

Magnetic Write-on Boards and Counters

Teaching Suggestions

Using the Tens-frames

Subitising

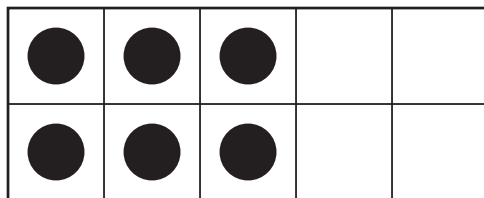
Groups of dots in a tens-frame encourage children to *subitise*; to see a visual pattern for the numbers from 1 to 10 and automatically recall the number without counting.

Working in pairs, one child places a group of counters in a tens-frame and covers it. They then uncover the arrangement of dots for a few seconds and ask their partner to guess the number.

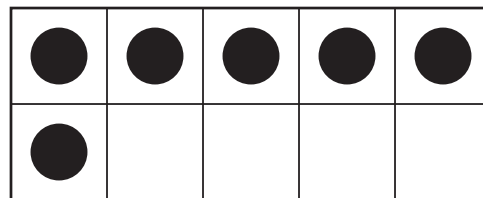
Ask children how they recognized the number.

For example, for 6 dots a child may say 'I saw 2 rows of 3 dots, 3 and 3 is 6'.

Discuss with children which arrangements are easiest to recognise.



Pair-wise arrangement for 6



Five-wise arrangement for 6

Make a Ten

Working in pairs ask children to make all the tens facts using two different coloured counters. Ask them to write the equation below each tens-frame on their board using a dry erase maker.

Discuss the commutative property of addition for example; $3 + 7 = 10$ and $7 + 3 = 10$

Extension

Ask children to make the tens facts using 3 different coloured counters. Ask them to write the equation below each tens-frame on their board.

Variation

Investigate the part-part whole number combinations for the numbers from 2 to 9.

For example 4 is, $4 + 0$, $3 + 1$ and $2 + 2$.

Race to 10

Working in pairs children take turns to roll a 10-sided die and place that number of counters on a tens-frame. Ask children to verbalise the number that they need to make ten. Provide them with a dry erase maker to write the equation on the board beneath the tens-frame.

For example; if the first player rolls a 3 they would say, 'I have 3 counters, I need 7 more to make 10. They would write on the board $3 + 7 = 10$.

The first to reach ten exactly wins.

Race to Zero

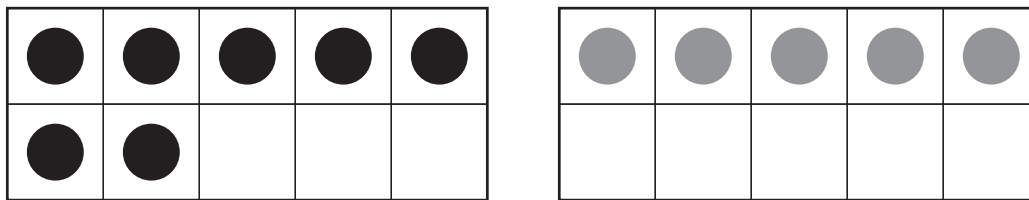
Children begin with ten counters on their tens-frame and take away the counters when they roll the 10-sided die. The first to get to exactly zero wins.

Addition Strategies: Bridging tens using partitioning

Place counters in two side-by-side tens-frames. For example; 7 red counters in one tens-frame and 5 blue counters in the other. Encourage children to rearrange the counters to find the answer. For example if they move 3 blue counters to the tens-frame with the 7 red counters they will have 10 and 2 more in the second tens-frame. Ask children to write the equation and answer on the board beneath the tens-frame.

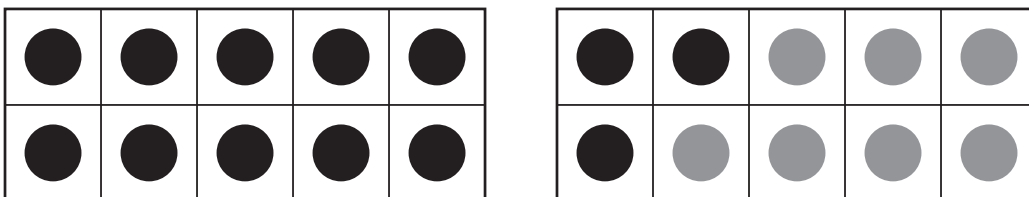
Discuss what strategies they used to find the answer.

This activity allows you to identify what addition strategies children are using... partitioning, count on or count all strategies.



Make a Twenty

Use two side-by-side tens-frames and two different coloured counters to investigate number combinations that make 20. Ask children to put ten counters of one colour in the first tens-frame and for example 3 counters of the same colour in the second tens-frame. Complete the second tens-frame by adding 7 counters in another colour.



Ask children to write the equations on their boards. Some of the combinations for 20 that students may record for the tens-frames above may include $13 + 7 = 20$, or $10 + 3 + 7 = 20$ or $7 + 3 + 10 = 20$

Race to 12, 17 or 20

Use two side-by-side tens-frames. Encourage children to partition numbers to ten.

For example; if they are playing Race to 12 and player 1 rolls a 5, they would say, 'I have 5 counters, I need 5 counters to make 10 and 2 more to make 12.'

Ask children to write each equation on the board, $5 + 5 = 10$, $10 + 2 = 12$.

Using the 11 x 12 Grid

A selection of patterning activities are contained in Dr Marina Papic's book *Turn & Learn Pattern Activities*. These activities introduce children to repeating, spatial and growing patterns. They develop children's skills in pattern recognition and formation. For example:

Working in pairs, ask children to create a repeating linear pattern on the grid using the counters. Encourage them to identify the *unit of repeat* within their pattern.

Extension

Ask children to investigate if the same *unit of repeat* could be used to make a border pattern on the grid.

The activities are based on Dr Papic's recent research investigating the development of patterning skills and early algebraic thinking. All activities require the use of these Magnetic Boards and Counters.

Available from your preferred educational supplier or online at www.knowledgebuilder.com.au