

## Ten Frame game

### Rationale

In order to become skilled at mental arithmetic, students need to learn and practice efficient strategies. As we mostly work with a base-ten number system, a starting point for many good strategies is for students to become familiar with all the pairs of whole numbers that add to make ten. This activity helps students to build a working familiarity around the number ten; to understand the different ways it can be broken up and put together. This knowledge can then be extended, ultimately allowing students to quickly and confidently solve maths problems in their heads.

### Teaching notes

A useful way for students to imagine 'ten' objects is for them to become familiar with the ten-frame. The way a ten-frame is arranged allows students to see that it is two groups of five. It also helps students to think about the ways ten can be made, as students realise that the empty squares are as useful to think about as the number of dots in the frame. With a little guidance students soon see that two empty squares means there are eight dots, for example. In this activity, it is important to direct the students' attention to both the number of objects and the number of empty squares on the ten-frame.

### Language of delivery

Useful questions to help students when doing this activity are:

- *What number did you roll (on the die)?*
- *How many counters do you have altogether?*
- *How many empty squares are there?*
- *How many more do you need to make ten?*