



# Trade-First Subtraction Method

## What is it?

In this method the children look at all of the numbers first and determine if they need to trade before subtracting.

## When do I use it?

Students use this algorithm for subtracting two digit (or larger) numbers.

## Example:

Subtract 178 from 245 using the trade-first method.

Hundreds	Tens	Ones
2	4	5
<del>1</del>	7	8

Step 1:

Look at the 1s place. Can you subtract 8 ones from 5 ones?

Hundreds	Tens	Ones
2	3	15
<del>1</del>	<del>7</del>	<del>8</del>

Step 2:

No, so trade 1 ten for 10 ones.  
Now, look at the 10s place. Can you take 7 tens from 3 tens?

Hundreds	Tens	Ones
1	13	15
<del>2</del>	<del>7</del>	<del>8</del>
<del>1</del>	6	7

Step 3:

No, so trade 1 hundred for 10 tens.  
Now subtract in each column.

$$245 - 178 = 67$$

## Milestones:

This algorithm may be used in place of or concurrently with the traditional subtraction algorithm.

The only difference between this algorithm and the traditional algorithm is the order in which you trade and subtract.

# Same-Change

## What is it?

If you add the same number to both numbers in the problem, your new subtraction problem will have the same answer as the original problem. If you subtract the same number from both numbers in the problem, your new subtraction problem will have the same answer as the original problem.

## When do I use it?

Students use this algorithm for subtracting two-digit (or larger) numbers.

## Example:

Example: $83 - 27 = ?$	(Add 3)	86
**No Trading Necessary Now		<u>- 30</u>
		56

Example: $500 - 257 = ?$	(Subtract 1)	499
**No Trading Necessary Now		<u>- 256</u>
		243

## Milestones:

As students gain understanding of equivalence, they will be able to mentally make changes to more efficiently compute differences.

# Count Up on a Number Grid

## What is it?

Students start with the number being subtracted and count on.

## When do I use it?

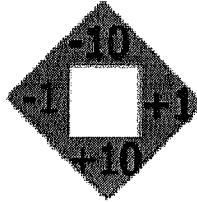
Students use this strategy for subtracting two digit numbers.

### Example:

$$43 - 27 = ?$$

- Count up 10
- Move down 1 row to 37
- Count up 6 more.
- Count up 6 more to 43

$$43 - 27 = 16$$



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

### Milestones:

Look for children to begin to do this process mentally without the aid of a number grid.

# Counting Back/Counting Up

## What is it?:

Students will start with the biggest number and count back to find the difference.

OR

Students will start with the number that is being subtracted and count up until they reach the biggest number.

## When do I use it?

Students used this strategy for finding differences of beginning subtraction problems

## Example:

For example, if a student is subtracting 3 from 10, the teacher would have him:

Say "10." Then, he would count back, "9, 8, 7." Student will hold out his fingers as he is counting to represent the 3 that are taken away from 10.

OR

Say "3". Then he would count on "4, 5, 6, 7, 8, 9, 10". The student will hold out a finger for each number he is counting up and then count the fingers to represent the answer (7)

## Milestones:

If students consistently begin with the larger number and view that number as a whole group rather than single items, they are ready to move forward. (You will know they are viewing the number as single items if you see them returning to one to begin counting.)