

This resource has been put together using Number Talks: Helping Children Building Mental Math and Computation Strategies (Parrish, 2010). It is recommended that you begin by reading through the book and articles provided during Professional Development, and/or received training on Math Talks.

## **Chapter 6: How Do I Design Purposeful Addition and Subtraction Number Talks in the 3-5 Classroom?**

### **Addition Number Talks**

- Making Tens
- Making Landmark or Friendly Numbers
- Doubles/Near-Doubles
- Breaking Each Number into Its Place Value
- Adding Up in Chunks

### **Subtraction Number Talks**

- Removal or Counting Back
- Adding Up
- Removal
- Place Value and Negative Numbers
- Adjusting One Number to Create an Easier Problem
- Keeping a Constant Difference

## Addition Number Talks: Making Tens

*Developing fluency with number combinations that make ten is an important focus in the primary grades. By the end of second grade, students should be able to break numbers apart quickly to make ten. The focus of this strategy is to be able to use fluency with ten to expedite adding.*

### Category 1: Two addends that make a quick ten

$7 + 3$ $7 + 5 + 3$ $3 + 6 + 7$	$5 + 5$ $5 + 6 + 5$ $5 + 9 + 5$	$9 + 5 + 1$ $8 + 9 + 1$ $1 + 4 + 9$
$8 + 2$ $2 + 4 + 8$ $8 + 3 + 2$	$9 + 1$ $9 + 7 + 1$ $1 + 6 + 9$	$2 + 5 + 8$ $4 + 7 + 6$ $5 + 5 + 8$
$6 + 4$ $4 + 9 + 6$ $6 + 8 + 4$	$3 + 5 + 7$ $6 + 5 + 4$ $2 + 9 + 8$	$3 + 8 + 7$ $9 + 1 + 2$ $4 + 9 + 6$

### Category 2: Two pairs of numbers that make a quick ten

$4 + 6 + 8 + 2$ $9 + 3 + 1 + 7$ $5 + 6 + 5 + 4$	$3 + 8 + 2 + 7$ $4 + 4 + 6 + 6$ $9 + 1 + 1 + 9$	$5 + 3 + 5 + 4 + 7$ $9 + 5 + 8 + 2 + 1$ $4 + 5 + 6 + 3 + 7$
$3 + 9 + 7 + 1$ $2 + 9 + 8 + 1$ $6 + 4 + 3 + 7$	$5 + 7 + 3 + 5$ $2 + 5 + 5 + 8$ $6 + 6 + 4 + 4$	$3 + 8 + 5 + 5 + 2$ $9 + 1 + 6 + 3 + 4$ $7 + 2 + 3 + 5 + 8$
$4 + 8 + 2 + 6$ $1 + 9 + 2 + 8$ $5 + 3 + 7 + 5$	$3 + 7 + 8 + 2$ $1 + 1 + 9 + 9$ $3 + 7 + 7 + 3$	$2 + 6 + 8 + 3 + 4$ $9 + 3 + 1 + 5 + 5$ $4 + 8 + 6 + 2 + 7$

**Category 3: Making a quick ten by at least decomposing one of the numbers**

$9 + 1$ $9 + 1 + 4$ $9 + 5$ $9 + 8$	$8 + 2$ $8 + 2 + 3$ $8 + 5$ $8 + 4$	$7 + 3$ $7 + 3 + 2$ $7 + 5$ $7 + 6$
$10 + 5$ $9 + 5$ $10 + 7$ $9 + 7$	$10 + 5$ $8 + 5$ $10 + 7$ $8 + 7$	$10 + 6$ $7 + 6$ $10 + 4$ $7 + 4$
$9 + 3$ $9 + 5$ $9 + 8$ $9 + 9$	$8 + 2$ $8 + 5$ $8 + 4$ $8 + 7$	$7 + 3$ $7 + 6$ $7 + 4$ $7 + 5$
$10 + 14$ $9 + 14$ $10 + 23$ $9 + 23$	$10 + 12$ $8 + 12$ $10 + 23$ $8 + 23$	$10 + 13$ $7 + 13$ $10 + 25$ $7 + 25$

## Addition Number Talks: Making Landmark or Friendly Numbers

Landmark or friendly numbers are numbers that are easy to use in mental computation. Multiples of ten, one hundred, one thousand, and so on, as well as twenty-five and fifty, are examples of numbers that fall in this category.

Ex.  $116 + 118$   
 $+ 2$

$$116 + 120 = 236$$

$$236 - 2 = 234$$

### Category 1: One away from a landmark or friendly number

$19 + 2$ $19 + 5$ $19 + 8$ $19 + 12$	$39 + 16$ $28 + 39$ $59 + 13$ $23 + 49$	$46 + 59$ $33 + 69$ $58 + 39$ $76 + 24$
$9 + 8$ $19 + 5$ $9 + 26$ $16 + 19$	$25 + 25$ $25 + 26$ $24 + 26$ $26 + 49$	$37 + 69$ $79 + 26$ $89 + 28$ $99 + 19$
$7 + 19$ $16 + 29$ $19 + 18$ $29 + 33$	$49 + 8$ $49 + 23$ $49 + 37$ $49 + 51$	$99 + 5$ $99 + 15$ $99 + 26$ $99 + 51$

**Category 2: One Addend is two away from a multiple of ten or a landmark number**

$8 + 5$ $8 + 13$ $8 + 24$ $18 + 7$	$18 + 63$ $38 + 37$ $67 + 28$ $48 + 52$	$98 + 5$ $98 + 13$ $98 + 34$ $98 + 52$
$8 + 4$ $18 + 6$ $28 + 17$ $27 + 18$	$48 + 6$ $48 + 17$ $23 + 48$ $48 + 47$	$8 + 4 + 18$ $18 + 4 + 18$ $28 + 5 + 27$ $24 + 3 + 48$
$28 + 16$ $25 + 38$ $23 + 27$ $28 + 45$	$58 + 36$ $24 + 78$ $88 + 14$ $68 + 33$	$48 + 4 + 48$ $48 + 49 + 3$ $98 + 97 + 5$ $99 + 98 + 97 + 5$

**Category 3: Two- and three-digit addends; one or more away from a multiple of ten or a landmark number**

$99 + 38$ $98 + 47$ $98 + 99$ $99 + 99 + 5$	$116 + 29$ $39 + 127$ $114 + 118$ $46 + 118$	$119 + 119$ $149 + 149$ $129 + 139$ $199 + 199$
$119 + 26$ $118 + 17$ $129 + 16$ $124 + 26$	$198 + 7$ $199 + 13$ $148 + 27$ $139 + 43$	$249 + 22$ $248 + 49$ $225 + 49$ $299 + 26$
$36 + 109$ $49 + 108$ $119 + 48$ $126 + 124$	$128 + 34$ $119 + 36$ $56 + 129$ $126 + 49$	$999 + 99$ $998 + 49$ $997 + 199$ $199 + 99 + 49$

## Addition Number Talks: Doubles/Near-Doubles

*Beginning as early as kindergarten, children are able to recall sums for many doubles. This strategy capitalizes on this strength and adjusting one or both numbers to make doubles or a near-doubles combination.*

### Category 1: Doubles up to twenty

$5 + 5$ $5 + 6$ $5 + 7$ $5 + 8$	$8 + 8$ $8 + 7$ $8 + 9$ $8 + 6$	$16 + 16$ $17 + 17$ $17 + 18$ $16 + 17$
$6 + 6$ $5 + 6$ $6 + 7$ $6 + 8$	$9 + 9$ $8 + 9$ $8 + 8$ $8 + 7$	$18 + 18$ $18 + 19$ $18 + 17$ $19 + 19$
$7 + 7$ $6 + 7$ $7 + 8$ $7 + 9$	$15 + 15$ $15 + 16$ $17 + 15$ $15 + 18$	$20 + 20$ $19 + 19$ $18 + 18$ $19 + 18$

### Category 2: Doubles with two-digit numbers

$20 + 20$ $19 + 19$ $19 + 18$ $19 + 17$	$30 + 30$ $29 + 29$ $29 + 28$ $28 + 27$	$45 + 45$ $46 + 45$ $46 + 46$ $45 + 47$
$25 + 25$ $24 + 25$ $25 + 26$ $26 + 27$	$35 + 35$ $35 + 36$ $34 + 35$ $36 + 37$	$50 + 50$ $49 + 49$ $48 + 49$ $49 + 52$
$25 + 25$ $25 + 28$ $24 + 27$ $24 + 28$	$40 + 40$ $39 + 39$ $39 + 38$ $38 + 37$	$100 + 100$ $99 + 99$ $99 + 98$ $99 + 97$

**Category 3: Doubles With Two- and Three-digit numbers.**

$100 + 100$ $99 + 99$ $98 + 99$ $97 + 99$	$200 + 200$ $199 + 199$ $198 + 199$ $198 + 198$	$400 + 400$ $399 + 399$ $398 + 399$ $398 + 398$
$125 + 125$ $124 + 126$ $126 + 127$ $124 + 128$	$250 + 250$ $249 + 249$ $249 + 248$ $248 + 248$	$500 + 500$ $499 + 499$ $498 + 499$ $498 + 497$
$150 + 150$ $149 + 149$ $148 + 149$ $148 + 148$	$300 + 300$ $299 + 299$ $298 + 299$ $298 + 297$	$1000 + 1000$ $999 + 999$ $998 + 999$ $998 + 998$

## Addition Number Talks: Breaking Each Number into Its Place Value

Once students begin to understand place value, this is one of the first strategies they utilize. Each addend is broken into expanded form and like place-value amounts are combined. When combining quantities, children typically work left to right because it maintains the magnitude of the numbers.

Ex.  $116 + 118$

$(100 + 10 + 6) + (100 + 10 + 8)$

$100 + 100 = 200$

$10 + 10 = 20$

$6 + 8 = 14$

$200 + 20 + 14 = 234$

### Category 1: Smaller Two-digit Numbers

$28 + 11$ $14 + 35$ $22 + 15$ $18 + 31$	$15 + 27$ $23 + 18$ $17 + 25$ $16 + 27$	$25 + 35$ $32 + 28$ $36 + 27$ $26 + 24$
$36 + 22$ $12 + 37$ $13 + 14$ $24 + 32$	$22 + 18$ $15 + 26$ $17 + 28$ $16 + 26$	$17 + 33$ $24 + 38$ $16 + 38$ $37 + 18$
$18 + 31$ $23 + 14$ $37 + 12$ $32 + 25$	$26 + 28$ $23 + 27$ $27 + 25$ $28 + 24$	$27 + 15$ $35 + 26$ $17 + 33$ $25 + 38$



**Category 2: Two- and Three-digit Numbers**

$74 + 18$ $58 + 28$ $37 + 26$ $46 + 38$	$77 + 36$ $58 + 65$ $46 + 88$ $74 + 47$	$354 + 111$ $267 + 232$ $215 + 136$ $342 + 64$
$26 + 45$ $38 + 17$ $28 + 42$ $53 + 38$	$113 + 56$ $122 + 37$ $114 + 44$ $121 + 48$	$216 + 137$ $285 + 127$ $156 + 85$ $274 + 57$
$37 + 38$ $28 + 47$ $66 + 28$ $45 + 47$	$158 + 221$ $136 + 113$ $205 + 134$ $262 + 35$	$135 + 219$ $315 + 192$ $167 + 173$ $115 + 293$

**Category 3: Three-digit Numbers that require regrouping**

$365 + 247$ $138 + 292$ $168 + 254$ $292 + 139$	$238 + 184$ $361 + 292$ $515 + 127$ $209 + 136$	$444 + 177$ $333 + 277$ $276 + 258$ $518 + 265$
$275 + 147$ $386 + 137$ $246 + 356$ $377 + 340$	$146 + 277$ $216 + 188$ $255 + 267$ $185 + 146$	$386 + 147$ $216 + 388$ $424 + 193$ $370 + 267$
$240 + 392$ $150 + 186$ $230 + 284$ $310 + 192$	$240 + 195$ $360 + 275$ $109 + 256$ $218 + 293$	$111 + 999$ $222 + 888$ $333 + 777$ $444 + 777$

## Addition Number Talks: Adding Up in Chunks

*This strategy is similar to Breaking Each Number into Its Place Value strategy except the focus is on keeping one addend whole and adding the second number in easy-to-use chunks. This strategy is slightly more efficient than the Breaking Each Number into Its Place Value, since you are not breaking apart every number.*

*Ex.  $116 + 118$*

*$116 + (100 + 10 + 4 + 4)$*

*$116 + 100 = 216$*

*$216 + 10 = 226$*

*$226 + 4 = 230$*

*$230 + 4 = 234$*

### Category 1: Adding multiples of ten to a number to adding in chunks

$16 + 10$ $16 + 20$ $16 + 40$ $16 + 42$	$35 + 10$ $35 + 20$ $35 + 40$ $35 + 42$	$46 + 20$ $46 + 30$ $46 + 50$ $46 + 53$
$26 + 10$ $26 + 30$ $26 + 50$ $26 + 53$	$32 + 10$ $32 + 30$ $32 + 50$ $32 + 55$	$57 + 10$ $57 + 20$ $57 + 30$ $57 + 33$
$24 + 10$ $24 + 30$ $24 + 50$ $24 + 55$	$44 + 10$ $44 + 20$ $44 + 30$ $44 + 35$	$53 + 20$ $53 + 25$ $53 + 40$ $53 + 42$

**Category 2: Adding multiples of ten while keeping one number whole and then breaking apart the ones into friendly combinations**

$18 + 10$ $18 + 13$ $18 + 20$ $18 + 23$	$29 + 10$ $29 + 15$ $29 + 20$ $29 + 24$	$57 + 10$ $57 + 14$ $57 + 30$ $57 + 36$
$16 + 20$ $16 + 25$ $16 + 30$ $16 + 36$	$38 + 20$ $38 + 26$ $38 + 30$ $38 + 33$	$65 + 30$ $65 + 36$ $65 + 50$ $65 + 57$
$17 + 10$ $17 + 14$ $17 + 30$ $17 + 35$	$45 + 30$ $45 + 38$ $45 + 40$ $45 + 46$	$73 + 30$ $73 + 38$ $73 + 50$ $73 + 58$

**Category 3: Adding multiples of ten and one hundred while keeping one number whole**

$56 + 40$ $56 + 50$ $156 + 40$ $156 + 43$	$37 + 40$ $37 + 46$ $237 + 40$ $237 + 48$	$345 + 200$ $345 + 400$ $345 + 450$ $345 + 457$
$256 + 100$ $256 + 300$ $256 + 340$ $256 + 342$	$25 + 60$ $25 + 66$ $125 + 60$ $125 + 68$	$134 + 100$ $134 + 300$ $134 + 380$ $134 + 387$
$117 + 200$ $117 + 400$ $117 + 420$ $117 + 426$	$47 + 80$ $47 + 84$ $247 + 70$ $247 + 74$	$218 + 200$ $218 + 400$ $218 + 450$ $218 + 456$