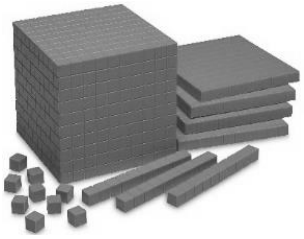
Math Strategies

Parent Packet

This packet is an effort to help parents to understand what strategies are taught in class so that helping with homework will be easier!

Place Value/Hundreds, Tens and Ones:

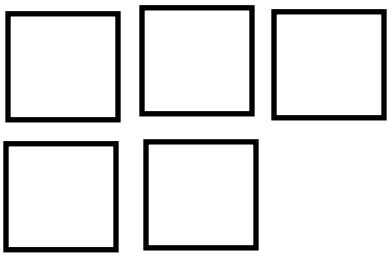
Children are taught to break two and three digit numbers down ("decomposing") into their place values. This helps them have an understanding of what a number truly means. Numbers can be broken down as follows:



537= 5 hundreds, 3 tens, 7 ones

(500) (30) (7)

It can be shown on a place value mat using place value blocks here at school. The blocks include a "cube" of 1000, a "flat" of 100, a "rod" of ten and a "cube" of one. At home, children are taught to use the same shapes to draw their answers out. We don't get into thousands, so they will use a square for 100, a thin rectangle for a rod and a small square for a one. Here is what 537 would look like on a place value mat:

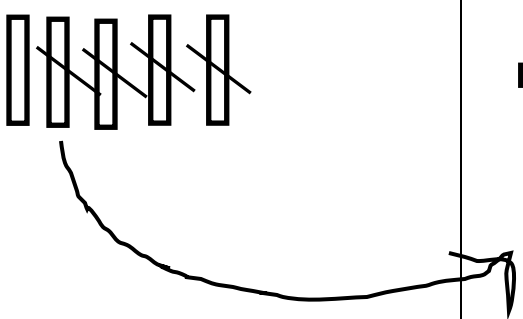
Hundreds	Tens	Ones
		

Once we begin working on **addition** concepts, they can utilize this strategy to easily add two numbers:

Stage One: Students draw the shapes in for the first number. Then they draw in the shapes for the second number and count to find the total.

Stage Two: Students draw the shapes for both numbers as in stage one. They "trade" any groups of ten that are possible before counting to find the total. (Ex., if there are ten or more cubes, cross out ten and make a rod of ten in the tens place. If there are ten or more rods of ten, cross them out and make a square of 100.)

Subtraction problems can be solved by drawing in the shapes for the largest number, and then crossing out the shapes to account for the second number. As problems get more complicated and require trading, students must learn to "borrow" from the next largest place value. (Ex., 51 – 35. The student will draw 5 rods and 1 cube. The student will need to cross out 3 rods to make 30. Then they will see they don't have enough cubes to cross out 5. They will need to cross out a remaining rod and draw in 10 cubes in the ones place. Then they will be able to complete the problem.)

Hundreds	Tens	Ones
		

Using a 100's Chart to Solve Problems:

Students are taught to use a 100's chart to solve addition and subtraction problems as follows:

Addition:

The student will start on the first number (addend) in an addition equation by placing a mark (or even just their finger) on that number on the 100's chart. They will then "jump" to find their answer by determining the value of tens and ones in the second addend. For each ten, they will jump down one row (add 10). For each one, they will move to the right one space (add one).

Example:

33 + 35 = 68

would look like this

They have been taught that to show their work, they should "draw the path" they took to get to their answer, like this:

33

43

53

63 64 65 66 67 68

Hundred Board

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

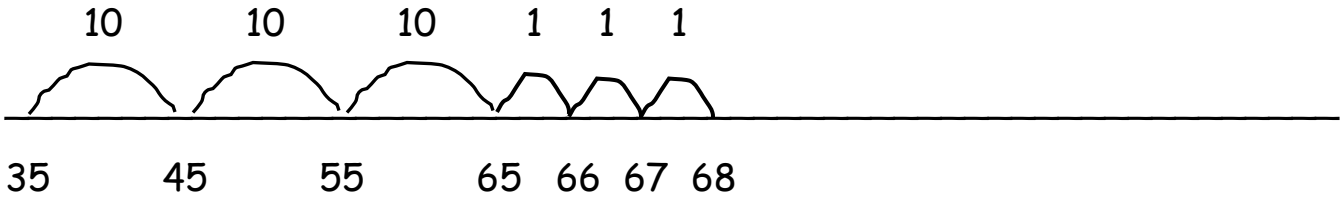
Using a Numberline to Solve Problems:

Students are taught that they can draw a numberline to solve addition and subtraction problems. They will draw the line and write the largest addend under the numberline far to the left. They will then "jump" the value of the other addend, making "friendly jumps." (Ex., utilize what they know about the tens and ones in the second addend).

Example:

35 + 33 = 68

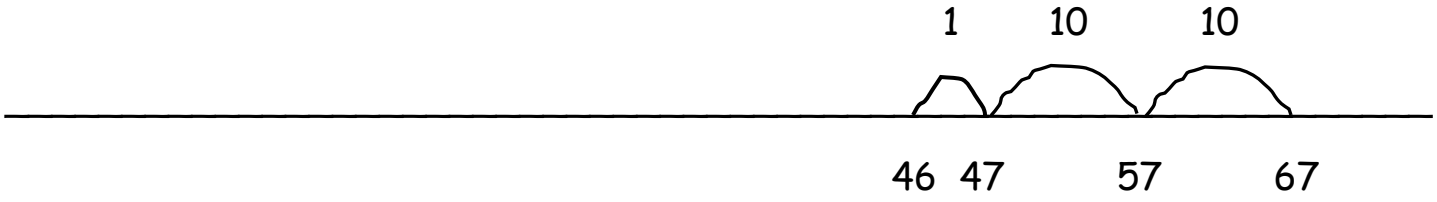
Start on 35. Since the smaller addend is 33, they will make 3 jumps of ten and 3 jumps of one and mark where they landed each time.



Subtraction would be similar, but would work from the higher number on the right and jump back the value called for in the problem.

Example:

67 – 21 = 46



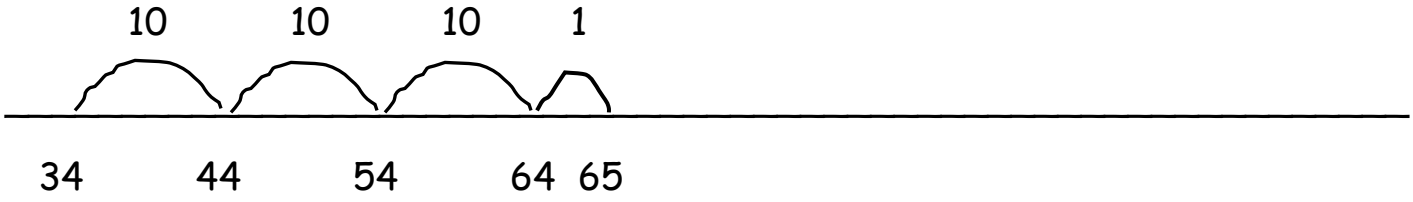
- Some students may use a numberline to count UP from the lowest number to the highest number to determine the difference.

Assessing Student Progress:

We feel it's important to point out that students are assessed not only on their ability to choose a strategy and solve a problem accurately. They will also be given finished problems to analyze for accuracy.

Here's an example:

Larissa solved the equation 34 + 21 using the numberline below. She got the answer 65.



Do you agree with her answer? Circle one: YES NO

Explain.

_____

_____

_____

The student would need to explain that Larissa jumped 31 jumps instead of 21 jumps and got the answer incorrect.

We hope this packet helps you as you work with your child in math. Please let your child's teacher know if you have any other questions or comments.