| Vocabulary | Example |
| :--- | :--- |
| add, more, and <br> make, sum, total | Addition. |
| Combine two groups of objects. |  |

- Count groups of objects.
- Know that adding is counting on.
- Know that subtraction is counting back.
- Count forwards and backwards to 20 .
- Using fingers and objects to support learning.
- Understand how to make 10.
make, sum, total altogether score
double
one more, two more, ten more...
how many more to make...?
how many more is...
than...?
take (away), leave how many are left/left over?
how many have gone? one less, two less... ten
less...
how many fewer is...
than...?
difference between is the same as

Combine two groups of objects.



$10=5+5$
Count on or line up objects along a number track.

## 1)2345678910 <br> Use objects and number tracks to find 'one more

 than'.
$3+1=4$
$4-1=3$

## Subtraction:

John has 6 sweets. He eats 4. How many are left?

1)2345678910

Use objects and number tracks to find 'one less than' a number.

| Stage 2. |
| :--- |
| As for stage 1 plus: |
| Read write and <br> interpret |
|  |
| mathematical |
|  |
| symbols including |
|  |
| +, subtraction - , and |
|  |
| equals = signs. |

- Know addition and subtraction facts for all numbers to 20 .
- Add and subtract one digit and 2 digit numbers to 20 , including zero.
- Solve one step problems that involve addition and subtraction using concrete objects and pictorial representations and missing number problems.
- Understand when it is appropriate to find the difference.

| Vocabulary | Example |
| :---: | :---: |
| +, add, more, plus | Addition |
| make, sum, total | Bead strings |
| altogether | $8+5=13$ |
| score | Mn |
| double, near double | WMMNUN |
| one more, two more... ten more | Pre-drawn number lines |
| how many more to | +1+1+1+1+1 |
| make...? |  |
| how many more is... than...? |  |
| how much more is...? | 0123456789101112131415 |

## Subtraction

Use a number line with all divisions marked and count back. 7-4=


## Begin to find a small difference.



## Addition and Subtraction

## As for Stage 1 and stage 2 plus:

- Solve simple onestep problems with addition and subtraction; using concrete and pictorial representations, including those involving numbers ,quantities and measures applying their increasing knowledge of mental and written methods
- Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.
- Add and subtract numbers using concrete objects, jottings and mentally including a two-digit number and ones, a two digit number and tens, two two digit

Vocabulary plus
make, sum, total
altogether
score
double, near double one more, two more... ten more... one hundred more how many more to
make...?
how many more is...
than...?
how much more is...?

- , subtract, subtraction,
take (away), minus leave, how many are left/left over? one less, two less... ten less... one hundred less how many fewer is... than...?
how much less is...? difference between half, halve $=$, equals, sign, is the same as tens boundary


## Example <br> Addition. <br> Introduce empty number lines. <br> Pupils begin by counting in steps of one. <br> $8+5=13$ <br> 

When adding two two digit numbers count on in tens and ones $34+23=57$


Then help children to become more efficient by adding the units on in one jump (using the known fact $4+3=7$ )
$34+23=57$


Followed by adding the tens in one jump and the units in one jump $34+23=57$

numbers, adding three one-digit numbers.

- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.
- Understand when it is appropriate to find the difference.

Begin to partition and recombine, using objects to support.
$48+36=$
Partition each number into tens and ones


Add the ones together


|  |  | Use a calculation grid to support the addition process using objects to support. $36+14=$ <br> Always start with the ones. |
| :---: | :---: | :---: |
|  |  | Subtraction <br> Counting back (take away) <br> $\checkmark$ First counting back in tens and ones. <br> $47-23=24$ <br> Then helping children to become more etticient by subtracting the ones in one jump (by using the known fact 7-3 = 4). <br> $47-23=24$ <br> Subtracting the tens in one jump and the ones in one jump. |



| Addition and Subtraction |  |  |
| :---: | :---: | :---: |
| Stage 4 | Vocabulary | Example |
| Know pairs with each total to 20 <br> Know pairs of multiples of 10 with a total of 100 Add any two 2-digit numbers by counting on in 10s and 1s or by using partitioning <br> Add multiples and near multiples of 10 and 100 Perform place value additions without a struggle. (E.g. $300+8+$ $50=358$ ) <br> Use place value and number facts to add a 1digit or 2-digit number to a 3-digit number. (E.g. 104 + 56 is 160 since 104+50=154 and 6+4=10 and $676+8$ is 684 since $8=4+4$ and $76+4+4=84$ ) Add pairs of 'friendly' 3digit numbers, e.g. $320+$ 450 <br> Begin to add amounts of money using partitioning. | +, add, addition, more, plus <br> make, sum, total altogether score double, near double one more, two more... ten more... one hundred more how many more to make...? <br> how many more is... than...? <br> how much more is...? <br> -, subtract, subtraction, take (away), minus leave, how many are left/left over? one less, two less... ten less... one hundred less how many fewer is... than...? how much less is...? difference between half, halve $=$, equals, sign, is the same as tens boundary, hundreds boundary | Addition <br> Bridging through ten can help the children become more efficient $37+15=52$ <br> Use a blank number line to solve three digit add two digit problems. <br> Subtraction <br> Find the difference by bridging through multiples of ten. 74-27=47 |

## Multiplication and Division

## Stage 1

Vocabulary
Example

- Multiplication is taught as repeated addition.
group
share How many

Multiplication.

- Division is taught by sharing.

$2+2+2+2+2=10$ socks
Recall doubles and halves to 10 .


## Division:

Understand division as sharing equally.
4 sweets shared between 2 people

| Stage 2 | Vocabulary | Example |
| :--- | :--- | :--- |
| As for stage 1 and: <br> Begin to solve <br> simple one step <br> multiplication and <br> division problem, <br> calculating the <br> answer using <br> concrete objects, <br> pictorial <br> representations and <br> arrays with the <br> support of the <br> teacher. | lots of, groups of <br> , times, multiply, <br> multiplied by <br> multiple of <br> once, twice, three times... <br> ten times... <br> times as (big, long, wide... <br> and so on) <br> repeated addition <br> array <br> double, halve <br> share, share equally <br> one each, two each, three <br> each... <br> group in pairs, threes... <br> tens <br> equal groups of <br> , divide, divided by, <br> divided into <br> left, left over | In |


| Stage 3 | Vocabulary | Example |
| :---: | :---: | :---: |
| As for previous stages <br> and: <br> - Recall and use multiplication and division facts for the 2,5 and 10 times tables including recognising odd and even numbers. <br> - Use the signs related to multiplication and division. <br> - Recognise and use the inverse relationship between multiplication and division in calculations. <br> - Show that multiplication of two numbers can be done in any order (commutative) and that the division of one number by another cannot. <br> - Solve one step problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | lots of, groups of ', 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 share, share equally one each, two each, three each... <br> group in pairs, threes... tens equal groups of ,, divide, divided by, divided into left, left over | Multiplication <br> Know doubles and halves of numbers to $20+20$ <br> Partition and recombine to calculate doubles. <br> Double 35 $=30+30=60$ $\begin{gathered} 5+5=10 \\ 60+10=70 \end{gathered}$ <br> If I have 6 bicycles, how many wheels are there? <br> $2+2+2+2+2+2=12$ wheels. <br> $6 \times 2=12$ <br> 2 taken 6 times <br> 6 lots of $2=12$ <br> 2 multiplied by $6=12$ <br> If I save 10p each week for 5 weeks, how much money do I have? $10 p \times 5=50 p$ <br> 5 lots of 10p $=50 p$ <br> 10p five times |




