Addition



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| --- | --- | --- | --- | --- | --- | --- |
| **Written Methods** | Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs | *Add and subtract two two-digit numbers using concrete objects, pictorial representations progressing to formal written methods*4 6+ 2 77 31 | Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction4 2 3+ 8 85 1 11 1 | Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate2 4 5 8+ 5 9 6 3 0 5 4 1 1 1Add 1s, 10s, 100s and 1000s. Use understanding of place value to add mentally. Estimation- we can estimate to see if an answer is correct. Use base 10 to show column addition.  | Add and subtract whole numbers with more than 4 digits (including decimals), using formal written methods (columnar addition and subtraction)Estimation- we can estimate to see if an answer is correct. Use inverse to check an answer. 67 + 33 = 100100- 67 = 332 3 4 5 4+ 5 9 6 2 4 0 5 01 1 1   2 3 4. 5 8+ 7 5. 9 6 3 1 0. 5 4  1 1 1 1  | Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and whyEstimation- we can estimate to see if an answer is correct. Use inverse to check an answer. 234 + 33 = 267267 – 234 = 332 3 4 5 4+ 5 9 6 2 4 0 5 01 1 1   2 3 4. 5 8+ 7 5. 9 6 3 1 0. 5 4  1 1 1 1 |
| **Developing conceptual understanding** | Number bonds (Ten frame) Numicon Use bonds of 10 to calculate bonds of 20Count allCount on from a given number8Count on, on number track, in 1s | Number track / Number line – jumps of 1 then efficient jumps using number bonds 18 + 5 = 2346 + 27 = 73 Count in tens then bridge.25 + 29 by + 30 then -1 (Round and adjust)Partition and recombine46 + 27 = 60 + 13 = 73 24 +10 +10+10 = 54 | Number line: 264 + 158 efficient jumps40 + 80 = 120 using 4 + 8 = 12So 400 + 800 = 1200243 + 19 by +200 then -2 (Round and adjust)Pairs that make 100 = 23 + 77Place value counters, 100s, 10s, 1s 264 + 158  42Base 10 to show column addition.  |
| **With jottings****… or in your head** | Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = D – 9 | 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
 | Add and subtract numbers mentally, including: * a three-digit number and ones
* a three-digit number and tens
* a three-digit number and hundreds
 | Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | Add and subtract numbers mentally with increasingly large numbers | Perform mental calculations, including with mixed operations and large numbers |
| **Just know it!** | Represent & use number bonds and related subtraction facts within 20 Add and subtract one-digit and two- digit numbers to 20, including zero | Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 |  |  |  |  |
| **Year** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Foundations** | 1 more | 10 moreNumber bonds: 20, 12, 13 | Add multiples of 10, 100 | Add multiples of 10s , 100s, 1000s | Add multiples of 10s , 100s, 1000s, tenths, | Add multiples of 10s , 100s, 1000s, tenths, hundredths |
| Number bonds: 5, 6 | Number bonds: 14,15Add 1 digit to 2 digit by bridging. | Add single digit bridging through boundaries | Fluency of 2 digit + 2 digit | Fluency of 2 digit + 2 digit including with decimals | Fluency of 2 digit + 2 digit including with decimals |
| Number bonds: 7, 8 | Partition to add, add tens then ones | Partition numbers to add | Decimal pairs to 10 and 1 (1 decimal place) | Use number facts, bridging and place value | Use number facts, bridging and place value |
| Add 10.Number bonds: 9, 10 | Add 10 and multiples. Number bonds: 16 and 17 | Use near doubles to add | Use near doubles to add | Partition and recombine | Partition and recombine |
| Ten plus ones. Doubles up to 10 | Doubles up to 20 and multiples of 5 Add near multiples of 10. | Add near multiples of 10 and 100 by rounding and adjusting | Adjust both numbers before adding Add near multiples |  |  |
| Use number bonds of 10 to derive bonds of 11 | Number bonds: 18, 19 Partition and recombine | Partition and recombine | Partition and recombine |  |  |

Subtraction



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Written Methods** | Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs | *Add and subtract two two-digit numbers using concrete objects, pictorial representations progressing to formal written methods* 6 17 3- 4 62 7 | Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 2 3 13 4 4- 1 8 71 5 7 | Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate12 3 12 3 4 4- 1 8 7 2 1 5 7Subtract 1s, 10s, 100s and 1000s. Use understanding of place value to subtract mentally. Estimation- we can estimate to see if an answer is correct. Use base 10 to show formal subtraction.  | Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)12 3 15 2 3 4 4- 1 1 8 75 1 1 5 7Estimation- we can estimate to see if an answer is correct. Use inverse to check an answer. 67 + 33 = 100100- 67 = 33 | Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and whyEstimation- we can estimate to see if an answer is correct. Use inverse to check an answer. 234 + 33 = 267267 – 234 = 332 3 4 5 4+ 5 9 6 2 4 0 5 01 1 1   2 3 4. 5 8+ 7 5. 9 6 3 1 0. 5 4  1 1 1 1 |
| **Developing conceptual understanding** | Number bonds (Ten frame) Difference between7 and 106 less than 10 is 4Count out, then count how many are left.7 – 4 = 3Count back on a number track, then number line.15 – 6 = 9Difference between 13 and 813 – 8 = \_8 + \_ = 13Fact families | Number track / Number line – jumps of 1 then efficient jumps using number bonds 23 – 5 = 18Using a number line, 73 – 46 = 26Difference between 73 – 58 by counting up, 58 + \_ = 73Subtraction facts to 100. Taking away and exchanging,  | Place value counters and base 10 to show formal method. Difference between 73 – 58 by counting up, 58 + \_ = 73 |
| **With jottings****… or in your head** | Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = D – 9 | 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
 | Add and subtract numbers mentally, including:* a three-digit number and ones
* a three-digit number and tens
* a three-digit number and hundreds
 | Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | Add and subtract numbers mentally with increasingly large numbers | Perform mental calculations, including with mixed operations and large numbers |
| **Just know it!** | Represent and use number bonds and related subtraction facts within 20Add and subtract one-digit and two- digit numbers to 20, including zero | Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 |  |  |  |  |
| **Year** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Foundations** | 1 less | 10 lessNumber bonds, subtraction: 20, 12, 13 | Subtract multiples of 10 and 100 | Subtract multiples of 10s , 100s, 1000s | Subtract multiples of 10s , 100s, 1000s, tenths, | Subtract multiples of 10s , 100s, 1000s, tenths, hundredths |
| Number bonds, subtraction: 5, 6 | Number bonds, subtraction: 14, 15 Subtract 1 digit from 2 digit by bridging | Subtract single digit by bridging through boundaries | Fluency of 2 digit subtract 2 digit | Fluency of 2 digit - 2 digit including with decimals | Fluency of 2 digit - 2 digit including with decimals |
| Count backNumber bonds, subtraction: 7, 8 | Partition second number, count back in 10s then 1s | Partition second number to subtract | Partition second number to subtractDecimal subtraction from 10 or 1 | Partition second number to subtract | Partition second number to subtract |
| Subtract 10.Number bonds, subtraction: 9, 10 | Subtract 10 and multiples of 10Number bonds, subtraction: 16, 17 | Difference between | Difference between | Use number facts bridging and place value | Use number facts bridging and place value |
| Teens subtract 10. | Subtract near multiples of 10 | Subtract near multiples of 10 and 100 by rounding and adjusting | Subtract near multiples by rounding and adjusting | Difference between | Difference between |
| Difference between | Difference between Number bonds, subtraction: 18, 19 | Difference between | Difference between |  |  |