

Partitioning

Students can break up numbers to make it easier to add or subtract.

| | | | | |
|-----------|-----------|--------------|-------|-------|
| 213 + 145 | 200 + 100 | 10 + 40 | 3 + 5 | = 358 |
| | | 300 + 50 + 8 | | |

| | | | | |
|-----------|-----------|--------------|-------|-------|
| 356 - 224 | 300 - 200 | 50 - 20 | 6 - 4 | = 132 |
| | | 100 + 30 + 2 | | |

Friendly and Fix

When adding 9 add 10 then fix it by subtracting 1.

eg. $13 + 9 = 13 + 10 - 1 = 22$

$13 + 19 = 13 + 20 - 1 = 32$

Use the same strategy for subtracting 9, subtract 10 then add 1.

eg. $26 - 9 = 26 - 10 + 1 = 17$

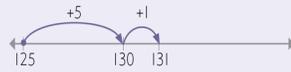
$36 - 19 = 36 - 20 + 1 = 17$

Friendly Chunks

When calculating addition mentally, build to ten then add the rest. The same strategy applies with subtraction, jump back to the last ten then subtract the rest. Students are encouraged to

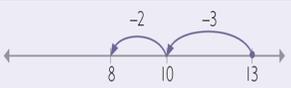
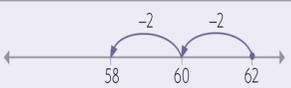
1 Friendly chunks Build to ten – Jump to the next ten, then add the rest.

Answer

| | | |
|----------|---|-----|
| 125 + 6 |  | 131 |
| 138 + 17 |  | 155 |

1 Friendly chunks Back to ten – Jump back to the last ten, then subtract the rest.

Answer

| | | |
|--------|---|----|
| 13 - 5 |  | 8 |
| 62 - 4 |  | 58 |

Inverse Relationships

Students need to recognise and identify the connection between addition and subtraction and multiplication and division.

$7 + 5 = 12$

$3 \times 6 = 18$

$5 + 7 = 12$

$6 \times 3 = 18$

$12 - 7 = 5$

$18 \div 6 = 3$

Part/Part Whole

Part-part-whole understanding and language allows students to: interpret problems, describe them as addition or subtraction and select appropriate strategies to solve them.

There are 17 boys and 15 girls in the Year 4 class.

How many students are in the class altogether?

| | |
|----|----|
| 17 | 15 |
| ? | |

$17 + 15 = 32$



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Helping My Child At Home

Mental Mathematics Strategies



Beaumaris
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Subitising

Counting can be an inefficient strategy. Children need to see at a glance how many objects are in a collection or part of a collection. Using dotted dice is a great way to help your child to become more confident when subitising collections. Roll a die and see if your child can subitise the numbers on each face. To make it harder roll two dice.

Partitioning

Students can break up numbers to make it easier to add or subtract. For example: 6 is made up of $(2 + 4)$. Then $8 + 6$ becomes easier if they can think of it as $(8 + 2 + 4)$. $24 + 15 =$ can be represented as $(20 + 10) + (4 + 5) = 30 + 9 = 39$

Friends of Ten

To be able to work out larger number sentences mentally, it is essential your child know their 'Friends of Ten'. 'Friends of Ten' are the paired combinations of 10. There is a great song on You Tube called 'What Makes Ten?' that you can sing with your child. Once your child has mastered their Friends of Ten, they can move onto learning their friends of 20 (e.g. $17 + 3$) and friends of 100 (e.g. $20 + 80$)

When adding a sequence of numbers Friendly Pairs is a helpful strategy. $4 + 7 + 6 + 3 = (4 + 6) = (7 + 3)$



Over-reliance on finger counting can slow a child's mathematical learning in later years. Therefore, we aim to promote a range of strategies for children to learn that will strengthen their mathematical understanding and improve their speed and accuracy.

Place Value

We encourage students to think flexibly when using numbers and place value.

Counting large numbers by ones:

- Is a basic strategy;
- Is often inefficient;
- Can be inaccurate as children forget where they are up to; and
- Is difficult to represent visually.

Ask your child to count large collections of pasta, pop sticks, lollies etc.

Encourage them to make collections of ten with any remaining ones left over. They may need guidance to group the objects into bundles of ten.

Encourage your child to count the number of tens and the number of ones.

Friendly Numbers (Place Value Knowledge)

Students need to be able to add numbers on from ten. For example: $10 + 1 =$, $10 + 2 =$, $10 + 3 =$ etc.

Extension: Students who have mastered their friendly numbers can apply the same principles of friendly numbers with higher multiples of tens and be able to count on ten from any number. For example: $20 + 6 =$, $40 + 9 =$ or $54 + 10 =$, $23 + 10 =$ etc.

Doubles

Learning their doubles to 10 will assist students with many calculations. Automatic recall of doubles facts will allow students to :

- Automatically recite doubles facts (e.g. $6 + 6$, $60 + 60 =$, $600 + 600 =$)
- Automatically recite 'near doubles facts' (e.g. $6 + 7 = 6 + 6 + 1$)
- It also helps with the concepts of fractions and even numbers. (eg. $1/2 \ 16 = 8$)
- Helps with calculations such as $(12 + 12 = 10 + 10 + 2 + 2)$

Near Doubles

Students can use their knowledge of doubles to then add or take a number to make a near double. For examples: $2 + 3 =$ is nearly a double of $2 + 2 (+ 1) =$ or $3 + 3 (-1) =$

Halves

Once your child has mastered their doubles, halving numbers should be a lot easier for them to solve. To halve a number the number needs to be even and be shared into two equal parts. Eg. $1/2$ of $18 = 9 + 9$