

# OUT AND ABOUT

## OUTDOOR ACTIVITIES FOR KEY STAGE 2 MATHEMATICS

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### NUMBER AND ALGEBRA

## Fraction Leaves

### Learning focus

- Record fractions greater than one as improper fractions and mixed numbers
- Convert from an improper fraction to a mixed number and vice versa
- Locate improper fractions and mixed numbers on number lines

### Key vocabulary

- Numerator
- Denominator
- Improper fraction
- Mixed number
- Convert

### Resources

- Leaves
- Scissors



### Activity

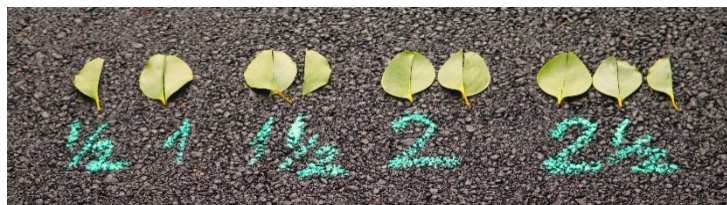
Explain to the children that today we will be going out on a fraction hunt around the playground. Organise the children into small groups. Ask each group to find some leaves, ideally of the same species and size. They should then split each leaf in half (by folding and cutting). In each group, children should take it in turns to place their halves in a straight line, starting with half of one leaf, then two halves, three halves, and so on. Establish that two halves make one whole; three halves make one whole and one half; and so on.

*How many halves are there in one whole?  
You have three halves. What is that the same as? Can you show me?*

Draw an empty number line below the leaves and invite children to record the fractions in two ways, first as improper fractions, then as mixed numbers:

$0, \frac{1}{2}, \frac{2}{2}, \frac{3}{2}, \frac{4}{2}, \frac{5}{2}$ , and so on

$0, \frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}$ , and so on



Encourage the children to chant together along the number line, clapping on each whole number:

*Zero, half, one, one and a half, two, two and a half...*

Later, they can progress to recording (and chanting the decimal equivalents.)

A photograph could be taken, or the leaves stuck onto paper to use as a display back in the classroom.

## Teaching point

Fractions can express value greater than one. A proper fraction has a numerator smaller than the denominator, while an improper fraction has a numerator greater than the denominator.

A mixed number consists of a whole number and a fraction.

Discuss how to convert mentally from a mixed number to the corresponding improper fraction. Display a card showing a mixed number and invite suggestions from the children. For example, display  $5\frac{1}{2}$ .

*What is the corresponding improper fraction? How did you work that out?*

Similarly, invite children to convert mentally from an improper fraction to the corresponding mixed number.

## Taking ideas further

Repeat the activity with other fractions, such as thirds and quarters.

Go on a fraction leaf hunt around the school playground. Organise children in small groups and give each group a card with a list of items. For example:

$\frac{1}{2}$ of a yellow leaf
$\frac{2}{3}$ of a red leaf
$\frac{5}{4}$ of a green leaf

Children could make a picture or pattern with a collection of whole and part leaves and then record the total number of red, yellow and green leaves. They could record the total of each in two ways: as an improper fraction and as a mixed number.

Draw an empty number line on the school playground. Give each child a fraction card displaying an improper fraction (or a mixed number). Each child should stand in the correct position on the empty number line. They should be able to explain their thinking.

## Assessment opportunities

Are the children able to:

- Record a fraction greater than one as an improper fraction and as a mixed number
- Use their multiplication facts to convert a mixed number to an improper fraction
- Use their multiplication/division facts to convert an improper fraction to a mixed number
- Identify the position of an improper fraction or a mixed number on an empty number line