**Written Methods**

**Addition** - Draw the tens and Ones using **Dienes jottings**

23 + 6 = 29

Draw the numbers using Dienes jottings

Count up the ones = 9
Count up the tens = 20
Add together 20 + 9 = 29

**Subtraction** - Draw the number using **Dienes jottings**

37 − 5 = 32

Cross out the number you are taking away.

Count up the Tens and Ones that are left to find the answer.
**Multiplication:** Draw 7 groups of 2. Count in 2’s to find the answer

$$7 \times 2 = 14$$

Count on fingers using times tables ($\times2, \times5, \times10$)

$$6 \times 5 = 30$$

**Division:** Use jottings to draw out the larger number.

$$12 \div 2 = 6$$

**Sharing:** Share into 2 groups. Count how many in each group to find answer.

12 shared into 2 groups
Grouping - Draw out the number using jottings. Draw round groups of 2. Count up the number of groups to find the answer.

\[ 12 \div 2 = 6 \]

When children have mastered the above methods you can move onto:

**Blank number lines 2-digit add 1 digit number.**

**Addition:** \[ 46 + 7 = 53 \]

- Draw a line with a ruler.
- Write the largest number at the start of the line.
- Split the ‘7’ by counting on ‘4’ to get to the next ten (50) and then add on the remaining ‘3’ to find the answer.
- Write the number you have jumped as well as the number you land on.
Adding a 2-digit number to a 2-digit number.

\[ 23 + 13 = 36 \]

- Draw a line with a ruler.
- Write the largest number at start of the line.
- Add on the ‘10’
- Write the number you have jumped as well as the number you land on.
- Add on the 3.
- The number you land on is the answer.

Subtraction: \[ 34 - 15 = 19 \]

- Draw a line with a ruler
- Write the first number at the end of the line.
- Take away the ones. Write the number you land on.
- Takeaway the 10. Write the number you land on the number line as well as the number you have jumped. This is the answer.
Addition of 2-digit numbers using Dienes jottings.

\[ 34 + 26 = \]

Add the Ones together \[ 6 + 4 = 10 \]
Add the Tens together \[ 30 + 20 = 50 \]
Add the Tens and Ones together \[ 50 + 10 = 60 \]

Subtraction of 2-digit numbers using Dienes jottings.

\[ 56 - 43 = 13 \]

Cross out the Tens and Ones and count up what is left to find the answer.
Column Addition:

\[
\begin{array}{c}
34 \\
+ 45 \\
79
\end{array}
\]

Write the number in columns as above.

Add the Ones together \(4 + 5 = 9\)

Add the Tens together \(30 + 40 = 70\) = 79

Column Subtraction:

\[
\begin{array}{c}
57 \\
- 42 \\
15
\end{array}
\]

Take way the Ones. \(7 - 2 = 5\)

Takeaway the Tens \(50 - 40 = 10\)

\(10 + 5 = 15\)
Column Addition crossing 10

\[
\begin{array}{c}
3 \quad 4 \\
+ \quad 4 \quad 7 \\
\hline
8 \quad 1 \\
1
\end{array}
\]

- When you add the ones together they cross 10 eg make 11
- Write a 1 underneath the Tens column to show the Ten.
- Write the One underneath the Ones column.
- Now add the Tens together,
- Don’t forget to add on the Ten you have drawn underneath.

Column Subtraction with exchange.

\[
\begin{array}{c}
4 \quad 5 \quad \big| 6 \\
- \quad 2 \quad 7 \\
\hline
2 \quad 9
\end{array}
\]

You can’t take ‘7’ away from ‘6’ so you need to take a Ten from the tens column and draw it next to the ‘6’ to make 16.

Remember to cross out the ‘5’ and write how many tens are left eg-4

Now you can complete the calculation
Missing Number Calculations.

Addition: ___ + 9 = 13

- Count on from 9 up to 13 to find the missing number.
- 4 = missing number.

or

22 + ____ = 48

Draw dienes jottings to show 48

Cross out 22. The remaining jottings is the answer - 26

Subtraction: 64 - ___ = 23

Change the calculation to 64 – 23 =

Use Dienes jottings to work out the answer.

= 41
Division: 

\[ \_ \div 5 = 8 \]

Change \( \div \) to \( \times \)

\[ 8 \times 5 = \]

Count on fingers using 5x tables.

\[ 5 \quad 10 \quad 15 \quad 20 \quad 25 \quad 30 \quad 35 \quad 40 \]

Or this can be worked out by drawing arrays

8 groups of 5

\[ \begin{array}{ccccccc}
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1 & 1
\end{array} \]

Multiplication: 

\[ 5 \times \_ = 35 \]

Change to a division

\[ 35 \div 5 = \]

Count on in 5’s to 35

\[ 5 \quad 10 \quad 15 \quad 20 \quad 25 \quad 30 \quad 35 \quad 40 = 7 \]