## Mental calculations that children should be able to recall quickly:

- Addition and subtraction facts for all numbers to 20
- All pairs of multiples of 100 with a value of 1000, e.g. 300+700
- All pairs of multiples of 5 with a value of 100 e.g. 35 + 65
- Multiplication facts for the 2, 3, 4, 5, 6 and 10 times tables and the associated division facts

## Useful websites

www.bbc.co.uk/schools/bitesizeprimary
http://www.bbc.co.uk/schools/websites/4_11/site/numeracy.shtml
http://nrich.maths.org
http://resources.oswego.org/games
www.subtangent.com/maths/games.php
www.woodlands-junior.kent.sch.uk
www.coxhoe.durham.sch.uk
www.teachingtables.co.uk
http://www.multiplication.com
http://www.coolmath4kids.com/
http://www.primarygames.com/math.htm
http://www.wmnet.org.uk/resources/gordon/Hit%20the%20button%20v9.swf OR google—hit the button

# Carr Hill Community Primary School

Ofsted Outstanding 2010|2011

## Supporting Mathematics in Year 3/4

This booklet has been written to support parents and children in maths. It explains the different methods we use to solve +, -, x and ÷ calculations. It also includes some useful websites and activities to do at home.
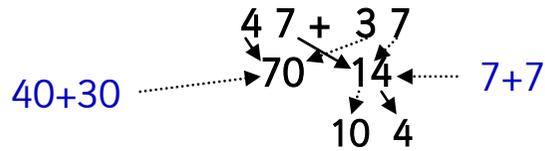
Working Together for our Children
**Carr Hill Community Primary School**

# Addition methods in Year 3/4

- **Children may begin by partitioning numbers into tens and units:**

$$4\,7 + 3\,7$$

$40+30 \dashrightarrow 70 \quad 14 \dashleftarrow 7+7$

$10 \quad 4$

So $47 + 37 = 70 + 10 + 4 = 84$

> Partitioning of
> 47 = 40 +7,
> 37 is 30 +7
> 264 = 200 + 60 + 4

- **Next they partition numbers into hundreds, tens and units:**

$264 + 125 =$

| | | |
|---|---|---|
| $200 + 100 = 300$ | first add the hundreds |
| $60 + 20 = 80$ | next add the tens |
| $4 + 5 = 9$ | then add the units |
| $300 + 80 + 9 = 389$ | find the total |

- **They may then use a blank number line** by starting with the largest number, then adding the hundreds, tens and the ones from the second number.

$$254 + 141 = 395$$

| hundreds | tens | ones |
|---|---|---|
| +100 | +40 | +1 |

largest number ➘

answer ➘

254          354          394  395
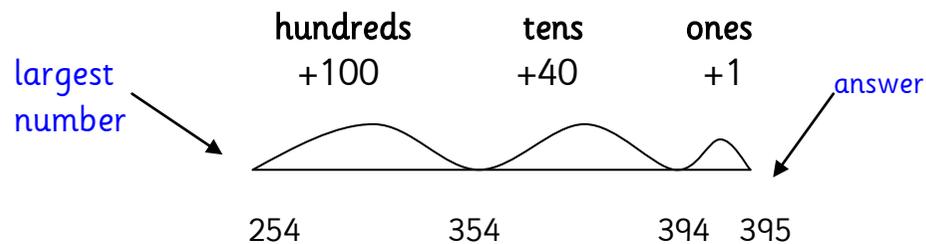
# Fun activities to do at home

## Money

- Ask children to recognise the different coins/notes
- Ask which combinations of coins could be used to make different amounts of money
- Ask children to add sums of money and work out change
- Allow children to experience the use of real money

## Measures and shape

- Point out the time at different times of the day eg lunch, bed time.
- Ask questions such as: What time will it be in …. ? How long is it until ….?
- Can children tell the time? Link to TV programmes.
- Use a mirror to see whether shapes are symmetrical
- Look for right angles (square corners) around the house. See if they can identify 10 right angles in each room.
- Play shape bingo. At home or on a journey, how many circles, squares etc. can they spot? Give them different point values.
- When cooking encourage to children estimate different measures? Do they know what 10 grams/10 ml/1 kilogram looks/feels like?

## Fun activities to do at home

### Games

· Play games like snakes and ladders, ludo, skittles, bingo that involve counting and opportunities for addition and subtraction.
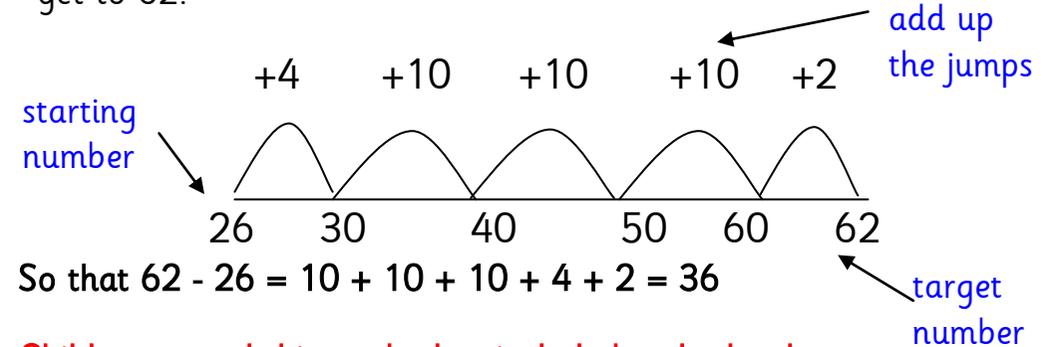· Play card games that require and practise mental maths.

### Number

Practise:

· Counting in 2's, 3's, 4's, 5's, 6's, 10's and 100's (while out walking count on or back in steps of 10,100 etc).
· Number bonds to 10 and 20 (e.g. 18+2, 3+17 etc)
· Doubles and halves of numbers to 30 (Double 15 and Half of 30)
· Addition and subtraction facts to 20 (also in worded questions such as: There were 19 sweets, I ate 15 how many are there left?)
· x2, x3, x4, x5, x6 and x10 times tables
· Make a card game (multiplication table on one card, answer on another) and match up the cards.
· Writing and reading numbers to 1000
· Draw and colour in a half, a quarter and three quarters of different shapes. Allow children to carry out practical activities such as cutting cakes, pizzas, pies etc into
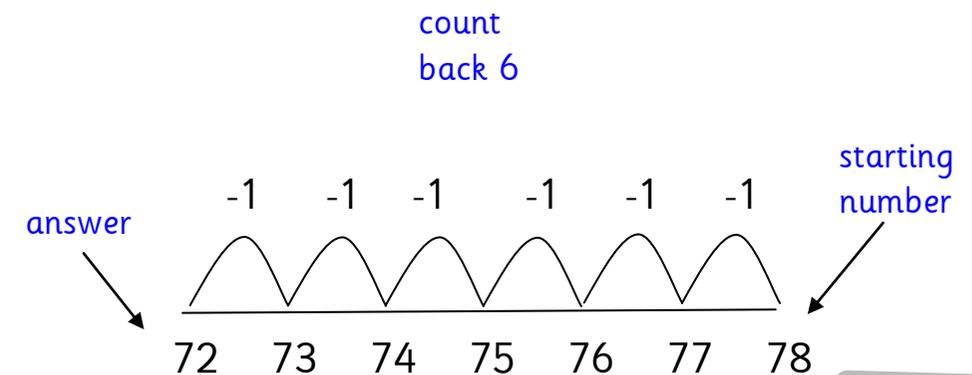
## Subtraction methods in Year 3/4

· **First children may begin by using a blank number line.** Here we solve **62 - 26 = 36** by **counting up** in appropriate jumps. We start on 26 and then count up the number of jumps it takes to get to 62.

add up the jumps

starting number

+4   +10   +10   +10   +2

26   30   40   50   60   62

target number

So that 62 - 26 = 10 + 10 + 10 + 4 + 2 = 36

Children extend this method to include hundreds when they are ready *see year 3 and year 4 booklets

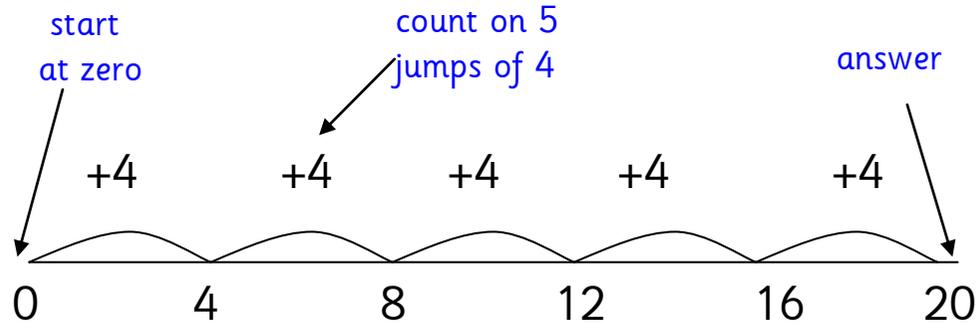They also learn to solve subtraction problems where there is a small difference by counting back:  78 - 6 = 72

count back 6

answer

-1   -1   -1   -1   -1   -1

starting number

72   73   74   75   76   77   78

So that: **78 - 6 = 72**

22-11=?

## Multiplication in Year 3/4

- We begin by solving multiplication problems using repeated addition:

$5 \times 4 = $ **(5 groups of 4)** or $4 + 4 + 4 + 4 + 4$

start at zero    count on 5 jumps of 4    answer

$+4$    $+4$    $+4$    $+4$    $+4$

0    4    8    12    16    20

So:  $5 \times 4 = 20$

- Children also need to learn and use times tables to help them solve multiplication problems:

> Tables to use:
> 2x, 5x, 10x
> Tables to learn... 3x, 4x, 6x tables

- They will also use the grid method.  Here we partition numbers to make them easier to multiply, so we say 23 is 20+3 and then multiply both numbers by 5.  We then add to find the total
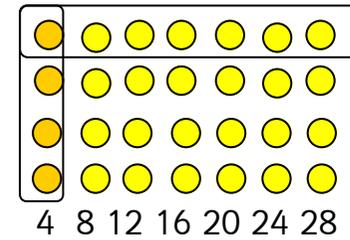
$23 \times 5 = 100 + 15 = 115$

| x | 20 | 3 |
|---|-----|-----|
| 5 | 100 | 15 |

Partition 23 into 20 + 3 then multiply each by 5 and find the total

## Division in Year 3/4

- We begin by using practical activities to solve division problems: 28 sweets shared by 4 people = 7

How many 4s in 28?

4  8 12 16 20 24 28

"There are 7 groups of 4 so 4 people have 7 sweets each"

draw sets of 4 until you reach your target number of 28.

- Children will then be introduced to the ÷ sign.  They will use empty number lines to solve division problems using repeated addition:  $25 \div 5 = 5$

start at zero and count on in jumps of 5 until we reach 25 because we are dividing by 5

Count up how many jumps of 5 you have made

$+5$    $+5$    $+5$    $+5$    $+5$

0    5    10    15    20    25