

Rushen Primary School  **Addition policy**

2A Adding up TU numbers

Working across the page -

$$\begin{array}{l} 37 + 49 \\ 30 + 40 + 7 + 9 \\ 70 + 16 \\ 86 \end{array}$$

Working down as basis for column addition

$$\begin{array}{r} 37 \\ +49 \\ 16 \text{ (7+9)} \\ 70 \text{ (30+40)} \\ 86 \end{array}$$

3C Using above methods for adding HTU to HTU or TU numbers.

3B/3A Column addition

Line up hundreds, tens and units. Values for next column to be written underneath.

$$\begin{array}{r} 237 \\ + 349 \\ \hline 586 \\ \hline \end{array}$$

4C Progress to larger numbers ThHTU + ThHTU, and adding three or four HTU or ThHTU numbers together in column using same principles as above.


$$\begin{array}{r} 7564 \\ + 1532 \\ \hline 9096 \\ \hline \end{array} \qquad \begin{array}{r} 5674 \\ 1275 \\ 6574 \\ + 2222 \\ \hline 13743 \\ \hline \end{array}$$

4B Adding numbers with one decimal place. Need to make sure that the decimal point is lined up through the numbers and in answer box.

$$\begin{array}{r} 34.5 \\ + 46.7 \\ \hline 81.2 \\ \hline \end{array}$$

4A Adding numbers with two decimal places. Need to make sure that the decimal point is lined up through the numbers and in answer box.

$$\begin{array}{r} 56.89 \\ + 34.51 \\ \hline 91.40 \\ \hline \end{array}$$

Rushen Primary School  **Subtraction policy**

2A or below using number lines or adding on.

Working across the page

$$56 - 14 =$$

$$56 - 10 - 4 = 42$$

3C Using jottings for subtracting HTU or TU from HTU numbers.

$$786 - 54 =$$

$$780 - 50 - 4 =$$

$$732$$

3B Column subtraction HTU - TU with no exchange.

Line up hundreds, tens and units. Reading numbers from top to bottom using sign ie $9 - 7$, $40 - 30$.

$$\begin{array}{r} 349 \\ - 237 \\ \hline 112 \end{array}$$

3A Column subtraction HTU - TU with exchange.

Use language of exchanging the hundred into 10 x10 so the tens can be used to do subtraction. Any exchange to be written in full size to make number clear as 14 not just 4 with a little 1 in front.

$$\begin{array}{r} 2\text{ }142 \\ - \quad 51 \\ \hline 291 \end{array}$$

$$\begin{array}{r} 2\text{ }306 \\ - \quad 42 \\ \hline 264 \end{array}$$

4C Column subtraction HTU - HTU with exchange.

$$\begin{array}{r} 2\text{ }307 \\ - \quad 142 \\ \hline 164 \end{array}$$

4B Subtracting ThHTU - ThHTU and numbers with one decimal place.

Need to make sure that the decimal point is lined up through the numbers and in answer box.

$$\begin{array}{r} 4\text{ }54.5 \\ - \quad 46.7 \\ \hline 7.8 \end{array}$$

$$\begin{array}{r} 5\text{ }5240 \\ - \quad 2578 \\ \hline 3662 \end{array}$$

Rushen Primary School  **Multiplication policy**

Written method for Multiplication

3A Grid Method

4C Informal methods. TU x U

Introductory method leading on from arrays and partitioning of tens and units.
 - Work out products such as 70 x 5, 700 x 5 using related facts.

4C Standard written methods TU x U or do we do -

$\begin{array}{r} 23 \\ \times \quad 7 \\ \hline (20 \times 7) \quad 140 \\ (3 \times 7) \quad \quad 21 \\ \hline 161 \end{array}$	x	$\begin{array}{r} 23 \\ \times \quad 7 \\ \hline 161 \end{array}$
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4B Informal and standard written methods HTU x U

Grid method and standard written method OR

$\begin{array}{r} 346 \\ \times \quad 7 \\ \hline (300 \times 7) \quad 2100 \\ (40 \times 7) \quad \quad 280 \\ (6 \times 7) \quad \quad \quad 42 \\ \hline 2422 \end{array}$	x	$\begin{array}{r} 346 \\ \times \quad 7 \\ \hline 2422 \end{array}$
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Next step is TU x TU

Grid method using tens first

Written methods

$\begin{array}{r} 72 \\ \times \quad 38 \\ \hline 72 \times 30 \quad 2160 \\ 72 \times 8 \quad \quad 576 \\ \hline 2736 \end{array}$	x	<p>OR</p> $\begin{array}{r} 72 \\ \times \quad 38 \\ \hline 576 \\ 2160 \\ \hline 2736 \end{array}$
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4A Informal and standard written methods HTU x TU

Grid method

Written methods

$\begin{array}{r} 352 \\ \times \quad 27 \\ \hline 352 \times 20 \quad 7040 \\ 352 \times 7 \quad \quad 2464 \\ \hline 9504 \end{array}$	x	$\begin{array}{r} 352 \\ \times \quad 27 \\ \hline 2464 \\ 7040 \\ \hline 9504 \end{array}$
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Rushen Primary School  **Division Policy**

Written methods for division.

4C Use informal and standard written methods to divide TU by U.

Informal method.

$$\begin{aligned} 72 \div 5 &= (50 + 22) \div 5 \\ &= 10 + 4 \text{ remainder } 2 \\ &= 14 \text{ remainder } 2 \end{aligned}$$

or

$$\begin{aligned} 72 \div 5 &= \\ & \begin{array}{r} 72 \\ - 50 \quad (10 \times 5) \\ \hline 22 \\ - 20 \quad (4 \times 5) \\ \hline 2 \end{array} \\ & \text{Answer } 14 \text{ remainder } 2. \end{aligned}$$

4B Use Informal and standard written methods to divide HTU by U.

Informal Method

Decision made not to using chunking method in school as its too confusing for

Standard written methods

$$196 \div 6 \quad \begin{array}{r} 032 \text{ r } 4 \\ \underline{6 \overline{) 196}} \end{array}$$

4A Use informal and standard written methods to divide HTU by TU including decimals to 1 DP.

Informal method

$977 \div 36$ is approximately $1000 \div 40 = 25$

$$\begin{array}{r} 977 \\ - 360 \quad (36 \times 10) \\ \hline 617 \\ - 360 \quad (36 \times 10) \\ \hline 257 \\ - 180 \quad (36 \times 5) \\ \hline 77 \\ - 72 \quad (36 \times 2) \\ \hline 5 \end{array}$$

Answer: $27 \frac{5}{36}$ (answer written as a fraction)

Standard methods

$972 \div 36$ is approximately $1000 \div 40 = 25$

$$\begin{array}{r} \overline{36) 972} \\ - \underline{720} \quad (20 \times 36) \\ \hline 252 \\ - \underline{252} \quad (7 \times 36) \\ \hline 0 \end{array}$$

Answer: 27

$$\begin{array}{r} \overline{27} \\ \underline{36) 972} \\ - \underline{72} \\ \hline 252 \\ - \underline{252} \\ \hline 0 \end{array}$$

Rushen Primary School  **Fraction policy**

Half = $\frac{1}{2}$

Used from yr 2 above.

Quarter = $\frac{1}{4}$

Ensure use of same language - not your half is bigger than mine

To be written one digit per square, using the line between the square as dividing line.

When using whole numbers and fractions then whole number should be the size of a fraction (two squares). Where one digit is the numerator and two digits are the denominator the single digit will be above the second of the digits.

$$\frac{1}{2} \quad \frac{1}{3} \quad \frac{1}{4} \quad \frac{1}{5} \quad \frac{1}{8} \quad \frac{1}{10}$$

Simple fractions (where statement is used)

4c Fractions that make a whole.

Using fractions that have the same denominator.

$$\frac{2}{7} + \frac{5}{7} = 1$$

$$\frac{1}{4} + \frac{3}{4} = 1$$

4c Equivalent fractions

Use the following denominators. Practical activities needed, fraction walls, games and cutting out fractions to show sizes.

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9}$$

4a Cancelling / Simplifying to lowest common denominator.

Looking for relationships patterns to explain why it can be simplified.

$$\frac{56}{64} = \frac{7}{8}$$

$$\frac{500}{1000} = \frac{1}{2}$$

4a Putting into common denominator to order mixed denominator fractions.

1. $\frac{3}{4} \quad \frac{1}{8} \quad \frac{1}{2} \quad \frac{1}{4} \quad \frac{7}{8}$

3. $\frac{1}{8} \quad \frac{2}{8} \quad \frac{4}{8} \quad \frac{6}{8} \quad \frac{7}{8}$

2. $\frac{6}{8} \quad \frac{1}{8} \quad \frac{4}{8} \quad \frac{2}{8} \quad \frac{7}{8}$

4. $\frac{1}{8} \quad \frac{1}{4} \quad \frac{1}{2} \quad \frac{3}{4} \quad \frac{7}{8}$

Use lots of apparatus for fractions, developing language.

Showing fractions on number lines, finding fractions of different sets of apparatus. Use same and different denominators on number lines.