NUMBER/ALGEBRA

Fraction Feast

Learning focus

- Find a (unit) fraction of a set
- Recognise that the larger the denominator, the smaller the (unit) fraction

Key vocabulary

- Fraction
- Whole
- Part
- Share equally between
- Divided by
- Numerator
- Denominator
- Half, quarter, third, fifth, sixth and so on.

Resources

- Baskets
- Natural resources such as sticks, stones, leaves, flowers, blades of grass
- Clipboard and pencils for recording
- Camera

Activity

Introduce the activity by displaying a basket with a collection of items for a woodland feast. For example, the basket could contain

8 leaves
2 twigs
4 pine cones
10 dandelions

Explain that two woodland beasts are going on a picnic and the food items must be shared equally between them. Encourage the children to discuss what each beast will eat. For example:

What fraction of leaves will each beast eat?
How many leaves will each beast eat
How did you work that out?

Establish that each beast will receive one half of the leaves. Since there are 8 leaves altogether, each beast will receive 4 leaves. Encourage the children to express this in different ways:

One half of 8 is 4
$\frac{1}{2}$ *of 8 is 4*
8 shared equally between 2 is 4
8 divided by 2 is 4

Teaching point

Each set of items must be shared equally. The number of items in each share can be determined by counting or by using multiplication / division facts.

Organise the children into small groups. Each group must collect items for a woodland feast. Give each group a 'menu' card which sets out the number of woodland beasts who will be attending the feast along with the list of items to be eaten. This can be differentiated as appropriate.

For example:

Number of beasts: 4

Menu:

16 blades of grass

4 twigs

12 conkers

20 leaves

Allow time for the children to collect their items. They must then share the items equally to indicate what each beast will eat. Encourage the children to record their findings pictorially and using fraction notation. Photographs could also be taken of the children's work. Invite the children to share and discuss their findings.

Tell us about your woodland feast.
How many beasts will be attending?
What fraction of items will each beast eat?
What will each beast eat?
How did you work that out?

Encourage the children to use fraction language when discussing their findings. They should also refer to the 'whole' when discussing fractions. For example:

One quarter of 12 conkers is 3 conkers.

Next, encourage children to reflect on the number of beasts in each group.

What would happen if another beast joined the feast?
Will each beast have more / less to eat?
Can you explain why?

They should be able to recognise that if there are more beasts, each one will have less to eat.

Teaching point

It is important to recognize that the larger the denominator, the smaller the fraction. In other words, the more shares there are, the smaller each share is. This is because the same amount is being shared between more and so the shares will decrease in size.

Present different problem scenarios to explore this further. For example, suppose that there are 6 daisies on the menu. In Group 1 there are 3 woodland animals; in Group 2 there are 4 woodland animals; and in Group 3 there are 5 woodland animals.

> *In which group will the beasts have more daisies to eat?*
> *Explain your reasoning.*

Each group could be given a different problem scenario to explore and then asked to present and justify their responses to the class.

Taking ideas further

Children could create their own 'menu' for the woodland feast. Each group could be given a specific number of beasts and asked to find items for the feast. This will challenge them to think about number relationships. For example, if there are 5 beasts, they could collect sets of 5, 10, 15, etc. items (to ensure that each beast gets a whole number of each item). When they have collected their items, they should then record their findings pictorially and using fraction notation.

Children could write a letter to invite beasts to the woodland feast and design a menu card using ICT.

Assessment opportunities

Are the children able to:

- Find unit fractions of a number using multiplication / division facts
- Appreciate that the more shares there are the smaller each share is.