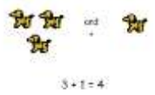
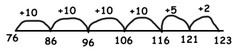
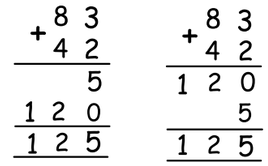
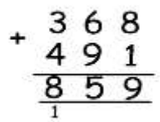
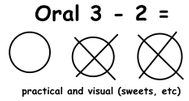
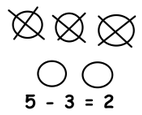
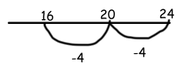
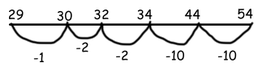
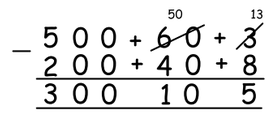
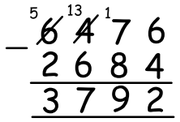
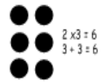
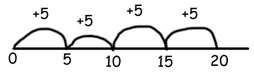
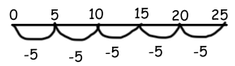
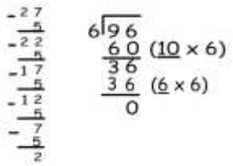
St Joseph's Catholic Primary School

Calculation Policy

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Addition	• Practical activities and discussions ***leading*** to pictorial representation.  3 + 1 = 4 • Finding one more than a number from 1 to 20 • Using vocabulary associated with addition.	• Begin to use the + and = sign to record mental calculations • Know by heart all number bonds to 10 • Use knowledge to know that addition can be done in any order to do mental calculations more efficiently. • Using number lines to add in 1s	• Adding three single digit numbers mentally • Know by heart all number bonds to 20 • Use + and = to record mental calculations • Use number line to make informal jottings  • Use partitioning to reflect mental methods 40 + 70 = 110 7 + 6 = 13 110 + 13 = 123	• Using informal pencil and paper methods (jottings) • Use brackets in partitioning 47 + 76 = (40 + 70) + (7 + 6)	• Introduce vertical addition using either least or most significant figure first.  	• Children using compact layout, involving carrying.  	• Compact addition using carrying for thousands, hundreds, tens and units and decimals. • Consolidation of stage 6.
Subtraction	• Practical activities and discussion • Finding one less than a number from 1 - 10 • Begin to relate subtraction **Oral 3 - 2 =**  practical and visual (sweets, etc) to "taking away"	• Begin to use the - and = sign to record mental calculations also pictorial  **5 - 3 = 2** • Know by heart all subtraction facts to 5	• Know by heart all subtraction facts to 10 **24 - 8 =**  	• Using informal pencil and paper methods (jottings) • Know all subtraction facts to 20 • Use number line to make informal jottings using multiples of 10 to help 54 - 25 =  	• Introduce expanded decomposition 563 - 248  	• Decomposition extended to decimals and larger numbers • Contracted recording of decomposition  	• Consolidation of stage 6 • Contracted recording of decimals.

St Joseph's Catholic Primary School

Calculation Policy

Multiplication	• Working at a practical level to gain experience of doubling and become familiar with appropriate language.	• Know by heart addition doubles to at least 5. • Counting in 2,5,10xs using pictorial recordings.  verbal discussion	• Understand multiplication as repeated addition. Arrays  2 x 3 = 6 3 + 3 = 6  3 x 2 = 6 2 + 2 + 2 = 6	• Mental methods using partitioning 38 x 7 = (30 x 7) + (8 x 7)  4 x 5 = 20	• Introduction of grid layout to show expanded working out 38 x 7 = x | 3 0 | 8 | 7 | 2 1 0 | 5 6 | 266 Column addition can be used to total the grids. + 210 56 266	• Grid method extended to bigger numbers (HTU x TU) • Introduction of vertical format linked to grid method x | 100 | 50 | 6 | 20 | 2000 | 1000 | 120 | 3120 7 | 700 | 350 | 42 | 1092 4212 x 3 8 7 2 1 0 (30 x 7) 5 6 (8 x 7) 2 6 6	• Consolidation of stage 6 • Grid method extended to bigger numbers and decimals x | 20 | 3 | 0·5 | 10 | 200 | 30 | 5 | 235 2 | 40 | 6 | 1 | 47 282 • Contracted vertical multiplication, e.g. x 3 8 7 2 6 6
Division	• Working at a practical level to gain experience of sharing and to become familiar with the appropriate language.	• Separate a given number of objects into equal groups and record results informally using pictures.	• Understand division as grouping, repeated subtraction or sharing, and record informally 8 ÷ 2 =  Interpret as how many 2's in 8?	• Use the ÷ and = signs recording horizontally 12 ÷ 3 = 4 Repeated subtraction  Moving on to remainders. 25 ÷ 5 = 5	• Begin to use standard written methods e.g. 	• Use standard written methods using multiples of 10 e.g. 196 ÷ 6 = 32 r 4 6 | 1 9 6 1 8 0 (30 x 6) 1 6 1 2 (2 x 6) 4	• Consolidation of Stage 6 • Contraction of formal method 7 5 r 2 5 | 3 7 2 7 • Move onto decimals.