



## Year 6 - Subtraction

Continue using a range of equations with appropriate numbers, progressing beyond 4 digit numbers and multiple decimal places. Pupils choose appropriate operation to solve the problem.

**Pupils will be expected to confidently use and apply the column subtraction methods in a variety of contexts. As part of a chain of different operations.**

$$34.9 - 9.488 = 25.412$$

$$\begin{array}{r} \overset{2}{3} \overset{1}{4} . \overset{8}{9} \overset{9}{0} \overset{1}{0} \\ - \quad \quad \quad 9 . 4 \quad 8 \quad 8 \\ \hline 2 \quad 5 . 4 \quad 1 \quad 2 \end{array}$$

Formal method shows numbers exchanged clearly and use of place holders known to not be crucial but aids accuracy. Exchanging may occur over multiple columns.

**Unit of measure (ensure same unit)**

$$1.6\text{km} - 850\text{m}$$

$$1600\text{m} - 850\text{m}$$

Then subtract using efficient written method.

**Estimating and inverse checking should be a regular part of each pupils own calculation process.**

## Year 6 - Multiplication

Continue with efficient written method using appropriate numbers.

### Unit of measure (ensure same unit) as explained previously

#### Efficient written method

Extend to 5 digit by 2 digit, incorporating multiple decimals. Applying as part of multi-step word problems in real life context.

$$213.46 \times 2.3 =$$

	2	1	3	4	6	
×		1	1	12	3	
	6	4	10	3	8	
4	12	6	9	2	0	
4	9	0	9	5	8	

With this method, the original problem has been changed when entered into the column multiplication, from  $213.46 \times 2.3$  to  $21346 \times 23$  (effectively multiplying your answer by 1000 as you have removed 3dp altogether). Children are taught that decimals can then be re-accounted for at the final answer stage. (count decimal places and apply)

$$490958 \div 1000 = 490.958$$

(A reasonable estimate,  $215 \times 2 = 430$ ,  $210 \times 2.5 = 525$ , can validate the correct placement of the decimal)

### Units of measure (ensure same unit)

When multiplying decimals, pupils estimate to ensure correct place value.

**Estimating and inverse checking should be a regular part of each pupils own calculation process.**

## Year 6 - Division

### Efficient written method using more appropriate numbers

#### Division by 2 digit numbers

Children to use bus shelter division to generate a decimal answer. Making use of place holders as required.

Pupils generate answer to a required level of accuracy.

$$506 \div 21 = 24.1 \text{ (to 1 dp)}$$

$$\begin{array}{r} 21 \overline{) 506.09} \\ \underline{42} \phantom{00} \\ 86 \phantom{00} \\ \underline{84} \phantom{00} \\ 20 \phantom{00} \\ \underline{21} \phantom{00} \\ 9 \phantom{00} \end{array}$$

Children to brainstorm multiples:

e.g.

21

42

63

84

Similarly, when using decimals, decimal points should also line up under one another. **Jottings are essential. Marks are given for children who show working out, even if the final answer is incorrect.**

Estimating and inverse checking should be a regular part of each pupils own calculation process.