

Concept: Adding and Subtracting Whole Numbers

Name: _____

COMPUTER COMPONENT

Instructions: In follow the **Content Menu** path:

Whole Numbers and Integers > Adding and Subtracting Whole Numbers



Work through all Sub Lessons of the following Lessons **in order**:

- *Add – Partial Sums*
- *Add – Trade First*
- *Add – Right to Left*
- *Subtract – Right to Left*
- *Subtract – Trade First*
- *Subtract – Add Up*
- *Subtract – Add Up to Zero*
- *Word Problems by Various Methods*
- *Order of operations in addition.*



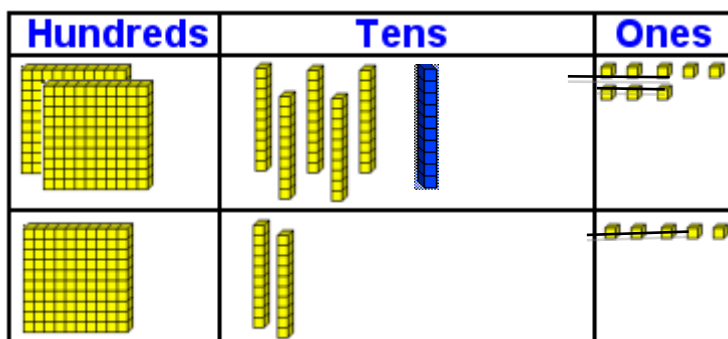
As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

OFF COMPUTER EXERCISES

In mathematics, there is never just one way to solve a problem. Each of you will approach questions in a way that best suits your particular learning style. We have offered you a variety of strategies to choose from in this section, with the hopes that you find one that best suits your needs.

1. Try using the **partial sums/splitting strategy** for the following:

(a) Add 258 and 125. Make sure to cross out blocks and draw the regrouped number in the picture. Then add the numbers in partial sums.



3 Hundreds → **300**

7 Tens → 70

13 Ones → 13

$$+ \quad \underline{\hspace{1cm}}$$

383

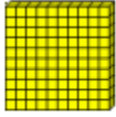
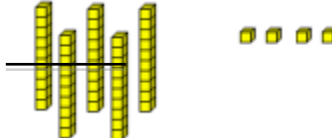
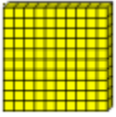

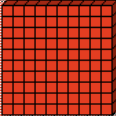
(b) Add 633 and 429. Write out the partial sums and complete the addition in the diagram below.

10 Hundreds → **1000**

$$\begin{array}{r}
 5 \text{ Tens} \rightarrow 50 \\
 12 \text{ Ones} \rightarrow 12 \\
 + \quad \quad \quad \\
 \hline
 1052
 \end{array}$$

2. Try using the *trade first* strategy for the following:

(a) Add 154 and 172. In the chart below, add the numbers and adjust the sums by trading. Cross out and draw blocks to show the regrouped numbers.

	Hundreds	Tens	Ones	
+	1	5	4	
	1	7	2	
+	1	7	2	
	2	12	6	
New:	3	2	6	

(b) Add 667 and 279. In the chart below, add the numbers and adjust the sums by trading.

	Thousands	Hundreds	Tens	Ones
		6	6	7
+		2	7	9
		8	13	16
New:		9	4	6

3. Try using the *right to left* strategy for the following:

(a) Add 170 and 275. In the chart below, add the numbers from right to left. Cross out and draw blocks to show the regrouped numbers.

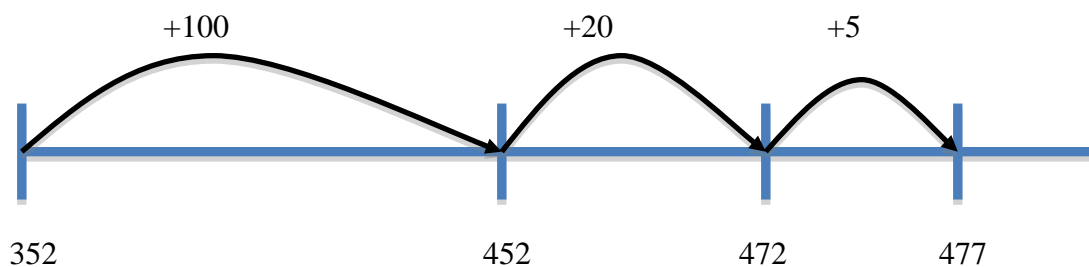
Hundreds	Tens	Ones
1		
1	7	0
+	2	5
4	4	5

(b) Add 538 and 214. In the chart below, add the numbers from right to left.

	Thousands	Hundreds	Tens	Ones
			1	
		5	3	8
+		2	1	4
		7	5	2

4. An *open number line* is just another strategy that may be used for both addition and subtraction.

Example: $352 + 125$ Note: 125 is decomposed to 100, 20, and 5

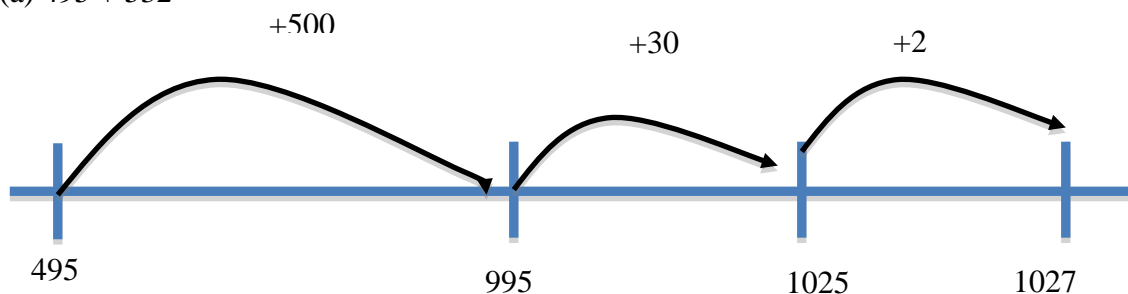


Therefore, $352 + 125 = 477$

The idea is to break larger numbers down in order to make them more manageable to work with.

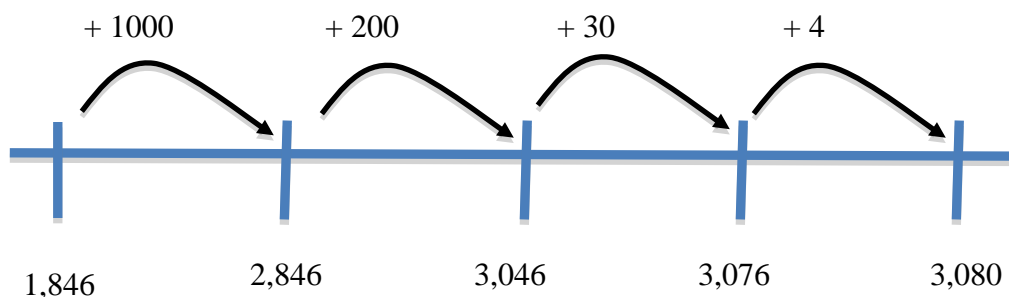
Now it's your turn:

(a) $495 + 532 =$



Sum= **1027**

(b) $1,846 + 1,234 =$



Sum= **3,080**

5. Try using the **right to left** strategy for the following:

(a) Subtract 168 from 431. In the chart below, subtract the numbers from right to left. Cross out and draw blocks to show the regrouped numbers.

Hundreds	Tens	Ones
4 1	3 6	11 8
2	6	3

b) Subtract 2631 from 8942. In the chart below, subtract the numbers from right to left.

Thousands	Hundreds	Tens	Ones
8	9	4	2
<u>2</u>	<u>6</u>	<u>3</u>	<u>1</u>
6	3	1	1

6. Try using the *trade first* strategy for the following:

a) Subtract 54 from 524. In the chart below, subtract and adjust the sums by trading. Cross out and draw blocks to show the regrouped numbers

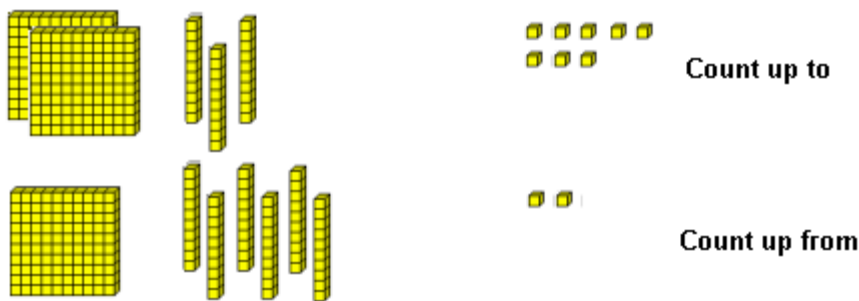
Hundreds	Tens	Ones
5	2	4
<u>4</u>	<u>5</u>	<u>4</u>
4	7	0

b) Subtract 1692 from 5961. In the chart below, subtract the numbers from right to left.

Thousands	Hundreds	Tens	Ones
5	9	6	1
<u>1</u>	<u>6</u>	<u>9</u>	<u>2</u>
4	2	6	9

7. Try using the **add up/add on** strategy for the following:

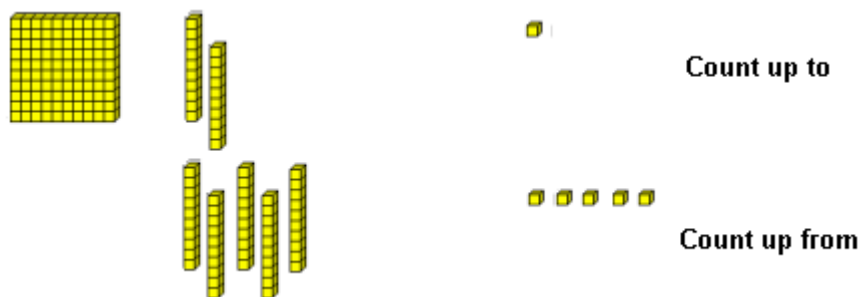
a) Subtract 172 from 238. Regroup by crossing out and drawing blocks in the diagram. Then add up in the chart below.



	<u>Count up</u>	<u>Now at</u>
To 238		
Hundreds →	0	→ 238
Tens →	60	→ 238
Ones →	<u>6</u>	→ 178
<i>From 172</i>	66	

Therefore, the difference is **66**.

b) Subtract 55 from 121. Regroup by crossing out and drawing blocks in the diagram. Then add up in the chart below.



	<u>Count up</u>	<u>Now at</u>
To 121		
Hundreds →	0	→ 121
Tens →	60	→ 121
Ones →	6	→ 61
<i>From 55</i>		

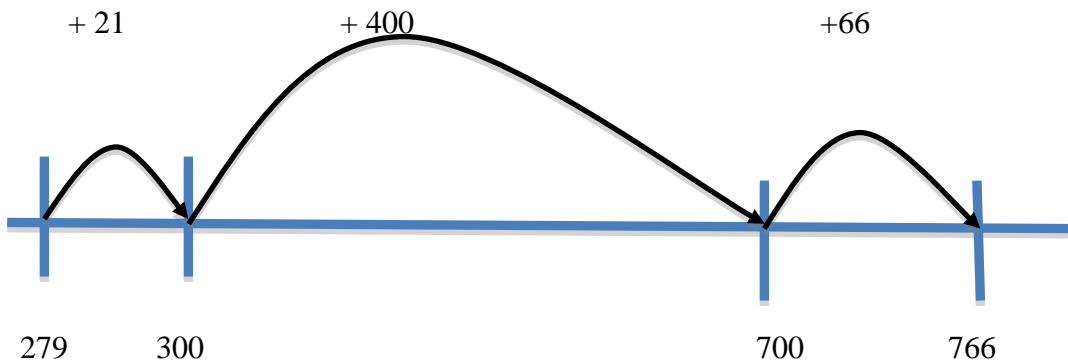
Therefore, the difference is **66**.

8. An *open number line* may also be used for subtraction. Similar to the *add up/add on strategy*, the idea is to work with numbers that are friendly and manageable.

Example: $766 - 279$

- Add **21** to 279 to get 300; then
- Add **400** to 300 to get 700; then
- Add **66** to 700 to get 766; then
- Add the subtotals, $21 + 400 + 66 = 487$. The difference between 766 and 279 is 487.

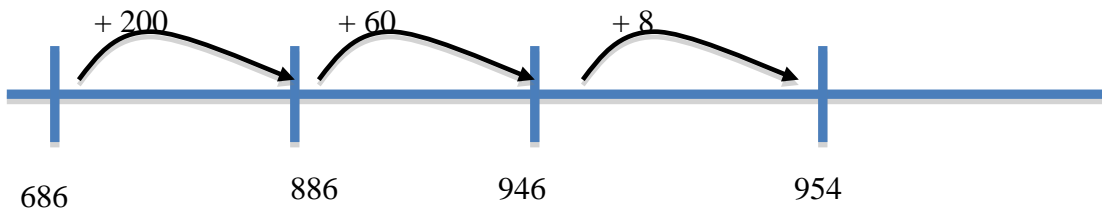
A simple number line can illustrate your thinking behind this strategy.



Note: Even though the goal is to be efficient as possible, you can add/delete steps based on your own comfort level.

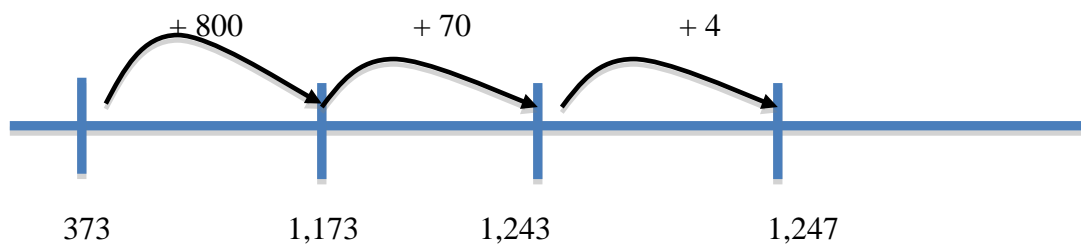
Now it's your turn:

(a) $954 - 686$



Difference = **268**

(b) $1,247 - 373 =$



Difference= **874**

9. **Challenge**...use your newfound knowledge to tackle the following problems. You may use any strategy you wish...be sure to show your calculations.

(a) Eric gathered 877 ears of corn on his farm on Tuesday, and 586 ears of corn on Wednesday. *How many ears of corn did Eric gather altogether?*

Various strategies to choose from:

$$\begin{array}{r} 877 \\ + \underline{586} \\ 1,463 \text{ ears of corn} \end{array}$$

(b) At the beach, Cindy collected 12 more shells than Petros. Petros collected 23 shells. *How many shells did Cindy collect?*

Various strategies to choose from:

$$\begin{array}{r} 12 \\ + \underline{23} \\ 35 \text{ shells} \end{array}$$

(c) Phillip had 94 marbles in his collection. He gave some away to his friends. Now Phillip has 46 marbles in his collection. *How many marbles did he give to his friends?*

Various strategies to choose from:

$$\begin{array}{r} 94 \\ - \underline{46} \\ 48 \text{ marbles} \end{array}$$

(d) The Phan's house cost \$21, 538 more than the Smith's house. The Smith's house cost \$165,709. *How much did the Phan's house cost?*

Various strategies to choose from:

$$\begin{array}{r} 165,709 \\ + \underline{21,538} \\ \$187,247 \end{array}$$

(e) Will had some toy cars. Marco gave him 17 more cars. Will now has 52 cars. *How many cars did Will have to begin with?*

Various strategies to choose from:

$$\begin{array}{r} 52 \\ - \underline{17} \\ 35 \text{ cars} \end{array}$$

(f) Felix spent 326 hours reading last year. Simon spent 129. How many more hours did *Felix spend reading than Simon?*

Various strategies to choose from:

$$\begin{array}{r} 326 \\ -129 \\ \hline 197 \text{ hours} \end{array}$$

(g) Liesel had some sand in her sandbox. She poured out 782 milliliters of sand. Liesel now has 503 milliliters of sand left. *How many milliliters of sand did Liesel have to begin with?*

Various strategies to choose from:

$$\begin{array}{r} 782 \\ + 503 \\ \hline 1,285 \text{ milliliters} \end{array}$$

(h) Keisha and Jill together put 247 buttons into a box. Jill put in 58 buttons. *How many buttons did Keisha put in?*

Various strategies to choose from:

$$\begin{array}{r} 247 \\ - 58 \\ \hline 189 \text{ buttons} \end{array}$$