

First Grade: Mathematics

Unit 2: Math Strategies

Addition Strategies

Strategy	Example	Explanation																																																																																																																									
<p>Counting On (One-/Two-More-Than)</p> <table border="1"> <tr><td>+</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td></td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>2</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>3</td><td></td><td>4</td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td>5</td><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td>6</td><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td>7</td><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td>8</td><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td>9</td><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td>10</td><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	+	0	1	2	3	4	5	6	7	8	9	0		1	2								1	1	2	3	4	5	6	7	8	9	10	2	2	3	4	5	6	7	8	9	10	11	3		4	5								4		5	6								5		6	7								6		7	8								7		8	9								8		9	10								9		10	11								$6 + 1$ $2 + 6$	<ul style="list-style-type: none"> 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.
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<p>Using 5 as an Anchor</p>	$7 + 6$	<ul style="list-style-type: none"> 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. 																																																																																																																									
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<p>Near-Doubles</p> <table border="1"> <tr><td>+</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>1</td><td></td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td>3</td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td>5</td><td></td><td>7</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td>7</td><td></td><td>9</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td>9</td><td></td><td>11</td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td>11</td><td></td><td>13</td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td></td><td>15</td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15</td><td></td><td>17</td></tr> <tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>17</td><td></td></tr> </table>	+	0	1	2	3	4	5	6	7	8	9	0		1									1	1		3								2		3		5							3			5		7						4				7		9					5					9		11				6						11		13			7							13		15		8								15		17	9									17		$4 + 5$	<ul style="list-style-type: none"> 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.
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Combinations of Ten	$6 + 4$	<ul style="list-style-type: none"> • 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?" 																																																																																																																									
<p>Make Ten</p> <table border="1"> <tr><td>+</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td><td>11</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td><td>11</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td>12</td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>12</td><td>13</td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td>14</td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>14</td><td>15</td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>15</td><td>16</td></tr> <tr><td>8</td><td></td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> </table>	+	0	1	2	3	4	5	6	7	8	9	0											1									10	11	2									10	11	3									11	12	4									12	13	5									13	14	6									14	15	7									15	16	8		10	11	12	13	14	15	16	17	18	9	10	11	12	13	14	15	16	17	18	19	$8 + 6$ (Think $8 + 2 + 4$) $9 + 2$ (Think $9 + 1 + 1$)	<ul style="list-style-type: none"> • 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 Strategies																																																																																																																											
Subtraction as Think-Addition	$14 - 7$	<ul style="list-style-type: none"> • 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	$14 - 9$	<ul style="list-style-type: none"> • 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	$16 - 8$	<ul style="list-style-type: none"> • 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 $16 - 8 = 8$ 																																																																																																																									