The Good Shepherd Catholic Primary School

Following Jesus,

The Good Shepherd,

in all we say and do

Year 5 Calculation Policy

2024 – 2025

OUR LADY IMMACULATE CATHOLIC ACADEMIES TRUST

This document provides an overview of the content encountered in Year 5. The document does not include the visual representations of the methods as no new methods and the representations encountered. What is different is the range of number that children work with.

The document provides:

i. a content summary section;
ii. details about the approaches used for teaching the above

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Year 5			
	Block 1	Block 2	Block 3
Calculation content	ADDITION AND SUBTRACTION (UNIT 1) • Facts for one and ten with decimal numbers to one decimal place • Complements for one thousand and related facts • Mental calculation - Making next ten/previous ten - Near doubles • Calculation strategies - Left to right addition - Number line methods - Partitioning the minuend • Add numbers with more than four digits (with exchanging) • Subtract numbers with more than four digits (with exchanging)	MONEY AND DECIMALS (UNIT 1) n/a ADDITION AND SUBTRACTION (UNIT 2) • Addition and subtraction with decimal numbers to two decimal places (facts for one and related facts) • Strategies for adding lots of numbers • Methods for addition - Making the next hundred - Near doubles • Methods for subtraction -Making the previous thousand -Counting on -Compensation -Partitioning the minuend FRACTIONS (UNIT 2) • Addition of related fractions • Subtraction of related fractions	CALCULATION UNIT • Methods for addition • - Partitioning both addends - Compensation - Column method • Methods for subtraction -Making the previous hundred - Counting on - Partitioning the subtrahend o Column method MONEY (UNIT 2) • Calculating amounts of money • Adding decimal numbers • Subtracting decimal numbers

Year 5			
	Block 1	Block 2	Block 3
Strategies/ methods	<u>Facts for one and ten with decimal numbers to one decimal place</u> Bar models, tens frames and relationship triangles support recall of facts for one. Subtraction facts from ten are derived by partitioning the subtrahend into ones and tenths, eg: 10 – 8.4 = 10 – 8 – 0.4 Also by partitioning the minuend, eg: 10 – 8.4 = 9 – 8.4 + 1 <u>Complements for one thousand and related facts</u> Pictorial representations and the column method support understanding of pairs that make one thousand. Pairs of addends are also partitioned into hundred and tens/ones, eg: 725 + 275 = 700 + 25 + 200 + 75. The hundreds are combined, then the tens and ones are combined.	<u>Addition and subtraction with decimal numbers to two decimal places</u> (facts for one and related facts) Pictorial representations support recall of facts for one with decimal numbers to two decimal places . Chi Pairs of addends less than one are partitioned into tenths and hundredths, eg: 0.34 + 0.66 = 0.3 + 0.04 + 0.6 + 0.06. Subtracting tenths and hundredths from one is modelled by partitioning the subtrahend, eg: 1 – 0.71 = 1 – 0.7 – 0.01 <u>Strategies for adding lots of numbers</u> Continuing to promote flexible calculation strategies is the main emphasis in the lesson on strategies for adding lots of numbers. Teaching helps children find multiple ways to solve calculations such as 1 + 2 + 3 + 4 + 5 + 6 + 5 + 4 + 3 + 2 + 1.	<u>Methods for addition</u> σ Partitioning both addends o Compensation o Column method Children are now very familiar with the methods above. They apply them in a lesson on palindromic numbers. <u>Methods for subtraction</u> σ Making the previous hundred σ Counting on o Partitioning the subtrahend o Column method Children are now very familiar with the methods above. They apply them in a lesson where they choose digits, make the largest number possible with those digits, then make the smallest number possible and find the difference. They keep repeating this and note what happens.

Year 5

	Block 1	Block 2	Block 3
Strategies/ methods	<u>Mental calculation</u> σ Making next ten/previous ten σ Near doubles Children's knowledge of the making the next/previous ten is applied to calculations such as 11,126 + 6 = 11,126 + 4 + 2 They use making the next thousand and near doubles to solve calculations like 600 + 700, eg: 600 + 700 = 600 + 400 + 300; 600 + 700 = 600 + 600 + 100 <u>Calculation strategies</u> σ Left to right addition σ Number line methods σ Partitioning the minuend Children revise the fact that when we calculate with column methods we work from the smallest units to the largest; when we calculate mentally we tend to work with the largest parts first. Empty number lines are used to support consolidation of adding by partitioning the second addend, eg: 2,335 + 1,226 = 2,335 + 1,000 + 200 + 20 + 6	<u>Methods for addition</u> σ Making the next hundred o Near doubles Children's knowledge of the making the next hundred is applied to calculations such as 2,700 + 800 = 2,700 + 300 + 500 They use near doubles to solve calculations like 6.3 + 6.5, eg: 6.3 + 6.3 + 0.2 <u>Methods for subtraction</u> σ Making the previous thousand o Counting on σ Compensation o Partitioning the minuend Children are now very familiar with the methods above. They use them to solve calculations like: 2,500 – 800 = 2,500 – 500 – 300 (making previous thousand); 25,102 – 875 (counting on); 8,500 – 700 = 8,500 – 1,000 + 300 (compensation); 5.26 – 1.75 = 2 – 1.75 + 3.26 (partitioning the minuend).	<u>Calculating amounts of money</u> Children continue to practise calculating with money, supported by representations of coins. <u>Adding decimal numbers</u> Children add two decimal numbers with up to two decimal places. This includes adding numbers with different numbers of decimal places, eg: 25.76 + 2.9. The column method is the core strategy used; other methods are also encouraged. <u>Subtracting decimal numbers</u> Children subtract two decimal numbers with up to two decimal places. This includes subtracting numbers with different numbers of decimal places, eg: 25.06 + 4.9. Counting on using an empty number line is the core strategy used; other methods are also encouraged.

Year 5

	Block 1	Block 2	Block 3
Strategies/ methods	Work on subtraction also involves empty number lines, for counting on, and revisits the strategy of partitioning the minuend. <u>Add numbers with more than four digits</u> (with exchanging) Column addition is now extended to numbers with more than four digits. Teaching revisits using compensation alongside the column method so children can evaluate the relative merits of each. <u>Subtract numbers with more than four digits</u> (with exchanging) Column subtraction is extended to numbers with up to five digits. Other methods are encountered (partitioning the minuend) and children are encouraged to reflect on the appropriate method for a given calculation.	<u>Addition of related fractions</u> Children learn that when the denominators are not the same, they need to be made the same before adding the fractions. They then use learning from Year 4 (when the denominators are the same, we add the numerators). Visual representations also support the making the next whole method, eg: $1\frac{9}{10}+\frac{4}{5}=1\frac{9}{10}+\frac{8}{10}=$ $1\frac{9}{10}+\frac{1}{10}+\frac{7}{10}=2\frac{7}{10}$ <u>Subtraction of related fractions</u> Methods mirror the methods used for addition: converting to improper fractions and subtracting; making the previous one.	