**Transition: Moving from One-to-one Counting to Counting from One on Materials and by Imaging**

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**Domain: Addition and Subtraction**

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| **Achievement Objectives** | **Number and Algebra: Level One** |
| Number Strategies:   * Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions   Number Knowledge:   * Know the forward and backward counting sequences of whole numbers to 100. * Know the groupings with five, within ten, and with ten.   Equations and Expressions:   * Communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers and pictures.   Patterns and Relationships:   * Generalise that the next counting number gives the result of adding one object to a set and that counting the number of objects in a set tells how many. |

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| **Key Teaching Ideas** | **Example Problems** | **References** | **Knowledge being developed** | **Resources** |
| The number of objects in the set stays the same, regardless of spatial arrangement  (Key Idea #1) | Count them in the egg tray 1, 2, 3, 4  Count them on the tens frame 1, 2, 3, 4 | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Animals on the Farm](https://nzmaths.co.nz/node/25699) (18) | Identify numbers in the range 0–20, at least. | ***BSM***  2-1-5, 6-1-7, 6-1-9, 6-3-2, 6-3-3, 6-3-4, 6-3-5, 6-3-6, 6-3-7, 6-3-22, 6-3-43, 6-3-44, 6-3-45, 6-3-46, 6-3-49, 6-3-50, 6-3-81, 6-3-83, 7-1-1, 7-1-2, 7-1-41, 7-1-42, 7-1-43, 7-3-4, 7-3-9, 7-3-45, 7-4-46, 8-1-4, 8-1-43, 8-1-44, 8-1-53,  11-1-6, 11-1-47, 11-1-82 |
| Addition and subtraction problems that involve numbers up to five can be solved by physically counting all the objects from one or mentally counting the objects  (Key Idea #2) | 2 + 3  1 + 3  4 – 2  5 - 0 | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Adding and Subtracting with One Hand](https://nzmaths.co.nz/node/880) (19)  ***BSM***  How Many Left Outside? 8-1-53 (28)  Mini Skittles 8-1-85 (29) | Say the forward and backward number word sequences in the range 0–20, at least. | ***Teaching Number Knowledge***  ***(Book 4)***  [Counting](https://nzmaths.co.nz/node/1054) (11)  [Number Line Flips](https://nzmaths.co.nz/node/1061) (15) |

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| **Key Teaching Ideas** | **Example Problems** | **References** | **Knowledge being developed** | **Resources** |
| Addition and subtraction problems that involve five as one of the numbers can be solved by physically counting all the objects from one or mentally counting the objects  (Key Idea #3) | 5 + 2  3 + 5  7 – 5  10 - ☐ = 5 | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Murtles 5 and…](https://nzmaths.co.nz/node/877) (21)  [Fly Flip](https://nzmaths.co.nz/node/1034) (21)  [Using Fives](https://nzmaths.co.nz/node/878) (22) | Order numbers in the range 0–20, at least. | ***Teaching Number Knowledge***  ***(Book 4)***  [Counting](https://nzmaths.co.nz/node/1054) (11)  [Number Line Flips](https://nzmaths.co.nz/node/1061) (15)  ***BSM***  7-1-4, 7-1-5, 7-1-46, 7-1-48,  7-1-81, 7-1-82, 7-3-3, 7-3-44, 8-1-6, 8-3-3, 8-3-4, 8-3-5, 8-3-44, 8-3-45, 8-3-46 |
| Addition and subtraction problems that involve numbers up to ten can be solved by physically counting all the objects from one or mentally counting the objects  (Key Idea #4) | 3 + 4  2 + 6  7 – 5  9 – ☐ = 7 | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Adding and subtracting with counters or hands](https://nzmaths.co.nz/node/874) (23)  ***BSM***  Setting foot on Cigol 9-1-14 (41)  Milking the Cows 9-3-13 (122) | Instantly recognise patterns to ten (doubles and five based), including finger and tens frame patterns. | ***BSM***  7-1-49, 7-1-50, 7-1-51, 7-1-83, 8-1-5, 8-1-7, 8-1-46, 8-1-47, 8-1-48, 8-1-49, 8-1-82, 9-1-6, 9-1-12, 9-1-13, 9-1-43, 9-1-44, 9-1-50, 9-1-51, 9-1-52, 9-1-53, 9-1-54, 9-1-85, 9-1-86 |
| Addition and subtraction problems that involve ten as one of the numbers can be solved by physically counting all the objects from one or mentally counting the objects  (Key Idea #5) | 7 + ☐ + 10  10 – 3 = ☐ | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Making Tens](https://nzmaths.co.nz/node/891) (25) | Recall facts within five and doubles to ten. |  |
| Place value is developed by connecting physical models, words, and symbols  (Key Idea #6) | Bundling the tens in 15 sticks and finding 1 bundle of ten and 5 left over.  15 is one ten and 5 ones | ***Teaching Addition, Subtraction, and Place Value (Book 5)***  [Read Say Do: 10-19](https://nzmaths.co.nz/node/25701) (26)  ***BSM***  Our System 9-19 (30)  Houses for Earthlings 9-1-10 (31)  Place-value Snap 9-1-48 (32) |  |  |