



Year 4 - Multiplication and Division B

| Key vocabulary | |
|-----------------|-----------|
| Multiplication | Division |
| Multiply | Divide |
| Factor | Remainder |
| Factor Pair | Exchange |
| Commutative Law | Efficient |
| Commutative | Operation |

Factor Pairs

When you multiply two whole numbers to give a product, both the numbers that they multiplied together are factors of the product.

For example, $3 \times 5 = 15$, so 3 and 5 are factors of 15. 3 and 5 are also referred to as a "factor pair" of 15

| | |
|---------------|---------------|
| 30 | 18 |
| 1×30 | 1×18 |
| 2×15 | 2×9 |
| 3×10 | 3×6 |
| 5×6 | |

Multiplying by 10 and 100

When you multiply by 10, move all the digits one place to the left, putting a zero in the empty space.

$21 \times 10 = 210$

When you multiply by 100, move all the digits two places to the left, putting a zero in the empty spaces.

$21 \times 100 = 2100$

Dividing by 10 and 100

When you divide by 10, move all the digits one place to the right.

$210 \div 10 = 21$

When you divide by 100, move all the digits two places to the right.

$2100 \div 100 = 21$

Multiplying a 2-digit or 3-digit number by a 1-digit number

| | | | |
|---|---|---|---|
| | 1 | 2 | 4 |
| x | | | 3 |
| | 3 | 7 | 2 |
| | | 1 | |

Multiply each digit by the 1 digit number, starting with the ones.

$4 \times 3 = 12$ so you place the 2 ones in the ones column and exchange the ten ones for one ten and place this underneath in the tens column.

Then multiply the tens digit, remembering to add the extra ten, then complete with the hundreds digit.

Division - Written Method

Start by looking at how many groups of 6 you can make with 1 hundred. You cant make any complete groups so you place a zero and carry the 1 over to the tens.

| | | | |
|---|---|----------------|---|
| | 0 | | |
| 6 | 1 | ¹ 2 | 6 |

Next, you can make 2 groups of 6 using 12 tens. Therefore, you place a 2 in the tens column.

There is no remainder.

| | | | |
|---|---|----------------|---|
| | 0 | 2 | |
| 6 | 1 | ¹ 2 | 7 |

Finally, with 6 ones you can make 1 group of 6. Therefore, place a 1 in the ones column.

The final answer is 21.

| | | | |
|---|---|----------------|---|
| | 0 | 2 | 1 |
| 6 | 1 | ¹ 2 | 6 |

