ADDITION and SUBTRACTION KNOWLEDGE ORGANISER
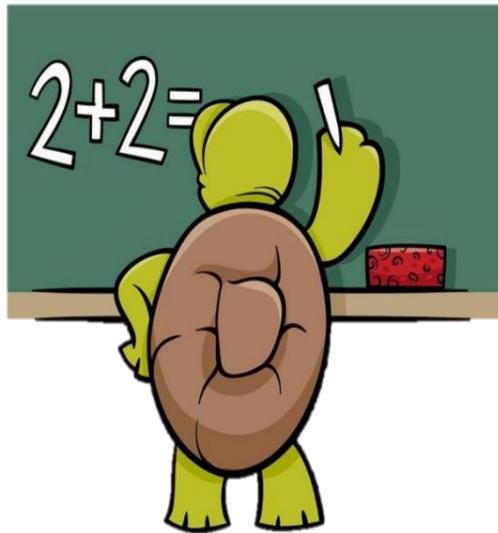
Overview

Addition and Subtraction we learn:

-Add and subtract multiples of 100.

-Add and subtract 3-digit and 1-digit numbers.

-Subtract a 1-digit number from a 3-digit number.

-Add and subtract 3-digit and 2-digit numbers.

-Add and subtract 100s   -Spotting patterns.

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.
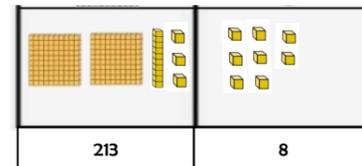
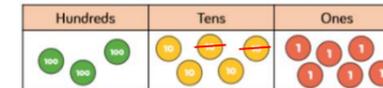## Subtraction Methods

3-digit and 1-digit numbers

Not crossing 10

420   430

$427 - 4 = 423$

Crossing 10

213   8

$221 - 8 = 213$

3-digit and 2-digit numbers

Subtracting Tens

Hundreds	Tens	Ones

$356 - 20 = 336$ (5 tens minus 2 tens)

When crossing 10, we can use column addition or count in 10s mentally.
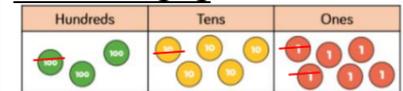
Crossing 10/ 100

$$\begin{array}{r} 5\cancel{4}8 \\ -\ 97 \\ \hline 451 \end{array}$$

Use exchanging for answers below zero. Remember to subtract the exchanged value from the next column.

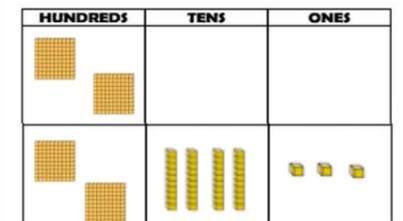### 3-digit numbers

Not Exchanging

Hundreds	Tens	Ones

$356 - 112 = 244$

When exchanging/ crossing 10/100, we can use column subtraction, as shown below left, but with 3-digit minus 3-digit numbers).

Adding 100

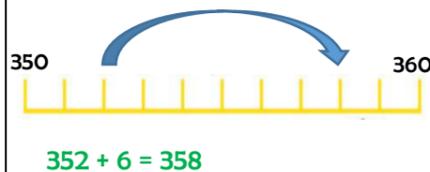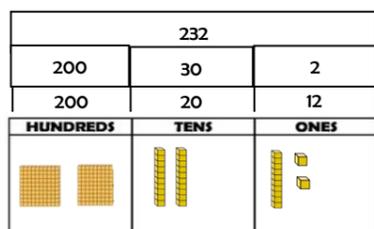| HUNDREDS	TENS	ONES

$443 - 200 = 2$

Addition Methods

3-digit and 1-digit numbers

Not crossing 10

350   360

$352 + 6 = 358$

Crossing 10

232		
200	30	2
200	20	12

HUNDREDS	TENS	ONES

$224 + 8 = 232$

3-digit and 2-digit numbers

Adding Tens

Hundreds	Tens	Ones
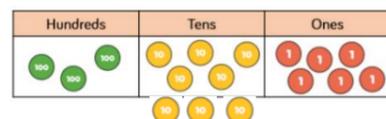
$356 + 30 = 386$ (5 tens plus 3 tens)

When crossing 10, we can use column addition or count in 10s mentally.
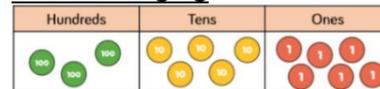
Crossing 10/ 100

$$\begin{array}{r} 677 \\ +\ 74 \\ \hline 751 \\ {\scriptstyle 1\ 1} \end{array}$$

Use exchanging for answers larger than 10. Remember to include this in the next calculation.

3-digit numbers

Not Exchanging

Hundreds	Tens	Ones

$356 + 211 = 565$
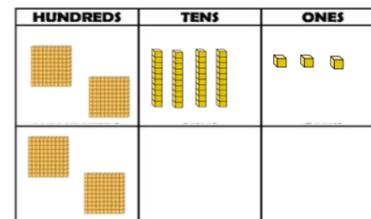
When exchanging/ crossing 10/100, we can use column addition, as shown below left, but with 3-digit plus 3-digit numbers).

Adding 100

$243 + 200 = 443$

HUNDREDS	TENS	ONES

Estimate

Being able to estimate using known facts helps us to check that answers are reasonable.

Estimating using near numbers
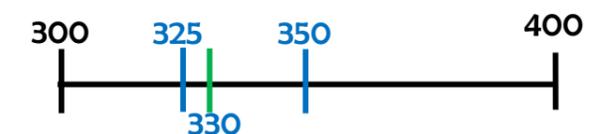
Estimate 221 - 78

Near number to 221 = 220

Near number to 78 = 80

$220 - 80 = 140$

Estimate = 140

Estimating marked numbers on a number line

Estimate the value of the green line

300   325   350   400

330

The student has added the blue lines to break down the hundred further, to give an estimate of 330.

Key Vocabulary

Estimate	Sum	Add	Subtract	Altogether	Difference	Exchange	Column Method	Number Line	Number Bond	Inverse