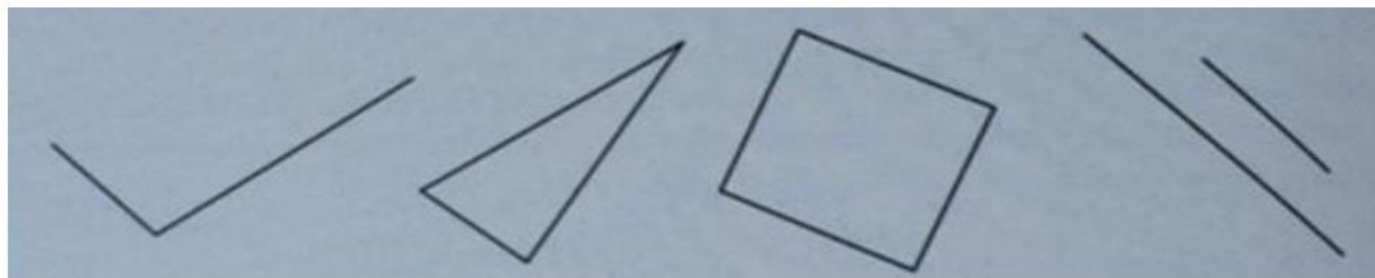


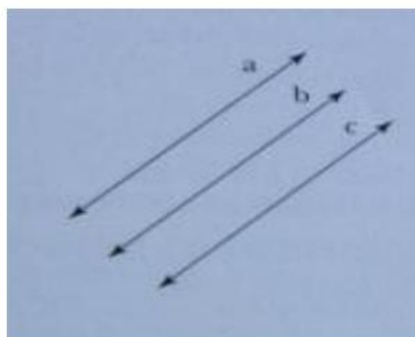
Maths Mastery at BJS

Over half of eight year olds did not see these as examples of a right angle, triangle, square or parallel lines.

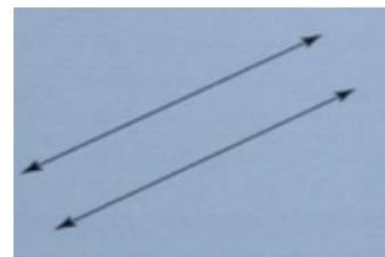


The images they were used to seeing had limited their understanding.

11 year olds were asked: Is line a parallel to line c?



Most answered, 'No, because line b is in the way.'



The concept of parallel lines is almost always illustrated like this.

$$412 \times 100$$

$$73 \div 10$$

$$\begin{array}{r} 412 \\ \times 100 \\ \hline 000 \\ 0000 \\ 41200 \\ \hline 41200 \end{array}$$

$$\begin{array}{r} 7 \text{ r } 3 \\ 10 \overline{) 73} \end{array}$$

Children are using a **process** rather than using their prior knowledge to making connections and help them find the answer.

The Solution - The Maths Mastery Approach

- Children develop a **deeper** understanding of our number system; **relationships** between numbers and can use a range of calculation strategies (FLUENCY).
- Children make **connections** between small tasks and notice key concepts themselves.
- Children can **explain** which methods are most appropriate for a task.
- Children show their deeper understanding in a **variety** of ways-the answer is only the beginning.

FLUENCY --- REASONING --- PROBLEM SOLVING

Set A

120 - 90

235 - 180

502 - 367

122 - 92

119 - 89

237 - 182

Set B

120 - 90

122 - 92

119 - 89

235 - 180

237 - 182

502 - 367

How are we developing pupils' mastery of mathematics at Burlington?

We are currently using a number of different methods to teach maths. We firmly believe these methods are the best for developing your child's deeper understanding of the subject, but be prepared...some of them may be very different from how you were taught! It is important that parents and carers are aware of these methods so you can support your child in an approach consistent with their school learning.

How can you support your children with maths at home?

Explore pictorial representations of calculations

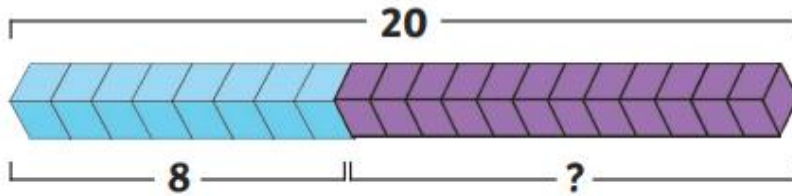
How can you use pictures to **help** you understand?

How can you use pictures to **show** you understand?

Problem: Jonas bakes 20 cookies.
He gives 8 cookies to a friend.
How many cookies does Jonas have left?

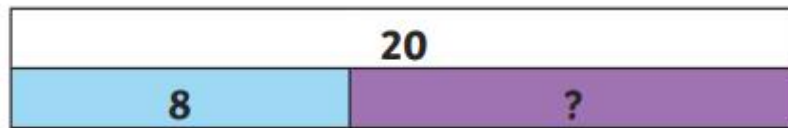


We can solve the problem using items, such as interlocking cubes.

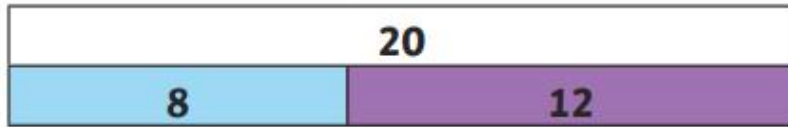


There are 12 cubes left therefore there must be 12 cookies left.

We can solve the problems using bar models.



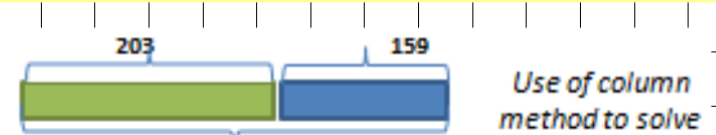
$$20 - 8 = 12$$



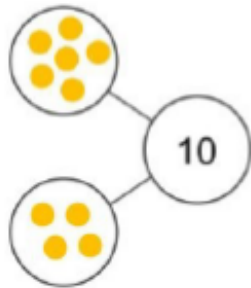
The missing number is 12. Therefore 12 cookies are left.

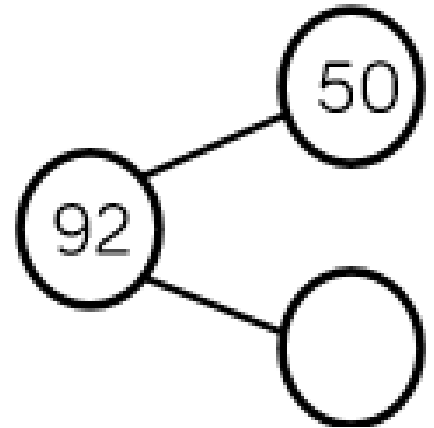
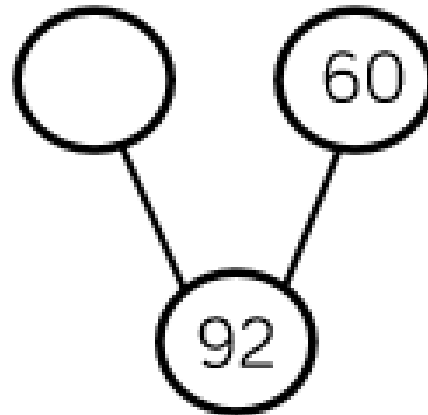
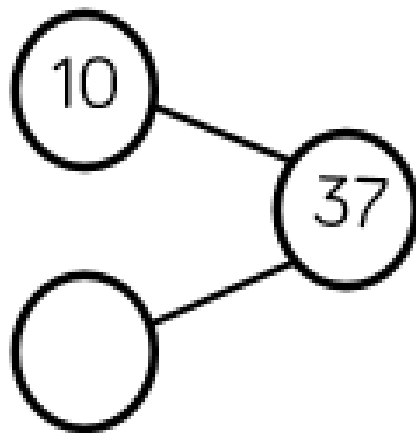
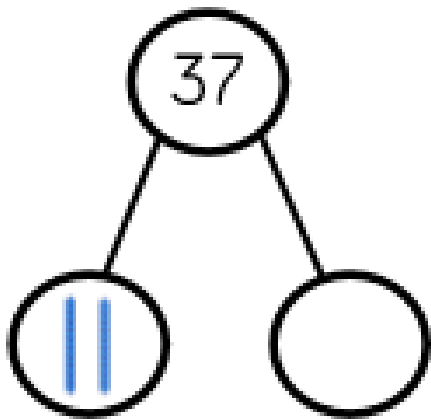
Pictorial representations of calculations- bar models

There are 203 children at Happy Primary School and 159 children at Summerside Primary School who are all going to a summer disco. How many children will be there?

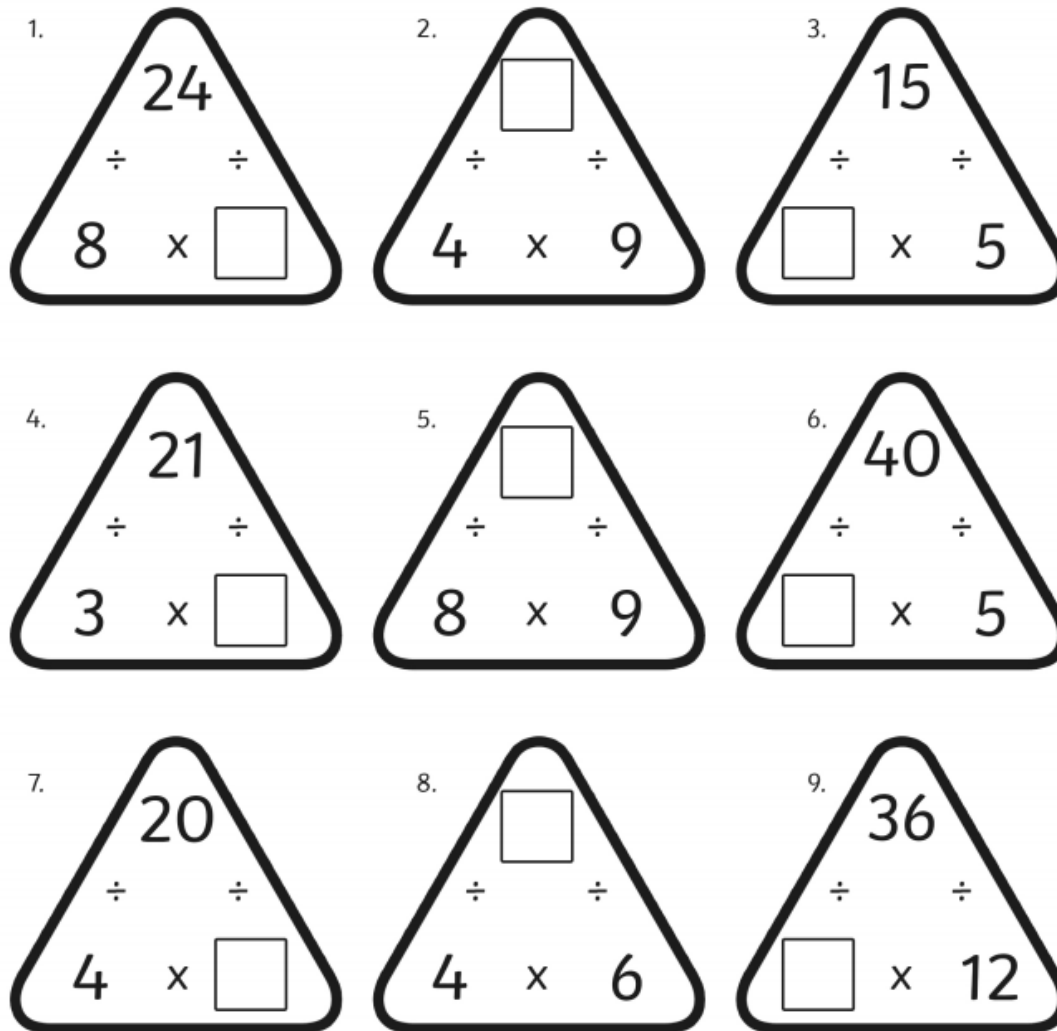


Pictorial
representations
of calculations-
part whole
model

 <p> $6 + 4 = 10$ $4 + 6 = 10$ $10 - 4 = 6$ $10 - 6 = 4$ </p> <p>Part Whole Model</p>	<table border="1"> <tr> <td colspan="2">10</td> </tr> <tr> <td>6</td> <td>4</td> </tr> </table> <p> $6 + 4 = 10$ $4 + 6 = 10$ $10 - 4 = 6$ $10 - 6 = 4$ </p> <p>Bar Model</p>	10		6	4
10					
6	4				



Inverse triangles



- Shows relationship between operations
- Allows children to see links between operations.

Times Table Rockstars



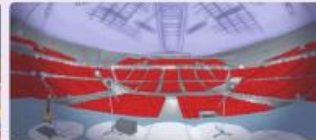
Single Player



GARAGE
Teacher set



STUDIO
12 x 12



SOUND CHECK
20 questions



Multi Player



FESTIVAL
12 x 12



ARENA
Teacher set

GARAGE

Set time

2 Minutes



Tables:
Teacher set



Play solo



10 per correct answer

YOU'VE BEEN SET:



How can you support your children with maths at home?

- Times Table Rockstars
- Mathletics for homework/target work
- Encourage pictorial representations
 - bar models
 - part whole models
- Use inverse triangles to see connections
- Practise formal methods (column method)
- Ask open questions/explanation of mistakes