

Number – addition and subtraction

represent and use number bonds up to 20  
 Adding 1 Doubles of numbers to 5 Adding 2  
 Start with number bonds to 10 then build. Use a wide range of objects (including fingers!) and images to model the bonds, e.g. interlocking cubes.

$0 + 7 = 7$   $7 = 7 + 0$   
 $1 + 6 = 7$   $7 = 6 + 1$   
 $2 + 5 = 7$   $7 = 5 + 2$   
 $3 + 4 = 7$   $7 = 4 + 3$

Adding 10 to a number  
 Adding 0 to a number  
 Near double  
 The ones without a family 5+3, 3+5, 6+3, 3+6

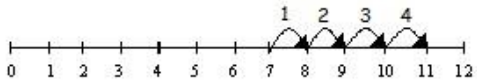
add one-digit and two-digit numbers to 20, including zero

Bead strings or bead bars can be used to illustrate addition including bridging ten by counting on 2 then 3.

$8 + 5$



On a prepared number line...  $7 + 4 = 11$



On a hundred square...  $3 + 4$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

represent and use number bond facts related subtraction up to 20

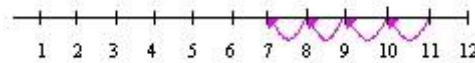
Start with number bonds to 10 then build. Use a wide range of objects (including fingers!) and images to model the bonds, e.g. interlocking cubes.

$7 - 0 = 7$   $0 = 7 - 7$   
 $7 - 1 = 6$   $1 = 7 - 6$   
 $7 - 2 = 5$   $2 = 7 - 5$   
 $7 - 3 = 4$   $3 = 7 - 4$

subtract one-digit and two-digit numbers to 20, including zero

Practically with objects, fingers etc.  
 $5 - 2$  "Put 5 in your head, 4, 3."

Taking away  
 Number lines (numbered and unnumbered, prepared and child constructed)



Hundred Square  
 $17 - 3$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

Finding the difference  
 Number lines (numbered and unnumbered, prepared and child constructed)

$4$   
 $7$

'The difference between 7 and 4 is 3' or 'Seven is 3 more than four'.

Number – multiplication and division

count in multiples of twos, fives and tens (from number and place value)

Counting using a variety of practical resources  
 Counting in 2s e.g. counting socks, shoes, animals in the ark... Counting in 10s e.g. hundred square, towers of cubes...

Use rhymes, songs and stories involving counting on and counting back in ones, twos, fives and tens.  
 Use 2p, 5p and 10p coins.

double numbers and quantities

Practically double a group of objects and/or quantities to find double of a number by combining then counting the two groups.  
 Progress onto using known facts and counting (in 1s, 2s, 5s and 10s) to double more efficiently.



group and share small quantities

Practical activities involving sharing,  
 Distributing cards when playing a game, putting objects onto plates, into cups, hoops etc.

Grouping  
 Sorting objects into 2s / 3s / 4s etc  
 How many pairs of socks are there?



There are 12 crocus bulbs. Plant 3 in each pot. How many pots are there? Jo has 12 Lego wheels. How many cars can she make?

Sharing pictures /objects  
 12 children get into teams of 4 to play a game. How many teams are there?



Sweets are shared between 2 people. How many do they have each?

half numbers and quantities

Practically halve objects and/or quantities by sharing them out into two piles and then counting the number of objects in each pile, or cutting/folding pictures of objects in half.  
 Progress onto using known facts and counting (in 1s, 2s, 5s and 10s) to halve more efficiently.

Number – addition and subtraction

Number – multiplication and division

read, write and interpret mathematical statements involving addition (+) and equals (=) signs

It is important that children have a clear understanding of the concept of equality, before using the '=' sign. Calculations should be on either side of the '=' to that children don't misunderstand '=' as to mean 'the answer'.

15 + 2 = 17  
15 = 3 + 12

read, write and interpret mathematical statements involving and subtraction (-) equals (=) signs

It is important that children have a clear understanding of the concept of equality, before using the '=' sign. Calculations should be on either side of the '=' to that children don't misunderstand '=' as to mean 'the answer'.

15 - 2 = 13  
15 = 18 - 3

make connections between arrays and number patterns

Arrays



Looking at columns  
2 + 2 + 2  
3 groups of 2

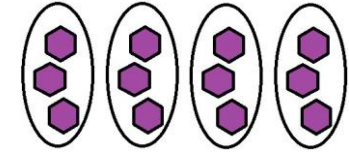
Looking at rows  
3 + 3  
2 groups of 3

Arrays and repeated addition

4 x 2 or 4 + 4

2 x 4  
or 2 + 2 + 2 + 2

make connections between arrays and number patterns



There  
are 4 groups of 3 in 12.  
12 shared between 4 is 3.

solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [] + 4

To support this, when solving calculations, missing numbers should be placed in all possible places:

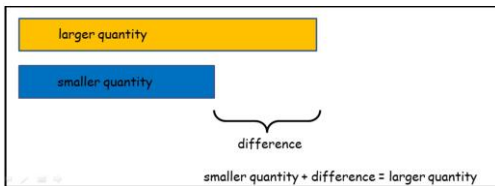
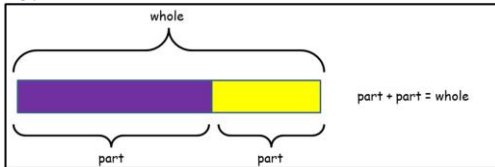
3 + 4 = 7      4 + 3 = 7      7 = 3 + 4

4 + 3 = 7      3 + 4 = 7      7 = 4 + 3

+ 7 = 7      7 = + 7

Use all the models and images mentioned above. Discuss which is most effective and why.

Singapore Bar Method



solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [] - 9

To support this, when solving calculations, missing numbers should be placed in all possible places:

16 - 9 = 7      7 = 16 - 9

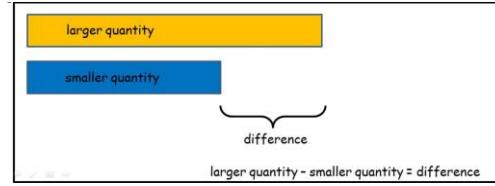
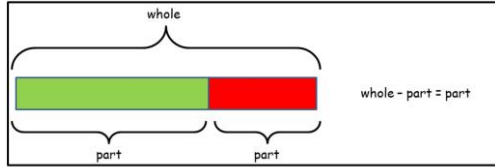
16 - 7 = 9      7 = 16 - 9

- 9 = 7      7 = 16 - 9

- 7 = 9      7 = 16 - 9

Use all the models and images mentioned above. Discuss which is most effective and why.

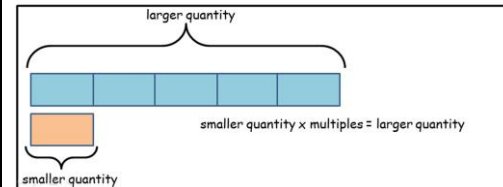
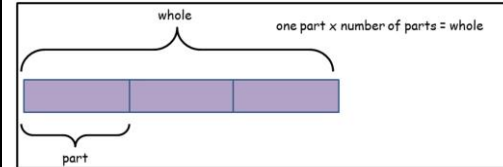
Singapore Bar Method



solve one-step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays with the support

Use all the models and images mentioned above. Discuss which is most effective and why.

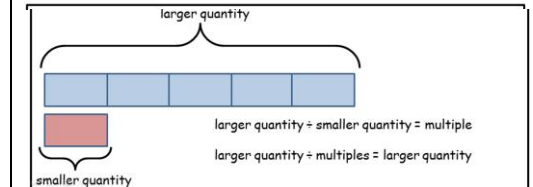
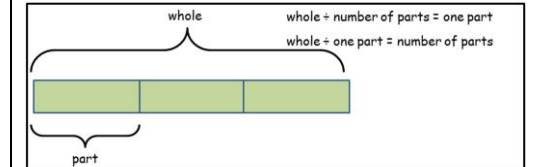
Singapore Bar Method



solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support

Use all the models and images mentioned above. Discuss which is most effective and why.

Singapore Bar Method



<p>understand and use vocabulary for addition, e.g. put together, add, altogether, total and more than</p> <p>+, add, more, plus, make, total, altogether, score, double, near double, one more, two more... ten more,</p> <p>= equals, sign, is the same as</p> <p>How many more to make...? How many more is... than...? How much more is...?</p> <p>Repetition of facts with different vocabulary:          "What is 2 add 5?" "What is 2 more than 5?"          "What is 2 plus 5?" "What is the total of 2 and 5?" etc</p>	<p>understand and use vocabulary for addition and subtraction, e.g. take away, distance between, difference between and less than</p> <p>- subtract, take (away), minus, leave, how many are left/left over? how many have gone? one less, two less, ten less... how many fewer is... than...? how much less is...? difference between, half, halve, counting up/back...</p> <p>= equals, sign, is the same as</p> <p>Repetition of facts with different vocabulary:          "What is 7 take away 3?" "What is 3 less than 7?"          "What is 7 subtract 3?"          "What is the difference between 3 and 7?" etc</p>	<p>use a variety of language to describe multiplication</p> <p>count on (from, to), count back (from, to), count in ones, twos, threes, fours, fives... count in tens, lots of, groups of, x, times, multiply, multiplied by, multiple of, once, twice, three times... ten times... times as (big, long, wide... and so on), repeated addition, array, row, column, double, halve</p> <p>= equals, sign, is the same as</p>	<p>use a variety of language to describe division</p> <p>Array, row, column, halve, share, share equally, one each, two each, three each... group in pairs, threes... tens, equal groups of <math>\div</math>, divide, divided by, divided into, left, left over</p> <p>= equals, sign, is the same as</p>
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