

Addition

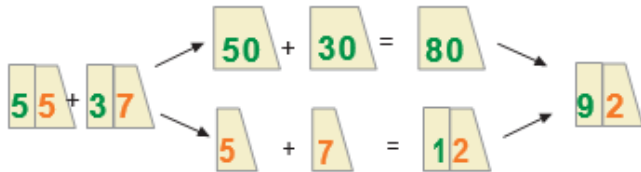
Using place value

Know 1 more or 10 more than any number

- e.g. 1 more than 67
- e.g. 10 more than 85

Partitioning

e.g. $55 + 37$ as $50 + 30$ and $5 + 7$, then finally combine the two totals: $80 + 12$



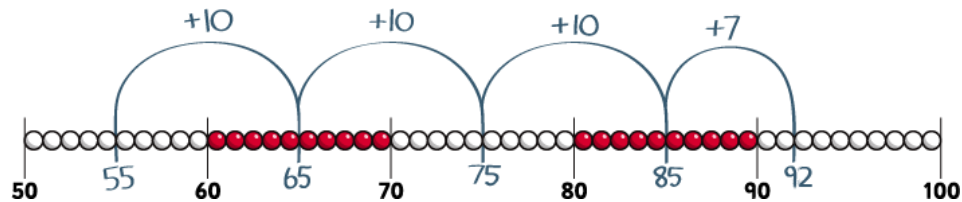
Counting on

Add 10 and multiples of 10 to a given 1- or 2-digit number

- e.g. $76 + 20$ as 76, 86, 96 or in one hop: $76 + 20 = 96$

Add two 2-digit numbers by counting on in 10s, then in 1s

- e.g. $55 + 37$ as $55 + 30$ (85) $+ 7 = 92$



Add near multiples of 10

- e.g. $46 + 19$
- e.g. $63 + 21$

Addition

Using number facts

Know pairs of numbers which make the numbers up to and including 12

- e.g. $8 = 4 + 4$, $3 + 5$, $2 + 6$, $1 + 7$, $0 + 8$
- e.g. $10 = 5 + 5$, $4 + 6$, $3 + 7$, $2 + 8$, $1 + 9$, $0 + 10$

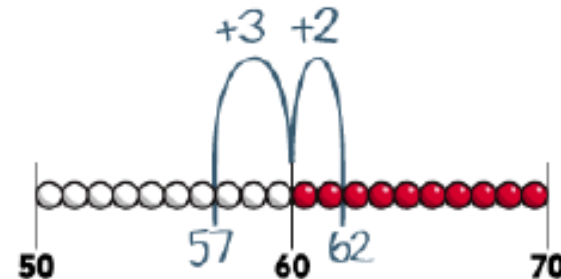
Use patterns based on known facts when adding

- e.g. $6 + 3 = 9$, so we know $36 + 3 = 39$, $66 + 3 = 69$, $56 + 3 = 59$



Bridging 10

- e.g. $57 + 5 = 57 + 3$ (60) $+ 2 = 62$



Add three or more 1-digit numbers, spotting bonds to 10 or doubles e.g.

- $3 + 5 + 3 = 6 + 5 = 11$
- e.g. $8 + 2 + 4 = 10 + 4 = 14$

Subtraction

Using place value

Know 1 less or 10 less than any number

e.g. 1 less than 74

e.g. 10 less than 82

Partitioning

e.g. $55 - 32$ as $50 - 30$ and $5 - 2$ and combine the answers: $20 + 3$

$$55 - 32 = 23$$

$$50 - 30 = 20$$

$$5 - 2 = 3$$

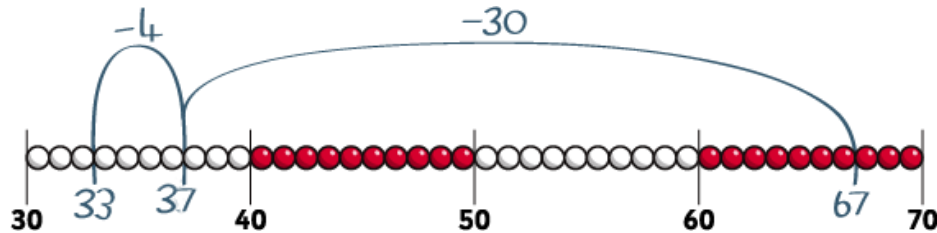
Taking away

Subtract 10 and multiples of 10

e.g. $76 - 20$ as 76, 66, 56 or in one hop: $76 - 20 = 56$

Subtract two 2-digit numbers by counting back in 10s, then in 1s

e.g. $67 - 34$ as 67 subtract 30 (37) then count back 4 (33)



Subtract near multiples of 10

e.g. $74 - 21$

e.g. $57 - 19$

Subtraction

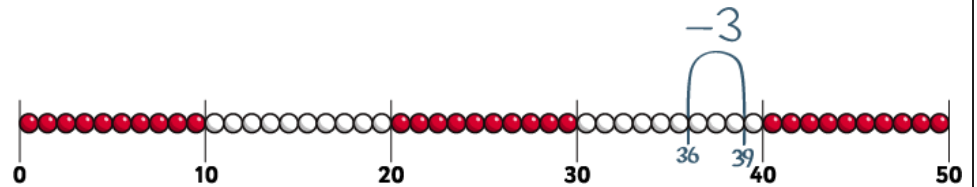
Using number facts

Know pairs of numbers which make the numbers up to and including 12 and derive related subtraction facts

e.g. $10 - 6 = 4$, $8 - 3 = 5$, $5 - 2 = 3$

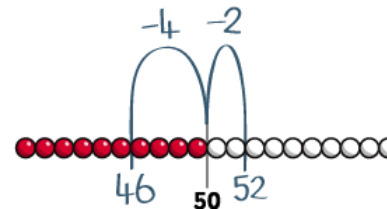
Subtract using patterns of known facts

e.g. $9 - 3 = 6$, so we know $39 - 3 = 36$, $69 - 3 = 66$, $89 - 3 = 86$



Bridging 10

e.g. $52 - 6$ as $52 - 2$ (50) $- 4 = 46$



Counting up

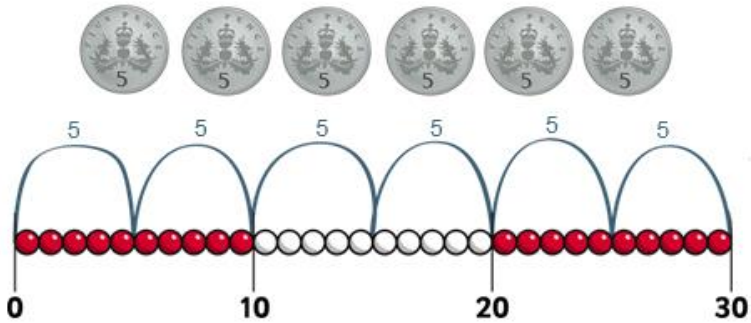
Find a difference between two numbers on a line where the numbers are close together

e.g. $51 - 47$

Multiplication

Counting in steps ('clever' counting)

Count in 2s, 5s and 10s

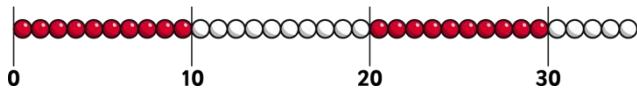
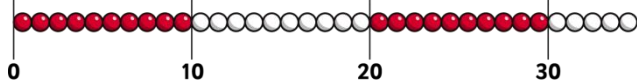


Begin to count in 3s

Doubling and halving

Begin to know doubles of multiples of 5 to 100

e.g. *double 35 is 70*



Begin to double 2-digit numbers less than 50 with 1s digits of 1, 2, 3, 4 or 5

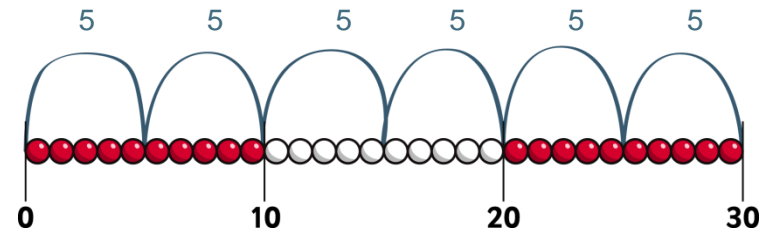
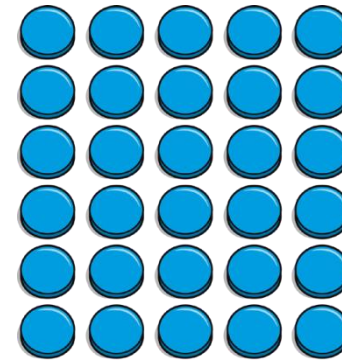
Multiplication

Grouping

Use arrays to find answers to multiplication and relate to 'clever' counting

e.g. 3×4 as *three lots of four things*

e.g. 6×5 as *six steps in the 5s count as well as six lots of five*



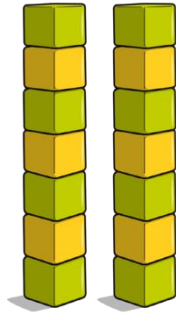
Understand that 5×3 can be worked out as three 5s or five 3s

Multiplication

Using number facts

Know doubles to double 20

e.g. *double 7 is 14*



Start learning $\times 2$, $\times 5$, $\times 10$ tables, relating these to 'clever' counting in 2s, 5s, and 10s

e.g. $5 \times 10 = 50$, and five steps in the 10s count = 10, 20, 30, 40, 50



Division

Grouping

Relate division to multiplication by using arrays or towers of cubes to find answers to division

e.g. 'How many towers of five cubes can I make from twenty cubes?' as $_ \times 5 = 20$ and also as $20 \div 5 = _$



Relate division to 'clever' counting and hence to multiplication

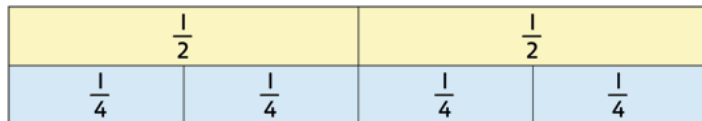
e.g. 'How many fives do I count to get to twenty?'

Sharing

Begin to find half or a quarter of a quantity using sharing

e.g. find a quarter of 16 cubes by sorting the cubes into four piles

Find $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ of small quantities



Using number facts

Know half of even numbers to 24

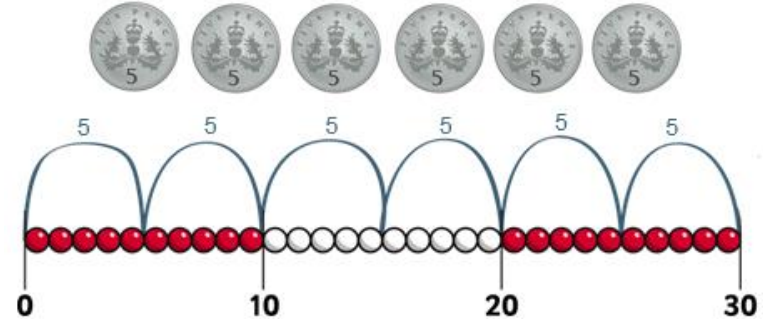
Know $\times 2$, $\times 5$ and $\times 10$ division facts

Begin to know $\times 3$ division facts

Division

Counting in steps ('clever' counting)

Count in 2s, 5s and 10s

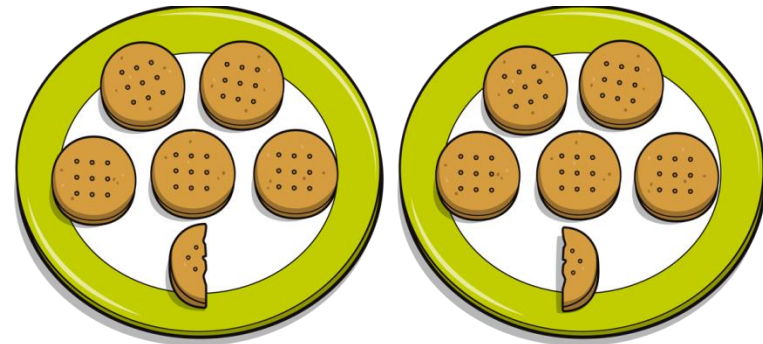


Begin to count in 3s

Doubling and halving

Find half of numbers up to 40, including realising that half of an odd number gives a remainder of 1 or an answer containing a $\frac{1}{2}$

e.g. $\frac{1}{2}$ of 11 = $5 \frac{1}{2}$



Begin to know half of multiples of 10 to 100

e.g. half of 70 is 35