

Key Stage 1 Maths Day

Thursday 23rd April 2015



What do your children do in Years 1 and 2?

- Develop confidence and mental fluency with whole numbers, counting and place value
- Develop the ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary
- Length, mass, capacity/volume, time and money
- Number bonds to 20
- Read and spell mathematical vocabulary



The 3 Aims of the New Maths Curriculum

- Fluency
pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Problem Solving
- Reasoning



Progression in reasoning

Step 1: Describing

Step 2: Explaining

Step 3: Convincing

Step 4: Justifying

Step 5: Proving



Maths is for everybody

- the search for pattern
- the use of logic
- making predictions
- and generality



Mason and Johnston-Wilder, (2004) *Fundamental constructs in Mathematics education*

Noah



Noah saw 12 legs walk by into the Ark.

How many creatures could he have seen?

How many different answers can you find?



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Think about this...

What creatures could there be?

How many legs do they each have?

What's the greatest number of creatures he could have seen?

What's the smallest number of creatures he could have seen?



What is different?



Why do this problem?

- The 3 aims – no more $4 + 8 =$
- Humour adds to enjoyment
- Meaningful practice
- Everyone can have a different answer
- *Low threshold - High ceiling*
- What if questions – more legs...18, 24, 19...or fewer?



The 3 Aims

31 Complete the number sentence below.

$$3 \times 8 = 2 \times \square$$

24 Write a digit in each box to make the sum correct.

$$\begin{array}{|c|} \hline 7 \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} + \begin{array}{|c|} \hline \square \\ \hline \end{array} = \begin{array}{|c|} \hline 8 \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \end{array}$$

Three Way Mix Up

Jack has three blue tiles, three yellow tiles and three green tiles.

He put them together in a square so that no two tiles of the same colour were beside each other.

Can you find another way to do it?

Can you find ALL the ways to do it?



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Why do this problem?

- Promotes talk and therefore reasoning – The 3 Aims
- Children can share their observations
- Mathematical vocabulary – *row/column/left of/right of/more/less/next to*
- Different answers
- Follow a set of rules
- Work systematically





