

# YR3 ADDITION AND SUBTRACTION KNOWLEDGE ORGANISER

## Key Concepts

- Add and subtract multiples of 100
- Add and subtract numbers mentally
- Add and subtract numbers using formal written methods

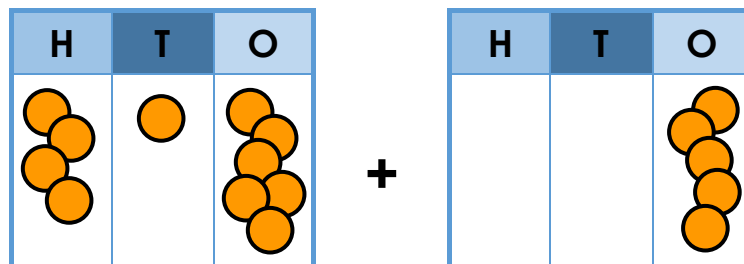
## Key Vocabulary

- add/addition
- subtract/subtraction
- calculate/calculation
- mental calculation
- written method
- operation
- total
- amount
- exchange
- regroup

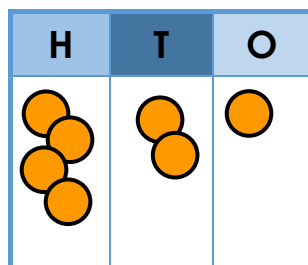


## Addition

add	+	total
sum	plus	combined
increase	altogether	more



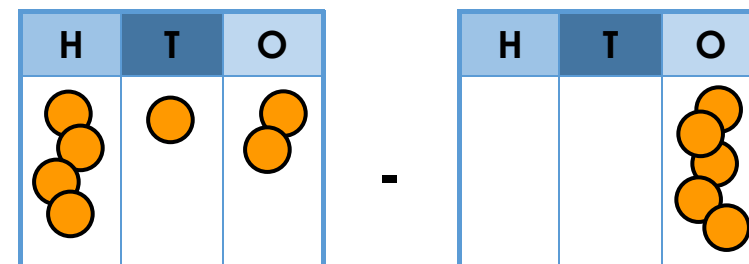
The counters in these place value charts show the calculation  $416 + 5$ . If we just add both sets of ones counters together, we will have 11 ones counters. 11 ones is then exchanged into a ten and a one.



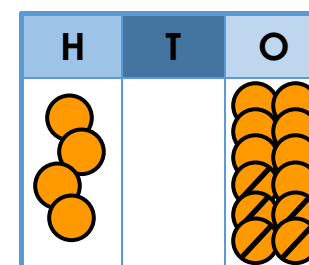
$$416 + 5 = 421$$

## Subtraction

subtract	-	take away
minus	decrease	reduce
difference	less	fewer



The counters in these place value charts show the calculation  $412 - 5$ . In the ones columns, we can not take 5 away from 2 so we exchange the tens counter for ten ones.  $400 + 10 + 2$  is the same as  $400 + 12$ .



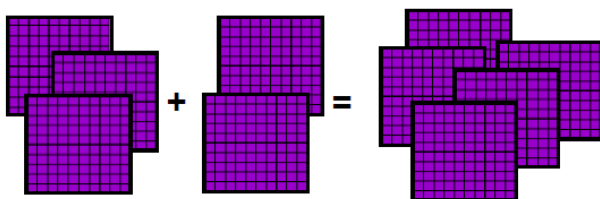
$$412 - 5 = 407$$

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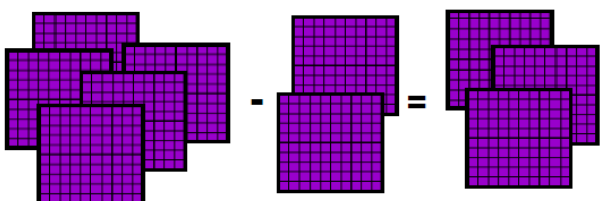
## Adding and Subtracting Multiples of 100

$$\begin{array}{c} \cdot \\ \cdot \\ \cdot \end{array} + \begin{array}{c} \cdot \\ \cdot \\ \cdot \end{array} = \begin{array}{c} \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array}$$

We can use the fact  $3 + 2 = 5$  to help us calculate that  $300 + 200 = 500$ .



We can then use the inverse to calculate that  $500 - 200 = 300$ .



When you add or subtract a multiple of 100, it is the digit in the hundreds place that changes. The tens and ones digits do not change.

$$\begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 3 & 0 & 0 \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 2 & 0 & 0 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 5 & 0 & 0 \\ \hline \end{array}$$

## Addition - Formal Written Methods

Using equipment to show column addition:

H	T	O

$$\begin{array}{r} 147 \\ + \quad 24 \\ \hline 171 \end{array}$$

With column addition and subtraction, you must always start the calculation with the column on the right.  $7 + 4$  is 11. We can not put 11 in the ones column so a ten is placed under the tens column and the one is placed in the ones column. We then add the extra ten when we add that column.

## Subtraction - Formal Written Methods

Using equipment to show column subtraction:

H	T	O

$$\begin{array}{r} 142 \\ - \quad 24 \\ \hline \end{array}$$

There aren't enough ones to subtract 4 from 2 so we need to exchange a ten for ten ones.

To show this, the 4 is changed to a 3 because we now have 3 tens. The 2 ones becomes 12 ones.

$$\begin{array}{r} 1\overset{3}{\cancel{4}}2 \\ - \quad 24 \\ \hline 118 \end{array}$$

42 is the same as  $30 + 12$ . We still have the same amount, but it has been regrouped.

Now, we can answer the subtraction.