

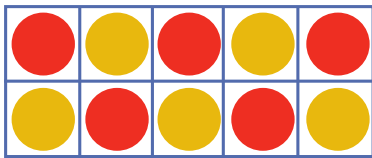
# Tens Frames

Tens frames provide a very clear representation of numbers up to 10. It cannot be overstated how important the sense of 'ten-ness' is for children and their future progress in maths. Once bonds to 10 are second-nature, the ground is laid for understanding of addition and subtraction and the mental pictures needed for all kinds of mathematical thinking.

## 1 Copy Me!

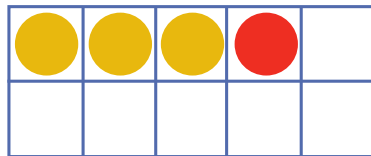
The teacher or a child places a selection of counters on a tens frame and shows it to the group for 5-10 seconds, then hides it.

- The group must remember the picture and repeat the pattern on their own individual boards.
- This can be made more or less difficult by using one or two colours, by how the counters are spaced and by reducing or extending the time given to look.
- Who managed to get an exact match?

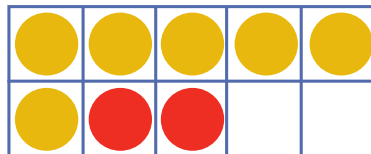


## 3 Addition to 10

- Use two-coloured counters to represent the addends in number sentences.
- What other way might this be shown on a number frame?



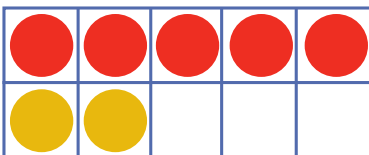
$$3 + 1 = 4$$



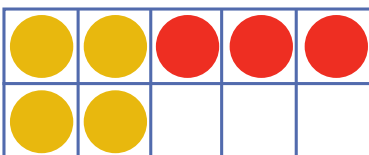
$$6 + 2 = 8$$

## 2 See the difference

- Place 5 red counters across the top of your tens frame and two yellow counters below.



- Ask children to turn the red counters to match the yellow ones below.

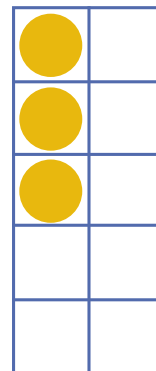
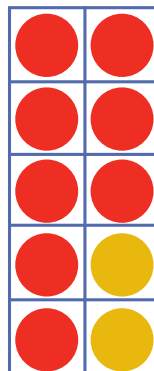


- The red counters clearly show the difference between the two numbers

## 4 Addition Across 10

- Support addition across 10 by partitioning one of the addends

E.g.  $8 + 5$

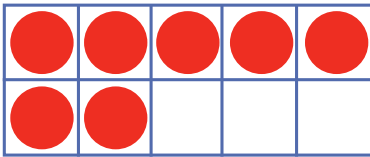


## 5 Subtraction

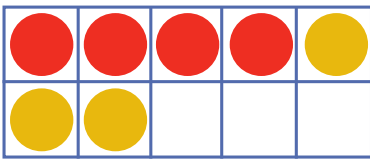
Use tens frames and two-colour counters to demonstrate subtraction.

For example  $7 - 3$

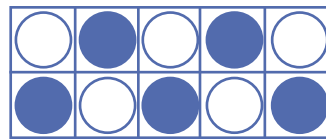
- Place 7 counters of the same colour in the tray



- Ask children to subtract 3 by turning them over. How many red are left?

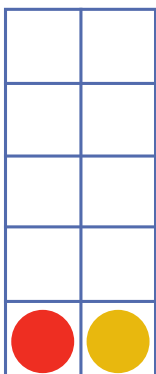


To avoid any issues with sharing, you might provide each child with their own set of 10 or 20 counters.

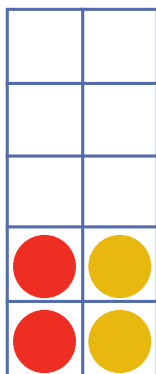


## 6 Doubling numbers to 10

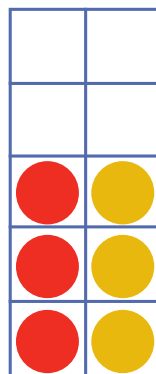
$$1 + 1 = 2$$



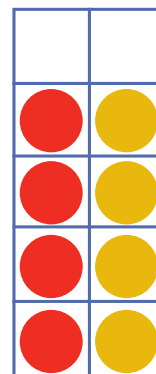
$$2 + 2 = 4$$



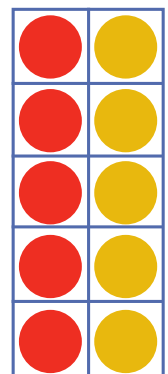
$$3 + 3 = 6$$



$$4 + 4 = 8$$



$$5 + 5 = 10$$



- Extend by adding 1 more counter

"I know  $3 + 3 = 6$

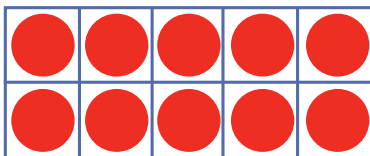
so  $4 + 3 = 7$

- Is every number even when doubled?
- Use more double-sided counters to find out.

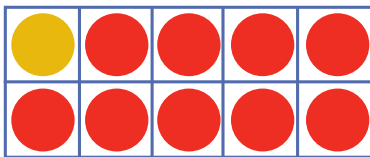
## 7 Number bonds to 10

Begin with the tens frame filled with counters in one colour. Turn one counter over each time to display the number bonds and say each rhyme. You might choose different rhymes with your class to make them even more memorable.

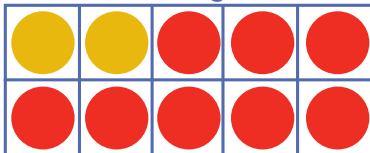
"Zero and 10 – make a den"



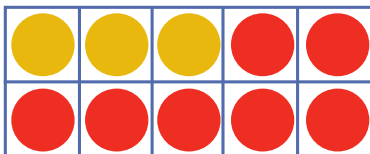
"1 and 9 – all is fine"



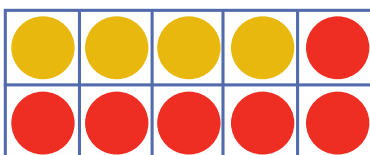
"2 and 8 – at the gate"



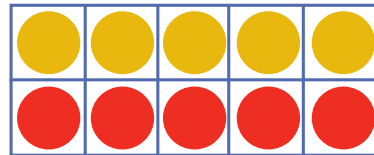
"3 and 7 – gone to Devon"



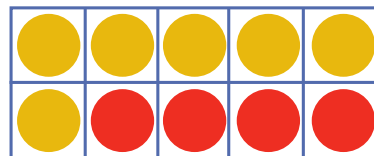
"4 and 6 – silly tricks"



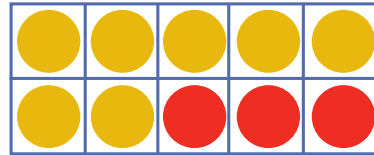
"5 and 5 – swim and dive"



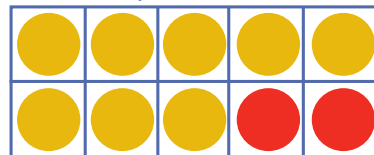
"6 and 4 – knock at the door"



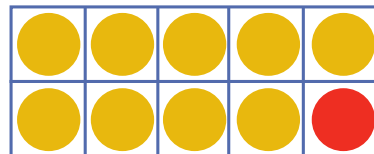
"7 and 3 – on one knee"



"8 and 2 – pot of stew"



"9 and 1 – nearly gone"



"10 and zero – always a hero!"

