

Number Strings for Grades 3 – 5

There are more strings in

Number Talks Helping Children Build Mental Math and Computational Strategies by Sherry Parrish

ADDITION

Strategy: Making tens

Introducing the strategy	$7 + 3$ $7 + 5 + 3$ $3 + 6 + 7$	$5 + 5$ $5 + 6 + 5$ $5 + 9 + 5$	$3 + 8 + 7$ $9 + 1 + 2$ $4 + 9 + 6$
Using the strategy	$4 + 6 + 8 + 2$ $9 + 3 + 1 + 7$ $5 + 6 + 5 + 4$	$3 + 8 + 5 + 5 + 2$ $9 + 1 + 6 + 3 + 4$ $7 + 2 + 3 + 5 + 8$	$2 + 6 + 8 + 3 + 4$ $9 + 3 + 1 + 5 + 5$ $4 + 8 + 6 + 2 + 7$
Extending the Strategy	$9 + 1$ $9 + 1 + 4$ $9 +$ $9 + 8$	$10 + 5$ $8 + 5$ $10 + 7$ $8 + 7$	$10 + 13$ $7 + 13$ $10 + 25$ $7 + 25$

Strategy: Making landmark or friendly numbers

Introducing the strategy	$19 + 2$ $19 + 5$ $19 + 8$ $19 + 12$	$25 + 25$ $25 + 26$ $24 + 26$ $26 + 49$	$99 + 5$ $99 + 15$ $99 + 26$ $99 + 51$
Using the strategy	$8 + 5$ $8 + 13$ $8 + 24$ $18 + 7$	$48 + 6$ $48 + 17$ $23 + 48$ $48 + 47$	$48 + 4 + 48$ $48 + 49 + 3$ $98 + 97 + 5$ $99 + 98 + 97 + 5$
Extending the Strategy	$99 + 38$ $98 + 47$ $98 + 99$ $99 + 99 + 5$	$198 + 7$ $199 + 13$ $148 + 27$ $139 + 43$	$999 + 99$ $998 + 49$ $997 + 199$ $199 + 99 + 49$

Strategy: Doubles/near doubles

Introducing the strategy	$5 + 5$ $5 + 6$ $5 + 7$ $5 + 8$	$9 + 9$ $8 + 9$ $8 + 8$ $8 + 7$	$15 + 15$ $15 + 16$ $17 + 15$ $15 + 18$
Using the strategy	$20 + 20$ $19 + 19$ $19 + 18$ $19 + 17$	$35 + 35$ $35 + 36$ $34 + 35$ $36 + 37$	$100 + 100$ $99 + 99$ $99 + 98$ $99 + 97$
Extending the Strategy	$200 + 200$ $199 + 199$ $198 + 199$ $198 + 198$	$250 + 250$ $249 + 249$ $249 + 248$ $248 + 248$	$1000 + 1000$ $999 + 999$ $998 + 999$ $998 + 998$

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Strategy: Breaking each number into its place value

Introducing the strategy	28 + 11	22 + 18	27 + 15
	14 + 35	15 + 26	35 + 26
	22 + 15	17 + 28	17 + 33
	18 + 31	16 + 26	25 + 38
Using the strategy	74 + 18	113 + 56	135 + 219
	58 + 28	122 + 37	315 + 192
	37 + 26	114 + 44	167 + 173
	46 + 38	121 + 48	115 + 293
Extending the Strategy	365 + 247	146 + 277	111 + 999
	138 + 292	216 + 188	222 + 888
	168 + 254	255 + 267	333 + 777
	292 + 139	185 + 146	444 + 777

Strategy: Adding up in chunks

Introducing the strategy	16 + 10	32 + 10	53 + 20
	16 + 20	32 + 30	53 + 25
	16 + 40	32 + 50	53 + 40
	16 + 42	32 + 55	53 + 42
Using the strategy	18 + 10	65 + 30	73 + 30
	18 + 13	65 + 36	73 + 38
	18 + 20	65 + 50	73 + 50
	18 + 23	65 + 57	73 + 58
Extending the Strategy	56 + 40	25 + 60	218 + 200
	56 + 50	25 + 66	218 + 400
	156 + 40	125 + 60	218 + 450
	156 + 43	125 + 68	218 + 456

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SUBTRACTION

Strategy: Adding up

Introducing the strategy	20-15	60 – 54	100 – 89
	20-14	60 – 49	100 – 74
	20 – 9	60 – 39	100 – 49
	20 – 8	60 – 29	100 – 44
Using the strategy	250 – 224	300 – 269	1000 – 899
	250 – 219	300 – 249	1000 – 749
	200 – 199	300 – 99	1000 – 624
	200 – 149	300 - 149	1000 – 499
Extending the Strategy	50 – 29	100 – 80	500 – 249
	55 – 29	140 – 80	525 – 249
	55 – 48	146 – 80	1000 – 499
	55 – 37	146 – 89	1000 – 671

Strategy: Removal or counting back

Introducing the strategy	35 – 10	57 – 20	98 – 50
	35 – 13	57 – 26	98 – 55
	35 – 20	53 – 30	98 – 70
	35 - 22	53 - 33	98 - 79
Using the strategy	23 – 10	51 – 30	91 – 60
	23 – 14	51 – 35	91 – 63
	23 – 18	55 – 20	94 – 50
	23 – 15	55 – 26	94 – 56
Extending the Strategy	100 – 50	200 – 100	543 – 20
	100 – 52	200 – 150	543 – 100
	100 – 60	200 – 153	543 – 120
	100 – 64	200 – 153	543 – 240

Strategy: Place value and negative numbers

Introducing the strategy	5 – 5	20 – 10	20 – 10
	5 – 6	0 – 4	5 – 6
	5 – 7	20 – 14	25 – 16
	5 – 8		
Using the strategy	40 – 20	50 – 10	90 – 50
	8 – 9	3 – 7	6 – 7
	48 – 29	53 – 17	81 – 38
	44 – 26	54 – 26	83 – 44
Extending the Strategy	0 – 6	400 – 200	1000 – 700
	100 – 40	40 – 50	0 – 10
	100 – 46	4 – 6	0 – 5
	100 - 19	444 – 256	1000 – 715
		413 – 135	1000 – 674'

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SUBTRACTION

Strategy: Adjusting one number to make an easier problem

Introducing the strategy	9 – 4	51 – 25	99 – 73
	10 – 4	50 – 25	100 – 73
	19 – 14	49 – 25	100 – 64
	20 – 14	52 – 25	100 – 82
Using the strategy	20 – 10	50 – 25	100 – 50
	20 – 9	50 – 24	100 – 51
	20 – 11	50 – 26	100 – 49
	21 – 9	50 – 19	100 – 52
Extending the Strategy	49 – 28	75 – 40	199 – 98
	50 – 30	79 – 39	200 – 100
	50 – 28	75 – 39	200 – 98
	53 – 28	77 – 39	203 – 99

Strategy: Keeping a constant difference

Introducing the strategy	14 – 10	50 – 25	100 – 51
	13 – 9	49 – 24	99 – 50
	14 – 7	51 – 26	100 – 36
	15 – 6	71 – 36	100 – 48
Using the strategy	101 – 50	153 – 100	498 – 310
	99 – 48	151 – 98	500 – 312
	100 – 49	173 – 160	499 – 366
	109 – 51	171 – 158	500 – 367
Extending the Strategy	32 – 19	133 – 95	300 – 214
	48 – 29	114 – 89	500 – 289
	35 – 18	123 – 105	700 – 477
	41 – 13	100 – 34	1000 – 674

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MULTIPLICATION

Strategy: Making landmark of friendly numbers

Introducing the strategy	2 X 25	5 X 5	4 X 5
	4 X 25	5 X 10	4 X 10
	6 X 25	5 X 20	4 X 50
		5 X 19	4 X 49
Using the strategy	4 X 25	6 X 50	8 X 50
	4 X 200	6 X 300	8 X 100
	4 X 250	6 X 349	8 X 200
	4 X 249		8 X 199
Extending the Strategy	6 X 20	2 X 25	6 X 600
	30 X 20	4 X 25	10 X 600
	36 X 20	8 X 25	16 X 600
	36 X 19	20 X 25	16 X 599
		16 X 25	

Strategy: Making landmark of friendly numbers

Introducing the strategy	2 X 25	5 X 5	4 X 5
	4 X 25	5 X 10	4 X 10
	6 X 25	5 X 20	4 X 50
		5 X 19	4 X 49
Using the strategy	4 X 25	6 X 50	8 X 50
	4 X 200	6 X 300	8 X 100
	4 X 250	6 X 349	8 X 200
	4 X 249		8 X 199
Extending the Strategy	6 X 20	2 X 25	6 X 600
	30 X 20	4 X 25	10 X 600
	36 X 20	8 X 25	16 X 600
	36 X 19	20 X 25	16 X 599
		16 X 25	

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MULTIPLICATION

Strategy: Doubling and halving

Introducing the strategy	1 X 16 2 X 8 4 X 4 8 X 2 16 X 1	1 X 48 2 X 24 4 X 12 8 X 6 16 X 3	1 X 56 2 X 28 4 X 14 8 X 7
Using the strategy	8 X 16 4 X 32 2 X 64	84 X 5 42 X 10 21 X 20	8 X 29 4 X 58 2 X 116
Extending the Strategy	3 X 60 6 X 30 12 X 15	4 X 120 8 X 60 16 X 30 32 X 15	2 X 1440 4 X 720 8 X 360 16 X 180 32 X 90 64 X 45
Extending the Strategy Tripling and quadrupling	9 X 12 3 X 36 1 X 108	25 X 48 100 X 12 400 X 3 1200 X 1	6 X 24 3 X 48 1.5 X 96

Strategy: Breaking factors into smaller factors

Introducing the strategy	2 X 3 X 4 4 X 3 X 2 6 X 4	2 X 3 X 2 X 3 3 X 3 X 4 9 X 2 X 2 9 X 4	5 X 2 X 4 4 X 5 X 2 2 X 2 X 5 X 2 8 X 5
Using the strategy	3 X 5 X 4 2 X 15 X 2 15 X 4	8 X 9 X 3 3 X 24 X 3 9 X 12 X 2 24 X 9	9 X 10 X 3 5 X 6 X 3 X 3 15 X 2 X 9 30 X 9
Extending the Strategy	3 X 4 X 25 5 X 12 X 5 5 X 2 X 25 12 X 25	6 X 6 X 3 X 5 6 X 5 X 3 X 6 4 X 15 X 9 36 X 15	2 X 35 X 6 12 X 5 X 7 3 X 4 X 5 X 7 12 X 35

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DIVISION

Strategy: Partial quotients

Introducing the strategy	$40 \div 4$ $16 \div 4$ $56 \div 4$	$30 \div 3$ $90 \div 3$ $92 \div 3$	$5 \div 5$ $10 \div 5$ $25 \div 5$ $50 \div 5$ $77 \div 5$
Using the strategy	$300 \div 3$ $120 \div 3$ $420 \div 3$	$100 \div 4$ $40 \div 4$ $24 \div 4$ $4 \div 4$ $124 \div 4$	$160 \div 8$ $16 \div 8$ $400 \div 8$ $80 \div 8$ $496 \div 8$
Extending the Strategy	$100 \div 25$ $250 \div 25$ $500 \div 25$	$130 \div 13$ $26 \div 13$ $52 \div 13$ $195 \div 13$	$30 \div 15$ $90 \div 15$ $300 \div 15$ $150 \div 15$ $540 \div 15$

Strategy: Multiplying up

Introducing the strategy	4×10 4×5 4×4 $56 \div 4$	2×10 2×5 2×2 $38 \div 2$	6×10 6×5 6×6 6×2 $99 \div 6$
Using the strategy	3×100 3×50 3×1 $453 \div 3$	8×100 8×50 8×10 $792 \div 8$	7×100 7×10 7×5 7×2 $836 \div 7$
Extending the Strategy	50×2 50×5 50×10 $900 \div 50$	24×5 24×10 24×20 $756 \div 24$	10×27 20×27 30×27 $825 \div 17$

Strategy: Multiplying up

	$100 \div 4$ $200 \div 8$ $400 \div 16$	$250 \div 2$ $500 \div 4$ $1000 \div 8$	$308 \div 7$ $308 \div 14$ $308 \div 28$
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