



### Activity type

Group

### Learning objective

**Knowing and using number facts:**  
use knowledge of multiplication facts to derive quickly squares of numbers to  $12 \times 12$

## Dice squared

### What to do

- Open the 'dice 1-6' screen.
- Ask groups of children to drag two numbered dice onto the screen. Players then take turns to roll the two dice and complete the following calculations on each roll:  
(a) add the two numbers shown on the dice;  
(b) derive the square number of the total.  
For example, if 5 and 2 are rolled,  $5 + 2 = 7$ ;  $7^2$  is 49.
- Ask the children to write down their calculations after each dice roll. After ten rounds, the player with the highest total is the winner.
- To add greater challenge to the game, ask the children to use the 'dice 1-9' or 'spinners 1-9' screens to generate larger numbers.

### Key questions

- *How did you work out your totals?*
- *What is the rule for finding square numbers?* (It is the product of an integer multiplied by itself.)

### Assessment for learning

Can the children use their knowledge of multiplication facts to derive quickly squares of numbers up to  $12 \times 12$ ?

### Activity type

Whole class

### Learning objective

**Handling data:** solve problems by collecting, selecting, presenting, processing and interpreting data; draw conclusions

## Fair spinners?

### What to do

- Open the 'spinners 1-9' screen. Drag the triangular spinner onto the screen.
- Hand out copies of photocopiable page 16 so that the children can record the outcome of the investigation as a tally chart.
- Spin the triangle about ten times. Each time, ask the children to record (in the second table on their photocopiable sheets) the number that comes up on screen.
- When you have finished spinning, ask the children to write down the number of times (frequency) each number occurs. Encourage them to check their results with their working partner or group.
- At this stage, you might want to transfer the data to the Graphs and charts tool (see page 21) to represent the data in a bar chart.
- The activity can be extended by using some of the other spinner shapes available.

### Key questions

- *How many times does each number occur?*
- *Does this suggest that the spinner is fair? Why?* (It is unlikely that each number will occur the same number of times, but if the results are quite close, then the spinner is probably fair. A more accurate test could be done by increasing the number of spins to 100, 200 or more.)

### Assessment for learning

Can the children investigate a problem by collecting, selecting, presenting and processing data?