

Mathematics Calculation Strategies

multiplication and division

Tuesday 8th May 2018

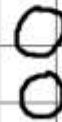
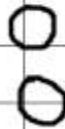
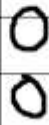


Division Workshop

EYFS I can solve problems by halving and sharing.

6 coins. 3 pirates.

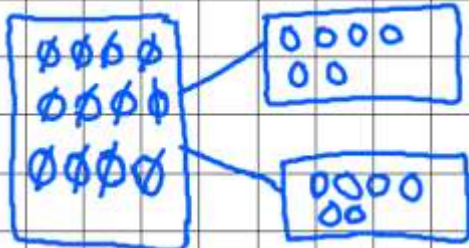
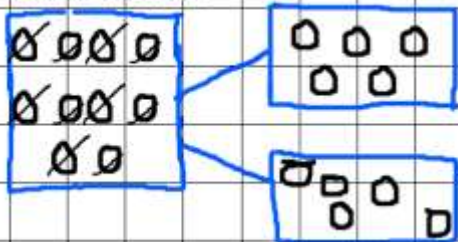
Share the coins equally between the pirates. How many coins do they get each?



Year 1 I can solve 1 step problems using concrete objects, pictorial representations and arrays (with support of teacher)

Initially share objects practically into groups of 2s. We draw the boxes below onto the tables and share cubes between them

Real maths



Story maths

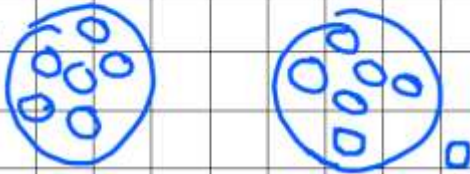
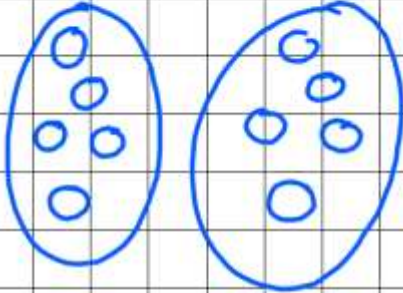
10 shared into 2 groups = 5

12 shared into 2 groups = 6

Year 2

I can complete a division calculation using the 2, 5 and 10 timestables

Real Maths



Story Maths

$$10 \div 2 = 5$$

We use our multiplication facts to check our answer is correct. We call this the inverse operation.

$$13 \div 2 = 6 \text{ r } 1$$

Year 3 I can divide a 2 digit number by a single digit (mentally)

Real Maths

Story Maths

$$51 \div 3 = 17$$

$$\begin{array}{r} 3 \overline{) 51} \\ \underline{30} \\ 21 \\ \underline{21} \\ 0 \end{array}$$

$(10) \times 3$ $(7) \times 3$

Know facts from the 3 timestable are used to calculate how many groups of 3 can be made from 51. Always partition to the multiple of ten first.

$$76 \div 4 = 19$$

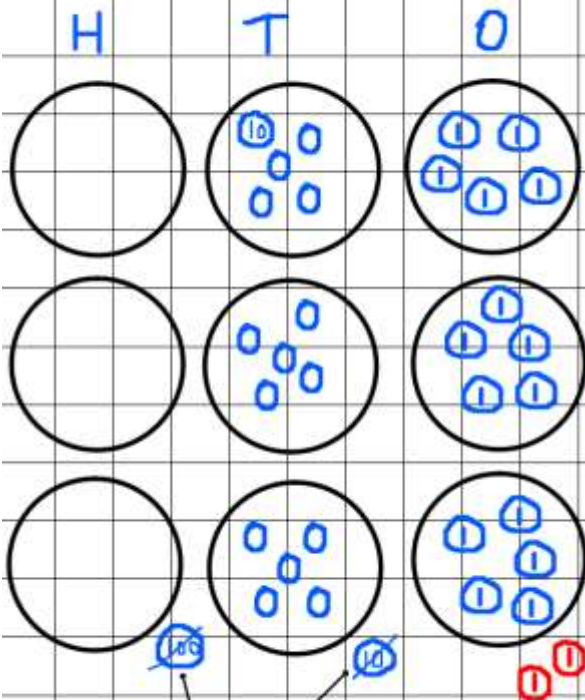
$$\begin{array}{r} 4 \overline{) 76} \\ \underline{40} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

$(10) \times 4$ $(9) \times 4$

Because this is a mental method, we wouldn't use Real Maths. However, we still keep this column free, should a child need it to check or correct a calculation.

Year 4 I can use short division to divide a 3 digit by 1 digit number

Real Maths



Story Maths

$$167 \div 3 =$$

$$\begin{array}{r} 055r2 \\ 3 \overline{)167} \\ \underline{15} \\ 17 \\ \underline{15} \\ 2 \end{array}$$

H T O

$$154 \div 3 =$$

NOTE: the 1 group of a hundred left over is regrouped (carried over) as 10 groups of ten and the 1 group of ten left over is regrouped as ten groups of one into the ones place.

Year 5

I can use short division to divide a 4 digit number by a 1 digit and interpret remainders appropriately for the context.

$$2102 \div 5 =$$

Remainder

Fraction

Decimal

$$\begin{array}{r} 0420r2 \\ 5 \overline{)2102} \\ \underline{21} \\ 02 \end{array}$$

$$\begin{array}{r} 0420\frac{2}{5} \\ 5 \overline{)2102} \\ \underline{21} \\ 02 \end{array}$$

$$\begin{array}{r} 0420.4 \\ 5 \overline{)2102.0} \\ \underline{21} \\ 02 \\ \underline{20} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

The remainder 2 becomes the numerator and the divisor becomes the denominator.

