## Add Two 4-Digit Numbers (3)

## Activity $1 \quad$ Add Two 4-Digit Numbers (3)

## Complete the following calculation.

## Remember to start with the ones column.

|  | 3 | 4 | 2 | 3 |
| :--- | :--- | :--- | :--- | :--- |
|  | 3 | 5 | 8 | 7 |
|  |  |  |  |  |

What interesting thing happens with this question?

Can you explain what is happening? Why?

## Activity $1 \quad$ Add Two 4-Digit Numbers (3)

## What happened?

| + | 3 | 4 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: |
|  | 3 | 5 | 8 | 7 |
|  | 7 | 0 | 1 | 0 |
|  | 1 | 1 | 1 |  |

What interesting thing happens with this question?
The results from the ones columns up to the hundreds columns are all overlapping.

Can you explain what is happening? Why?
This is happening because the single digits in a column equate to two digits and there needs to be an exchange.

## Activity 2 <br> Add Two 4-Digit Numbers (3)

## Add comparison symbols to make the number sentences correct:

$$
>=<
$$

$4,563+247$
2, $124+2,999$
$325+5,194$
$3,540+1,979$
$3,430+3,582$
5,541 + 1,569
$878+8,636$
$2,064+747$

## Activity 2 <br> Add Two 4-Digit Numbers (3)

## Add comparison symbols to make the number sentences correct:

$$
>=<
$$

$$
\begin{array}{rc}
4,563+247 & <2,124+2,999 \\
325+5,194 & =3,540+1,979 \\
3,430+3,582 & <5,541+1,569 \\
878+8,636 & <2,064+747
\end{array}
$$

## Reasoning - 1 Add Two 4-Digit Numbers (3)

## Malachi says,



Do you agree? Explain your reasoning.

## Reasoning - 1 Add Two 4-Digit Numbers (3)

## Malachi says,



> When I add two numbers together, I will only ever make up to one exchange in each column.

Do you agree?
Explain your reasoning.
Malachi is correct.
When adding any two numbers together, the maximum value in any given column will be 18 (e.g. 18 ones, 18 tens, 18 hundreds.) This means that only one exchange can occur in each place value column.

## Reasoning - 2 Add Two 4-Digit Numbers (3)

## Complete:



| Th | H | T | 0 |  |
| :---: | :---: | :---: | :---: | :---: |
| + | $?$ | $?$ | 7 | $?$ |
| 8 | 3 | 1 | 5 |  |

Zach says that there is more than one possible answer for the missing numbers in the hundreds column.

Is he correct?
Explain your answer.

## Reasoning - 2 Add Two 4-Digit Numbers (3)

## Complete:



| Th | H | T | 0 |
| :---: | :---: | :---: | :---: | :---: |
| +5 | $?$ | $?$ | 8 |
| 8 | $?$ | 7 | $?$ |

Zach says that there is more than one possible answer for the missing numbers in the hundreds column.

Is he correct? Zach is correct.
Explain your answer.
The missing numbers in the hundreds column must total 1,300 (the additional 100 has been exchanged) or 300 .

Possible answer: 5,338 + 2,977

