

| Main Principles | Year 3 (H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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Main Principles

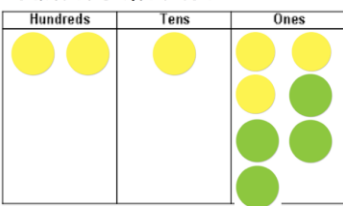
Addition

Key written methods to be taught.

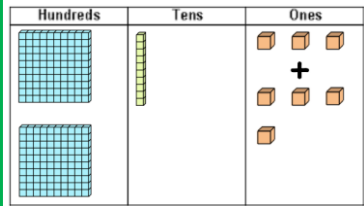
Potential mental methods for extension.

Year 3 (H T U)

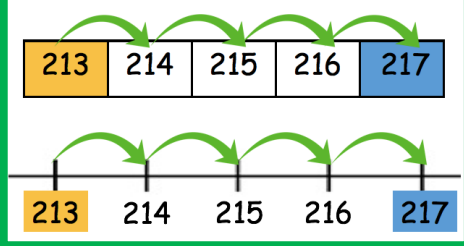
Counters method:



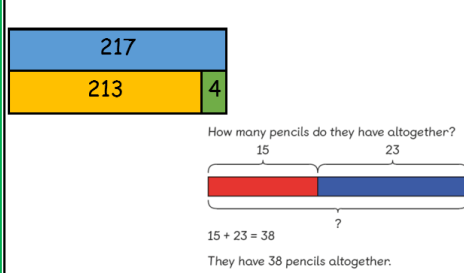
Base 10 method:



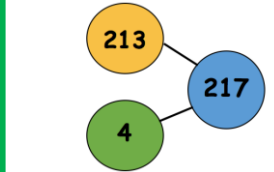
Number line method:



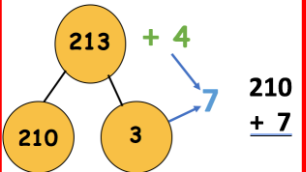
Bar model:



Number bond method:



Number bond method:



Abstract calculations:

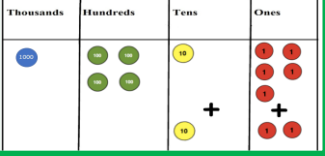
| Commutative     | Inverse         |
|-----------------|-----------------|
| $213 + 4 = 217$ | $217 - 4 = 213$ |
| $4 + 213 = 217$ | $217 - 213 = 4$ |

Column addition:

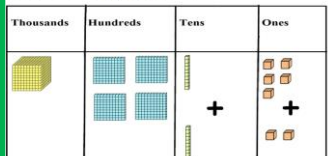
| Without renaming:                                       | With renaming:                                                  |
|---------------------------------------------------------|-----------------------------------------------------------------|
| $\begin{array}{r} 213 \\ + 4 \\ \hline 217 \end{array}$ | $\begin{array}{r} 11 \\ 213 \\ + 497 \\ \hline 710 \end{array}$ |

Year 4 (Th H T U)

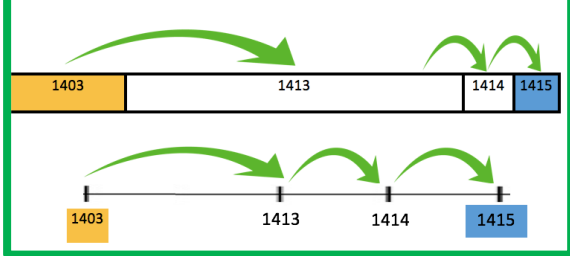
Counters method:



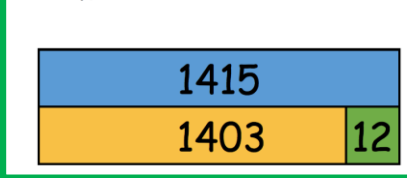
Base 10 method:



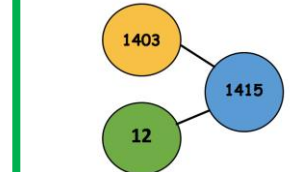
Number line method:



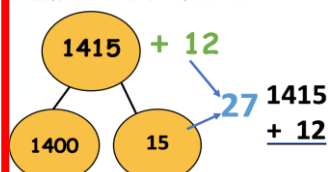
Bar model:



Number bond method:



Number bond method:



Abstract calculations:

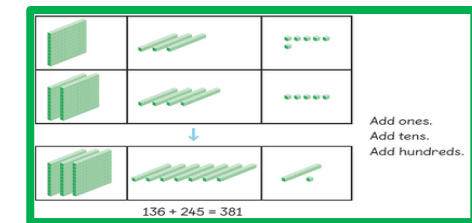
| Commutative        | Inverse            |
|--------------------|--------------------|
| $1415 + 12 = 1427$ | $1427 - 12 = 1415$ |
| $12 + 1415 = 1427$ | $1427 - 1415 = 12$ |

Column addition:

| Without renaming:                                          | With renaming:                                                   |
|------------------------------------------------------------|------------------------------------------------------------------|
| $\begin{array}{r} 1415 \\ + 12 \\ \hline 1427 \end{array}$ | $\begin{array}{r} 11 \\ 1415 \\ + 96 \\ \hline 1511 \end{array}$ |

Year 5 (Up to 1 million)

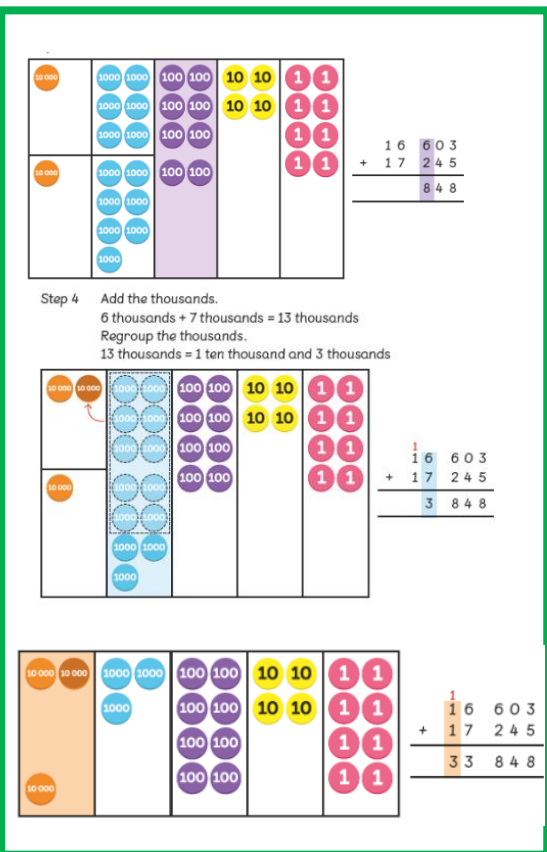
Carry on using previous methods taught in previous years to add, using the same terminology. Continue up to place value being taught. When adding decimals, use place value counters to show addition and use when renaming. Reinforce column method by using concrete materials first.



Move onto pictorial, using bar modelling.



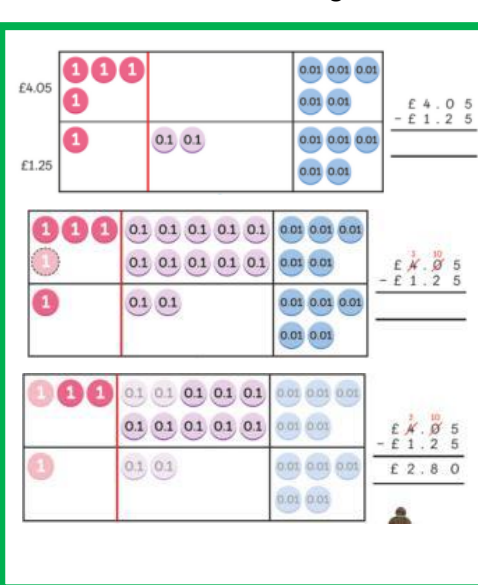
Show expanded method to make link of place value. Move straight onto compact method. When renaming, the number is carried directly above the number.

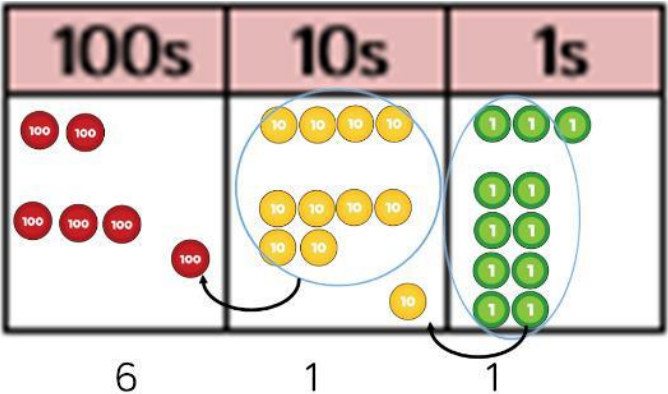
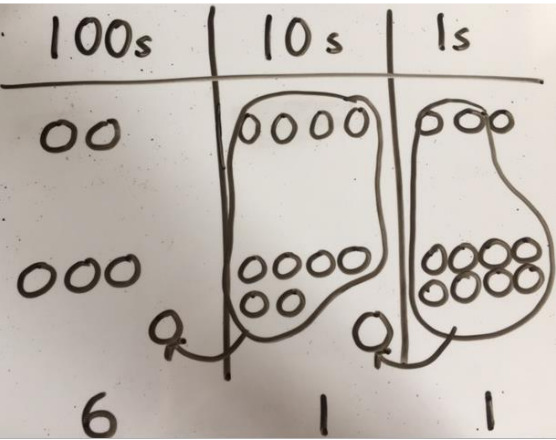


Year 6 (Over 1 million)

Carry on using previous methods taught in previous years to add, using the same terminology. Continue up to place value being taught.

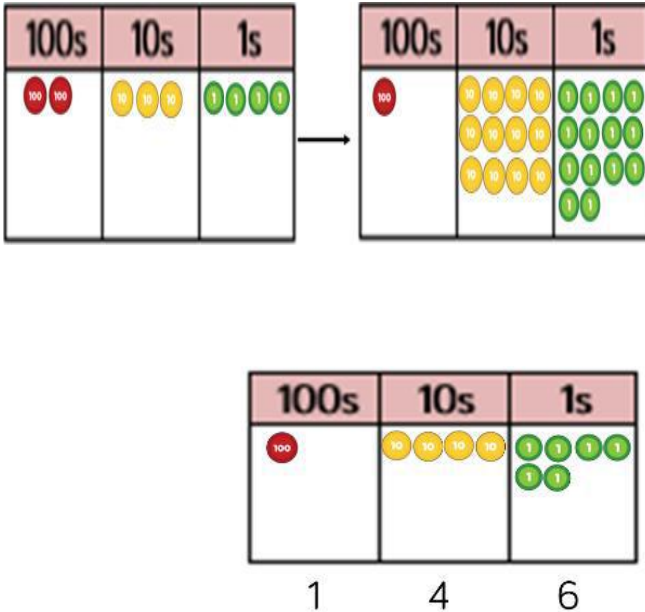
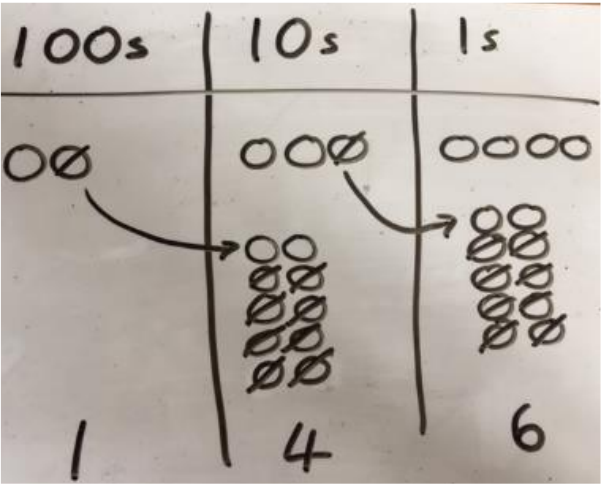
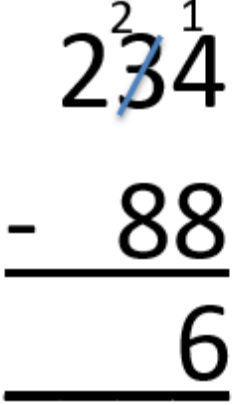
When adding decimals, use place value counters to show addition and use when renaming.

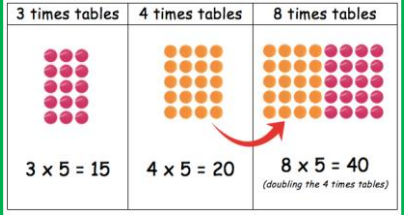
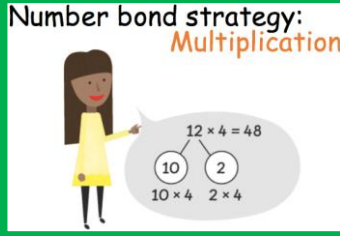
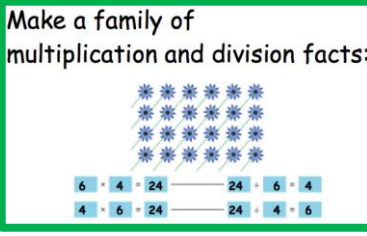
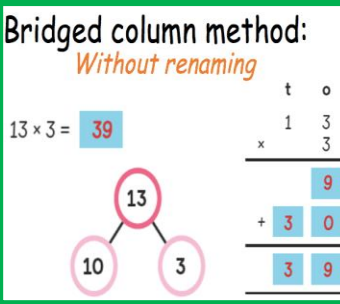
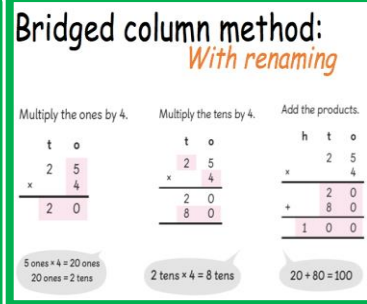
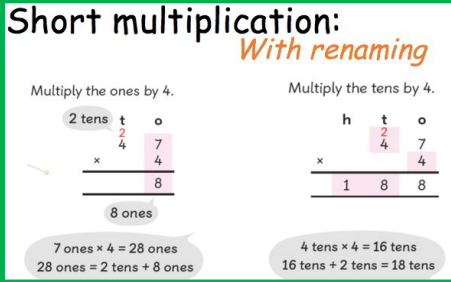
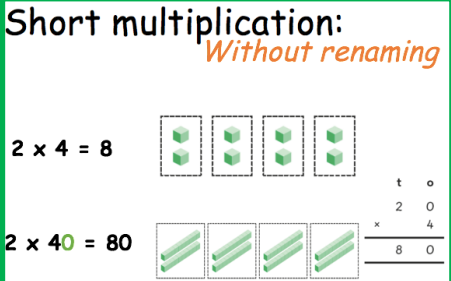
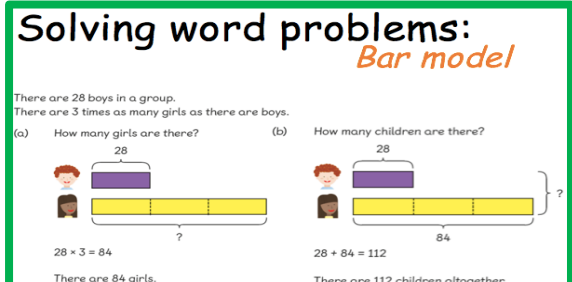
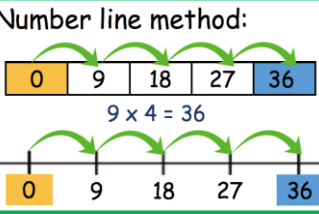
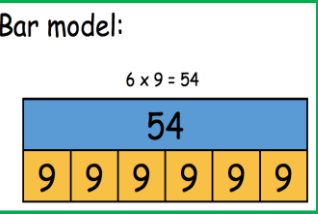
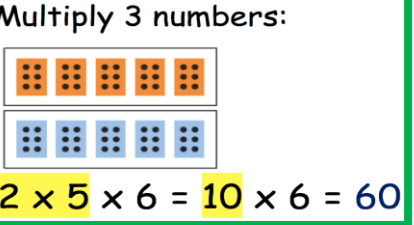
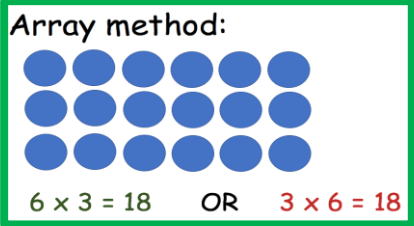
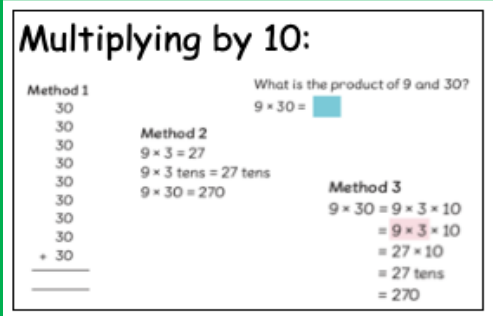
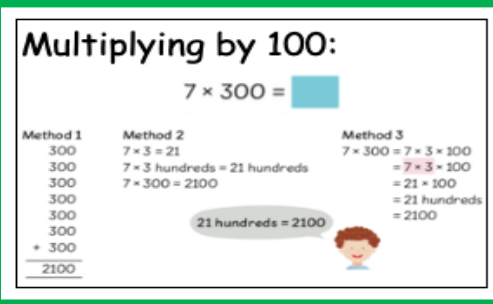
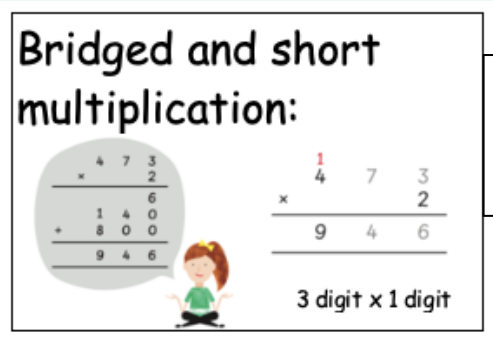
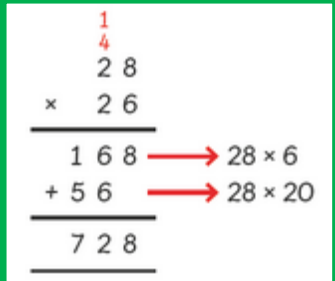
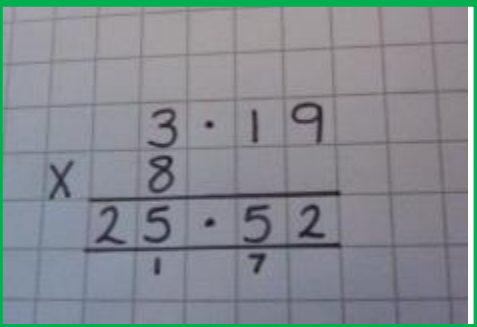


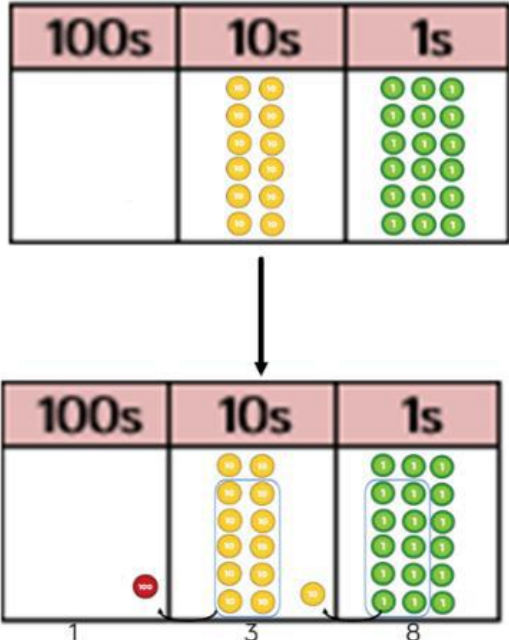
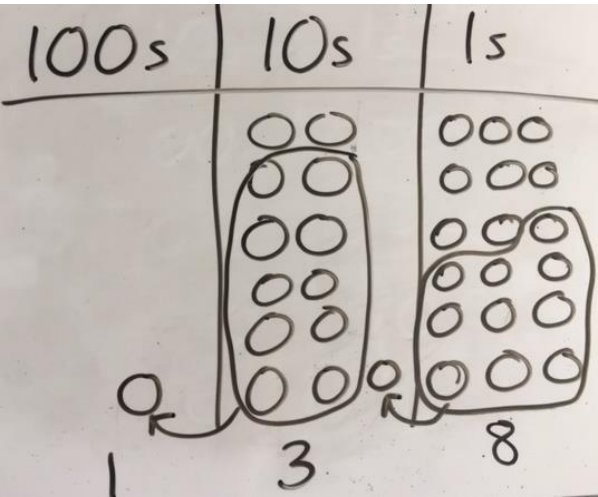
| Addition | Concrete (SHOW IT)                                                                                                                                                                                                                                                                                                                                                     | Pictorial (DRAW IT)                                                                                                                                                                                                      | Abstract                                                                                                                                                                                                                                                                                                                         | Key Vocabulary                                                                                                                                                                                                                                     |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <p>243 + 368 =</p>  <p>Use of place value counters to add HTO + TO, HTO + HTO etc. When there are 10 ones in the 1s column- we exchange for 1 ten, when there are 10 tens in the 10s column- we exchange for 1 hundred.</p> |  <p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> | <p><math display="block">\begin{array}{r} 243 \\ +368 \\ \hline 611 \\ \hline 1\ 1 \end{array}</math></p> <p>Remember to model the concrete and pictorial stages of addition in order to support <u>all</u> children and develop their conceptual understanding.</p> | <ul style="list-style-type: none"><li>• sum</li><li>• total</li><li>• parts and wholes</li><li>• plus</li><li>• add</li><li>• altogether</li><li>• more</li><li>• 'is equal to'</li><li>• 'is the same as'</li></ul> |



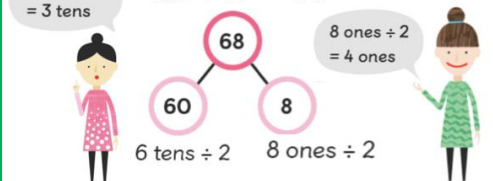
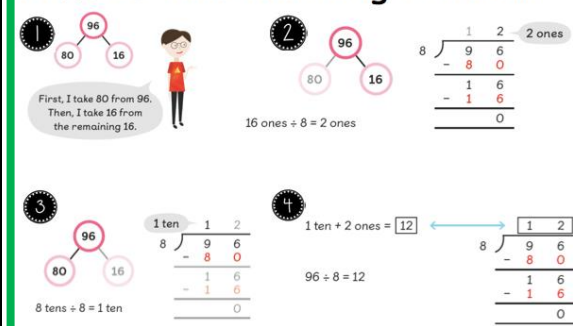
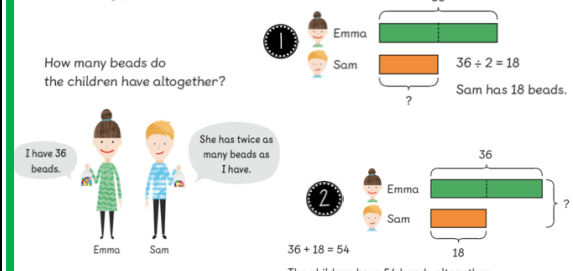
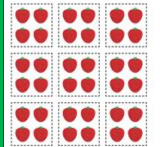
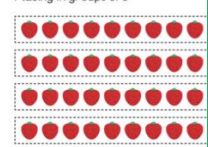
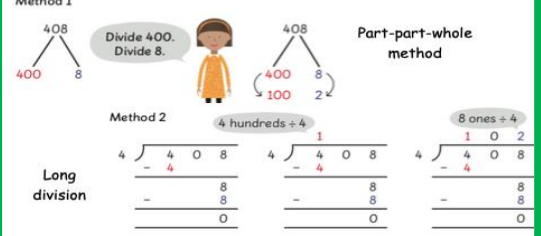
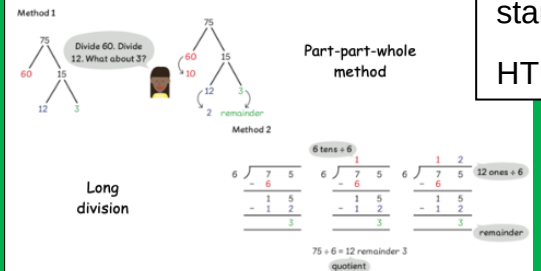
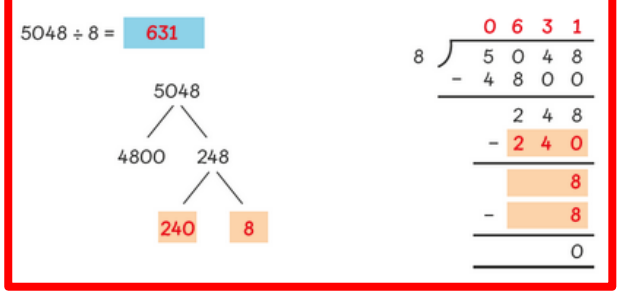
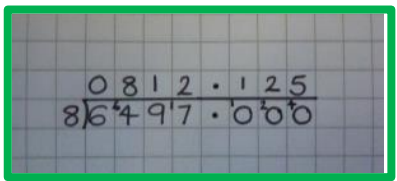
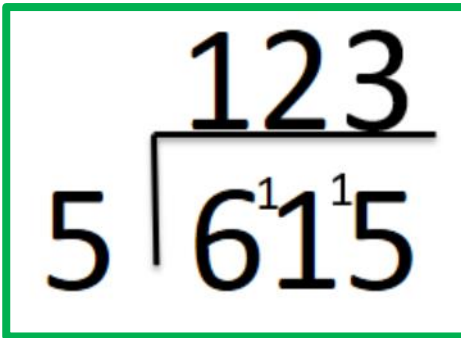
| Main Principles                                           | Year 3 (H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Year 4 (Th H T U) | Year 5 (Up to 1 million) | Year 6 (Over 1 million) |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|-------------------------|--|--|--|----------|------|------|--|--|--|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|---|---|-------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------|----------------|---------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|------|------|--|--|--|--|-----------|----------|------|------|--|--|--|--|------|------|------|------|------|------|---|------|------|---|------|------|---|---|-------------|---------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|-----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subtraction                                               | <div>Counters method:<table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table></div> <div>Base 10 method:<table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table></div> <div>Number line method:<table><tr><td>654</td><td>655</td><td>656</td><td>657</td><td>658</td></tr></table></div> <div>Bar models:<div>Bar model:<p>There are 36 children in the school band. 19 of them are boys. How many girls are there?</p></div><div>Comparative model:<p>A spider has 8 legs. An ant has 6 legs. How many more legs does a spider have than an ant?</p></div></div> <div>Number bond method:<table><tr><td>654</td><td>658</td><td>4</td></tr></table></div> <div>Number bond method:<table><tr><td>658</td><td>650</td><td>8</td><td>4</td></tr></table></div> <div>Abstract calculations:<table><tr><th>Commutative</th><th>Inverse</th></tr><tr><td><math>658 - 4 = 654</math></td><td><math>654 + 4 = 658</math></td></tr><tr><td><math>658 - 654 = 4</math></td><td><math>4 + 654 = 658</math></td></tr></table></div> <div>Column subtraction:<table><tr><th>Without renaming:</th><th>With renaming:</th></tr><tr><td><math display="block">\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}</math></td><td><math display="block">\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}</math></td></tr></table></div> | Hundreds          | Tens                     | Ones                    |  |  |  | Hundreds | Tens | Ones |  |  |  | 654 | 655 | 656 | 657 | 658 | 654 | 658 | 4 | 658 | 650 | 8 | 4 | Commutative | Inverse | $658 - 4 = 654$ | $654 + 4 = 658$ | $658 - 654 = 4$ | $4 + 654 = 658$ | Without renaming: | With renaming: | $\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}$ | $\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}$ | <div>Counters method:<table><tr><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td><td></td></tr></table></div> <div>Base 10 method:<table><tr><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td><td></td></tr></table></div> <div>Number line method:<table><tr><td>1724</td><td>1725</td><td>1726</td><td>1727</td><td>1728</td></tr></table></div> <div>Bar model:<table><tr><td>1728</td><td>4</td></tr></table></div> <div>Number bond method:<table><tr><td>1724</td><td>1728</td><td>4</td></tr></table></div> <div>Number bond method:<table><tr><td>1728</td><td>1720</td><td>8</td><td>4</td></tr></table></div> <div>Abstract calculations:<table><tr><th>Commutative</th><th>Inverse</th></tr><tr><td><math>1728 - 4 = 1724</math></td><td><math>1724 + 4 = 1728</math></td></tr><tr><td><math>1728 - 1724 = 4</math></td><td><math>4 + 1724 = 1728</math></td></tr></table></div> <div>Column subtraction:<table><tr><th>Without renaming:</th><th>With renaming:</th></tr><tr><td><math display="block">\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}</math></td><td><math display="block">\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}</math></td></tr></table></div> | Thousands | Hundreds | Tens | Ones |  |  |  |  | Thousands | Hundreds | Tens | Ones |  |  |  |  | 1724 | 1725 | 1726 | 1727 | 1728 | 1728 | 4 | 1724 | 1728 | 4 | 1728 | 1720 | 8 | 4 | Commutative | Inverse | $1728 - 4 = 1724$ | $1724 + 4 = 1728$ | $1728 - 1724 = 4$ | $4 + 1724 = 1728$ | Without renaming: | With renaming: | $\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}$ | $\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}$ | <p>Carry on using previous methods taught in previous years to subtract, using the same terminology. Continue up to place value being taught. When subtracting decimals, use place value counters to show subtraction and use when renaming.</p> <p>Reinforce column method by using concrete materials first, including for renaming. Move onto pictorial, using bar modelling.</p> <div></div> <div></div> <p>Show expanded method to make link of place value. Move straight onto compact method.</p> <div>Renaming:<p>Show children the mental method of rewriting the subtraction calculation into more than one calculation by 'renaming'.</p></div> <div>Expanded method:</div> <div>Column method:<p>When renaming, the number is crossed out and rewritten directly above. Use concrete materials to show renaming.</p></div> |
| Hundreds                                                  | Tens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ones              |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Hundreds                                                  | Tens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ones              |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 654                                                       | 655                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 656               | 657                      | 658                     |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 654                                                       | 658                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                 |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 658                                                       | 650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 8                 | 4                        |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Commutative                                               | Inverse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $658 - 4 = 654$                                           | $654 + 4 = 658$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $658 - 654 = 4$                                           | $4 + 654 = 658$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Without renaming:                                         | With renaming:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}$   | $\begin{array}{r} 658 \\ - 4 \\ \hline 654 \end{array}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Thousands                                                 | Hundreds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Tens              | Ones                     |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Thousands                                                 | Hundreds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Tens              | Ones                     |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1724                                                      | 1725                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1726              | 1727                     | 1728                    |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1728                                                      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1724                                                      | 1728                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4                 |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1728                                                      | 1720                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8                 | 4                        |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Commutative                                               | Inverse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $1728 - 4 = 1724$                                         | $1724 + 4 = 1728$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $1728 - 1724 = 4$                                         | $4 + 1724 = 1728$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Without renaming:                                         | With renaming:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}$ | $\begin{array}{r} 1728 \\ - 4 \\ \hline 1724 \end{array}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                          |                         |  |  |  |          |      |      |  |  |  |     |     |     |     |     |     |     |   |     |     |   |   |             |         |                 |                 |                 |                 |                   |                |                                                         |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |          |      |      |  |  |  |  |           |          |      |      |  |  |  |  |      |      |      |      |      |      |   |      |      |   |      |      |   |   |             |         |                   |                   |                   |                   |                   |                |                                                           |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Subtraction | Concrete (SHOW IT)                                                                                                                                    | Pictorial (DRAW IT)                                                                                                                                                                     | Abstract                                                                                                                                                                                       | Key Vocabulary                                                                                                                                                                 |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <p>234 – 88 =</p>  <p>Column method using place value counters.</p> |  <p>Represent the place value counters pictorially; remembering to show what has been exchanged.</p> |  <p>Formal column method. Children must understand what has happened when they have crossed out digits.</p> | <ul style="list-style-type: none"><li>• take away</li><li>• less than</li><li>• the difference</li><li>• subtract</li><li>• minus</li><li>• fewer</li><li>• decrease</li></ul> |

| Main Principles                                                                                              | Year 3 (H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Year 4 (Th H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Year 5 (Up to 1 million)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Year 6 (Over 1 million) |
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| <p>Multiplication</p> <p>Key written methods to be taught.</p> <p>Potential mental methods for extension</p> | <p><b>Arrays:</b></p>  <p>3 times tables    4 times tables    8 times tables</p> <p><math>3 \times 5 = 15</math>    <math>4 \times 5 = 20</math>    <math>8 \times 5 = 40</math><br/>(doubling the 4 times tables)</p> <p><b>Number bond strategy:</b><br/>Multiplication</p>  <p><math>12 \times 4 = 48</math><br/><math>10 \times 4 = 40</math>    <math>2 \times 4 = 8</math></p> <p><b>Make a family of multiplication and division facts:</b></p>  <p><math>6 \times 4 = 24</math>    <math>24 \div 6 = 4</math><br/><math>4 \times 6 = 24</math>    <math>24 \div 4 = 6</math></p> <p><b>Bridged column method: Without renaming</b></p>  <p><math>13 \times 3 = 39</math></p> <p><b>Bridged column method: With renaming</b></p>  <p>Multiply the ones by 4.    Multiply the tens by 4.    Add the products.</p> <p><math>25 \times 4 = 100</math></p> <p>5 ones <math>\times 4 = 20</math> ones<br/>20 ones = 2 tens</p> <p>2 tens <math>\times 4 = 8</math> tens<br/><math>20 + 80 = 100</math></p> <p><b>Short multiplication: With renaming</b></p>  <p>Multiply the ones by 4.    Multiply the tens by 4.</p> <p>2 tens    7 ones    4 tens    28 ones<br/><math>28 \text{ ones} = 2 \text{ tens} + 8 \text{ ones}</math></p> <p>4 tens <math>\times 4 = 16</math> tens<br/><math>16 \text{ tens} + 2 \text{ tens} = 18 \text{ tens}</math></p> <p><b>Short multiplication: Without renaming</b></p>  <p><math>2 \times 4 = 8</math>    <math>2 \times 40 = 80</math></p> <p><b>Solving word problems: Bar model</b></p>  <p>There are 28 boys in a group.<br/>There are 3 times as many girls as there are boys.</p> <p>(a) How many girls are there?    (b) How many children are there?</p> <p><math>28 \times 3 = 84</math>    <math>28 + 84 = 112</math></p> <p>There are 84 girls.    There are 112 children altogether.</p> | <p><b>Number line method:</b></p>  <p><math>9 \times 4 = 36</math></p> <p><b>Bar model:</b></p>  <p><math>6 \times 9 = 54</math></p> <p><b>Multiply 3 numbers:</b></p>  <p><math>2 \times 5 \times 6 = 10 \times 6 = 60</math></p> <p><b>Array method:</b></p>  <p><math>6 \times 3 = 18</math>    OR    <math>3 \times 6 = 18</math></p> <p><b>Multiplying by 10:</b></p>  <p>Method 1: <math>9 \times 30 = 270</math><br/>Method 2: <math>9 \times 3 = 27</math>, <math>9 \times 3 \text{ tens} = 27 \text{ tens}</math>, <math>9 \times 30 = 270</math><br/>Method 3: <math>9 \times 30 = 9 \times 3 \times 10 = 27 \times 10 = 270</math></p> <p><b>Multiplying by 100:</b></p>  <p>Method 1: <math>7 \times 300 = 2100</math><br/>Method 2: <math>7 \times 3 = 21</math>, <math>7 \times 3 \text{ hundreds} = 21 \text{ hundreds}</math>, <math>7 \times 300 = 2100</math><br/>Method 3: <math>7 \times 300 = 7 \times 3 \times 100 = 21 \times 100 = 2100</math></p> <p><b>Bridged and short multiplication:</b></p>  <p>3 digit <math>\times</math> 1 digit</p> <p>Expected standard:<br/>HTU <math>\times</math> U</p> | <p>Carry on using previous methods taught in previous years to multiply, using the same terminology. Continue up to place value being taught. Start with 4 digits multiply by 1 digit before slowly adding further digit(s).</p>  <p>Expected standard at least:<br/>ThHTU <math>\times</math> U and TU <math>\times</math> TU (YR 5)<br/>ThHTU <math>\times</math> TU and HTU <math>\times</math> TU (Yr 6)</p> <p>When multiplying decimals, use same method but ensure decimal point is in with all values carefully written, in line, on either side.</p>  |                         |

| Multiplication | Concrete (SHOW IT)                                                                                                                                       | Pictorial (DRAW IT)                                                                                                                                                      | Abstract                                                                                                                                                                            | Key Vocabulary                                                                                                                                                                         |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>23 x 6 =</p>  <p>Formal column method with place value counters.</p> |  <p>Children to represent the counters/base 10, pictorially e.g. the image above.</p> | $\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \\ 11 \end{array}$<br>$\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ 11 \end{array}$ <p>Answer: 3224</p> | <ul style="list-style-type: none"><li>• double</li><li>• times</li><li>• multiplied by</li><li>• the product of</li><li>• groups of</li><li>• lots of</li><li>• equal groups</li></ul> |

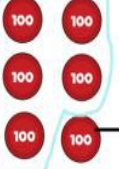
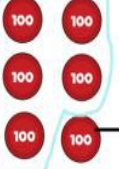
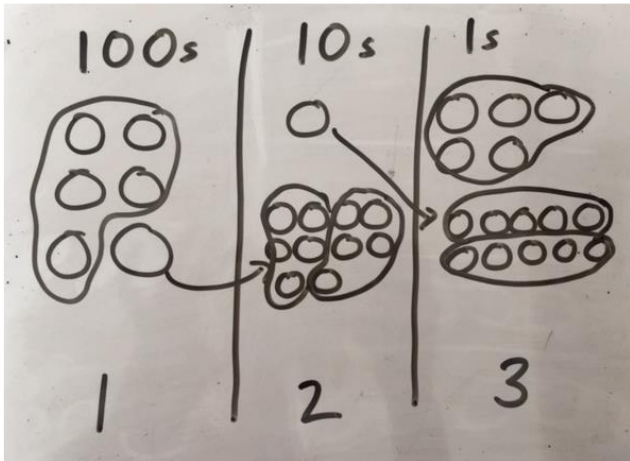
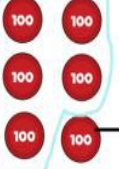


| Main Principles | Year 3 (H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Year 4 (Th H T U)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Year 5 (Up to 1 million)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Year 6 (Over 1 million) |
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| Division        | <div><div>Grouping: 'groups of'</div><div>Put 8 🍌 into groups of 4.</div><div></div><div><math>8 \div 4 = 2</math><br/>2 plates are needed.</div><div>Make a family of multiplication and division facts:</div><div></div><div><math>6 \times 4 = 24</math><br/><math>4 \times 6 = 24</math><br/><math>24 \div 6 = 4</math><br/><math>24 \div 4 = 6</math></div></div> <div><div>Grouping: 'equal groups'</div><div>Put 8 🍌 into 4 equal groups.</div><div></div><div><math>8 \div 2 = 4</math><br/>4 trays are needed.</div><div>"There are 4 equal groups. There are 2 in each group. 4 equal groups of 2 equals 8."</div></div> <div><div>Number bond strategy: Division</div><div></div><div><math>68 \div 2 = 34</math><br/>6 tens <math>\div</math> 2 = 3 tens<br/>8 ones <math>\div</math> 2 = 4 ones</div></div> <div><div>Number bond and long division:</div><div></div><div><math>96 \div 8 = 12</math></div></div> <div><div>Solving word problems: Bar model</div><div></div><div><math>36 \div 2 = 18</math><br/><math>36 + 18 = 54</math></div></div> | <div><div>Division by grouping:</div><div>Placing into 9 equal groups</div><div></div><div><math>36 \div 9 = 4</math><br/>Each group has 4 strawberries.</div><div>Placing in groups of 9</div><div></div><div><math>36 \div 9 = 4</math><br/>There are 4 groups.</div></div> <div><div>Grouping with remainders:</div><div>There were 11 balloons.</div><div></div><div><math>11 \div 2 = 5</math> remainder 1<br/>The quotient is 5 and the remainder is 1.<br/>Each friend got 5 balloons.<br/>There was 1 balloon left over.</div></div> <div><div>Divide using multiplication:</div><div><math>24 \div 3 = 8</math><br/><math>3 \times 8 = 24</math></div></div> <div><div>Dividing by 1, 10 and 100:</div><div><math>4 \div 4 = 1</math><br/><math>40 \div 4 = 10</math><br/><math>400 \div 4 = 100</math></div></div> <div><div>Divide without remainders:</div><div>Method 1: Divide 400. Divide 8.</div><div>Method 2: 4 hundreds <math>\div</math> 4 = 100, 8 ones <math>\div</math> 4 = 2.</div><div>Long division</div><div></div></div> <div><div>Divide with remainders:</div><div>Method 1: Divide 60. Divide 12. What about 3?</div><div>Method 2: 6 tens <math>\div</math> 6 = 10, 12 ones <math>\div</math> 6 = 2.</div><div>Long division</div><div></div><div>Expected standard:<br/>HTU <math>\div</math> U</div></div> | <div><div>Carry on using previous methods taught in previous years to divide, using the same terminology. Continue up to place value being taught. Start with 4 digits divide by 1 digit before slowly adding further digit. Show chunking and short division method. When chunking, show partitioning as place value.</div><div><div><math>5048 \div 8 = 631</math></div><div></div></div><div><div>Expected standard at least:</div><div>Th HTU <math>\div</math> U (YR 5)</div><div>Th HTU <math>\div</math> TU (YR 6)</div></div><div><div>With remainders, continue with same method but replace new value with a crossing out. Put remainders as r ____ and fraction. In year 6, show to continue with 0s after the decimal point.</div><div><div>Expanded bus shelter:</div><div></div></div><div><div>Short division method:</div><div></div></div><div><div><math>376 \text{ ml} \div 5 = 75 \frac{1}{5} \text{ ml}</math></div></div><div><div>Expanded method to be modelled initially alongside the short bus shelter method. Children to be taught the short division method in years 5 and 6.</div></div></div></div> |                         |

Key written methods to be taught.

Potential mental methods for extension



| Division                                                                            | Concrete (SHOW IT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pictorial (DRAW IT)                                                                 | Abstract                                                                            | Key Vocabulary |                                                                                   |                                                                                                                                                                        |                                                                                    |       |      |     |    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |       |      |     |    |  |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                            |                                                                                |                                                                                                                              |
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|                                                                                     | <p>Short division using place value counters to group.<br/>615 ÷ 5=</p> <table border="1"><thead><tr><th>100s</th><th>10s</th><th>1s</th></tr></thead><tbody><tr><td></td><td><br/></td><td></td></tr></tbody></table> <p>1                      2                      3</p> <p>1. Make 615 with place value counters.<br/>2. How many groups of 5 hundreds can you make with 6 hundred counters?<br/>3. Exchange 1 hundred for 10 tens.<br/>4. How many groups of 5 tens can you make with 11 ten counters?<br/>5. Exchange 1 ten for 10 ones.<br/>6. How many groups of 5 ones can you make with 15 ones?</p> <p>Long division using place value counters<br/>2544 ÷ 12=</p> <table border="1"><thead><tr><th>1000s</th><th>100s</th><th>10s</th><th>1s</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> <p>We can't group 2 thousands into groups of 12 so will exchange them.</p> <table border="1"><thead><tr><th>1000s</th><th>100s</th><th>10s</th><th>1s</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> <p>We can group 24 hundreds into groups of 12 which leaves with 1 hundred.</p> <div><div>12</div><div>02</div><div>2544</div><div>24</div><div>1</div></div> | 100s                                                                                | 10s                                                                                 | 1s             |  | <br> |  | 1000s | 100s | 10s | 1s |  |  |  |  | 1000s | 100s | 10s | 1s |  |  |  |  |  <p>Represent the place value counters pictorially.</p> | <div><div>5</div><div>123</div><div>615</div></div> <p>Bus shelter method.</p> | <ul style="list-style-type: none"><li>• share</li><li>• group</li><li>• divide</li><li>• divided by</li><li>• half</li></ul> |
| 100s                                                                                | 10s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1s                                                                                  |                                                                                     |                |                                                                                   |                                                                                                                                                                        |                                                                                    |       |      |     |    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |       |      |     |    |  |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                            |                                                                                |                                                                                                                              |
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