# Multiplication

| | Skill: Multiply 4-digit numbers by 1-digit numbers | Year: 5 |

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| Thousands | Hundreds | Tens | Ones |
|---|---|---|---|
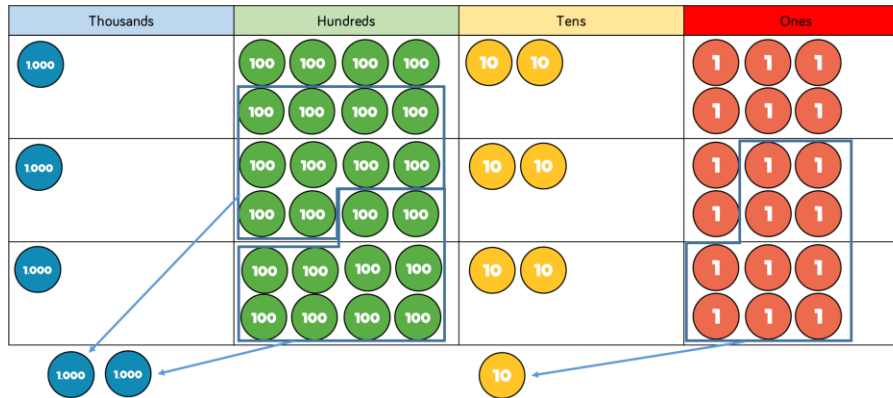
$$1{,}826 \times 3 = 5{,}478$$

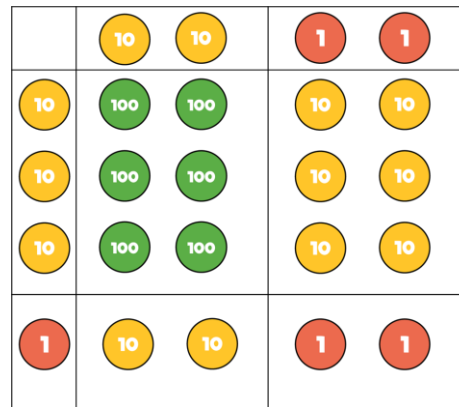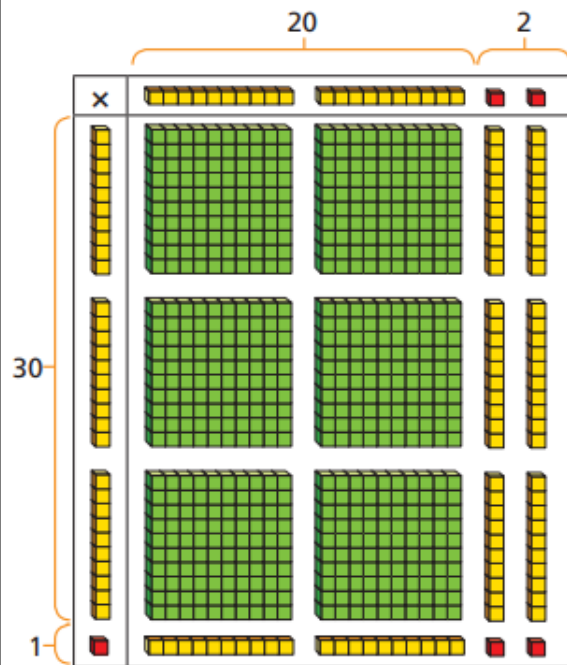| | Th | H | T | O |
|---|---|---|---|---|
| | 1 | 8 | 2 | 6 |
| × | | | | 3 |
| | 5 | 4 | 7 | 8 |
| | 2 | | 1 | |

When multiplying 4-digit numbers, place value counters are the best manipulative to use to support children in their understanding of the formal written method.

If children are multiplying larger numbers and struggling with their times tables, encourage the use of multiplication grids so children can focus on the use of the written method.

| Skill: Multiply 2-digit numbers by 2-digit numbers | Year: 5 |
|---|---|



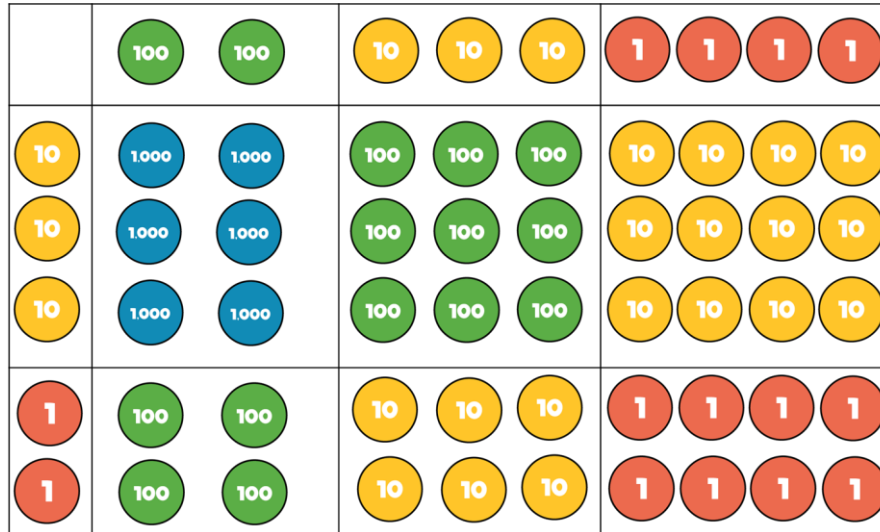| × | 20 | 2 |
|---|---|---|
| 30 | 600 | 60 |
| 1 | 20 | 2 |

|  | H | T | O |
|---|---|---|---|
|  |  | 2 | 2 |
| × |  | 3 | 1 |
|  |  | 2 | 2 |
|  | 6 | 6 | 0 |
|  | 6 | 8 | 2 |

$22 \times 31 = 682$

When multiplying a multi-digit number by 2-digits, use the area model to help children understand the size of the numbers they are using. This links to finding the area of a rectangle by finding the space covered by the Base 10.
The grid method matches the area model as an initial written method before moving on to the formal written multiplication method.

| Skill: Multiply 3-digit numbers by 2-digit numbers | Year: 5 |
|---|---|



| Th | H | T | O |
|---|---|---|---|
|  | 2 | 3 | 4 |
| × |  | 3 | 2 |
|  | 4 | 6 | 8 |
| 1 7 | 1 0 | 2 | 0 |
| 7 | 4 | 8 | 8 |

| × | 200 | 30 | 4 |
|---|---|---|---|
| 30 | 6,000 | 900 | 120 |
| 2 | 400 | 60 | 8 |

$234 \times 32 = 7,488$

Children can continue to use the area model when multiplying 3-digits by 2-digits. Place value counters become more efficient to use but Base 10 can be used to highlight the size of numbers.

Children should now move towards the formal written method, seeing the links with the grid method.

| | Skill: Multiply 4-digit numbers by 2-digit numbers | Year: 5/6 |
|---|---|---|

| TTh | Th | H | T | O |
|---|---|---|---|---|
| | 2 | 7 | 3 | 9 |
| × | | | 2 | 8 |
| 2 ₂ | 1 ₅ | 9 ₃ | 1 ₇ | 2 |
| 5 ₁ | 4 | 7 ₁ | 8 | 0 |
| 7 | 6 | 6 | 9 ₁ | 2 |

$2{,}739 \times 28 = 76{,}692$

When multiplying 4-digits by 2-digits, children should be confident in using the formal written method.

If they are still struggling with times tables, provide multiplication grids to support when they are focusing on the use of the method.

Consider where exchanged digits are placed and make sure this is consistent.