...

Children can sort other things such as fruit, vegetables, lunch boxes and flowers.

# Sorted leaves

- Look at the pictogram below. It shows how some leaves have been sorted.
- Then answer the questions.



1. Which colour has the greatest number of leaves? How can you tell?
2. Which colour has the least number of leaves?
3. How many brown and yellow leaves are there altogether?
4. How many more red leaves are there than yellow leaves?
5. How many fewer red leaves are there than green leaves?



## CD-ROM follow-up material

Display the images 'Flowers', 'Spring leaves' and 'Mixed leaves' from the CD-ROM on the whiteboard. Ask the children in their groups to make a list of the different ways these sets of objects could be sorted.