

Welcome to our Mathematics Workshop

Tuesday 19th June 2018



Fostering positive attitudes to maths

- There is no such thing as a maths brain or a maths person.
- Anyone can learn to do maths with hard work and effort.
- When you make a mistake your brain grows!
- Believe in yourself.
- Speed is not important.

Week of Inspirational Maths

- Watch a video each day – promote positive attitudes to maths
- Creative activities – children explore and investigate
- Visual maths – draw and represent mathematical ideas
- Open-ended investigations

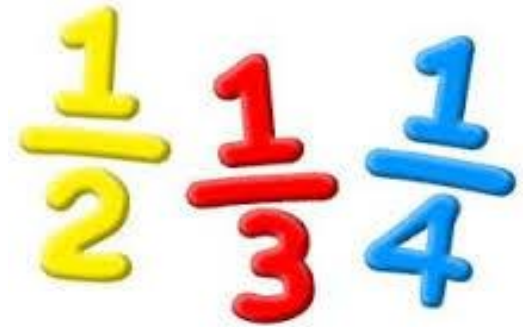
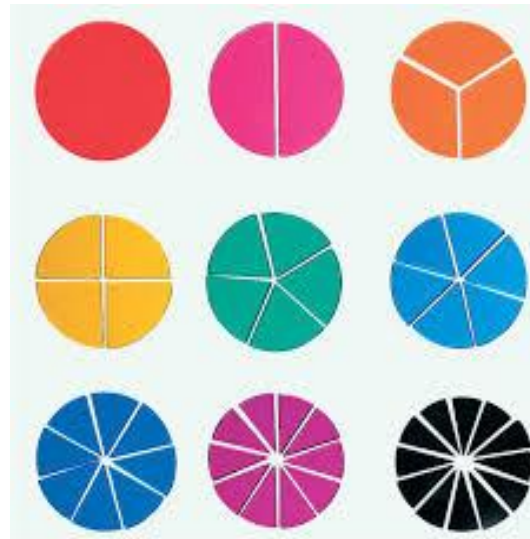


Maths at Browick Road Primary School

- Develop number sense
- Promote the use of correct mathematical language
- Concrete-Pictorial-Abstract approach
- Use of a range of manipulatives
- Develop children's fluency, reasoning and problem-solving
- Mixed ability grouping
- Challenge approach to tasks
- Extension tasks to encourage a deeper understanding of concepts
- Outdoor learning



CONCRETE ➤ PICTORIAL ➤ ABSTRACT



The answer is



What is the question?



EYFS Maths Curriculum

Two strands of maths:

- Numbers
- Shape and space

Expectation for the end of reception is that children will achieve the Early Learning Goal for both strands. This goes towards a child achieving their Good Level of Development.

2014 Curriculum

- The national curriculum sets out what must be taught in maths in each year group (Key Stage 1 and 2)
- If a child is achieving well, rather than moving on to the following year group's work we encourage more in-depth and investigative work to allow a greater understanding of concepts and ideas



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

- *become **fluent** in mathematics*
- ***reason mathematically***
- *can **solve problems** by applying their mathematics to a variety of problems*



Fluency

- Children use efficient strategies to work out calculations i.e. $200 - 199 =$
- Children do not memorise a single procedure – they need to understand *why* they are doing what they are doing and *know when it is appropriate* to use different methods.

How would you work out this calculation?

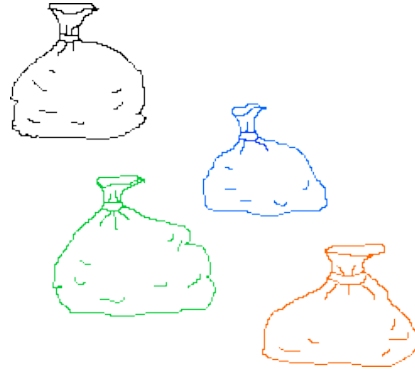
$$125 + 38$$

Developing reasoning and problem-solving skills

- Trial and improvement
- Working systematically
- Pattern spotting
- Working backwards
- Reasoning logically
- Visualising
- Conjecturing (giving an opinion)

Money Bags

Ram divided 15 pennies among four small bags.



He labelled each bag with the number of pennies inside it.
He could then pay any sum of money from 1p to 15p without opening any bag.

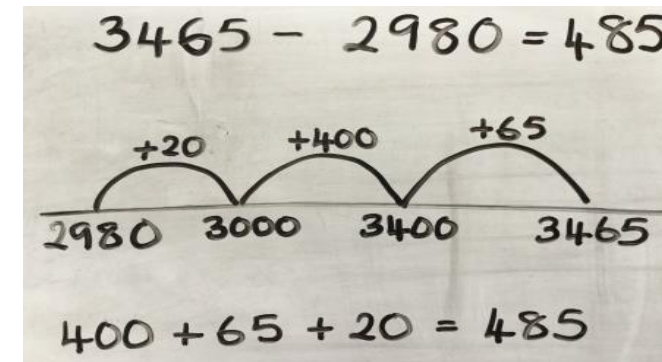
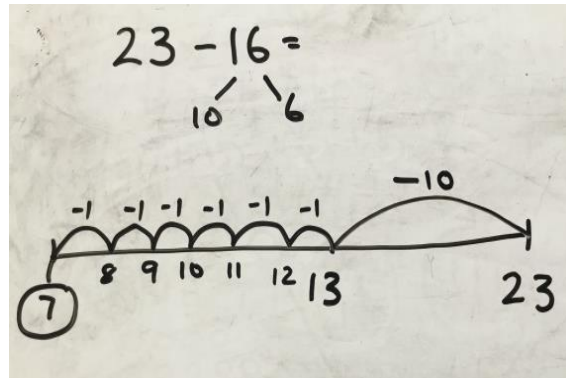
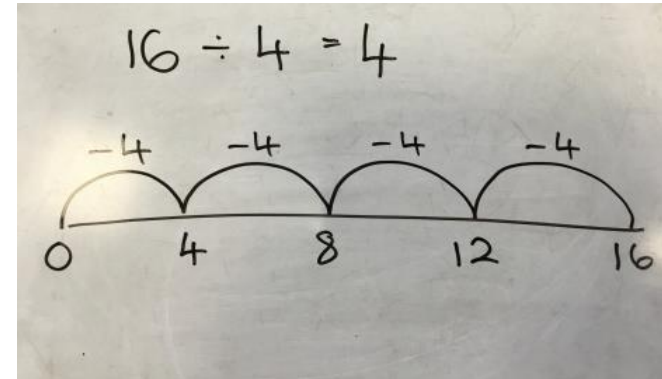
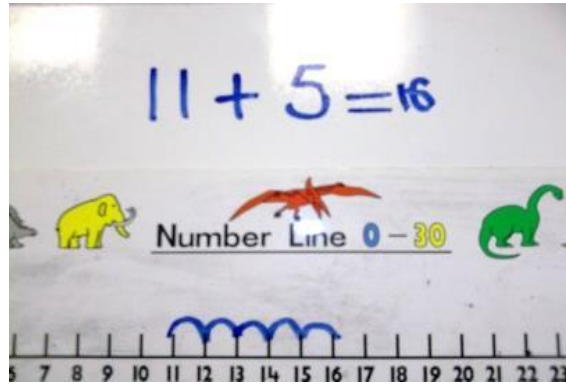
How many pennies did Ram put in each bag?

Written Calculation Strategies

- Use manipulatives to model the calculation (concrete)
- Draw a representation of the calculation (pictorial)
- Teach written methods (abstract)

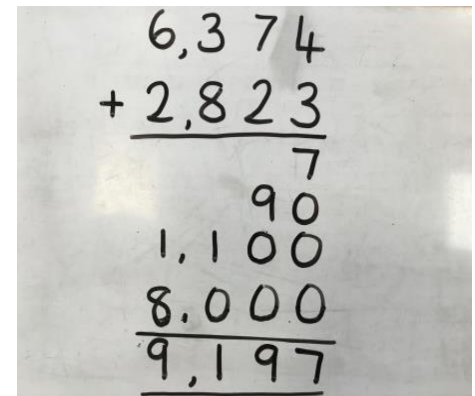
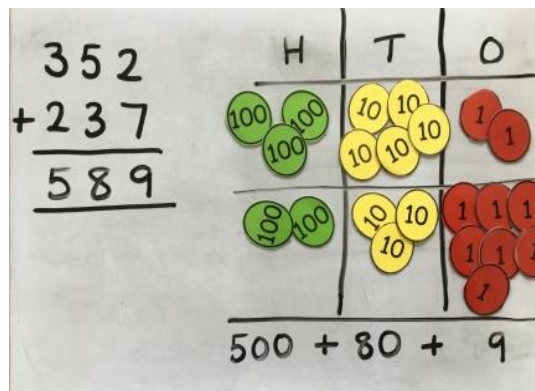
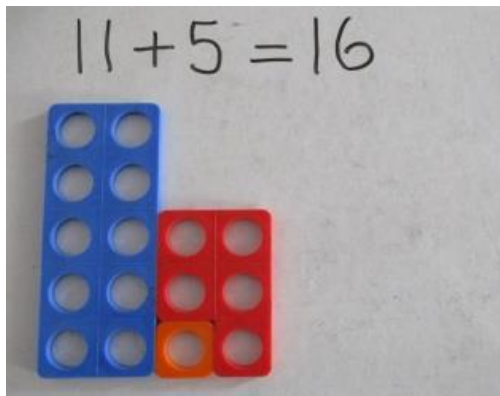
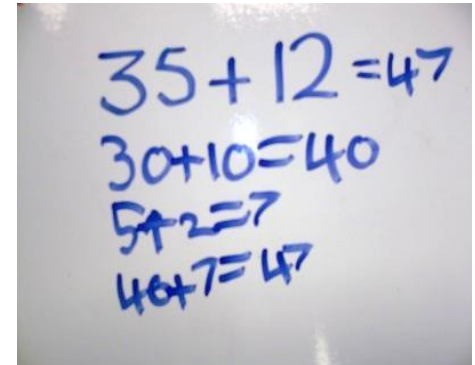
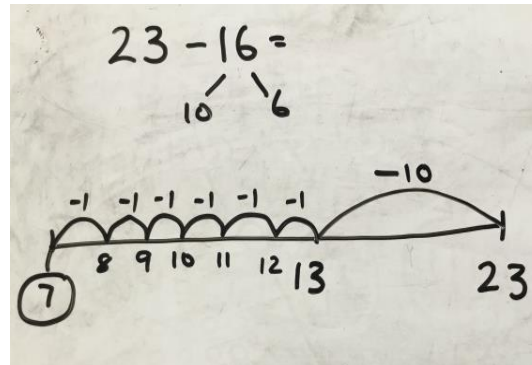
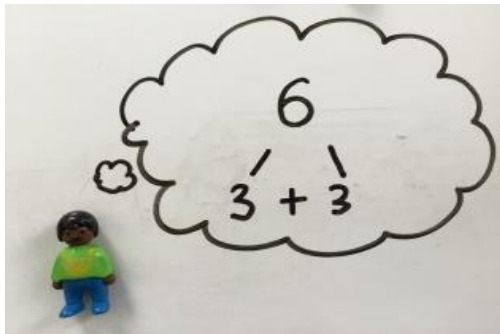
Written Calculation Strategies

- Number lines



Written Calculation Strategies

- Partitioning



Written Calculation Strategies

- Partitioning

$$2 \times 35 = 70$$

x	30	5
2	60	10

$$60 + 10 = 70$$

$$96 \div 8 = 12$$

↓

$$56 \div 8 = 7 \rightarrow 7 + 5 = 12$$
$$40 \div 8 = 5$$

$$124 \times 3$$

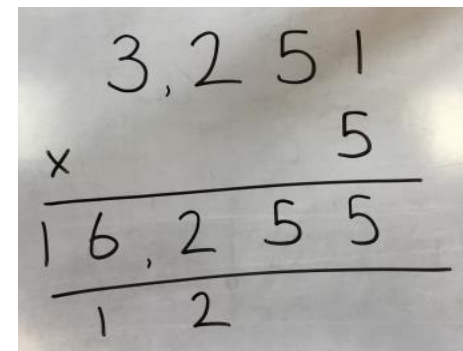
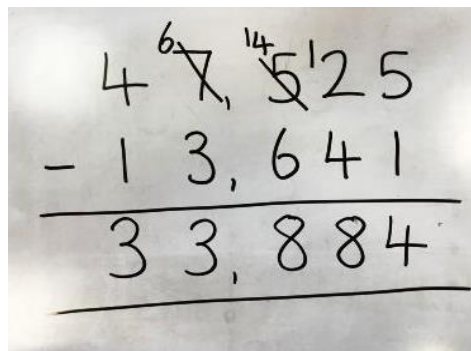
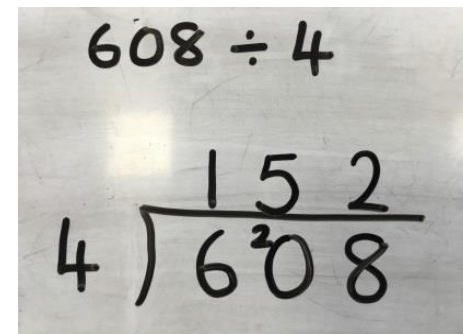
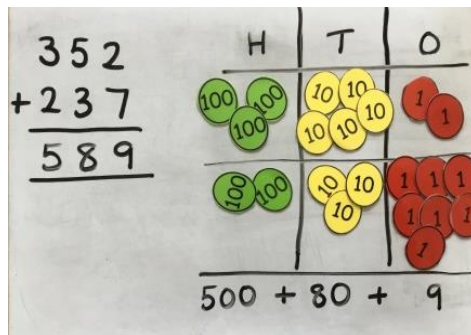
124	
x 3	
12	(3x4)
60	(3x20)
+300	(3x100)
<u>372</u>	

$$2512 \times 31 =$$

x	2000	500	10	2
30	60,000	15,000	300	60 = 75,360
1	2000	500	10	2 = <u>2,512</u>
				<u>77,872</u>

Written Calculation Strategies

- Formal methods (Year 3 onwards)



What can you do to help at home?

- Have a **positive attitude** to maths!
- Always be encouraging and never tell children they are wrong, instead find logic in their thinking.
- **Talk about maths** with your child e.g. "How much change will I get from...?", "How could we cut this pizza into 8 equal slices?"
- Involve children when taking measurements or weighing items
- Give children opportunities to use money to shop, check change etc
- Encourage recall of addition, subtraction, multiplication and division facts.
- Encourage children to play maths puzzles and games.
- **Share strategies and methods** (allow your child to be the expert)
- When helping your child calculate, use the method that your child has been taught.



Useful websites/Apps

- www.bbc.co.uk/cbeebies – Numberblocks EYFS
- www.topmarks.co.uk – Hit the button (also available as an app) KS1 & 2
- www.ictgames.co.uk - KS1 maths
- www.timestables.co.uk
- <http://www.crickweb.co.uk/> – KS1 & 2 numeracy
- <http://mathszone.co.uk/> Maths games and activities
- <https://nrich.maths.org/primary> Games and problems

