Addition Strategies and Algorithms

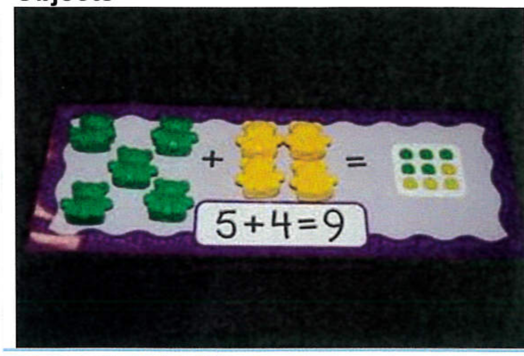
STRATEGY/ALGORITHM	GRADE LEVEL	REPRESENTATIONS
Counting All	K	Objects
Counting On	K, 1, 2, 3	Objects, Number Line, Ten frames, Open Number line, Arrow Method, Number Grid, Unifix Cubes
Making Ten	1	Ten Frames, Number line/Chart, Bundles, Unifix Cubes
Decomposing to make an easier problem	1, 2, 3	Number bonds, Number line,
Decomposing by place value	2, 3, 4	Place Value Chart, Place value chips, number grid
Compensation	2, 3	Number lines, number grids, Mental Strategies
Partial Sums	2, 3, 4	Base Ten blocks, place value charts, place value chips
Column Addition	3, 4	Place Value Charts, Place Value Chips
Traditional Algorithm	4	

Subtraction Strategies and Algorithms

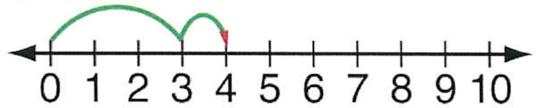
STRATEGY/ALGORITHM	GRADE LEVEL	REPRESENTATIONS
Counting Back/Up	K, 1, 2, 3	Objects, Number Line, Ten Frames, Open Number Line, Arrow Method, Number Grid
Same-Change	2, 3	Number Line, Mental Math
Renaming	2, 3	Place Value Charts, Place Value Chips, Base Ten Blocks
(Partial Differences)	4, 5	
Traditional Algorithm	4	

Visual Representations for Addition

Objects

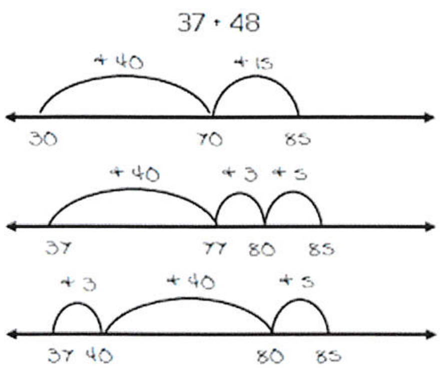


Number Line

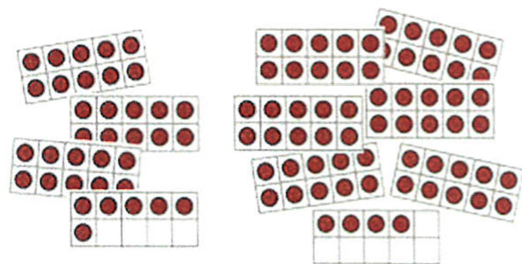


3 + 1 = 4

Open Number Line

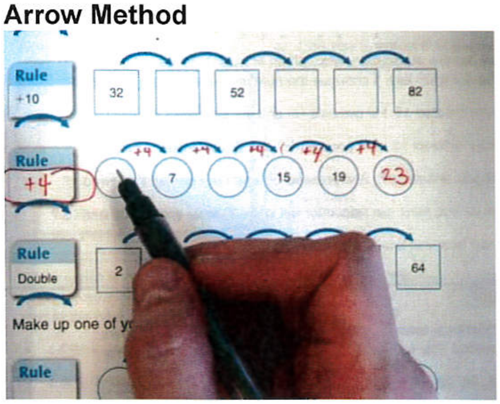


Ten Frames



36 + 64 = 100

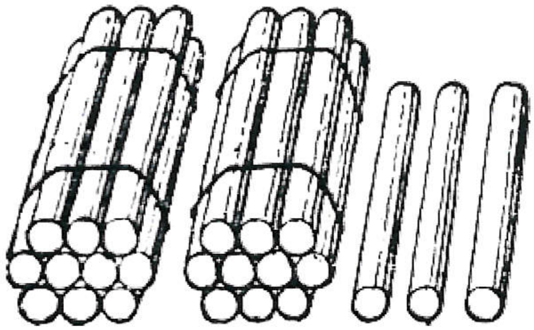
Arrow Method



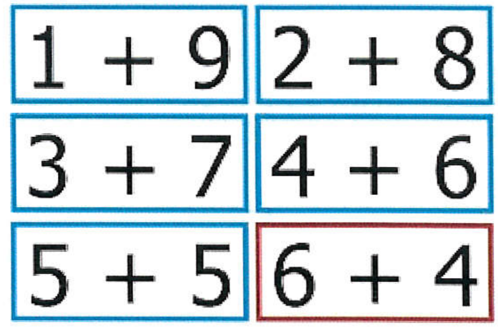
Number Grid

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

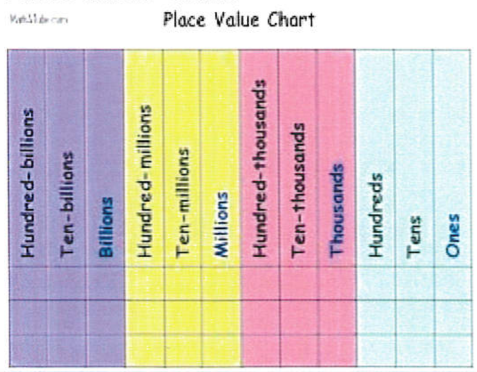
Bundles



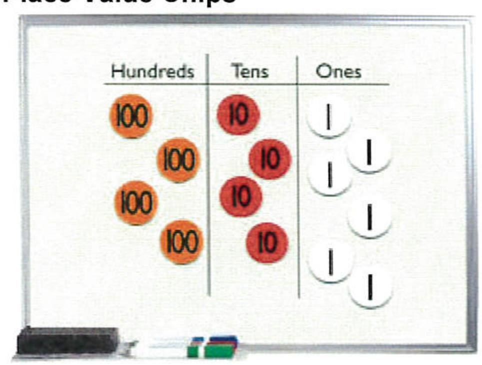
Number Bonds



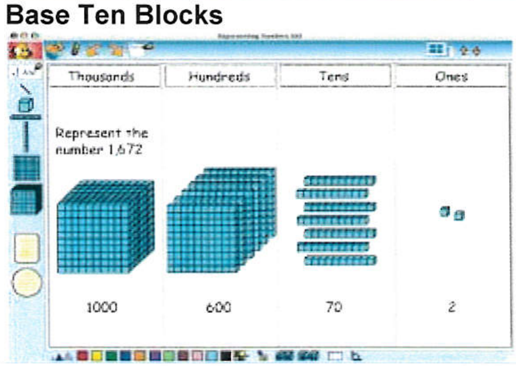
Place Value Chart



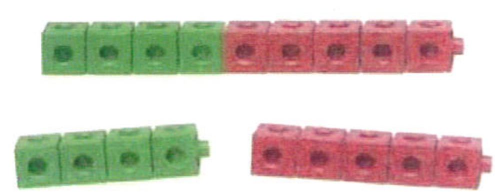
Place Value Chips



Base Ten Blocks



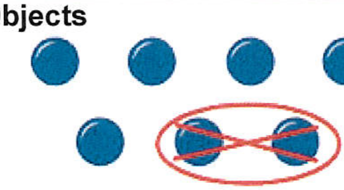
Unifix Cubes



4 + 5 = 9

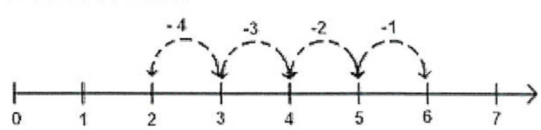
Visual Representations for Subtraction

Objects



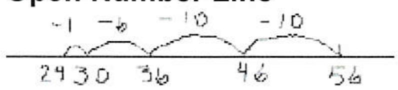
7 − 2 = 5

Number Line



6 - 4 = 2

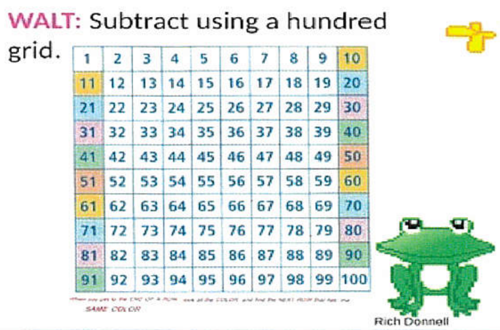
Open Number Line



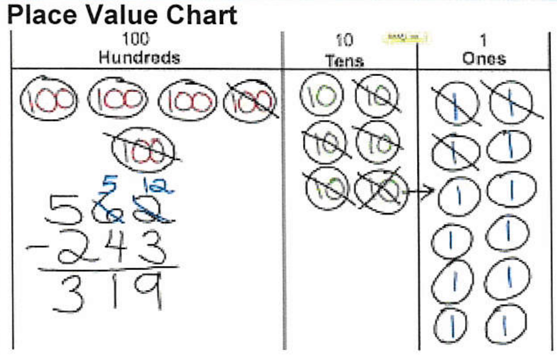
56 - 27

Arrow Method

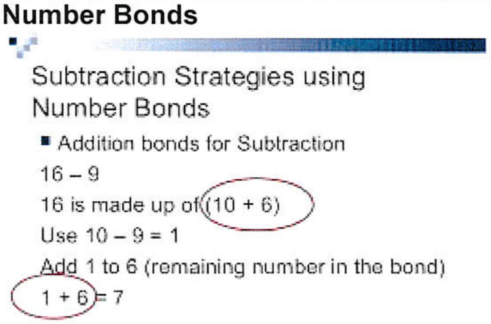
Number Grid



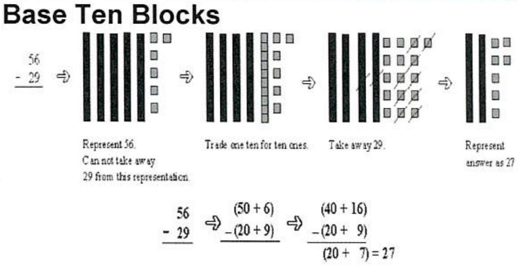
Place Value Chart



Number Bonds



Base Ten Blocks



[Videos of Singapore Math Strategies]