

# Tiny ten-frames

## Familiarisation with the Manipulative

### Questions

1. How many cards do you have in your deck? 25
2. How many dots are there altogether in your deck of cards? 381

### Strategies

- Counting individual dots on each card by ones
- Grouping in tens and hundreds

$$\left. \begin{array}{l} 1 + 9 = 10 \\ 2 + 8 = 10 \\ 3 + 7 = 10 \\ 4 + 6 = 10 \\ 5 + 3 + 2 + 1 = 11 \end{array} \right\} 5 \times 10 = 50, \quad 50 + 1 = 51$$

$$\left. \begin{array}{l} 50 + 50 = 100 \\ 40 + 40 + 20 = 100 \\ 30 + 30 + 20 + 10 + 10 = 100 \\ 10 + 10 + 10 = 30 \end{array} \right\} 3 \times 100 = 300, \quad 300 + 30 = 330$$

$$\therefore 330 + 51 = \underline{381}$$

## Teaching and Learning Activity

### Mastermind

Target number is 46

Some possible combinations:

- with 2 cards  $46 = 40 + 6$
- with 3 cards  $46 = 30 + 10 + 6$        $46 = 20 + 20 + 6$        $46 = 40 + 3 + 3$        $46 = 40 + 5 + 1$
- with 4 cards  $46 = 30 + 10 + 5 + 1$        $46 = 30 + 10 + 4 + 2$        $46 = 20 + 20 + 4 + 2$
- with 5 cards  $46 = 10 + 10 + 10 + 8 + 8$        $46 = 10 + 10 + 10 + 9 + 7$
- ...