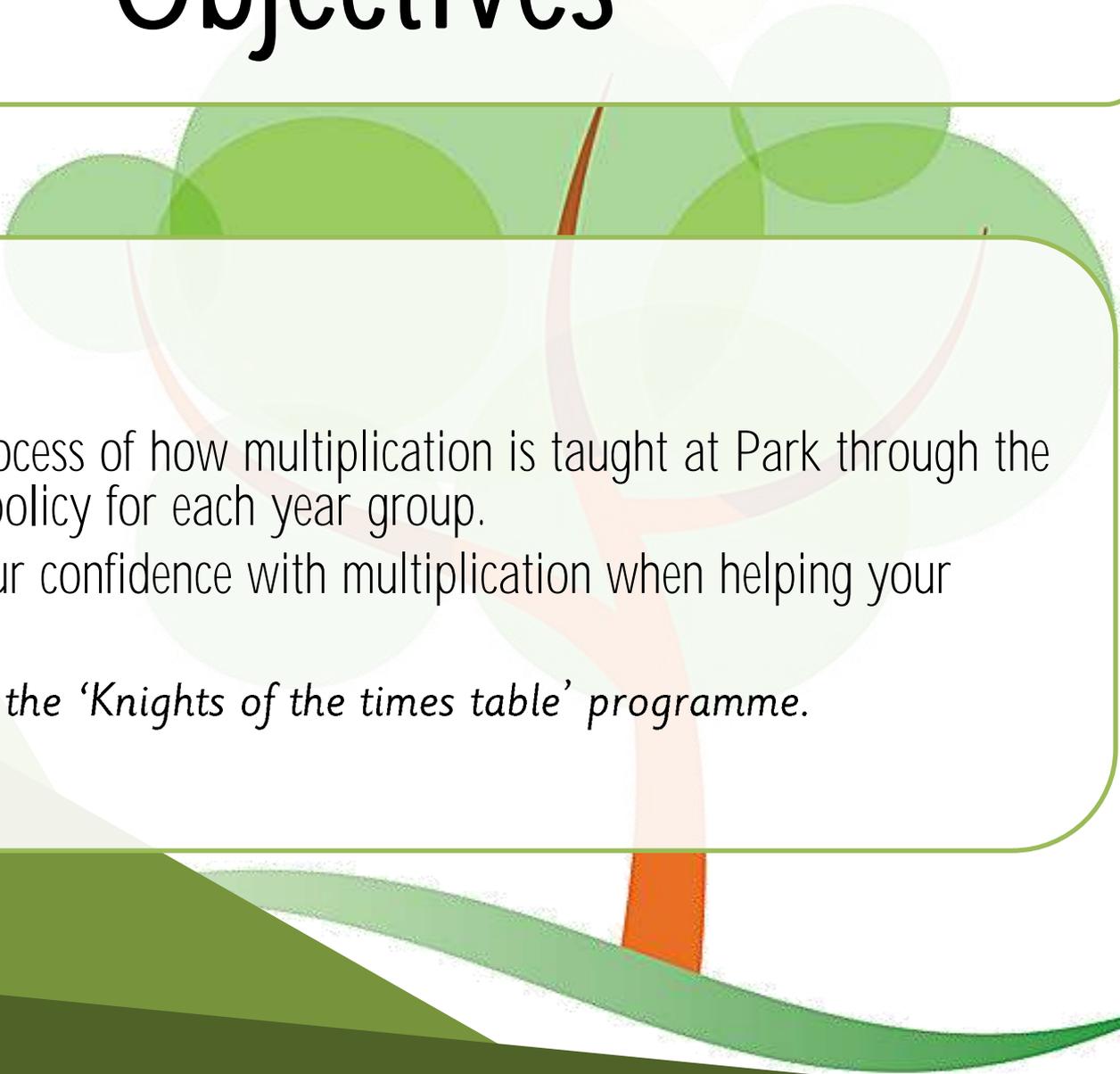
A stylized background featuring a tree with a brown trunk and green foliage, a yellow sun, and green hills. The text is contained within white rounded rectangular boxes.

# Maths Parent Workshop

Multiplication

Wednesday 13<sup>th</sup> May 2015  
Mr Clark and Mr Smith

# Objectives



Today we will:

- Show you the process of how multiplication is taught at Park through the new calculation policy for each year group.
- Help increase your confidence with multiplication when helping your children at home.
- *Introduce you to the 'Knights of the times table' programme.*

# Our Calculation Policy

Teachers at Park teach addition from our calculation policy.

In here it clearly states the different stages of each of the four operations.

This can be found on our website.

<http://www.park.newham.sch.uk/maths.html>

## **Calculation Policy** **Park Primary School**



(Aligned with the 2014 National Curriculum)

# Early Years

## Multiplication – Early Stages (EYFS)

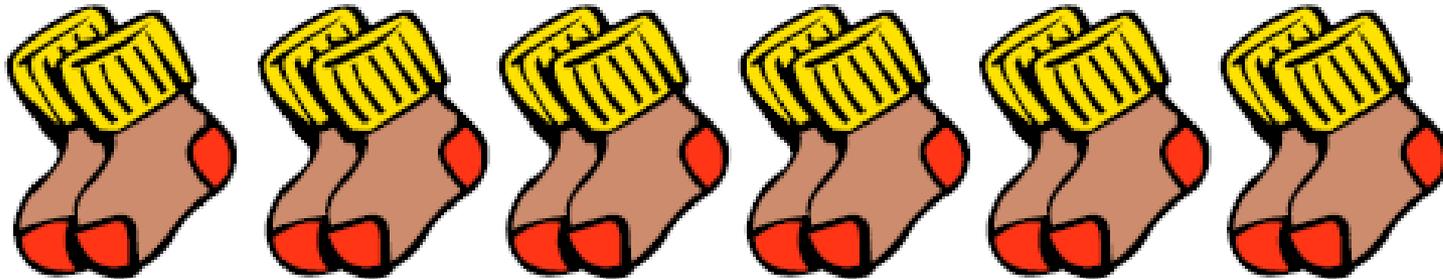
Children will engage in a wide variety of songs and rhymes, games and activities. In practical activities and through discussion they will begin to solve problems involving doubling.



'Three apples for you and three apples for me. How many apples altogether?'

# Year 1

Children will count repeated groups of the same size in practical contexts. They will use the vocabulary associated with multiplication in practical contexts. They will solve **practical problems** that involve combining groups of 2, 5 or 10. e.g. socks, fingers and cubes.



'Six pairs of socks.  
How many socks altogether? 2, 4, 6, 8, 10, 12'

By the end of Year 1 children can count in multiples of twos, fives and tens.

# Year 2

## Combining Groups (repeated addition):



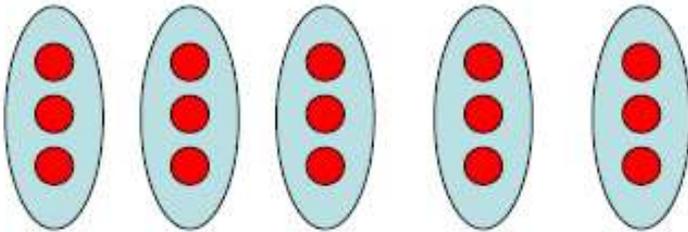
'3 groups of 10 crayons'

'How many crayons altogether?'

' $10 + 10 + 10 = 30$ '

'3 groups of 10' '3 times ten'

' $3 \times 10 = 30$ ' ' $10 \times 3 = 30$ '



'5 groups of 3' '5 lots of 3' ' $3 + 3 + 3 + 3 + 3 = 15$ '

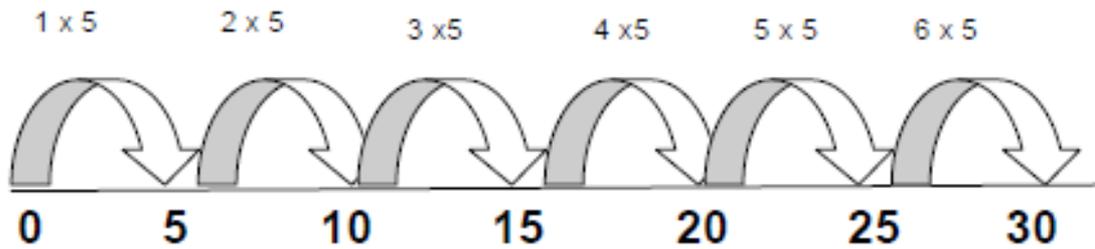
'5 times 3' '3 multiplied by 5' ' $5 \times 3 = 15$ ' ' $3 \times 5 = 15$ '

Children by the end of Year 2 can recall and use multiplication facts for the 2, 5 and 10 multiplication tables.

# Year 2

Using an empty number line:

$$6 \times 5 = 30$$



Make the link to repeated addition.

**NB** If, at any time, children are making significant errors, return to the previous stage in calculation.

# Year 3

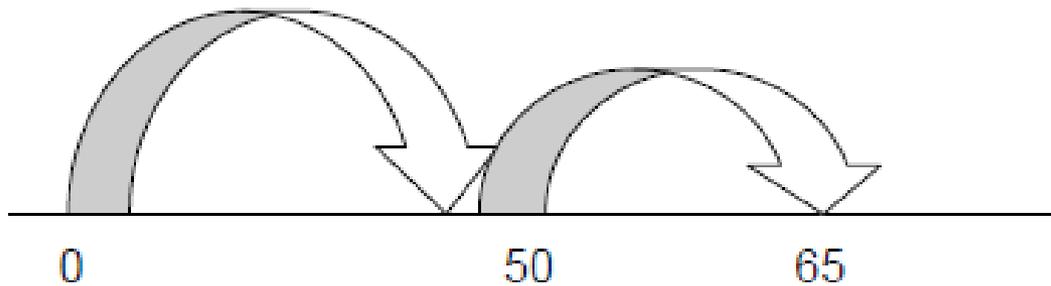
By the end of Year 3 the children should be able to recall and use multiplication facts for the 3, 4 and 8 multiplication tables

Demonstrate the partitioning method using a **number line**:

$$13 \times 5 = 65$$

$$10 \times 5 = 50$$

$$3 \times 5 = 15$$



Partition a teen number multiplied by a single digit number.

# Year 3

**Grid Method** (teen number multiplied by a one- digit number):

$$13 \times 8 = 104$$

X	10	3
8	80	24

$$80 + 24 = 104$$

# Year 4

By the end of Year 4 children can recall multiplication facts for multiplication tables up to  $12 \times 12$ .

Further develop the **grid method** for two-digit numbers multiplied by a one-digit number.

$$36 \times 4 = 144$$

X	30	6
4	120	24

$$120 + 24 = 144 \text{ (add the partial products)}$$

# Year 4

This leads to **short multiplication (formal method)** of a two-digit number multiplied by a one-digit number:

$$36 \times 4 = 144$$

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 144 \\ \hline \end{array}$$

Use the language of place value to ensure understanding.

Ensure that the digit 'carried over' is written under the line in the correct column.

Continue to practise the formal method of short multiplication of a two-digit number by a one-digit number throughout Y4.

**If children are confident**, continue to develop short multiplication with three-digit numbers multiplied by a one-digit number.

# Year 5

**When children are confident introduce multiplication by a two-digit number.**  
If necessary, return to the grid method and/or expanded method first.

**Grid method** (two-digit number multiplied by a teen- number):

$$23 \times 13 = (20 + 3) \times (10 + 3) = 299$$

X	20	3
10	200	30
3	60	9

$$\begin{array}{r} 230 \\ + 69 \\ \hline 299 \end{array}$$

Add the partial products  $(200 + 30) + (60 + 9) = 299$

# Year 5

**Compact long multiplication (formal method):**

$$56 \times 27 = 1512$$

$$\begin{array}{r} 56 \\ \times 27 \\ \hline 39^4 2 \quad (7 \times 56) \\ + 11^1 20 \quad (20 \times 56) \\ \hline 1512 \\ \hline 1 \end{array}$$

Use the language of place value to ensure understanding.

In this example there are digits that have been 'carried' over in the partial products.

Add the partial products.

# Year 6

In Year 6 children are taught to multiply multi-digit numbers (including decimals) up to 4 digits by a two-digit whole numbers.

**The formal written method of long multiplication:**

$$\begin{array}{r} 53.2 \\ \times 24.0 \\ \hline 212.8 \\ 1064.0 \\ \hline 1276.8 \end{array}$$

(53.2 x 4)  
(53.2 x 20)

It is an option to include  $.0$  in this example, but not essential.

The prompts (in brackets) can be omitted if children no longer need them.

# Knights of The Times Table

As part of the new Maths curriculum children now have the higher expectation that they have to know and recall their times tables up to  $12 \times 12$ , by the end of Year 4.

With this in mind we have introduced the  
***'Knights of The Times Tables!'***



# Knights of The Times Table



## Knights of the Times Tables

Name: \_\_\_\_\_

In this programme the children are tested on a fortnightly basis.

If the children get 20/20 they are then retested.

If they get 20/20 again they receive a sticker in their booklet.

Teachers record the results to help show Progress.

# Knights of The Times Table

Name: \_\_\_\_\_



6	X	8	=	
1	X	8	=	
10	X	8	=	
8	X	8	=	
9	X	8	=	
4	X	8	=	
7	X	8	=	
2	X	8	=	
5	X	8	=	
3	X	8	=	

24	÷	8	=	
8	÷	8	=	
40	÷	8	=	
56	÷	8	=	
16	÷	8	=	
64	÷	8	=	
48	÷	8	=	
80	÷	8	=	
32	÷	8	=	
72	÷	8	=	

Test Sheets – 90 seconds

# Knights of The Times Table



## Inverse and division

Work out these calculations and then write the inverse to match them.

LOOK  $9 \times 8 = 72$        $8 \times 4 = 32$   
So  $72 \div 8 = 9$       so  $32 \div 8 = 4$

$4 \times 8 =$		$8 \times 1 =$	
$7 \times 8 =$		$8 \times 5 =$	
$2 \times 8 =$		$8 \times 7 =$	
$9 \times 8 =$		$8 \times 10 =$	
$6 \times 8 =$		$8 \times 2 =$	
$8 \times 8 =$		$8 \times 6 =$	
$1 \times 8 =$		$8 \times 9 =$	
$5 \times 8 =$		$8 \times 3 =$	
$11 \times 8 =$		$8 \times 11 =$	
$10 \times 8 =$		$8 \times 8 =$	
$3 \times 8 =$		$8 \times 4 =$	
$12 \times 8 =$		$8 \times 12 =$	



## Knights of the Times Table! '9x'



### X facts

$0 \times 9 = 0$
$1 \times 9 = 9$
$2 \times 9 = 18$
$3 \times 9 = 27$
$4 \times 9 = 36$
$5 \times 9 = 45$
$6 \times 9 = 54$
$7 \times 9 = 63$
$8 \times 9 = 72$
$9 \times 9 = 81$
$10 \times 9 = 90$
$11 \times 9 = 99$
$12 \times 9 = 108$

### facts

$0 \div 9 = 0$
$9 \div 9 = 1$
$18 \div 9 = 2$
$27 \div 9 = 3$
$36 \div 9 = 4$
$45 \div 9 = 5$
$54 \div 9 = 6$
$63 \div 9 = 7$
$72 \div 9 = 8$
$81 \div 9 = 9$
$90 \div 9 = 10$
$99 \div 9 = 11$
$108 \div 9 = 12$

Practise sheets available on website