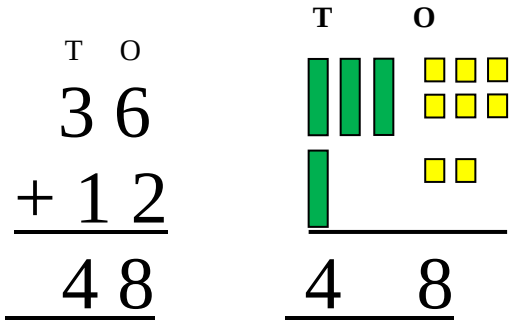
Progression of Teaching in Calculation (Addition)

Year	Progression and Method	Age Related Expectations
R	Action rhymes. Horizontal number line to 20. Counting on within 20. Adding sets of objects. Adding 2 single-digit numbers 3 + 4 = ☐ Use of +, = in number sentences. Use language for addition: add, more, together	To be able to add and record within 10
1	Counting on from any number to 100. Counting in tens from 0-100; looking at a 100 square Rapid recall of number bonds to 10. Use of fingers, beadstrings and number line for addition to 20. Use of missing number square 4+ ☐ = 7 or 9 = ☐ + 3 Solve one-step word problems that involve addition, using concrete objects and pictorial representations. Use language for addition: more than, total, altogether.	To know all number bonds to 10 To be able to add and record o + o and to + o to 20 To solve missing number problems
2	Rapid recall of number bonds to 20. Derive and use related facts up to 100. Use number bonds and multiples of 10 to add mentally. Use of Dienes blocks, tens and units boards, then column method to add within 100. So 36 + 12 =  Add 3 one-digit numbers Solve problems that involve addition, using concrete objects and pictorial representations (numbers to 100).	To know all bonds to 20 To add to + o and 10 and multiples of 10 mentally To add to + to using Dienes, then column method
3	Add units, tens and hundreds to a three-digit number mentally. Use column addition to add numbers with up to three digits.	To add hto + o, hto + t, and hto + h mentally

	367 + 85 = 367 + 85 452 11 Rounding to 10 and estimating answers. Know number bonds to 100. Add fractions with the same denominator within one whole. Solve problems, including missing number problems, using number facts, place value and addition methods (numbers to 1000). Experience of adding money, using 2 decimal places.	To be able to add to to hto and hto to hto, using column method To know all bonds to 100
4	Add units, tens, hundreds and thousands to a four-digit number mentally. Use standard column method to add numbers with up to four digits (thtu to thtu). 4728 + 3554 = **4 7 2 8** **+ 3 6 5 4** **8 3 8 2** 1 1 Understand adding money, using 2 decimal places. Rounding to 10 and 100 and estimating answers. Adapt to adding money using two decimal places Rapid recall of number bonds to 100. Add fractions with the same denominator. Solve problems, including missing number problems, using number facts, place value and addition methods (numbers to 10 000).	To add thto + o, thto + t, thto + h and thto + th mentally To be able to add thto to thto using column method To apply addition methods to adding money.
5	Add numbers mentally with increasingly large numbers. Use column method to add whole numbers with more than 4 digits. Add numbers with decimals up to 3 decimal places, in situations other than money. Add fractions with the same denominator and multiples of that denominator. Solve multi-step problems in contexts (numbers to 1 000 000). Rounding to 10, 100, 1000, 10 000 and 100 000 to estimate calculations. 789 + 642 becomes 7 8 9 + 6 4 2 1 4 3 1 1 1 Answer: 1431	To add using mental strategies To be able to add whole numbers with more than 4 digits and numbers with 2 decimal places.
6	Consolidate all the above to add using an appropriate method using numbers to 10 000 000. Addition of decimals, involving money, measures and time. Add fractions with different denominators and mixed numbers Rounding and estimating. Understanding and applying appropriate methods to solve word problems.	To select appropriate addition methods to solve word problems involving number, measures, time and money.