Bishop Lonsdale Church of England Primary and Nursery

Addition
Maths
Parent Guide

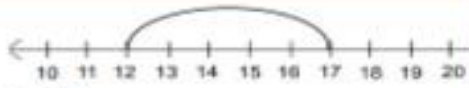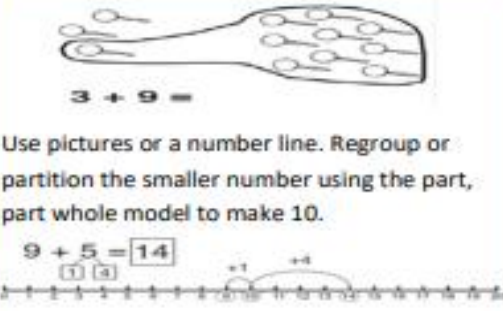| Objective / Strategy	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part- whole model	Use part, part whole model. Use cubes to add two numbers together as a group or in a bar.	Use pictures to add two numbers together as a group or in a bar. 8 1 3 part 5 whole 2 ? 3 Balls 2 Balls	$8 = 5 + 3$ $5 + 3 = 8$ 5 3 Use the part part whole diagram as shown above to move into the abstract. Include missing number questions to support varied fluency: $8 = ? + 3$ $5 + ? = 8$
Starting at the bigger number and counting on	Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.	10 11 12 13 14 15 16 17 18 19 20 $12 + 5 = 17$ Start at the larger number on the number line and count on in ones or in one jump to find the answer.	$5 + 12 = 17$ Place the larger number in your head and count on the smaller number to find your answer.
Regrouping to make 10. *This is an essential skill for column addition later.*	$6 + 5 = 11$ Start with the bigger number and use the smaller number to make 10. Use ten frames.	$3 + 9 =$ Use pictures or a number line. Regroup or partition the smaller number using the part, part whole model to make 10. $9 + 5 = \boxed{14}$ 1 4 +1 +4	$7 + 4 = 11$ If I am at seven, how many more do I need to make 10? How many more do I add on now?

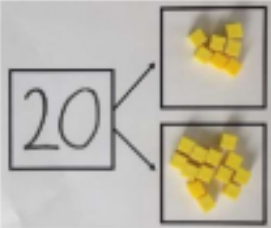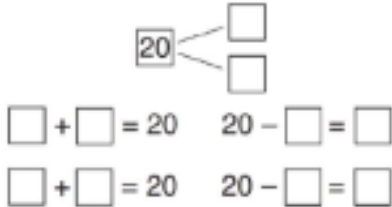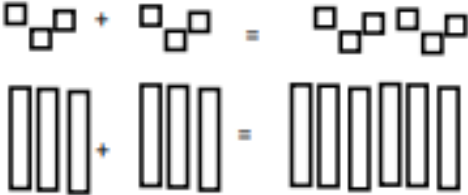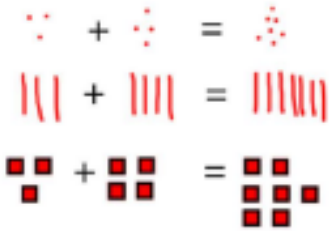| Represent & use number bonds and related subtraction facts within 20 | 2 more than 5. | Drow a more num. $5 + 2 =$ | Include missing number questions: $8 = ? + 3$ $5 + ? = 8$ Emphasis should be on the language '1 more than 5 is equal to 6.' '2 more than 5 is 7.' '8 is 3 more than 5.' |
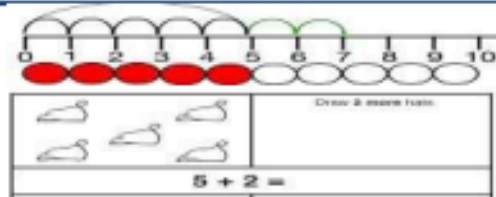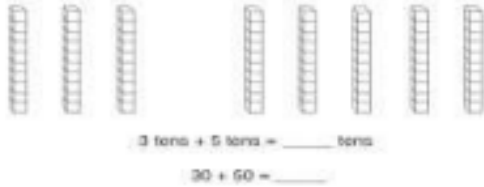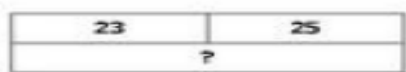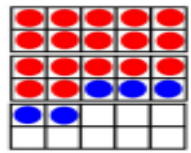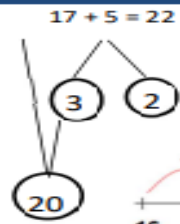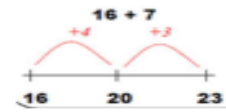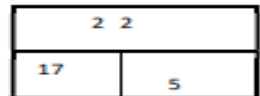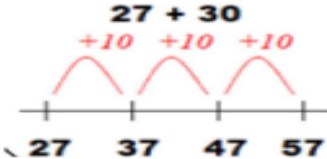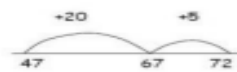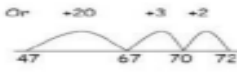
Year 2

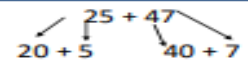| Objective /Strategy	Concrete	Pictorial	Abstract
Adding multiples of ten	50= 30 = 20 Model using dienes and bead strings	3 tens + 5 tens = _____ tens 30 + 50 = _____ Use representations for base ten.	$20 + 30 = 50$ $70 = 50 + 20$ $40 + \square = 60$
Use known number facts **Part, part whole**	Children explore ways of making numbers within 20	$\square + \square = 20$ $20 - \square = \square$ $\square + \square = 20$ $20 - \square = \square$	Explore commutativity of addition by swapping the addends to build a fact family. Explore the concept of the inverse relationship of addition and subtractions and use this to check calculations. $\square + 1 = 16$ $16 - 1 = \square$ $1 + \square = 16$ $16 - \square = 1$
Using known facts		Children draw representations of H,T and O	$3 + 4 = 7$ *leads to* $30 + 40 = 70$ *leads to* $300 + 400 = 700$

Objective /Strategy	Concrete	Pictorial	Abstract
Bar model	3 + 4 = 7	7 + 3 = 10	23 + 25 = 48
Add a two digit number and ones	17 + 5 = 22 Use ten frame to make 'magic ten' Children explore the pattern. 17 + 5 = 22 27 + 5 = 32	17 + 5 = 22 Use part part whole and number line to model. 3 2 20 16 + 7 16 20 23	17 + 5 = 22 Explore related facts 17 + 5 = 22 5 + 17 = 22 22—17 = 5 22—5 = 17 2 2 17 5 Lead into recording in column format, to reinforce place value and prepare children for formal written methods with larger values.
Add a 2 digit number and tens	25 + 10 = 35 Explore that the ones digit does not change	27 + 30 +10 +10 +10 27 37 47 57	27 + 10 = 37 27 + 20 = 47 27 + □ = 57
Add two 2-digit numbers	Model using dienes , place value counters and numicon	+20 +8 Or +20 +3 +2 47 67 72 47 67 70 72 Use number line and bridge ten using part whole if necessary.	25 + 47 20 + 5 40 + 7 20 + 40 = 60 5+ 7 =12 60 + 12 = 72
			Lead into recording in column format, to reinforce place value and prepare children for formal written methods with larger values.
Add three 1-digit numbers	Combine to make 10 first if possible, or bridge 1o then add third digit	+ + Regroup and draw representation. + = 15	4 + 7 + 6 = 10 + 7 10 = 17 Combine the two numbers that make/ bridge ten then add on the third.

Objective /Strategy	Concrete	Pictorial	Abstract
Column Addition—no regrouping (friendly numbers) Add two or three 2 or 3digit numbers.	Dienes or numicon Add together the ones first, then the tens. 45 34 7 9 21 + 42 = 21 +42 Move to using place value counters	Children move to drawing the counters using a tens and one frame. tens | ones	$\begin{array}{r} 2\ 2\ 3 \\ +\ 1\ 1\ 4 \\ \hline 3\ 3\ 7 \end{array}$ Add the ones first, then the tens, then the hundreds.
Column Addition with regrouping.	Tens | Units 39 15 5 4 Exchange ten ones for a ten. Model using numicon and place value counters.	$\begin{array}{r} 3\ 4 \\ +1\ 7 \end{array}$ 5 1 Children can draw a representation of the grid to further support their understanding, carrying the ten **underneath** the line	$\begin{array}{ccc} 20 & + & 5 \\ 40 & + & 8 \\ \hline 60 & + & 13 & = 73 \end{array}$ Start by partitioning the numbers before formal column to show the exchange. $\begin{array}{r} 536 \\ +\ 85 \\ \hline 621 \\ 1\ 1 \end{array}$
	46 + 27 = 73		

Objective /Strategy	Concrete	Pictorial	Abstract
Estimate the answers to questions and use inverse operations to check answers	Estimating 98 + 17 = ? 100 + 20 = 120	Use number lines to illustrate estimation. 90　　　　　　　100	Building up known facts and using them to illustrate the inverse and to check answers: 98 + 18 = 116 116 – 18 = 98 18 + 98 = 116 116 – 98 = 18

Year 4 - Year 6

Objective /Strategy	Concrete	Pictorial	Abstract
Years 4 – 6 Estimate and use inverse operations to check answers to a calculation		**AS per Year 3**	
Y4—add numbers with up to 4 digits	Children continue to use dienes or place value counters to add, exchanging ten ones for a ten and ten tens for a hundred and ten hundreds for a thousand. 	 Draw representations using place value grid.	 Continue from previous work to carry hundreds as well as tens. Relate to money and measures.
Y5—add numbers with more than 4 digits. Add decimals with 2 decimal places, including money.	As year 4 Introduce decimal place value counters and model exchange for addition.	2.37 + 81.79 	72.8 + 54.6 127.4 1 1
Y6—add several numbers of increasing complexity, including adding money, measure and decimals with different numbers of decimal points.	As Y5	As Y5	Insert zeros for place holders.