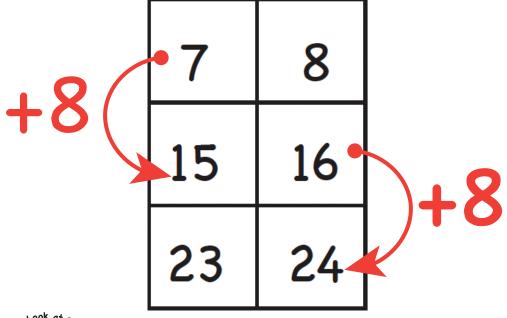
Addition Charts from Three to Ten





Isabelle Hoag M. Ed. Director of Education UnCommon-Core.com Hello Teachers,

Thank you for downloading this handout. After decades of teaching, now I am sharing some of the activities I designed for my students and some new ones as well.

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Colorful Collections

A Mindful Exploration of Proper Fractions

A Mindful Exploration of Proper Fractions

The Color of Proper Fractions

A Mindful Exploration of Proper Fractions

Italian and A Mindful Exploration

Italian and A Mindful Exploration of Proper Fractions

Italian and A Mindful Exploration of Proper Fraction o

Thank you again. All the best,

Isabelle

Isabelle Hoag M.Ed. Director of Education UnCommon-Core.com

Using a Number Chart to Add or Subtract

Use the Plus Four Chart to Add:

Every time you hop down a row, the number you land on is four more than the number you started on.

When adding you get a larger number. When you subtract the answer will be less than you started with.

Use the Plus Four Chart to find five plus four:

Place your finger on 5. Hop down one row to find the answer. Five plus four is nine.

Add Four:

3 +4 36 +4

14 +4

		Plus	Four	
	1	2/	3	4
	5	6	7	8
4	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

Use the Plus Four Chart to Subtract:

Every time you hop up a row, the number you land on is four less than the number you started on.

Subtraction is the opposite of addition, so you hop in the opposite direction.

Use the Plus Four Chart to find twelve minus four:

Place your finger on 12.

Hop up one row to find the answer.

Twelve minus four is eight.

Subtract Four:

31 -4 37 -4 22 -4

Number Charts

Plus Four

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

Plus Five

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

Plus Six

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

Number Charts

Plus Three

Plus Seven

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

Plus Eight

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

Number Charts

Plus Nine

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

Plus Ten

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

Prepare the Number Charts

First decide which charts to use with your students. Some students will benefit from writing in the numbers for themselves. This gives them an up close look at the number patterns in each chart. Other students will find this a monumental task with little benefit.

You might offer your students a choice. They could use blank or filled in charts. Some might want to use both charts.

In any case, print enough copies for every students plus a few extras 'just in case.' You might precut construction paper or card stock backing for your students. This will save time, however, students will miss out on some of the planning and organizational aspects of the project.

Have your students cut out their charts and paste them to construction paper backing. Have them write their name on each Number Chart.

If you are going to laminate or cover the front with contact paper, do that now. This extra step will allow your students to use dry erase markers on the charts, and make sure they last longer.

Decide how your students will store their Number Charts between uses. You could punch a hole in the top left corner of each chart and give your students a ring to hold them. You could give your students a large envelop to keep them in. You could give each student a paper clip or let them use the Number Charts as bookmarks in their text. If students have a math folder, they could stay in there.

Explore the Number Charts

Use these activities to let your students become familiar with the number charts, test out various ways to use them, and build their number sense.

1. Give your students a blank sheet of paper and have them write their name and the name of the Number Chart on top. Then have them start in the top row and add all the way down the column.

When they reach the bottom have them switch to a different column and subtract their way to the top. They should write the number sentences that go with each problem.

Group the students according to which column they used to add. Let them check their work as a group. Then regroup according to the column they used to subtract, and check.

- 2. Give struggling students a straight edge to place vertically beside the numbers in the chart.
- 3. Invite students to use the Plus Four chart to add or subtract 8. Use any of the Number Charts to add or subtract twice the number on the chart.
- 4. Print some smaller copies of the charts for your students to use with the activities on the next page.
- 5. Challenge students to use the Plus Five chart to add or subtract 4 and 6. Have them explain the steps needed to accomplish the tasks. This builds fluency with addition and subtraction. Do this with other charts, too. Have them find the steps needed to use any chart to add or subtract ten.
- 6. Ask students to describe how to use the Plus Eight Chart when 8 is the first number in an addition problem rather than the second. They may want to write step by step instructions.
- 7. The final column of each chart shows how to skip count with that number. Use this to gently move your students into multiplication and division.
- 8. When you are done using them in class, send the Number Charts home to help students with homework.

Explore the Number Charts name:

1. Sort the charts into two groups: charts with an even number of columns and charts with an odd number of columns. Pick a chart from each group. Color the cells with even numbers.

List at least three ways the charts in each group are alike. Then list three ways the charts in each group are different.

2. Put charts in order from smallest to largest based on the last number in the chart. Now they are in sequential order. How many more numbers are there in the Plus Four chart than there are in the Plus Three chart? What number is added to each chart to get to the next one? Write down any number patterns you discover in the charts.

3. List three or more ways the Number Charts are like a number line. Now list three or more ways the Number Charts are not like a number line.

When your students are familiar with the Number Charts and comfortable using them to add and subtract, let them use the Number Charts to solve the problems on the following pages.

Students ready for more of a challenge, can track how quickly they answer the problems correctly.

With enough daily practice, your students will write the answers automatically rather than look them up on the Number Chart.

This is great, as long as their answers are accurate.

Add Three

name:

4+3=

8+3=

10+3=

7+3=

How does the Plus Three Chart help you add?

Add Four

name:

13

+4

6

<u>+4</u>

<u>+4</u>

<u>+4</u>

<u>+4</u>

When both addends are even numbers, will the sum be even or odd? Why do you think this happens?

Add Five

name:

6

<u>+5</u>

5 +5

11 +5

1 +5

When both addends are odd numbers, will the sum be even or odd? Why do you think this happens?

Add Six

name:

6

+6

+6

13

+6

When one addend is even and the other is odd, will the sum be even or odd? Why do you think this happens?

Add Seven

name:

8

<u>+7</u>

6

<u>+7</u>

7 <u>+7</u>

9 <u>+7</u>

13

<u>+7</u>

Why does adding seven give you the same answer as adding ten then subtracting three?

Add Eight

name:

6

8+

4 +8

7 +8

9 +8

3 +8

+8

Adding 8 gives the same answer as adding ten then subtracting two. Why does this happen?

Add Nine

name:

6

5 +9

7 +9

9 +9

3 +9

Adding nine like adding ten then subtracting one. Explain why.

Add Ten

name:

+10

6

+10

<u>+10</u>

<u>+10</u>

<u>+10</u>

What happens to the number in the unit's place when you add ten? Why does this happen?

Explore the Number Charts name: Answer Key

1. Sort the charts into two groups: charts with an even number of columns and charts with an odd number of columns. Pick a chart from each group. Color the cells with even numbers.

List at least three ways the charts in each group are alike. Then list three ways the charts in each group are different.

Charts are Alike:

Each chart has the same number of columns as its name. All charts start on one (and end with a multiple of ten). The last column shows skip counting by the number in the name of the chart. Answers will vary.

Charts are not Alike:

Odd number charts have a checkerboard pattern. Even number charts have stripes. Skip counting by an odd number follows an even/odd pattern. Skip counting by an even number is all even numbers.

The last number on the odd charts has an odd number in the ten's place; on the even charts, there is an even number in the ten's place.

Answers will vary.

2. Put charts in order from smallest to largest based on the last number in the chart. Now they are in sequential order. How many more numbers are there in the Plus Four chart than there are in the Plus Three chart? What number is added to each chart to get to the next one? Write down any number patterns you discover in the charts.

Number Patterns:

There are ten more numbers in the Plus Four Chart than the Plus Three Chart. Each chart is bigger by ten. There are ten numbers in each column and an extra column is added to make the next larger chart.

The numbers needed to skip count by ten on the Plus Nine Chart are arranged diagonally. They follow other patterns on the other charts. Additional answers will vary.

3. List three or more ways the Number Charts are like a number line. Now list three or more ways the Number Charts are not like a number line.

Charts are Like Number Lines:

As you move to the right each number gets larger by one. The number line goes on forever, Number Charts could, too. You can use either one to add or subtract.

Answers will vary.

Charts are not Like Number Lines:

Number lines start with zero, Number Charts start with one. The step by step process for adding or subtracting with each is different. Number lines are all one long row: Number Charts have rows stacked on top of each other.

Answers will vary.

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Add Three

name: Answer Key

How does the Plus Three Chart help you add?

The numbers on the Plus Three Chart are arranged so that the numbers in each row are three more than the numbers in the row above. This means the answer to any plus three problem is very easy to find. Answers will vary.

Add Four

name: Answer Key

9+4= 13 8+4= 12 11+4= 15 6+4= 10

When both addends are even numbers, will the sum be even or odd? Why do you think this happens?

Even numbers can be arranged two by two. When adding even numbers there will never be a single one left over so the sum will always be even.

Add Five 7+5= 12 12+5= 17 10+5= 15 3+5=8

name:

Answer Key

When both addends are odd numbers, will the sum be even or odd? Why do you think this happens?

You can't arrange odd numbers two by two. There will always be one left over. When both addends have one left out, they combine to make two. This is why two odd numbers will have an even sum. Answers will vary.

Add Six name: Answer Key									
7+6= 13	12+6= [8	0+6=6	3+6= 9		9	11	8	5 +6 11	
9+6= 15	8+6=14	11+6= 17	6+6= 12	2	<u>+6</u> <u>15</u>	<u>+6</u> 17	<u>+6</u> 14	11	
6	5	7	13	9	13	6	7	9	
+6	+6	+6	+6	+6	+6	+6	+6	+6	
12	11	13	19	15	17	12	13	15	
7	1	3	12	2	7	8	14	12	
+6	+6	+6	+6	+6	+6	+6	+6	+6	
11	7	9	18	8	13	14	20	18	
14	9	13	10	12	5	2	4	10	
+6	+6	+6	+6	+6	+6	+6	+6	+6	
20	15	19	16	18	11	8	10	15	

When one addend is even and the other is odd, will the sum be even or odd? Why do you think this happens?

Even numbers can be arranged in twos, however odd numbers will have one left out. When you add an even and an odd number, there will always be one left out. The even number doesn't have an extra one to match up with the one left out. The sum of an even number plus an odd number will always be odd. Answers will vary.

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Add Seven

name: Answer Key

Why does adding seven give you the same answer as adding ten then subtracting three?

Seven is equal to ten minus three. 10-3=7. Whether you calculate in one step (+7) or two steps (+10-3) the answer will be the same.

Add Eight

name: Answer Key

Adding 8 gives the same answer as adding ten then subtracting two. Why does this happen?

Eight is ten minus two. 8+2=10 Whether you calculate in one step (+8) or two (+10-2) the answer will be the same.

Add Nine

Answer Key name:

5 +9 14

7 +9 16

Adding nine like adding ten then subtracting one.

Explain why.

Nine plus one is ten. 10-1=9 Whether you calculate in one step (+9) or two (+10-1) the answer will be the same.

Add Ten name: Answer Key											
7+10=17	2+10=	=12 5+10	=15 3+1	0=13	7 +10	1 +10	8 +10	5 +10 15			
9+10=19	8+10=	10+10)= <mark>20</mark> 6+	10=16	17	11	<u>+10</u> 18	15			
1 +10 [[6 +10 16	7 +10 17	5 +10 (5	9 +10 19	2 +10 12	6 +10 16	7 +10 17	9 +10 19			
7 +10 17	8 +10 [8	4 +10 14	2 +10 12	10 +10 20	9 +10 19	3 +10 13	1 +10 11	2 +10 12			
5 +10 15	9 +10 19	4 +10 14	0 +10 10	1 +10	5 +10 15	2 +10 12	4 +10 14	10 +10 20			

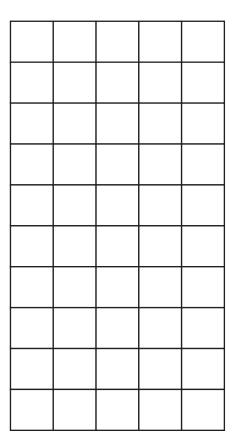
What happens to the number in the unit's place when you add ten? Why does this happen?

Ten has a zero in the unit's place. Adding or subtracting zero does not change a number. So when ten is added, the number in the unit's place is unchanged.

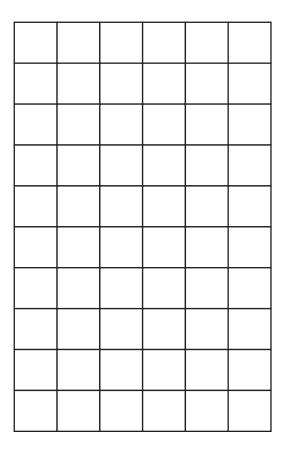
Blank Number Charts

Plus Four

Plus Five

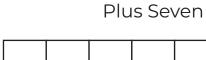


Plus Six

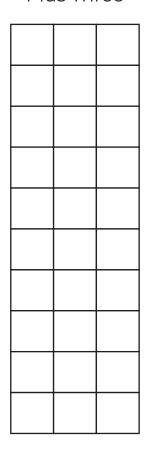


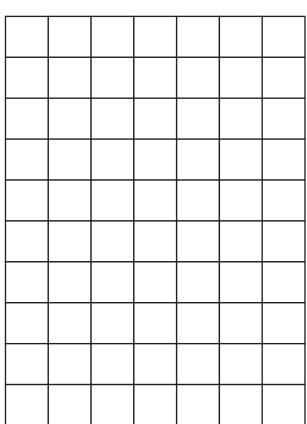
Blank Number Charts

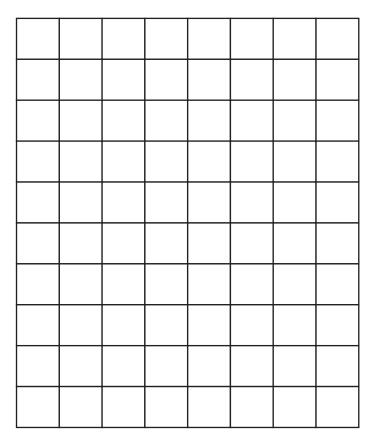
Plus Three



Plus Eight



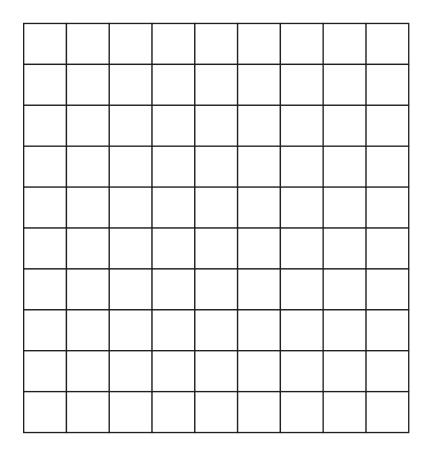


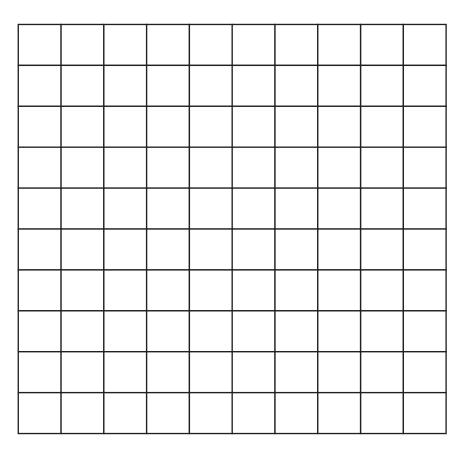


Blank Number Charts

Plus Nine

Plus Ten





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Adding to Twenty

Students will:

- Gain fluency with math facts up to twenty
- Explore connections between addition and subtraction
- Practice
 - counting on
 - skip counting
 - counting back
- Develop number sense
- Learn about charts and grids

