Dear Parents/Guardians,

Beginning next week, your child will be learning about subtraction strategies. We will be using a work-at-your-own-pace program called "The Subtraction Station" that will encourage each child to work to his/her full potential while developing an understanding of the subtraction strategies and facts.

As your child progresses through the levels, he/she will be learning strategies that will help commit some facts to memory and enable him/her to figure out unknown facts.

In order to help your child experience success with subtraction, please take the time to practice the strategies/facts with your child each night (or as often as you can). This is very important, as repetition is the key to mastery. Please practice the strategies that your child is currently working on, as well as the ones that he/she has already learned.

To help you provide support to your child, I am including a package following this letter. Included is:

- A parent support guide that includes the subtraction strategies in the order that your child will be learning them. This guide also includes facts to practice for each level. Please use this guide for daily practice. Also, remember to review the strategies that he/she has already mastered. Remember, your child might be learning strategies that you did not learn as a child. Please ask me if you have any questions whatsoever!
- A daily checklist to keep track of at-home practice. This is not for you to fill out – it is for your child. Encourage him/her to fill this out with a goal of practicing the facts each night. Remember, it only takes about 5 or 10 minutes!

Thank you for your involvement in your child's education.

Sincerely,

Parent Support Guide

This package outlines the order in which your child will be learning the subtraction strategies and facts. In this program, your child will move through 17 levels. Each level focuses on a different strategy, beginning with the easiest ones and moving along to the most difficult.

These mental math strategies are so important to your child's future in mathematics. Having a knowledge of many different math strategies is comparable to a carpenter having many different tools to choose from. When a person has many different math "tools" to choose from as she solves an equation, she will become faster and better at solving that equation. This will not only help your child in school, but also throughout life as he encounters problems that need to be solved.

Please help your child experience success with subtraction by practicing the strategy that he/she is currently working on each night. Ask your child to tell you about the strategies to show you how they work. This is a great way for your child to practice his understanding of the strategy. If you have any questions, please don't hesitate to ask me!

Level 1: Properties of 0

There are two properties to know. First, a number - 0 will equal that same number. Second, a number - itself will equal 0.

Sample facts to practice:

47-47=0	425-0=425	1000-0=1000	4101-4101=0	8771-0=8771
80-0=80	515-0=515	1004-1004=0	5200-0=5200	9005-9005=0
148-148=0	799-799=0	2672-0=2672	5925-5925=0	9493-9493=0
200-200=0	901-901=0	3318-3318=0	7654-7654=0	2875-0=2875

Level 2: One Less

The Strategy: Any number - 1 is the same as 1 less than that number. For example, 243-1 means 1 less than 243. We also practice extending -1 equations to 10's, 100's, and 1000's. For example, 4-1=3 is related to 40-10=30, 400-100=300, and 4000-1000=3000.

Sample facts to practice:

2818-1=2817	431-1=430	10-10=0	800-100=700	3000-1000=2000
2009-1=2008	30-10=20	60-10=50	600-100=500	5000-1000=4000
174-1=173	70-10=60	200-100=100	300-100=200	7000-1000=6000
4678-1=4677	90-10=80	500-100=400	9000-1000=8000	2000-1000=1000

Level 3: Two Less

The Strategy: Any number – 2 is the same as 2 less than that number. For example, 115–2 means 2 less than 115. We also practice extending –2 equations to 10's, 100's, and 1000's. For example, 4–2=2 is related to 40–20=20, 400–200=200, and 4000–2000=2000.

Sample facts to practice:

1012–2=1010	50–20=30	700–200=500	6000–2000=4000
8687–2=8685	80–20=60	800–200=600	5000–2000=3000
40–2=38	100–20=80	200–200=0	7000–2000=5000
399–2=397	30–20=10	400–200=200	9000–2000=7000
5245–2=5243	60–20=40	500–200=300	3000–2000=1000

Level 4: Counting Back

The Strategy: Start with the bigger number and count back when the smaller number is 1, 2, 3, or 4. For example, for 264–3, start at 264 and count back: "264…263, 262, 261." The difference is 261.

Sample facts to practice:

157–3=154	486–3=483	1924–4=1920	76–4=72
289–3=286	3555–4=3551	1213–2=1211	2411–1=2410
9724–2=9722	279–3=276	2300–2=2298	5762–2=5760
5986–2=5984	5675–4=5671	1926–4=1922	9087–3=9084
500–3=497	801–2=799	785–3=782	143–3=140

Level 5: Counting Up

The Strategy: Start with the smaller number and count up when the difference between the two numbers is 4 or less. For example, for 315–312, start at 312 and count up: "312…313, 314, 315." We counted up 3 so the difference is 3.

Sample facts to practice:

510–506=4	7210–7208=2	1128–1125=3	560–557=3
1132–1129=3	249–245=4	39–36=3	1213–1210=3
1000–999=1	743–740=3	4240–4238=2	4584–4582=2
588–587=1	9825–9824=1	848–844=4	5577–5573=4
697–696=1	3782–3780=2	286–282=4	459–456=3
211–207=4	9492–9489=3	57–54=3	5832–5831=1

Level 6: Think Addition

The Strategy: To solve a subtraction equation, you can "think addition." For example, for 15-10, think: "What can I add to 10 to make 15?" For 70-50, think: "What can I add to 50 to make 70?" Your child should understand that addition and subtraction are closely related and one can be used to solve the other.

Sample facts to practice:

475-400=75	880-80=800	63-30=33	74-10=64
25-15=10	1000-500=500	68-7=61	250-50=200
2200-100=2100	4000-3000=1000	70-50=20	25-10=15
675-5=670	50-25=25	29-8=21	394-300=94
700-650=50	1258-8=1250	40-8=32	1000-400=600

Level 7: Using Doubles

The Strategy: It is important that your child has the doubles addition facts memorized, for example, 1+1, 2+2, 3+3, etc. up to 12+12. With this strategy, the doubles facts are used for subtraction. When your child knows that 8+8=16, he also knows that 16-8=8. In this level the doubles are extended into the 10's, 100's and 1000's as well. For example, 6-3 is related to 60-30, 600-300, and 6000-3000.

Sample facts to practice:

22-11=11	8-4=4	80-40=40	1400-700=700
16-8=8	18-9=9	400-200=200	1600-800=800
10-5=5	4-2=2	800-400=400	6000-3000=3000
24-12=12	60-30=30	1000-500=500	4000-2000=2000
6-3=3	100-50=50	1200-600=600	8000-4000=4000

Level 8: Using Near Doubles

The Strategy: This strategy uses "near doubles" facts for subtraction. When your child knows that 7+8=15, he also knows that 15-8=7. In this level the near doubles are extended into the 10's, 100's and 1000's as well. For example, 7-3 is related to 70-30, 700-300, and 7000-3000.

Sample facts to practice:

7-4=3	5-3=2	70-30=40	900-500=400
9-5=4	11-6=5	150-70=80	3000-1000=2000
13-7=6	15-7=8	90-40=50	9000-5000=4000
3-1=2	50-30=20	300-200=100	7000-3000=4000
15-7=8	90-50=40	700-400=300	5000-2000=3000

Level 9: Using Combinations of 10 and Multiples of 10

The Strategy: Know the combinations that can be added to make 10 and multiples of 10, such as 20, 30, 40, 50, etc.

Sample facts to practice:

80-6=74	40-9=31	60-4=56	10-4=6	40-6=34
10-7=3	10-5=5	80-8=72	20-10=10	50-5=45
70-5=65	10-2=8	90-7=83	30-8=22	60-1=59
50-8=42	20-6=14	70-7=63	30-2=28	80-3=77

Level 10: Using Combinations of 100 and 1000

The Strategy: Know the combinations that can be added to make 100, 1000, and multiples such as 200, 300, 400, 2000, 3000, 4000, etc.

Sample facts to practice:

100-100=0	1000-300=700	100-10=90	100-60=40	1000-700=300
100-40=60	1000-800=200	100-80=20	100-70=30	1000-400=600
100-90=10	1000-100=900	100-50=50	1000-1000=0	1000-900=100
1000-500=500	100-20=80	100-30=70	1000-200=800	1000-600=400

Level 11: Back To a Friendly Number

The Strategy: Friendly numbers are numbers that are easy to work with, such as 10, 20, 50, 100, etc. To use this strategy we first get back to a friendly number, and then subtract the rest. For example, for 65-6, we first subtract 5 (65-5) to get to the friendly number 60. Then subtract 1 more to make 59. Ask your child to show you how to use a number line for this strategy.

Sample facts to practice:

65-6=59	56-8=48	45-6=39	203-7=196	364-12=352
14-8=6	53-4=49	98-9=89	122-9=113	71-6=65
33-5=28	27-8=19	82-6=76	225-7=218	156-7=149
81-4=77	71-5=66	108-12=96	42-3=39	233-5=228

Level 12: Up to a Friendly Number

The Strategy: Friendly numbers are numbers that are easy to work with, such as 10, 20, 50, 100, etc. To use this strategy we start with the smaller number and go up to a friendly number, and then add the rest. For example, for 61-54, we start at 54, and go up to the nearest friendly number, in this case 60 (we added 6 to get to 60). Then we add 1 more to get to 61. We added a total of 7, so the difference is 7. Ask your child to show you how to use a number line for this strategy.

Sample facts to practice:

213-199=14	104-96=8	760-690=70	55-42=13	88-16=72
45-28=17	25-19=6	180-95=85	24-18=6	76-67=9
172-165=7	250-198=52	404-390=14	62-26=36	52-46=6
304-292=12	34-17=17	44-18=26	100-31=69	25-16=9

Level 13: Subtracting Multiples of 10 and 100

The Strategy: Students should be able to subtract 10, 100, as well as their multiples, from a number up to 9999. Students should understand how to use place value to solve these equations. For example, for 356-200, you take 2 groups of 100 away from 356.

Sample facts to practice:

61-50=11	198-60=138	253-30=223	872-400=472
34-20=14	772-30=742	658-200=458	1432-20=1412
38-10=28	841-30=811	771-100=671	2726-500=2226
237-20=217	44-10=34	356-200=156	3814-600=3214

Level 14: Subtracting 7, 8, and 9

The Strategy: To subtract 7, 8, or 9, we first subtract 10 and then make up for the difference later. For example, for the equation, 23-8, students can first do 23-10=13, and then add 2 to the difference to make 15 (because we subtracted 2 extra in the first step). For the equation 76-9, first do 76-10 to make 66, then add 1 to make 67 (because we subtracted 1 extra in the first step). Ask your child to show you how a number line works well for this strategy.

Sample facts to practice:

45-9=36	76-9=67	132-7=125	153-8=145	313-7=306
64-8=56	112-9=103	222-7=215	344-7=337	531-7=524
82-7=75	68-9=59	78-9=69	102-7=95	742-8=734
34-8=26	181-8=173	184-9=175	104-8=96	441-9=432

Level 15: Subtracting 1000 and Multiples of 1000

The Strategy: Students should be able to subtract 1000 and multiples of 1000 from a number up to 9999. Students should understand how to use place value to solve these equations. For example, for 4287-2000, you take 2 groups of 1000 away from 4287.

Sample facts to practice:

5271-1000=4271	1415-1000=415	6561-5000=1561	8419-4000=4419
3025-1000=2025	3832-3000=832	9234-2000=7234	4502-4000=502
8065-1000=7065	4804-2000=2804	2638-1000=1638	3814-2000=1814
7724-1000=6724	7009-4000=3009	3333-2000=1333	5329-3000=2329

Level 16: Compensation

The strategy: Compensation builds on the "subtracting 7, 8, 9" strategy, and essentially uses the same approach. Make the subtrahend (smaller number) into a friendly number, and then compensate for that change in the difference. For example, for 84-18, do 84-20 instead (64) and then add 2 to the difference to make 66 (because you subtracted 2 extra in the first step). For 53-39, first do 53-40=13 and then add 1 to the difference to make 14 (because you subtracted 1 extra in the first step). Ask your child to show you how to use a number line for this strategy.

Sample facts to practice:

84-18=66	47-19=28	64-28=36	161-47=114	74-19=55
53-39=14	65-18=47	59-19=40	282-19=263	83-39=44
67-49=18	81-17=64	185-48=137	345-37=308	142-27=115
72-28=44	75-39=36	243-27=216	188-59=129	356-29=327

Level 17: Expanding the Subtrahend

The Strategy: To use this strategy, students break apart the smaller number (the subtrahend) in order to make the equation easier to solve. For example, for the equation 23-11, break the 11 into a 10 and a 1. First do 23-10 to make 13, and then take away the remaining 1 to make 12.

Sample facts to practice:

68-22=46	35-22=13	429-215=214
87-41=46	83-61=22	1421-1210=211
76-35=41	78-54=24	2875-1254=1621
95-72=23	562-331=231	7865-5551=2314
74-54=20	875-513=362	2920-1220=1700
67-32=35	436-313=123	3557-1323=2234
95-21=74	859-328=531	4256-2115=2141