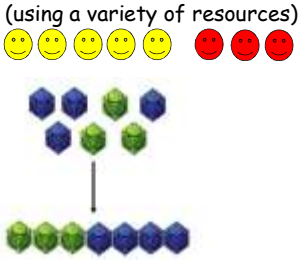
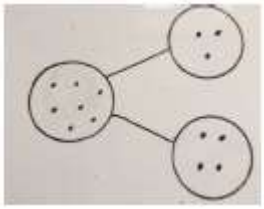
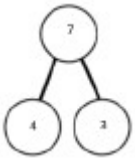
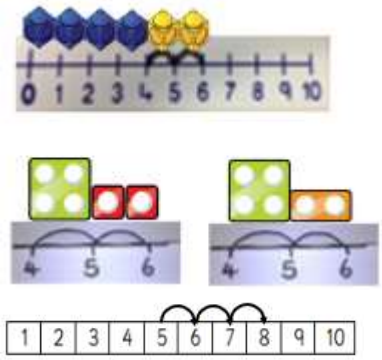
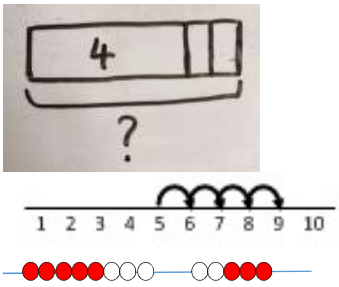
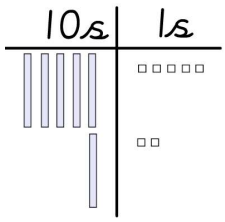
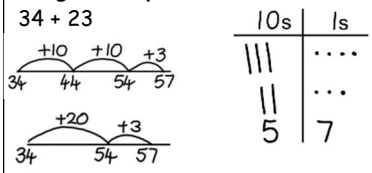
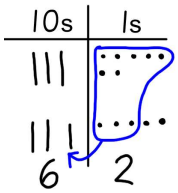
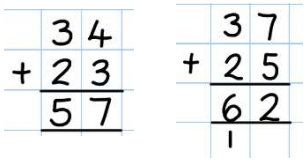
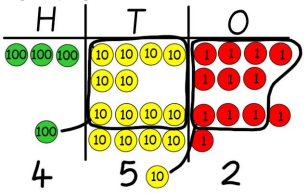
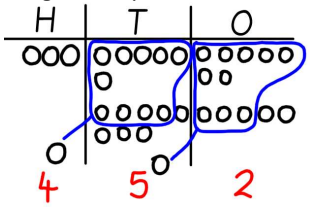
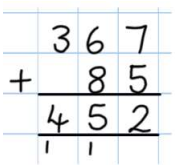
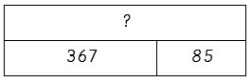
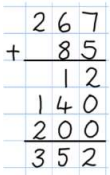
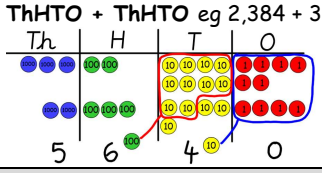
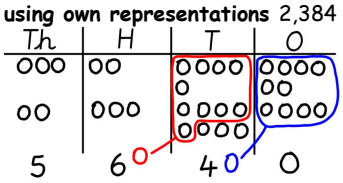
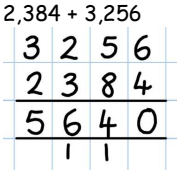
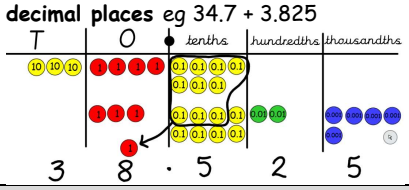
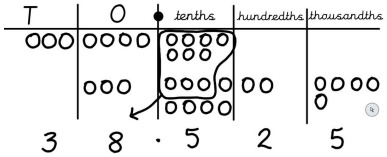
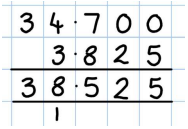
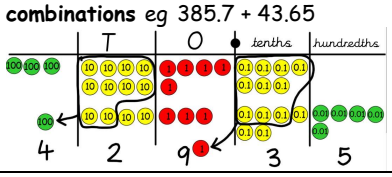
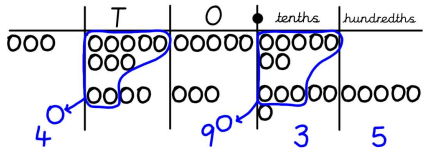
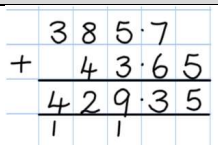
Fourfields Community Primary School

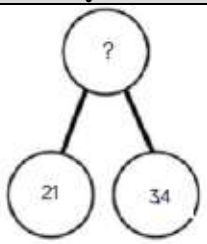
Calculation: Addition

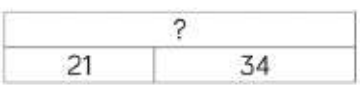
'By end of' indicates the expected standard for children achieving age-related expectations.

By	Concrete	Pictorial	Abstract
End Yr FS	**Combining two parts to make a whole** (using a variety of resources) 	**Children to represent using dots or crosses.** They could put each part on a part whole model too. 	4 + 3 = 7 4 is a part, 3 is a part and the whole is 7. 
End Yr 1	**NC** Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems.		
	Count on using number lines using cubes or Numicon. 	A bar model or number line which encourages children to **count on, rather than count all.** 	**Using an abstract number line.** What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2?
End Yr 2	**NC** Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers.		
	Use of Base 10 to add TO + O, TO + T, TO + TO, O + O + O. Start initially where no regrouping is required and move on to examples where regrouping is required. 34 + 23 = 	**Children to represent the concrete using own representations…** 34 + 23  **Leading to regrouping of ones into tens** 37 + 25 	**Introduce column method** alongside other methods taught, leading to regrouping of ones to tens. 34 + 23 = 37 + 25 = 
End Yr 3	**NC** Add numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds. Add numbers with up to three digits, using formal written methods of columnar addition.		
	Use of Base 10 and place value counters to add HTO + TO, HTO + HTO. Start initially where no regrouping is required and move on to examples where regrouping is required. 367 + 85 	**Children to represent the concrete using own representations…** 	

		If children are completing a word problem, draw a bar model to represent what it's asking them to do. 	
	In special circumstances an **expanded method** may be demonstrated and used to support children with their understanding of the more formal column method. • Add the least significant first		
End Yr 4	**NC** Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Solve simple measure and money problems involving decimals to two decimal places.		
	Use of Base 10 and place value counters to add ThHTO + HTO, ThHTO + ThHTO eg 2,384 + 3,256 	**Children to represent the concrete using own representations** 2,384 + 3,256 	2,384 + 3,256 
End Yr 5	**NC** Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.		
	Use of place value counters to add whole numbers with more than 4 digits and decimals with different number of decimal places eg 34.7 + 3.825 	**Children to represent the concrete using own representations.** 	
End Yr 6	**NC** Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.		
	As above use place value counters to represent a range of different whole number and decimal number combinations eg 385.7 + 43.65 	**Children to represent the concrete using own representations.** 385.7 + 43.65 	

Conceptual variation: different ways to ask children to solve 21 + 34





Word problems:
In year 3 there are 21 children and in year 4 there are 34 children. How many children in total?

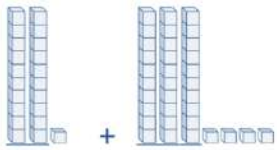
21 + 34 = 55. Prove it.

21
+34
——

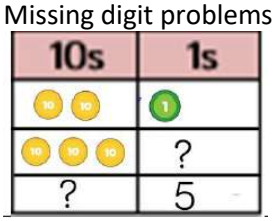
21 + 34 =

= 21 + 34

Calculate the sum of twenty-one and thirty-four.



Missing digit problems



Vocabulary:

• add • sum • total • plus	• altogether • increase • how many more	• digits • column • ones, tens, hundreds etc • tenths, hundredths etc	• regroup • exchange