We aim for all children at Holy Trinity to be able to:

- **Develop mathematical fluency**
- **Reason mathematically**
- **Problem solve**
- **Make connections across mathematical ideas**
- **Apply knowledge in other subject areas**

MATHS INFORMATION BOOKLET

YEAR 4

Year Four Strategies

Here are the strategies that you can use to help develop your child's addition, subtraction, multiplication and division skills.

Mental Addition and Subtraction strategies

Find a difference by counting up through the next multiple of 10, 100 or 1000.

Work out by counting up from the smaller to the larger number.
92- 89, 403 - 386 and 4000 – 3993
Use a number line.

Count on or back in steps of 1, 10, 100 or 1000

For example work out mentally that
2003 - 8 = 1995 by counting back in ones from 2003
643 + 50 =693 by counting on in tens from 643
387 – 50 =337 by counting back in tens from 387
460 + 500 = 960 by counting on in hundreds from 460

Partition into Hundreds, Tens and Ones.

For example work out mentally that

24+ 58 = 82 because it is 20 + 50 = 70 and 4 + 8 =12 making 70 + 12 = 82.

Identify near doubles.

- For example work out mentally that

38 + 36 =74, you can double 40 then subtract 2 then subtract 4 or double 37.

- 160 + 170 = 330

You can add two 160s plus 10, or two 170s minus 10

Add or Subtract the nearest multiple of 10, 100 or 1000 and adjust.

Add 9, 19, 29 or 11, 21, 31…to any two digit number

- 63 + 29 = 92 Because it is the same as 63 + 30 - 1

- 58 + 71 = 129 Because it is the same as 58 + 70 + 1

- 74 + 58 = 132 Because it is 74 + 60 = 134 then subtract 2 = 132

Add several numbers.

Using strategies such as

- Looking for pairs that make 10, 100
  1+3+ 6 + 9 + 7 = 9+1=10 7+3=10 10+10= 20 +6=26
- Starting with the largest number
  40 + 90 + 60 = 60+40= 100 100+90= 190
- Looking for pairs that make 9 or 11 and adding these to the total by adding ten and then adjusting by one
  5+3+11= 5+3=8 8+10=18 18+ 1= 19
- Looking for near doubles
  12+13+15= 12+12+1+15=40

Use known number facts to Add or Subtract a pair of numbers.

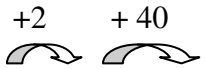
Add or Subtract two digit multiples of 10

- 42+73= 40+ 70+ 2+ 3=115
- 130-56= 130- 50 – 6= 74

Add or Subtract a pair of multiples of 100 crossing 1000

- 525+ 705= 500 +700+25+5= 1230
- 1200-450= 1200-400-50=750

Find what to add to a two or a three digit number to make the next 100 or multiple of a hundred using number line



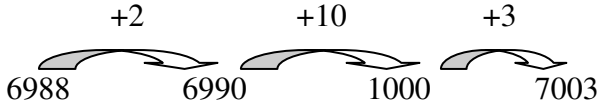
- 58 +__= 100 58+ 2= 60 60+ 40= 100 58 60 100= 42

Find what to add to four digit number to make the next 1000 or multiple of 1000.

- 3200 +___= 4100 3200+ 800= 4000 4000+100= 4100 Ans= 800+ 100= 900
- 8400 +___= 9000

Find the difference between a pair of numbers by counting up.

- 7003 – 6988 = 15 by counting up 2 from 6988 to 6990 then 10 to 7000 then 3 to 7003.



Children should be able to explain the method that they have used. They will be progressing to using a number line to count back through zeros to include negative numbers.
For example 3-4= -1 by counting back 4 places.

Written methods for Addition

Children should be able to use pencil and paper methods to support, record or explain calculations, achieving consistent accuracy. Encourage them to discuss, explain and compare different methods.

When using written methods that are set out in columns, remind the children that ones should line up under ones, tens under tens etc.

Column Addition

	Th	H	T	O
	4	2	4	6
+	2	3	2	3
	6	5	6	9

	Th	H	T	O
	4	7	3	4
+	5	1	9	6
	9	9	3	0
		X	X	

DECIMALS.

When adding decimals, such as pounds and pence use the methods below. Remind children that the decimal points should line up under each other, particularly when adding or subtracting mixed amounts such as £3.59 + 78p

	0	1/10	1/100
	3	5	9
+	0	7	8
£	4	3	7

Subtraction

Column Subtraction-Decomposition and Decimals

	Th	H	T	O
	3	7	6	4
_	1	2	3	2
	2	5	3	2

	Th	H	T	O
	4	6	$^{2}\not{3}$	$^{1}2$
_	2	1	1	3
	2	5	1	9

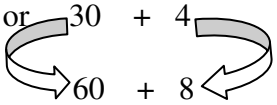
	O	1/10	1/100
	$^{2}\not{3}$	$^{1}5$	9
_	0	7	8
	2	8	1

Mental methods for Multiplication and Division

Doubling and halving

Use related facts for doubling or halving.

- For example double 34 is double 30 add double 4 or 30 + 4



  60 + 8 = 68

- Half of 56 is half of 50 plus half of 6

To multiply by 4, double and double again.

- For example to work out 12x4, double 12, double 24=48

To multiply by 5, multiply by 10 and then halve it.

For example 14x5 = 14 x 10
= 140
= 140 ÷ 2
= 70

To multiply by 20, multiply by 10 and then double.

For example 15x20= 15x10
= 150
Double 150= 300

Explain how to find quarters and eighths by halving.

- For example one eighths of 64 is 8 because half of 64 is 32 and half again is 16 and again is 8.

Partition and then multiply.

- Begin to multiply a two digit number by a single digit number, multiplying the tens first for example
  32 x 3 = (30 x 3) + (2 x 3)
  = 90+6
  = 96

Written Methods for Multiplication

Children are encouraged to approximate an answer first and explain orally how a method works.

Grid Method

For example 23x8 is approximately 20x10=200, this gives you an idea that your answer should be nearly this number.

X	20	3
8	160	24

1 6 0
+ 2 4
1 8 4

Formal written method of short multiplication.

For example

	2	**3**
	X	**7**
1	**6**	**1**
	2	

Knowing all times table to 12 including 7, 9 and 12.

Written methods for Division

Chunking

For example 102÷6 is approximately 100÷5=20
102÷6

102
- 60 (10x6)
42
- 42 (7x6)
00 17

10 + 7= 17

Short division with exact answers.

For Example **98 ÷ 7**

$$7 \overline{)\, 9\ {}^{2}8} \quad 1\ 4$$

Encourage your child to jot down their workings out to show each step. The method used should be quick, accurate and show their jottings.

Give your child a number problem to solve. Talk through the question and ask your child to figure out which part or parts of the calculation is addition, subtraction, multiplication or division.
For Example

- On a school trip 72 people visit a museum. There are 53 children and 7 teachers, the rest are parents. How many parents are there?

- In a week John saves £1.75, on Monday he has 55p on Wednesday 75p. How much does he save the rest of the week?

- My shampoo bottle holds 400ml of shampoo. If I use 20ml each time I wash my hair, how many washes will I get from the bottle?

- My parents borrowed money to buy a house. Each month they pay the bank £650. How much will they have paid the bank after 10 years?

In Yr 4 children will be taught to read Roman numerals to 100.

NOTES