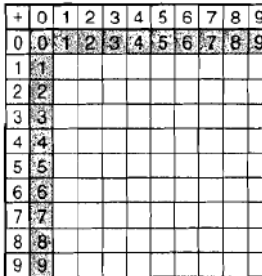
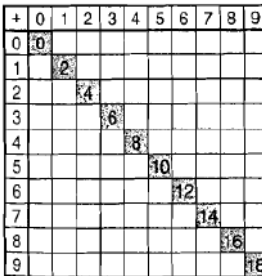


First Grade: Mathematics

Unit 2: Math Strategies

Addition Strategies		
Strategy	Example	Explanation
Counting On (One-/Two-More-Than) 	$6 + 1$ $2 + 6$	- Count on from six. - As students count on from the larger addend instead of counting all, they are ready to practice this strategy. - Helping students see the connection between counting on and adding two will help students move from counting strategies to reasoning strategies.
Zero 	$7 + 0$ $0 + 4$	- Seven plus zero is still seven. - Some children may overgeneralize the idea that addition answers are always bigger than the addend. This strategy is a good time to address this misconception. - Create a story problem for one of the equations and use counters and a part-part whole mat to model the situation. - Post zero facts and ask, "How are the equations alike?"
Using 5 as an Anchor	$7 + 6$	- Students look for fives in the numbers of the problems. - For example, in $7 + 6$, a child may think of 7 as $5 + 2$ and 6 as $5 + 1$. The child would add $5 + 5$ and then the extra 2 from the 7 and the extra 1 from the 6, adding up to 13.
Doubles 	$7 + 7$	- These ten facts ($0 + 0$ through $9 + 9$) are fairly easy to learn and serve as anchors for many other facts. - Use picture cards for doubles. - Use story problems that focus on pairs of like addends.
Near-Doubles 	$4 + 5$	- Double the smaller number and add one or double the larger number and subtract one. - Compensate addends to double the middle number. ($6 + 4 = 5 + 5$) - If no one uses near doubles strategy, then write the corresponding doubles for some of the facts and ask how these facts could help.

Combinations of Ten	$6 + 4$	• Most important! • Use story problems with two numbers that make 10 or that ask how many are needed to make 10. • Make a ten on a ten-frame: Place 6 counters on a ten-frame and ask, "How many more to make 10?"																																																																																																																									
Make Ten <table border="1"><tr><th>+</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th></tr><tr><th>0</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><th>1</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td></tr><tr><th>2</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td><td>11</td></tr><tr><th>3</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>12</td></tr><tr><th>4</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>12</td><td>13</td></tr><tr><th>5</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>14</td></tr><tr><th>6</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>14</td><td>15</td></tr><tr><th>7</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15</td><td>16</td></tr><tr><th>8</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>16</td><td>17</td></tr><tr><th>9</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>17</td><td>18</td></tr></table>	+	0	1	2	3	4	5	6	7	8	9	0											1										10	2									10	11	3									11	12	4									12	13	5									13	14	6									14	15	7									15	16	8									16	17	9									17	18	$8 + 6$ (Think $8 + 2 + 4$) $9 + 2$ (Think $9 + 1 + 1$)	• It's used for facts that have sums greater than 10. • Students use their known facts that equal 10 and then add the rest of number onto 10. • For example, students solving $8 + 6$ might start with the larger number and see that 8 is 2 away from 10; therefore, they take 2 from the 6 to get 10 and then add on the remaining 4 to get 14.
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Subtraction as Think-Addition	$14 - 7$	• Helpful to begin with facts that have totals of 10 or less. • It's essential addition facts are mastered first. • Think addition using doubles: See $14 - 7$ and think $7 + 7$ is 14 so $14 - 7 = 7$. • Use story problems that promote think-addition. Those that sound like addition but have a missing addend.																																																																																																																									
Decompose a Number Leading to 10	$14 - 9$	• Students use combinations of ten to help subtract quickly. • For example, in $14 - 9$, 9 can be decomposed into 4 and 5. You can take 4 away from 14 to get 10 and then take 5 away from 10 to get 5. $14 - 4 = 10$ $10 - 5 = 5$																																																																																																																									
Take From 10	$16 - 8$	• It works for all subtraction problems in which the starting value (minuend) is more than 10. • For example, take the problem $16 - 8$. Students take the minuend apart into $10 + 6$. Subtracting from the 10 (because they know this fact), so $10 - 8$ is 2. Then they add 6 back on to get 8. $16 - 8 = (10 + 6) - 8$ $10 - 8 = 2$ $2 + 6 = 8$ So $16 - 8 = 8$																																																																																																																									