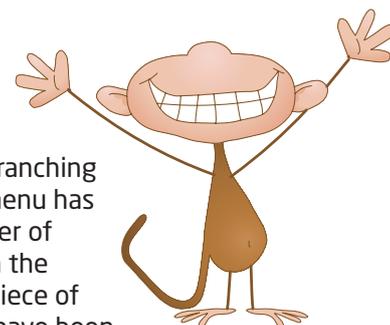# Monkey matters

Learning objectives

● **Using and applying:** Represent a problem or puzzle by identifying and recording the information needed to solve it; find possible solutions and confirm them in the context of the problem

● **Handling data:** Answer a set of related questions by collecting, selecting and organising relevant data

Problem-solving strategy

Make a list

Setting the scene

This is a whole-class activity. The children must use branching tree diagrams to help the monkey make choices. His menu has to be chosen first. To set the variation, type the number of fruit he has chosen into the box and click OK. To begin the tree diagram, click on the purple start dot and drag a piece of fruit into the 'morning' box. Repeat until all the fruits have been dragged out. Drag the second choice of fruit from the first fruit option. Once completed, you will be asked a number of questions based on the tree diagram. When children have completed this level they will be asked to help the monkey make choices relating to the clothes he is going to wear.

The third level involves helping the monkey decide who he is going to invite over for cake. There is an additional element in this level because, unlike the previous two levels, children will need to think about the impact of repeat combinations. For instance, the toucan cannot come for cake with himself, and toucan and elephant together is the same as elephant and toucan together.

Solving the problem

Ask the children to work out the problem on paper or individual whiteboards first. They will have to organise themselves so that they have a strict pattern to follow when creating their tree diagrams – without a systematic approach, they will find it difficult to prove that they have created all the combinations. Work through the activity on the whiteboard to check answers.

Key questions

Representing: *What options are there to choose from?*
Enquiring: *What information does the tree diagram begin to give you once you start to create it? What problems should you try to avoid?* (For example, using a fruit twice in the same branch, or inviting the same animal friend twice.)
Communicating: *What is the answer to the problem? What did the diagram look like? What challenges arise when there are many combinations?*

Differentiation

Less confident: Restrict the number of combinations to two. Explain clearly that fruit can be re-used on each new branch but not on the same branch (for example morning – banana, night – banana), while in the case of the friends coming round, each animal cannot be counted more than once.
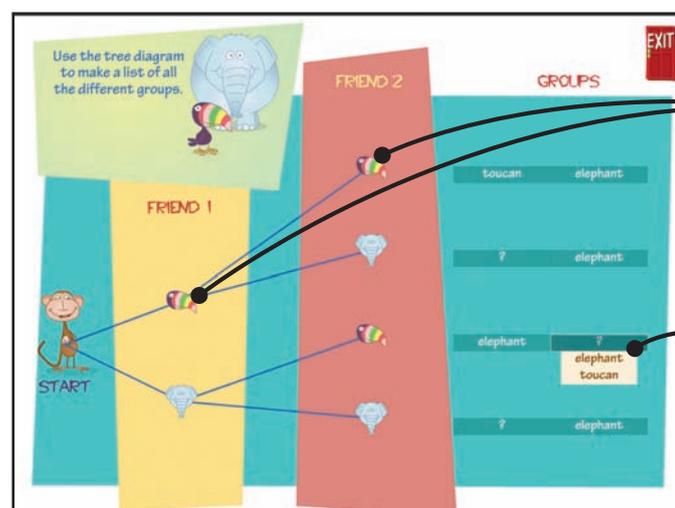More confident: Add one more piece of fruit to the plate (a pineapple). Challenge the children to work out how many more combinations this extra piece of fruit will create.

Follow up

In the follow-up activity on page 21, the children need to use the same tree diagram strategy to solve a similar problem.

Problems bank

Page 38

1. Drag out the fruit or animals to begin making a branching tree diagram.

2. Add the missing information – encourage the children to look for patterns.