

| Title   | Excel Image | Key Stage                         | Detail  |
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| <p><b>+/- Flashcards</b></p>                        |             | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Develops knowledge of the relationships between + and - (inverse)</p>  |
| <p><b>4 Numbers</b></p>                             |             | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Develops number bonds to 10, 20 &amp; 50.</p>  |
| <p><b>4 Operations – Missing Number or Sign</b></p> |             | <p><b>Key Stage 1</b></p>         | <p>Develops the 'empty box' with all 4 operations as well as just + and -. You can remove digits as well as the operations.</p> |
| <p><b>4 Operations with Small Numbers</b></p>       |             | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Develops reasoning skills around the 'magic square' using all four operations.</p>   |

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| <p><b>+/- 1, 10 &amp; 100</b></p>                       |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>+/- 1, 10 &amp; 100 to a range of numbers. Predict outcomes.</p>   |
| <p><b>+/- Missing Number or Sign</b></p>                |  | <p><b>Year 2 – KS2</b></p>        | <p>Develops the 'empty box' with all 4 operations as well as just + and -. You can remove digits as well as the operations – uses higher numbers.</p> |
| <p><b>Addition Facts</b></p>                            |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Develops reasoning. This is the 'empty box' on a larger scale looking at + facts to 10+10 and 100+10.</p>  |
| <p><b>Addition and Subtraction Number Sentences</b></p> |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Looks at the 'empty box' questions with smaller numbers, multiples of 10 and a mixture of 1 and 2-digit numbers</p>                                |

| <p><b>+/- Trios</b></p>                           |   | <p><b>Key Stage 1</b></p> <p>Would be good used in conjunction with +/- flashcards.</p> <p>Looks at developing the relationships between + and - (inverse).</p>                                       |            |        |       |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |
|---|---|---|------------|--------|-------|----|------|-----------|-------|-------|-------|-------|-------|------------|-------|-------|--------|--------|-------|---|
| <p><b>Addition of 1 &amp; 2-digit numbers</b></p> |   | <p><b>Key Stage 1 &amp; 2</b></p> <p>Can be used as a target board to develop addition facts. Add columns and rows to create different totals.</p>  |            |        |       |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |
| <p><b>Array Creator</b></p>                       |   | <p><b>Key Stage 1 &amp; 2</b></p> <p>This spreadsheet allows you to create your own arrays. Also good to use for ratio and proportion, e.g. for every 3 yellow counters there are 4 red counters.</p> |            |        |       |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |
| <p><b>Calculating Percentages</b></p>             | <table border="1" data-bbox="467 1666 948 1756"> <thead> <tr> <th>Item</th> <th>calculator</th> <th>pen</th> <th>bag</th> <th>CD</th> <th>book</th> </tr> </thead> <tbody> <tr> <td>reduction</td> <td>£0.74</td> <td>£0.42</td> <td>£1.92</td> <td>£1.24</td> <td>£0.85</td> </tr> <tr> <td>sale price</td> <td>£6.66</td> <td>£3.78</td> <td>£17.28</td> <td>£11.16</td> <td>£7.65</td> </tr> </tbody> </table> | Item  | calculator | pen    | bag   | CD | book | reduction | £0.74 | £0.42 | £1.92 | £1.24 | £0.85 | sale price | £6.66 | £3.78 | £17.28 | £11.16 | £7.65 | <p><b>Key Stage 2</b></p> <p>These 3 spreadsheets develop finding percentages of amounts and discounts.</p> |
| Item  | calculator  | pen   | bag        | CD     | book  |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |
| reduction   | £0.74   | £0.42   | £1.92      | £1.24  | £0.85 |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |
| sale price  | £6.66   | £3.78   | £17.28     | £11.16 | £7.65 |    |      |           |       |       |       |       |       |            |       |       |        |        |       |   |

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| <p><b>Carroll Diagram (Year 2)</b></p> |  | <p><b>Year 2- Lower KS2</b></p>   | <p>Sort shapes and numbers with two criteria.</p>  |
| <p><b>Carroll Diagram</b></p>          |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>This builds on the previous Carroll Diagram spreadsheet and extends to two criteria for shapes and numbers.</p> |
| <p><b>Complements</b></p>              |  | <p><b>Key Stage 2</b></p>         | <p>Complements to 1, decimals to 10 and 10 pounds (choose a time limit to answer – great for mental recall!)</p>   |
| <p><b>Converting Measures</b></p>      |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Converting g/kg and mls/l using a counting stick.</p>   |

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| <p><b>Converting Units of Measure</b></p>         |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>A great conversion tool for all units of measure. Includes two pages of problems (amounts can be changed) involving the conversion of measures – KS2 level.</p>                      |
| <p><b>Coordinate Cells</b></p>                    |  | <p><b>Key Stage 1</b></p>         | <p>Develops plotting coordinates using one quadrant of numbers and letters.</p>   |
| <p><b>Counting Over Boundaries</b></p>            |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Develops the skills of counting over different boundaries of whole numbers and decimals by adding on different quantities. A great mental recall tool as you can time responses.</p> |
| <p><b>Counting Stick with Further Options</b></p> |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Allow you to set the start number and increment of the counting stick before choosing a measure for conversion. Includes time and FDP.</p>   |

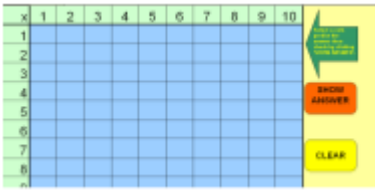
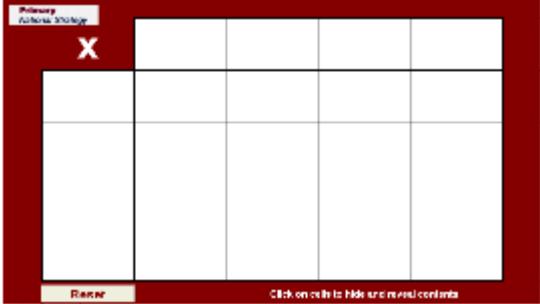
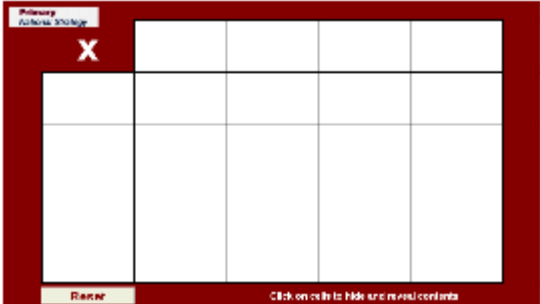
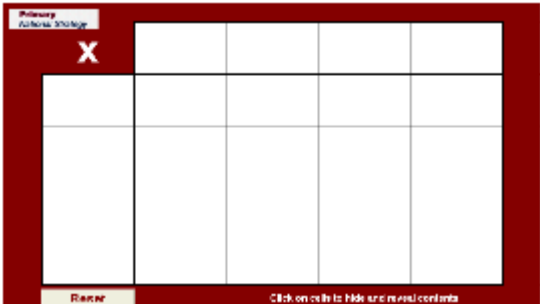
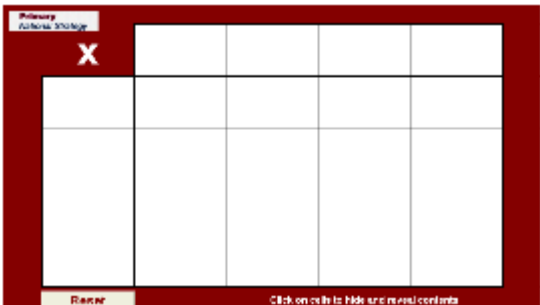
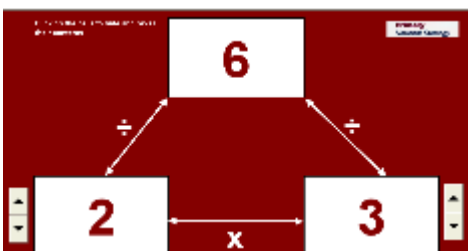
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| <p><b>Decimal Addition and Subtraction Facts</b></p> |  | <p><b>Key Stage 2</b></p>          | <p>Reveal some of the empty boxes to create 'missing number' calculations with decimals.</p>                               |
| <p><b>Decimal Target Board</b></p>                   |  | <p><b>Key Stage 2</b></p>          | <p>Add up columns, rows or pairs of decimals to create a total.</p>  |
| <p><b>Number Grid Generator</b></p>                  |  | <p><b>Key Stage 1 &amp; 2</b></p>  | <p>Allows you to create a number grid of a variety of columns with a start number of your choice.</p>                      |
| <p><b>Doubling and Halving</b></p>                   |  | <p><b>Key Stage 1 &amp; 2</b></p>  | <p>Doubling and halving activities for all year groups. A number is given and you can reveal its double or half of it.</p> |
| <p><b>Estimation</b></p>                             |  | <p><b>FS &amp; Key Stage 1</b></p> | <p>Allows you to estimate from up to 15 to up to 127 stars!</p>  |

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| <p><b>FDP Converter</b></p>         |  | <p><b>Key Stage 2</b></p>         | <p>Convert a mixed number into a proper fraction, a decimal and a percentage!</p>  |
| <p><b>Facts and Place Value</b></p> |  | <p><b>Key Stage 2</b></p>         | <p>Multiplication and division facts are used in a 'empty box' context (using inverse) to solve the problems. The place value comes from the related facts linked to the first operation that may be 10/100 times more than the last number.</p> |
| <p><b>Find the Multiples</b></p>    |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Choose a multiple first. You will be then presented with 6 numbers. Which numbers are the multiples of your chosen number?</p>  |
| <p><b>Flexible Problems</b></p>     |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Random and flexible money problem generators. A fantastic word problems resource!</p>   |



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| <p><b>Guess My Number</b></p>                  |  | <p><b>Key Stage 2</b></p>         | <p>A fantastic reasoning activity. Children are given a series of clues to find the 'mystery number'.</p>  |
| <p><b>Guess My Shape/Number</b></p>            |  | <p><b>Key Stage 2</b></p>         | <p>As above with an additional page using the same idea to guess a mystery shape.</p>  |
| <p><b>Number Grid Generator – 4 digits</b></p> |  | <p><b>Key Stage 2</b></p>         | <p>Builds on the first number grid generator with a choice of your start number and columns but this time decimals and larger numbers can be used.</p> |
| <p><b>Increasing Number Grid Generator</b></p> |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Choose a start number, column size and increment for an increasing number sequence.</p>   |
| <p><b>Making Amounts of Money</b></p>          |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Create an amount using different types of coins or find the totals of different coins used.</p>   |

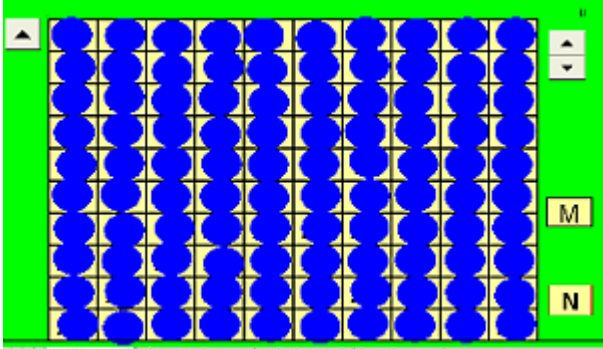
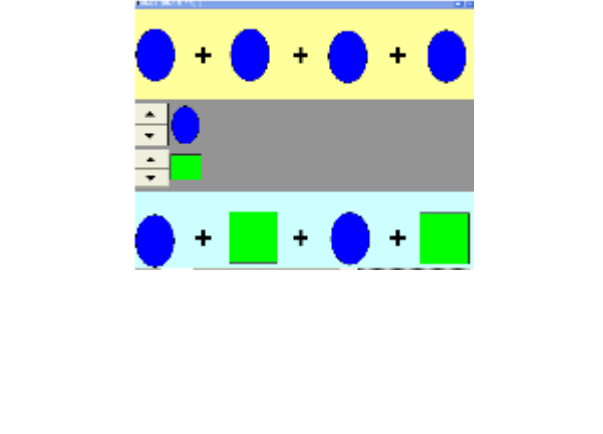
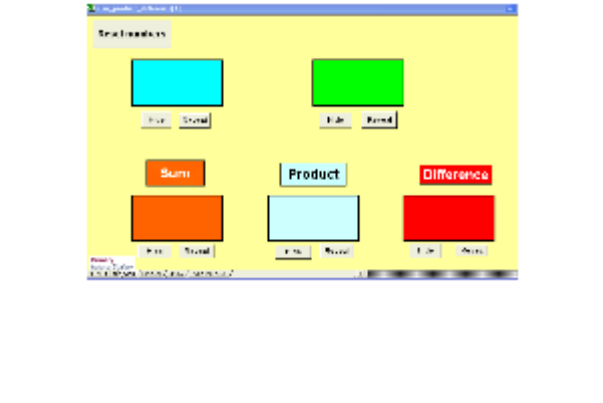

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| <p><b>Make Numbers</b></p>            |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Use one of the 4 operations and select one number from grid A and another from grid B to create a calculation (numbers to 20 – decimals to 2d.p.)</p> |
| <p><b>Measures Counting Stick</b></p> |  | <p><b>Key Stage 2</b></p>         | <p>Converts capacity measures and also contains a conversion graph of m into km.</p>   |
| <p><b>Midpoint</b></p>                |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Select a start and end number for your number line and find the midpoint</p>  |
| <p><b>Miles/km</b></p>                |  | <p><b>Key Stage 2</b></p>         | <p>Conversion graph of miles into km and vice versa.</p>   |
| <p><b>Money Problems</b></p>          |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Looks at the multiplication of money and the later spreadsheets put this into the context of a diner (ordering off a menu).</p>                       |
| <p><b>Money Problems 2</b></p>        |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Problem solving with reasoning. Looks at the coins that could have made up an amount in a money box.</p>  |

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| <p><b>Multiplication Grid</b></p>                             |     | <p><b>Key Stage 1 &amp; 2</b></p> | <p>An interactive multiplication grid.</p>                                     |
| <p><b>Multiplication and Division Facts (2 &amp; 5)</b></p>   |    | <p><b>Key Stage 1</b></p>         | <p>An 'empty box' reasoning activity surrounding the tables 2 &amp; 5.</p>     |
| <p><b>Multiplication and Division Facts 2-6 and 20-60</b></p> |   | <p><b>Key Stage 1 &amp; 2</b></p> | <p>An 'empty box' reasoning activity surrounding the tables 2-6 and 20-60.</p> |
| <p><b>Multiplication and Division Facts 2-6</b></p>           |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>An 'empty box' reasoning activity surrounding the tables 2-6.</p>           |
| <p><b>Multiplication and Division Facts</b></p>               |  | <p><b>Key Stage 2</b></p>         | <p>An 'empty box' reasoning activity surrounding the tables to 10.</p>         |
| <p><b>Multiplication and Division Trios</b></p>               |   | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Interactive tables trios.</p>   |

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| <p><b>Multiplication and Division with Partitioning</b></p>                     |  | <p><b>Key Stage 2</b></p>         | <p>Develops multiplication and division calculations with strategies to partition them.</p>  |
| <p><b>Multiplication and Division Facts – Mixed Decimals</b></p>                |  | <p><b>Key Stage 2</b></p>         | <p>Develops the multiplication of decimals using the reasoning and the 'empty box'.</p>  |
| <p><b>Multiplication and Division Facts (with a missing number or sign)</b></p> |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Allows you to focus on facts less than 7 or all facts to 10. Allows you to remove operations as well as numbers. A good reasoning activity.</p>     |
| <p><b>Number Boards</b></p>   |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Creates a range of number boards from time to measures to use as 'target boards' within the classroom discussion. Useful for mental recall.</p>     |
| <p><b>Order Numbers on a Number Line</b></p>                                    |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Allows you to place numbers to 10, 20 and 100 on a number line depending on what the start and end number is. Another great reasoning activity.</p> |

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| <p><b>Patterns in Calculation</b></p>                  |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Allows children to explore the 'related facts' from simple calculations.</p>   |
| <p><b>Pie Chart</b></p>                                |  | <p><b>Key Stage 2</b></p>         | <p>Develops children's understanding of the segments of pie charts and their fractional value as well as how much this is worth in relation to the overall amount the pie represents.</p> |
| <p><b>Pie Charts</b></p>                               |  | <p><b>Key Stage 2</b></p>         | <p>Contains the Pie chart spreadsheet above as well as number sequence starters and the Fraction to % converter.</p>  |
| <p><b>Place Value Dots</b></p>                         |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Represents numbers visually. The hundreds, tens and ones are given a different colour.</p>   |
| <p><b>Place Value Charts and Partitioning Tool</b></p> |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>A great tool to create numbers using place value from whole numbers to decimals to 3d.p.</p>   |

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| <p><b>Prime Factors</b></p>     |  | <p><b>Key Stage 2</b></p> | <p>A useful tool to find prime factors as well as have lots of practice with random numbers.</p> |
| <p><b>Probability</b></p>       |  | <p><b>Key Stage 2</b></p> | <p>Probability activities involving coloured cube selection and dice throwing.</p>               |
| <p><b>Problems Year 3</b></p>   |  | <p><b>Key Stage 2</b></p> | <p>Adjustable problems involving division.</p>   |
| <p><b>Real Problems 1</b></p>   |  | <p><b>Key Stage 2</b></p> | <p>Adjustable problems involving multiplication.</p>   |
| <p><b>Rounding Decimals</b></p> |  | <p><b>Key Stage 2</b></p> | <p>An excellent tool to round decimals up to 3d.p.</p>   |
| <p><b>Rounding</b></p>          |  | <p><b>Key Stage 2</b></p> | <p>As above only with the additional feature of rounding whole numbers.</p>                      |

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| <p><b>Sequences</b></p>                     |    | <p><b>Key Stage 2</b></p>         | <p>Develops reasoning – guess the sequence as numbers are revealed (whole numbers to decimal sequences)</p>   |
| <p><b>Shape Puzzle</b></p>                  |   | <p><b>Key Stage 1 &amp; 2</b></p> | <p>A simple calculation puzzle – finding the value of a shape, becomes increasingly complex as you progress through the pages to work on larger grids with more clues to solve!</p> |
| <p><b>Sum, Product &amp; Difference</b></p> |  | <p><b>Key Stage 2</b></p>         | <p>Find the sum, product and difference of two numbers or reveal the sum, product and difference to guess the two numbers. Great for developing mathematical vocabulary.</p>        |
| <p><b>Target Practice</b></p>               |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Like 'Countdown'. Create a number to 99 or 999 using the 6 numbers given and any of the 4 operations.</p>  |

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| <p><b>Timed Number Bonds</b></p>                     |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>Number bonds to 10, 20, 100 and 1 (with 1 and 2d.p.) in a selected time limit. Great for mental recall!</p>  |
| <p><b>Total 20s</b></p>                              |  | <p><b>Key Stage 1</b></p>         | <p>Three numbers total 20. What are they? The spreadsheet also extends beyond 20. A great reasoning activity.</p>   |
| <p><b>Multiplication and Division Flashcards</b></p> |  | <p><b>Key Stage 2</b></p>         | <p>Multiplication and Division trios using larger numbers and listing all the facts from the arrangement.</p>   |
| <p><b>Number Line Counting</b></p>                   |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>A simple number line generator. Select a start number of your choice.</p>  |
| <p><b>Three Monkeys</b></p>                          |  | <p><b>Key Stage 2</b></p>         | <p>An excel spreadsheet of the mathematical challenges investigation 'Three Monkeys'.</p>   |
| <p><b>Which Number Where</b></p>                     |  | <p><b>Key Stage 1 &amp; 2</b></p> | <p>An extension on the 'empty box'. This extends to three boxes (good for trial and improvement questions) and becomes complex when the boxes begin to link together.</p> |