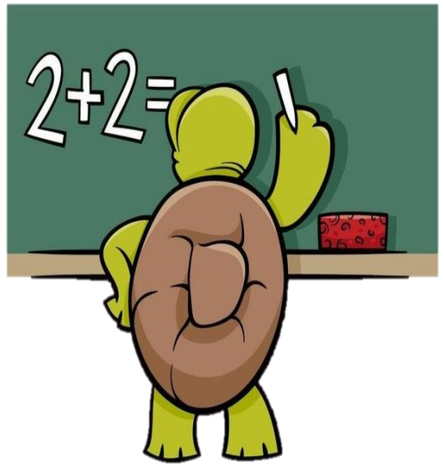
ADDITION and SUBTRACTION KNOWLEDGE ORGANISER

Year 5

Overview



Addition and Subtraction we learn:

-Add two 4-digit numbers (one and more exchanges)

-Add/subtract whole numbers with more than 4 digits

-Subtract two 4-digit numbers (one and more exchanges)

-Round to estimate & approximate -Inverse operations

-Multi-step addition and subtraction problems.

Addition and Subtraction is useful learning because it is used in many areas of everyday life – e.g. shopping, cooking, or playing games. It also forms the basis for lots of other maths ideas.

Addition Methods – Two 5-digit Numbers

No Exchange

44514 + 13413 = 57927

$$\begin{array}{r} 44514 \\ +\ 13413 \\ \hline 57927 \end{array}$$

Starting with the ones, simply add each column in turn.

Be sure to check over your answer for careless calculation errors.

1 Exchange

21351 + 21700 = 43051

$$\begin{array}{r} 21351 \\ +\ 21700 \\ \hline 43051 \\ 1 \end{array}$$

Starting with the ones, add each column in turn. When calculating 3 plus 7 hundreds, the answer is 10 hundreds (so one thousand).
Place 0 hundreds as the answer and 1 thousand under thousands answer. Include this in the next calculation.

2 Exchanges +

95392 + 92730 = 188122

$$\begin{array}{r} 95392 \\ +\ 92730 \\ \hline 188122 \\ 1\quad 1\ 1 \end{array}$$

Starting with the ones, add each column in turn.

Exchange tens, hundreds, or thousands as required.

Don't forget to add the exchanged number into the next calculation.

Subtraction Methods – Two 5-digit Numbers

No Exchange

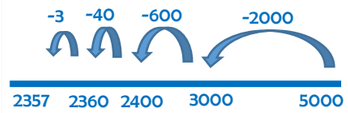
99882 – 27582 = 72300

$$\begin{array}{r} 99882 \\ -\ 27582 \\ \hline 72300 \end{array}$$

Starting with the ones, simply subtract each column in turn.

Efficient Subtraction

5000 – 2643 = 2357



1 Exchange

8673 - 1448 = 7225

$$\begin{array}{r} 5\ 8\ 3\ {}^{1}\!\not{7}^{\ 1}4 \\ -\ 2\ 7\ 2\ 1\ 8 \\ \hline 3\ 1\ 1\ 0\ 6 \end{array}$$

Starting with the ones, subtract each column in turn.

When subtracting 3 ones – 8 ones, exchange 1 hundred to make 13 tens – 8 tens. Don't forget to take this from the hundreds in the next calculation.

2 Exchanges +

61069 - 36827 = 24242

$$\begin{array}{r} 5\ {}^{10}\!\not{6}^{\ 1}\not{0}^{\ 1}6\ 9 \\ -\ 3\ 6\ 8\ 2\ 7 \\ \hline 2\ 4\ 2\ 4\ 2 \end{array}$$

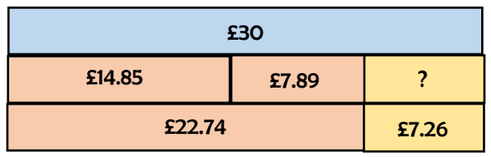
Starting with the ones, subtract each column in turn.

Exchange tens, hundreds, thousands as needed.

Don't forget to subtract the exchanged number from the next calculation.

Multistep Problems/ Inverse Operations

Multistep Problems



I have £30.00

I buy two toys, costing £14.85 and £ 7.89

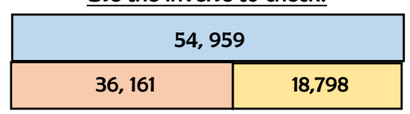
How much change do I receive?

£14.85 + £7.89 = £22.74

£30.00 - £22.74 = £7.26

Inverse Operations

Use the inverse to check.



For example, to check 54,959 – 36,161 = 18,798

Use 36,161 + 18,798 = 54,959

Inverse can be used to find the missing number.

e.g. I have a number, I subtract 48, and then double the resulting number to get 28. What is the original number? Start with 28. Divide by 2 = 14. Add 48. The original number was 62.

Key Vocabulary

Total | Altogether | Difference | Exchange | Column Method | Estimate | Inverse | Number Facts | Place Value | Complex