**Transition: Early Additive to Advanced Additive Domain: Addition and Subtraction**

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| **Achievement Objectives** | **Number and Algebra: Level Three** |
| Number Strategies:   * Use a range of additive strategies and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.   Number Knowledge:   * Know counting sequences for whole numbers. * Know how many tenths, tens, hundreds, and thousands are in whole numbers.   Equations and Expressions:   * Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality. |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Introduction to using the number line to solve change unknown problems  (Key Idea #1) |  | ***Teaching Addition and Subtraction (Book 5)***  [Jumping the Number Line](https://nzmaths.co.nz/node/932) (54) | Identify all of the numbers in the range 0 - 1 000 000. | ***Teaching Number Knowledge******(Book 4)***  [Number Fans](https://nzmaths.co.nz/node/1039) (4)  [Place Value Houses](https://nzmaths.co.nz/node/1042) (5)  [Number Hangman](https://nzmaths.co.nz/node/1043) (5)  [Arrow Cards](https://nzmaths.co.nz/node/1058) (13)  ***Figure It Out***  N3 [Number Stretches](https://nzmaths.co.nz/node/3143) (2)  NS7/8 L.1 [Aiming High](https://nzmaths.co.nz/node/4185) (4)  N7/8 L.2 [Expanding your Horizons](https://nzmaths.co.nz/node/3411) (16)  N 7/8 L.1 [Space Zapper](https://nzmaths.co.nz/node/3353) (8) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| 10 tens make one hundred and 10 hundreds make one thousand  (Key Idea #2) | 35 + 15 = 🞏.  28 + 27 = 🞏.  47 + 29 = 🞏.  67 + 34 = 🞏.  76 + 36 = 🞏.  158 + 33 = 🞏.  267 + 26 = 🞏.  484 + 39 = 🞏.  780 + 240 = 🞏.  643 + 276 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [How many ten dollar notes?](https://nzmaths.co.nz/node/917) (55)  [How many tens and hundreds?](https://nzmaths.co.nz/node/928) (56)  ***Figure It Out***  N3.3 [Banking Issues](https://nzmaths.co.nz/node/3224) (3) | Say the forwards and backwards whole number word sequences by ones, tens, hundreds, and thousands in the range 0 – 1 000 000, including finding numbers that are 10, 100, and 1 000 more or less than a given number | ***Teaching Number Knowledge (Book 4)***  [Number Fans](https://nzmaths.co.nz/node/1039) (4)  [Counting](https://nzmaths.co.nz/node/1054) (11)  [Skip-counting on a Number Line](https://nzmaths.co.nz/node/1055) (11)  [Lucky Dip](https://nzmaths.co.nz/node/873) (13)  [Using Calculators](https://nzmaths.co.nz/node/1059) (4)  ***Teaching Number Sense and Algebraic Thinking (Book 8)***  [Whole Number Rounding](https://nzmaths.co.nz/node/972) (19) |
| Solve addition and subtraction problems using place value  (Key Idea #3) | 42 - 26 = 🞏.  82 - 45 = 🞏.  71 - 39 = 🞏.  123 - 57 = 🞏.  124 - 68 = 🞏.  272 - 93 = 🞏.  486 - 157 = 🞏.  916 - 408 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [Addition and Subtraction on the Number Line](https://nzmaths.co.nz/node/25707) (56)  [Problems Like 🞏 + 29 = 81](https://nzmaths.co.nz/node/25706) (57)  ***Figure It Out***  N2.1 [Hip Hup Hop](https://nzmaths.co.nz/node/3058) (8)  N2.1 [Weka Wobble](https://nzmaths.co.nz/node/3060) (11)  N2.1 [What’s My Number](https://nzmaths.co.nz/node/3068) (16)  N3.3 [Slippery Slope](https://nzmaths.co.nz/node/3227) (8)  N3-4.1 [Money Everywhere](https://nzmaths.co.nz/node/3249) (1)  NS&AT3.1 [Megabytes of Memory](https://nzmaths.co.nz/node/4066) (4)  N7/8 L.1 [Firewood Fever](https://nzmaths.co.nz/node/3361) (16)  N7/8 L.1 [Space Zapper](https://nzmaths.co.nz/node/3353) (8)  N7/8 L.1 [Fund-raising](https://nzmaths.co.nz/node/3349) (6) | Read decimals with tenths, count forwards and backwards in tenths, order decimals with tenths. | ***Teaching Number Knowledge (Book 4)***  [Card Ordering](https://nzmaths.co.nz/node/1057) (12)  [Arrow Cards](https://nzmaths.co.nz/node/1058) (13)  [Rocket- Where Will I Fit](https://nzmaths.co.nz/node/1060) (14)  [Number Line Flips](https://nzmaths.co.nz/node/1061) (15)  [Squeeze – Guess My Number](https://nzmaths.co.nz/node/1064) (15) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Solve addition and subtraction problems by using rounding and compensating  (Key Idea # 4) | 35 + 19 = 🞏 as 34 + 20 = 🞏.  48 + 49 = 🞏 as 50 + 50 - 3 = 🞏.  65 + 97 = 🞏 as 62 + 100 = 🞏.  298 + 397 = 🞏 as 300 + 400 - 5 = 🞏.  78 + 387 = 🞏 as 65 + 400 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [When One Number is Near One Hundred](https://nzmaths.co.nz/node/942) (58)  [Problems Like 73 – 19 = 🞏](https://nzmaths.co.nz/node/940)  (59)  [Problems Like 23 + 🞏 = 71](https://nzmaths.co.nz/node/931) (60)  [Problems Like 🞏 + 29 = 81](https://nzmaths.co.nz/node/25706) (60) | Read decimals with tenths, count forwards and backwards in tenths, order decimals with tenths. | ***Teaching Number Knowledge (Book 4)***  [Card Ordering](https://nzmaths.co.nz/node/1057) (12)  [Arrow Cards](https://nzmaths.co.nz/node/1058) (13)  [Rocket - Where will I fit](https://nzmaths.co.nz/node/1060) (14)  [Number Line Flips](https://nzmaths.co.nz/node/1061) (15)  [Squeeze – Guess My Number](https://nzmaths.co.nz/node/1064) (15) |
| Addition and subtraction are inversely related  (Key Idea #5) | 43 – 39 = 🞏 as 39 + 🞏 = 43  83 – 76 = 🞏 as 76 + 🞏 = 83  91 – 68 = 🞏 as 68 + 🞏 = 91  203 – 187 = 🞏 as 187 + 🞏 = 203  783 - 395 = 🞏 as 395 + 🞏 = 783 | ***Teaching Addition and Subtraction (Book 5)***  [Don’t Subtract – Add!](https://nzmaths.co.nz/node/933) (61)  ***Figure It Out***  BF3 [Array Puzzles](https://nzmaths.co.nz/node/2886) (8) | Recall groupings within 1000, e.g., 240 + 760. | ***Teaching Number knowledge (Book 4)***  [Traffic Lights](https://nzmaths.co.nz/node/1079) (25)  [Zap](https://nzmaths.co.nz/node/1081) (26)  ***Figure It Out***  N 3.3 [Crazy Compatibles](https://nzmaths.co.nz/node/3221) (1)  NS 7/8 L.1 [Writing 1000](https://nzmaths.co.nz/node/4193) (14)  N 7/8 L.1 [Jungle Land](https://nzmaths.co.nz/node/3352) (7) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Solve subtraction problems with the mental strategy of equal adjustments  (Key Idea # 6) | 53 – 19 = 🞏,  as 53 – 20 + 1 = 🞏.  82 – 48 = 🞏,  as 82 – 50 + 2 = 🞏.  185 – 96 = 🞏,  as 185 – 100 + 4 = 🞏.  453 – 289 = 🞏,  as 453 – 300 + 11 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [Equal Additions](https://nzmaths.co.nz/node/934) (62)  ***Figure It Out***  N3.2 [Tracking Toroa](https://nzmaths.co.nz/node/3200) (1)  NS&AT3.1 [Tidying Up](https://nzmaths.co.nz/node/4065) (2) | Record the results of mental calculation using addition and subtraction equations and diagrams | ***Teaching Number knowledge (Book 4)***  [Bridges](https://nzmaths.co.nz/node/1093) (35)  ***Figure It Out***  NS 7/8 1 [Different Approaches](https://nzmaths.co.nz/node/4197) (17)  NS 7/8 2 [Short Cuts](https://nzmaths.co.nz/node/4210)  (1) |
| Choosing wisely  (Key Idea #7) | 65 + 79 = 🞏  94 – 78 = 🞏  345 + 656 = 🞏  84 – 56 = 🞏  603 - 287 = 🞏  286 + 🞏 = 942  🞏 - 429 = 831 | ***Teaching Addition and Subtraction (Book 5)***  [Mixing the Methods- Mental Exercises for the Day](https://nzmaths.co.nz/node/943) (63)  [Mixing the methods – mental exercises for the day](https://nzmaths.co.nz/node/943) (63) | Recall how many tens and hundreds there are in four-digit numbers. | ***Teaching Number knowledge (Book 4)***  [Close to 100](https://nzmaths.co.nz/node/1077) (24)  [Tens in Hundreds and More](https://nzmaths.co.nz/node/1082) (27)  ***Figure It Out***  N 3.3 [Banking Issues](https://nzmaths.co.nz/node/3224) (3)  N 3-4 [Money Everywhere](https://nzmaths.co.nz/node/3249) (1)  NS 7/8 1 [Aiming High](https://nzmaths.co.nz/node/4185) (4) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Using the standard written form to solve addition and subtraction problems  (Key Idea #8) | 46 93  + 38 - 57  537 714  + 429 - 267 | ***Teaching Addition and Subtraction (Book 5)***  [A Standard Written Form for Addition](https://nzmaths.co.nz/node/1032) (64)  [Decomposition – a Written Form for Subtraction](https://nzmaths.co.nz/node/1033) (65)  [Large Numbers Roll Over](https://nzmaths.co.nz/node/935) (66)  [Mental or Written?](https://nzmaths.co.nz/node/936) (66) | Carry out column addition and subtraction with whole numbers of up to four digits | ***Teaching Number knowledge (Book 4)***  [Close to 100](https://nzmaths.co.nz/node/1077) (24)  ***Figure It Out***  N 2-3 [Maps and Magic](https://nzmaths.co.nz/node/3120) (10)  N 3-4 [Head Cases](https://nzmaths.co.nz/node/3260) (13) |
|  |  |  | Round whole numbers to the nearest ten, hundred, or thousand | ***Teaching Number knowledge*** *(Book 4)*  [Swedish Rounding](https://nzmaths.co.nz/node/1083) (28)  ***Figure It Out***  BF 3 [Steeplechase](https://nzmaths.co.nz/node/2899) (23) |

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| **Knowledge being developed** | **Resources** |
| Recall addition and subtraction facts to 20. | ***Teaching Number knowledge (Book 4)***  [Number Boggle](https://nzmaths.co.nz/node/1089) (33)  [Tens Frames Again](https://nzmaths.co.nz/node/1090) (34)  [Number Mats and Number Fans](https://nzmaths.co.nz/node/1092) (34)  [Bowl a Fact](https://nzmaths.co.nz/node/1094) (35)  [Loopy](https://nzmaths.co.nz/node/1097) (37)  [Addition Flash Cards](https://nzmaths.co.nz/node/1098) (37)  ***Figure It Out***  BF 2-3 [Takeaway Numbers](https://nzmaths.co.nz/node/2865) (12)  BF 3-4 [Bunches](https://nzmaths.co.nz/node/2903) (1)  BF 3-4 [Diamond Dazzle](https://nzmaths.co.nz/node/2906) (4)  BF 3-4 [Face Totals](https://nzmaths.co.nz/node/2925) (18) |
| Order whole numbers in the range 0-1 000 000. | ***Teaching Number Knowledge* *(Book 4)***  [Card Ordering](https://nzmaths.co.nz/node/1057) (12)  [Arrow Cards](https://nzmaths.co.nz/node/1058) (13)  [Rocket- Where Will I Fit](https://nzmaths.co.nz/node/1060) (14)  [Number Line Flips](https://nzmaths.co.nz/node/1061) (15)  [Squeeze – Guess My Number](https://nzmaths.co.nz/node/1064) (15)  [Hundreds Boards and Thousands Book](https://nzmaths.co.nz/node/1065) (16)  [Bead Strings](https://nzmaths.co.nz/node/1066) (17)  [Who is the Richest?](https://nzmaths.co.nz/node/1067) (18)  ***Figure It Out***  N 3.2 [Playing For Points](https://nzmaths.co.nz/node/3202) (4)  N 7/8 4.3 [Exploration to Earth](https://nzmaths.co.nz/node/3438) (22) |