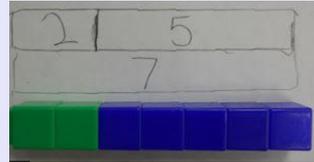


Parental Workshop - Bar Modelling (Key Stage 1 Focus)



After analysing our results at the end of last year, it was becoming clear that children were struggling with how to approach word problems.

We have decided to adopt bar modelling as a 'way in' for the children so they know the correct operation to use.

It doesn't replace the calculation the child needs to do, it hopefully guides them in choosing the correct operation.

The bar model was introduced in 1983 as problem solving tool.
It has been used in ALL maths text books in Singapore since 1992.

Children of the same age in Singapore and the USA were asked this question: Laura had \$240. She spent $\frac{5}{8}$ of it. How much money does she have left?

In the USA (where the children did not use the bar model) about 25% of the children answered correctly. In Singapore over 80% were able to solve the problem.

RUCSAC

Bar model

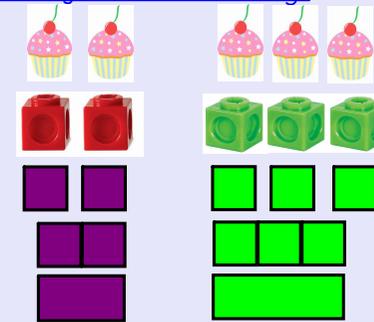
It is a way of visualising the problem before beginning to calculate.

Within the Foundation Stage:

Approach is very much actual objects, before moving onto more concrete objects.



Towards the end of Foundation Stage



Bar Models - Important Features

Length of the bars should be drawn in proportion to each other, as far as possible.

Available information is recorded onto the model and ? is used to indicate unknown information.

Dotted lines are used when the models need to be transformed (Key Stage 2).

Within Year 1:

Addition - Aggregation



There are 3 footballs in red basket and 2 footballs in the blue basket. How many footballs are there altogether?

Within Year 1:

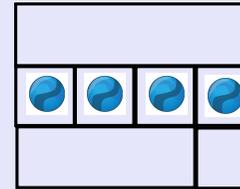
Addition - Augmentation



Peter has 3 marbles. Harry gives Peter 1 more marble.
How many marbles does Peter have now?

Within Year 1:

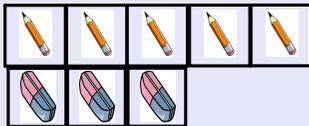
Addition - Augmentation



Peter has 3 marbles.
Harry gives Peter 1 more marble. How many marbles does Peter have now?

Within Year 1:

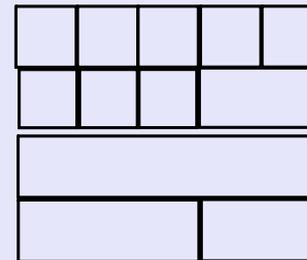
Subtraction - Comparison Model



Peter has 5 pencils and 3 erasers. How many more pencils than erasers does he have?

Within Year 1:

Subtraction - Comparison Model



Peter has 5 pencils and 3 erasers. How many more pencils than erasers does he have?

Within Year 1:

Multiplication

| | | |
|---|---|---|
| | | |
| 4 | 4 | 4 |

Ali buys 3 bags of apples. Each bag has 4 apples in it. How many apples does he buy?

Within Year 1:

Division

| | | | |
|----|---|---|---|
| 10 | | | |
| 2 | 2 | 2 | 2 |
| □ | | | |

I can see 10 wheels. How many bicycles?

Within Year 2:

Addition & Subtraction

| | |
|----|----|
| | |
| 23 | 14 |

| | |
|----|--|
| 37 | |
| 23 | |

Fill in the missing numbers.

Within Year 2:

Multiplication

| | | |
|----|----|----|
| ? | | |
| £5 | £5 | £5 |

Sally buys 3 cinema tickets costing £5 each. How much does she spend?

Within Year 2:

Division (Fractions)

| | |
|----|--|
| 12 | |
| | |

Jo bought a bag of 12 cherries. Jo ate half the number of cherries in the bag. How many cherries did she eat?