

Teaching and Learning Maths



**Padnell Infant
School**

‘Mighty oaks from tiny acorns grow’

Aims

- To share how maths is taught following curriculum
- To develop parents confidence in helping their children with maths
- To teach the basic methods of calculation
- To show examples of activities and resources we use to teach maths
- To give parents an opportunity to ask questions

New curriculum

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the basics of mathematics- understanding and recall.
- **reason mathematically** explain their findings/ answers and use mathematical vocabulary
- can **solve problems** by applying their mathematics to a variety of 1 step and more problems.

Maths Teaching

Taught daily throughout school with enhanced learning opportunities continuously available.

New National Curriculum Programme of study and EYFS

Fluency, Reasoning and Problem Solving

7 areas of Maths

Multiple representation of number to ensure good basic understanding

Mental maths: Starter activities

Areas within Maths

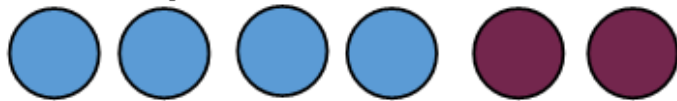
- ▶ Using and applying (runs through all areas)
- ▶ Number and Place Value
- ▶ Addition and Subtraction
- ▶ Multiplication and Division
- ▶ Fractions
- ▶ Geometry
- ▶ Measures
- ▶ Statistics
- ▶ Problem Solving (throughout all of above)

Resources Pack

- ▶ Support all calculations and Number and Place Value
- ▶ 0- 100 Number line
- ▶ Numicon cards
- ▶ Number fan
- ▶ Dice x 2
- ▶ Number formation

Addition

1. Objects

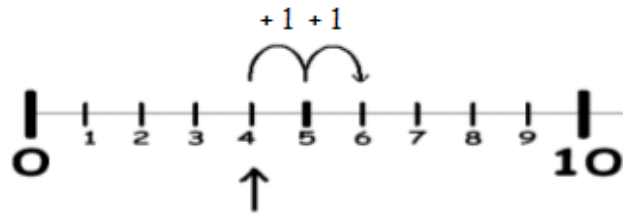


$$4 + 2 = 6$$



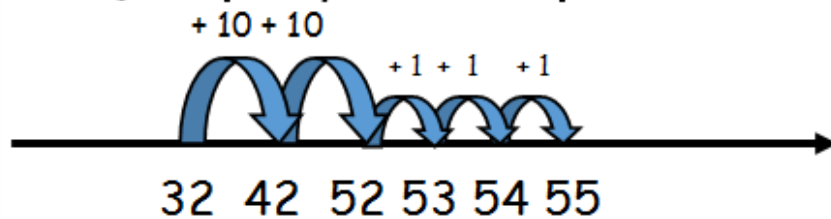
$$8 + 5 = 13$$

2. Counting on



$$4 + 2 = 6$$

3. Jumping in multiples



$$32 + 23 = 55$$

Addition cont'd

4. Partitioning

$$45 + 23 = 68$$

Tens $40 + 20 = 60$

Ones $5 + 3 = 8$

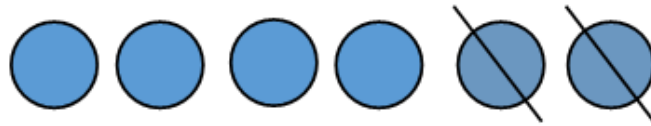
$$\underline{\underline{68}}$$

5. Column Addition

$$\begin{array}{r} \text{HTO} \\ 84 \\ + 57 \\ \hline 141 \\ \hline 1 \end{array}$$

Subtraction

1. Objects

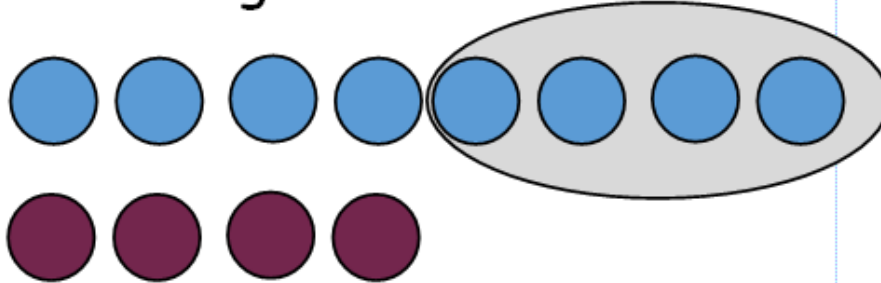


$$6 - 2 = 4$$

What do I get if I take away 2 from 6?

Answer: 4

2. Finding the difference

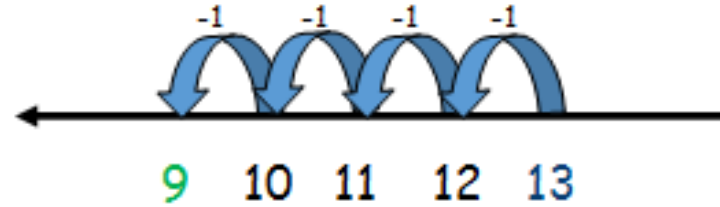


$$8 - 4 = 4$$

How many more is 8 than 4? Answer: 4

Subtraction

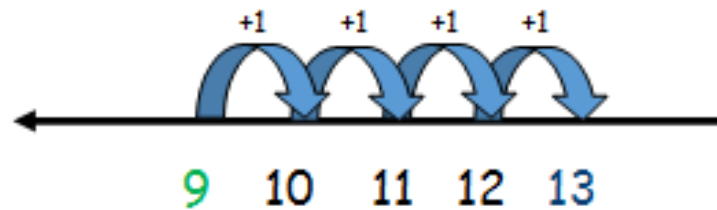
3. Counting backwards



$$13 - 4 = 9$$

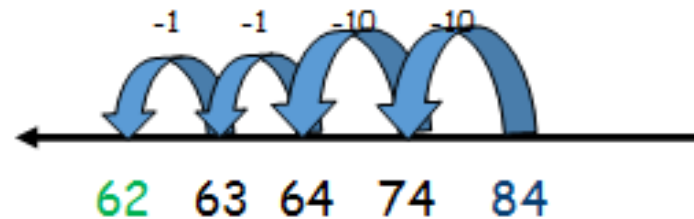
What do I get if I take away 4 from 13? Answer: 9

4. Counting on



How many more is 13 than 9? What is the difference?

5. Jumping backwards in multiples



$$84 - 22 = 62$$

Subtraction cont'd

6. Column subtraction

$$\begin{array}{r} \text{H T O} \\ 84 \\ - 33 \\ \hline 51 \end{array}$$

7. Partitioning

$$84 - 33 = 51$$

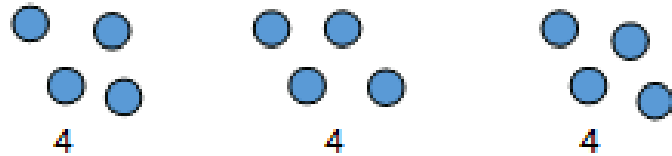
$$\text{Tens} \quad 80 - 30 = 50$$

$$\text{Ones} \quad 4 - 3 = 1$$

$$50 + 1 = 51$$

Multiplication

1. Grouping



$$4 \times 3 = 12$$

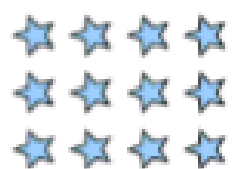
4 times 3 means 4, 3 times.
Which gives 3 lots of 4!


2. Repeated Addition

$$4 \times 3 = 12$$

$$4 + 4 + 4 = 12$$

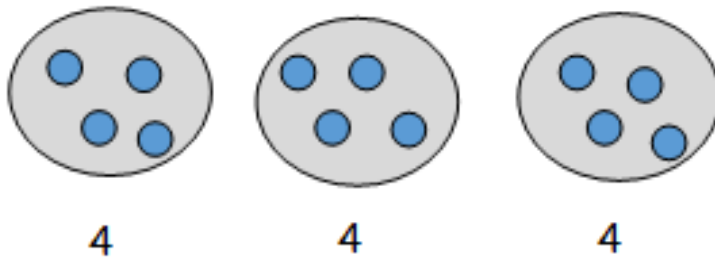
3. Arrays


$$4 \times 3 = 12$$


$$3 \times 4 = 12$$

Division

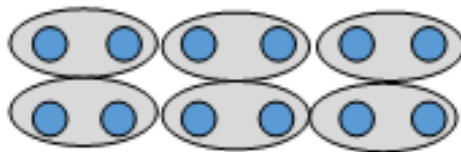
1. Sharing



$$12 \div 3 = 4$$

12 divided by 3 equals 4.

2. Grouping

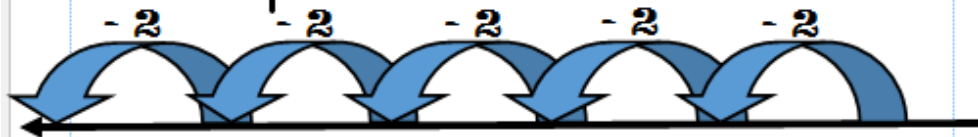


$$12 \div 2 = 6$$

How many groups of 2 can I fit into 12? Answer: 6

Division

3. Repeated subtraction



0 1 2 3 4 5 6 7 8 9 10

$$10 \div 2 = 5$$

10 divided by 2 equals 5 jumps.

Key Vocabulary:

Addition

add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones/units, partition, addition, column, greater than, less than

Subtraction

equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer / less than, most, least, count back, how many left, how much less is_?

Multiplication

Groups of, lots of, times, multiply, altogether, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, partition, multiple, product, tens, ones/units, value, total, inverse

Division

Divide, share, share equally, group, equal groups, lots of, array, divide, divided by, division, grouping, number line, left, left over, remainder

- ▶ Play games involving numbers and/or logic, such as card games, dominoes, darts, draughts, chess, snap, pairs dice games
- ▶ Ask the question: 'The answer is 10 (or any number), what's the question?' Possible responses: 8 plus 2, 1 million divided by one hundred thousand, 5×2 , $25 - 15$, the number before 11 etc

Everyday situations:

- ▶ Sorting things out and putting things away, Matching pairs of socks, shoes, gloves.
- ▶ Ordering and sequencing when getting dressed, going to the shops, having a bath etc. Talk about what you do first, what you do next, ... and last of all.
- ▶ Comparing objects according to size, weight or capacity
- ▶ Matching and counting when setting the table, preparing food, sharing out food, etc.
- ▶ Counting, weighing, measuring capacity and timing when cooking
- ▶ Talking about time, referring to the clock at different times throughout the day,
- ▶ Handling small amounts of money when shopping, counting small totals.

Play activities/games:

- ▶ Talking about directions when walking around or playing with toy vehicles etc.
- ▶ Making models with building bricks, Lego, boxes etc. Talk about shape and position, count the number of similar shapes etc.
- ▶ Counting particular things on journeys, e.g. red cars, fields with cows in, churches etc.

Mental activities:

- ▶ Counting in 1s, then 2s or 10s, e.g. as you climb stairs, walk to the local shop etc.
- ▶ Simple addition/subtraction calculations, 'What's $32 + 14$? How did you work it out?'
- ▶ All of the above provide the foundation for mathematical understanding and development.

Helpful Websites

www.purplemash.co.uk

www.educationcity.com

www.bbc.co.uk/bitesize/ks1/maths/

www.ictgames.com

www.topmarks.co.uk/mathsgame

www.mathschamps.co.uk

www.oxfordowl.co.uk - free e-books