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

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| **Achievement Objectives** | **Number and Algebra: Level Two** |
| Number Strategies:   * Use simple additive strategies with whole numbers and fractions   Number Knowledge:   * Know forward and backward counting sequences with whole numbers to at least 1000. * Know the basic addition and subtraction facts. * Know how many ones, tens, and hundreds are in whole numbers to at least 1000.   Equations and Expressions:   * Communicate and interpret simple additive strategies, using words, diagrams [pictures], and symbols. |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Our number system is based on ten.  (Key Idea #1)  Basic fact knowledge can be used to add and subtract tens.  (Key Idea #2) | 30 + 40 = 🞏,  so 34 + 42 = 🞏.  50 + 40 = 🞏,  so 53 + 43 = 🞏  and 45 + 55 = 🞏.  60 – 30 = 🞏,  so 64 – 32 = 🞏.  80 – 50 = 🞏,  so 84 – 51 = 🞏  and 88 – 54 = 🞏.  30 + 20 + 40 = 🞏,  so 32 + 25 + 41 = 🞏 | **T*eaching Addition and Subtraction (Book 5)***  [More Ones and Tens](https://nzmaths.co.nz/node/901) (38)  [Adding Ones and Tens](https://nzmaths.co.nz/node/904) (38)  [Subtracting Ones and Tens](https://nzmaths.co.nz/node/902) (39)  ***BSM***  12-1-9, 12-1-55, 12-1-5612-1-86  ***Figure It Out***  N2.1 [Shaker Makers](https://nzmaths.co.nz/node/3054) (4)  N2.1 [How Old?](https://nzmaths.co.nz/node/3055) (5)  N2.1 [Mighty Marty!](https://nzmaths.co.nz/node/3056) (6)  N2.2 [Hunting the Taniwha](https://nzmaths.co.nz/node/3083) (7)  N2.2 [Leapfrog](https://nzmaths.co.nz/node/3087) (12)  N2-3 [Putting Numbers to Work](https://nzmaths.co.nz/node/3103) (2)  N2-3 [Going Up](https://nzmaths.co.nz/node/3118) (8)  N3-4.1 [Disappearing Dollars](https://nzmaths.co.nz/node/3271) (24)  N7/8 l.1 [Down with Darts](https://nzmaths.co.nz/node/3362) (18)  N7/8 L.1 [Absolutely Abseiling](https://nzmaths.co.nz/node/3363) (19) | Identify all of the numbers in the range 0-1000 | ***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)  ***Figure It Out***  N 2-3 [What’s My Number?](https://nzmaths.co.nz/node/23621) (3)  N 2-3 [Digit Time](https://nzmaths.co.nz/node/3114) (5)  N 2-3 [Going Up](https://nzmaths.co.nz/node/3118) (8)  NS 7/8 L.1 [Aiming High](https://nzmaths.co.nz/node/4185) (4) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Numbers can be rearranged and combined to make ten.  (Key Idea #3)  Addition is associative, so addends can be re-grouped to solve a problem more efficiently.  (Key Idea #6) | 4 + 6 = 🞏, so 4 + 6 + 4 + 6 = 🞏.  7 + 3 = 🞏, so 7 + 5 + 5 + 3 = 🞏.  8 + 4 + 6 + 3 + 2 + 7 = 🞏,  2 + 4 + 9 + 6 = 🞏,  3 + 8 + 6 + 7 + 2 + 4 = 🞏,  50 + 40 + 60 + 50 + 30 = 🞏.  4 + 17 + 26 + 3 + 8 = 🞏 | ***Teaching Addition and Subtraction (Book 5)***  [Make Ten](https://nzmaths.co.nz/node/908) (working with ten) (40)  [Compatible Numbers](https://nzmaths.co.nz/node/909) (44) | Say the forwards and backwards number word sequences by ones, tens, and hundreds in the range 0-1000.  Say the number 1, 10, or 100 more or less than a given number in the range 0-1000. | ***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) (14)  ***BSM***  12-3-3, 12-3-4, 12-3-81, 12-3-82  ***Figure It Out***  N 2.2 (2) [Fan-tastic Numbers](https://nzmaths.co.nz/node/3078) |
| Addition and subtraction problems can be solved by partitioning one of the numbers to go up or back through ten.  (Key Idea #4)  Subtraction problems can be solved by going back through ten, partitioning numbers rather than counting back  (Key Idea #5) | 9 + 6 as 10 + 5 = 🞏.  6 + 8 as 4 + 10 = 🞏.  18 + 7 as 20 + 5 = 🞏.  59 + 8 as 60 + 7 = 🞏.  6 + 87 as 3 + 90 = 🞏.  97 + 6 as 100 + 3 = 🞏.  38 + 298 as 36 + 300 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [Adding in Parts](https://nzmaths.co.nz/node/913) (working through ten) (41)  [Subtraction in Parts](https://nzmaths.co.nz/node/915) (subtracting back through ten) (42)  ***Figure It Out***  N2.2 [Counting Counts](https://nzmaths.co.nz/node/3085) (10)  N2.2 [On and Off the Train](https://nzmaths.co.nz/node/3089) (14)  NS&AT2-3.2 [Make 28](https://nzmaths.co.nz/node/4058) (14)  BF3 [Animal Antics](https://nzmaths.co.nz/node/2880) (1)  BF3 [Carrot Country](https://nzmaths.co.nz/node/2884) (6)  BF3-4 [Diamond Dazzle](https://nzmaths.co.nz/node/2906) (4)  BF3-4 [Bunches](https://nzmaths.co.nz/node/2903) (1)  BF3-4 [Magical Tens](https://nzmaths.co.nz/node/2912) (11)  BF3-4 [Face Totals](https://nzmaths.co.nz/node/2925) (18)  N7/8 L.1 [King of the Castle](https://nzmaths.co.nz/node/3360) (15) | Recall the number of tens and hundreds in centuries and thousands. | ***Teaching Number Knowledge (Book 4)***  Close to 100 (24)  [Tens in Hundreds and More](https://nzmaths.co.nz/node/1082) (27) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Change unknown problems can be solved by using place-value knowledge of tens and ones or by partitioning through tens.  (Key Idea #7) | 7 + ☐ = 13  16 + ☐ = 25  67- ☐ = 21  68 + ☐ = 75  31 + ☐ = 73  200 - ☐ = 156 | ***Teaching Addition and Subtraction (Book 5)***  [Up Over Ten](https://nzmaths.co.nz/node/910) (change unknown working through ten) (45)  [The missing ones and tens](https://nzmaths.co.nz/node/916) (46)  [Problems like 37 + 🞏 = 79](https://nzmaths.co.nz/node/929) (change unknown with tens) (46)  [Problems like 67 - 🞏 = 34](https://nzmaths.co.nz/node/939) | Record the results of addition calculations, using equations and diagrams. | ***Teaching Number Knowledge (Book 4)***  Close to 100 (24)  N 3-4 [Disappearing Dollars](https://nzmaths.co.nz/node/3271) (24) |
| Subtraction can be used to solve difference problems in which two amounts are being compared.  (Key Idea #8) | 12 – 4  42 – 4  5 + ☐ = 11  so 11 – 5 = ☐  68 + ☐ = 77  so 77 – 68 = ☐ | ***Teaching Addition and Subtraction (Book 5)***  [Comparisons: Finding Difference in Data](https://nzmaths.co.nz/node/25708) (48)  [More comparisons: Comparing Heights](https://nzmaths.co.nz/node/911) (49) | Order numbers in the range 0-1000. | ***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) (15)  [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)  ***BSM***  10-3-86, 11-3-3, 11-3-42  ***Figure It Out***  N 2-3 [On the Cards](https://nzmaths.co.nz/node/3117) (7)  NS 7/8 L.1 [Up the Ladder](https://nzmaths.co.nz/node/4195) (15) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| Knowledge of doubles can be used to work out problems close to a double.  (Key Idea #9) | 3 + 3 = 🞏 so 4 + 3 = 🞏.  7 + 7 = 🞏 so 7 + 8 = 🞏,  6 + 7 = 🞏, 14 – 7 = 🞏.  8 + 8 = 🞏 so 16 – 7 = 🞏,  16 – 9 = 🞏, 15 – 8 = 🞏.  25 + 25 = 🞏 so 26 + 27 = 🞏,  23 + 27 = 🞏, 50 – 24 = 🞏.  500 + 500 = 🞏 so 503 + 501 = 🞏,  498 + 497 = 🞏, 501 – 498 = 🞏. | ***Teaching Addition and Subtraction (Book 5)***  [Near Doubles](https://nzmaths.co.nz/node/937) (49)  ***Figure It Out***  N2.1 [Helping Hands](https://nzmaths.co.nz/node/3053) (3)  N2.2 [It’s Not Fair](https://nzmaths.co.nz/node/3090) (15)  BF2.3 [Fizzing It Up](https://nzmaths.co.nz/node/2858) (5) | Recall groupings within 100, e.g. 49 and 51 (particularly multiples of 5 e.g. 25 & 75)  Recall the number of groupings of tens that can be made from a three-digit number | ***Teaching Number Knowledge (Book 4)***  [Traffic Lights](https://nzmaths.co.nz/node/1079) (25)  [Zap](https://nzmaths.co.nz/node/1081) (26)  [Nudge](https://nzmaths.co.nz/node/1078) (24)  [Slavonic Abacus](https://nzmaths.co.nz/node/1076) (23)  [Tens and Ones](https://nzmaths.co.nz/node/883) (23)  ***BSM***  11-3-4, 11-3-5, 11-3-43, 11-3-44, 11-3-45, 11-3-81, 11-3-82, 12-1-1, 12-1-2, 12-1-41, 12-1-82, 12-1-83  ***Figure It Out***  N 2.1 [Different Strokes!](https://nzmaths.co.nz/node/3052) (2)  N 2.1 [Mighty Marty!](https://nzmaths.co.nz/node/3056) (6)  N 2.2 [All that Glitters](https://nzmaths.co.nz/node/3079) (3)  N 2.2 [Leapfrog](https://nzmaths.co.nz/node/3087) (12)  N 2.2 [Hitting 100](https://nzmaths.co.nz/node/3080) (4)  N 2-3 [Putting Numbers to Work](https://nzmaths.co.nz/node/3103) (2) |

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| **Key Teaching Ideas** | **Problem progression** | **References** | **Knowledge being developed** | **Resources** |
| The equals sign represents balance.  (Key Idea #10) | 6 +1 = 5 + ☐  2 + 4 = ☐ + 3  ☐ + 12 = 15 + 13  42 + 38 = ☐ + 32  ☐ + 65 = 67 + 33  585 – 35 = ☐ - 34 | ***Teaching Addition and Subtraction (Book 5)***  [A Balancing Act](https://nzmaths.co.nz/node/1104) (50) | 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)  [Bridges](https://nzmaths.co.nz/node/1093) (35)  [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)  ***BSM***  9-3-6, 9-3-7, 9-3-48, 9-3-83, 9-3-84, 10-3-6, 10-3-8, 10-3-10, 10-3-46, 10-3-47, 10-3-52, 10-3-53, 10-3-54, 11-1-8, 11-1-9, 11-1-52, 11-1-53, 11-1-83, 11-1-84, 11-3-52, 11-3-53, 11-3-84, 12-1-7, 12-1-52, 12-1-85, 12-3-2, 12-3-45, 12-3-46, 12-3-47, 12-3-8, 12-3-52,  12-3-53, 12-3-85  ***Figure It Out***  N 2.1 [Frogs Frolic](https://nzmaths.co.nz/node/3075) (22)  BF 2-3 [Quick Add](https://nzmaths.co.nz/node/2820) (3)  BF 2-3 [Add it On](https://nzmaths.co.nz/node/2859) (6)  BF 2-3 [Twenty-Seven](https://nzmaths.co.nz/node/2868) (15)  BF 2-3 [Stay on Line](https://nzmaths.co.nz/node/2873) (19)  BF 2-3 [Testing Triangles](https://nzmaths.co.nz/node/2817) (21)  BF 3 [Beat Yourself Down](https://nzmaths.co.nz/node/2881) (2)  BF 3 [Give or Take](https://nzmaths.co.nz/node/2883) (5)  BF 3 [Four in a Row](https://nzmaths.co.nz/node/2885) (7)  BF 3 [Array Puzzles](https://nzmaths.co.nz/node/2886) (8)  N 2-3 [Going Down](https://nzmaths.co.nz/node/3119) (9)  N 3.3 [Skimming Stones](https://nzmaths.co.nz/node/3225) (4) |

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| **Knowledge being developed** | **Resources** |
| Round three-digit whole numbers to the nearest 10, or hundred | ***BSM***  12-1-6, 12-1-46 |
| Recall the multiples of 100 that add to 1000, e.g. 400 and 600. | ***BSM***  12-1-3, 12-1-4, 12-1-42, 12-1-43 |