

99- or 100-Chart

The 99- or 100-chart is a useful tool for a first grade student when working with addition.

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22	23	24	25	26	27
31	32	33	34	35	36	37
41	42	43	44	45	46	47
51	52	53	54	55	56	57

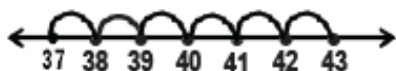
$$14 + 30 =$$

This section of the 100-chart shows how a student has started at a two-digit number (14) and added a multiple of ten (30) to find a total of 44.

Open Number Line

A first grader learns to use an *open number line* for addition and subtraction problems. When using the open number line for addition, the student is taught to start with the larger number first to be more efficient.

$$37 + 6 = 43$$



Partial Sums Strategy

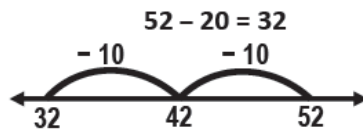
A student could solve a problem using the *partial sums* strategy.

$$\begin{array}{r}
 54 + 9 = \\
 50 + (4 + 9) = \\
 50 + 13 = 63
 \end{array}
 \quad \text{OR} \quad
 \begin{array}{r}
 54 \\
 + 9 \\
 \hline
 13 \\
 + 50 \\
 \hline
 63
 \end{array}$$

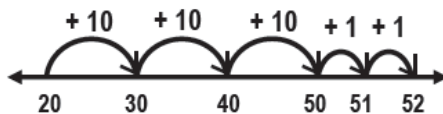
First grade students will add and subtract within 20, demonstrating fluency for addition and subtraction within 10.

Subtraction

The *open number line* can be used when doing addition or subtraction.



The example above shows how a student may do the subtraction problem $52 - 20$. The example below shows the same problem using the *adding up* strategy.



As with addition, the 99- or 100-chart is a valuable model when doing a subtraction problem.

41	42	43	44	45
51	52	53	54	55
61	62	63	64	65
71	72	73	74	75
81	82	83	84	85
91	92	93	94	95

$$93 - 40 = 53$$

This student has started at 93 and subtracted 40 to get 53.

Parent Roadmap



Grade 1 Math

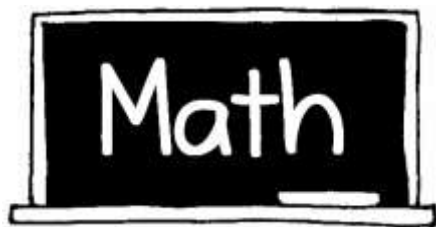
Key Concepts

- ➡ Addition strategies
- ➡ Subtraction strategies



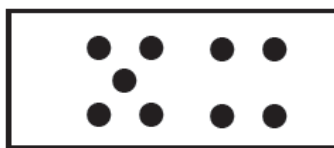
COWETA COUNTY
SCHOOL SYSTEM

Adapted from Cobb County Schools



Addition

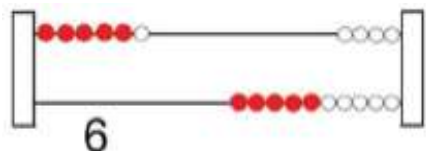
First grade students need to be able to count all, count on, or rearrange the dots in order to add. In this example, a child may start with five dots and count on five dots to make nine dots. It is also possible to see four groups of two dots to make eight dots and one extra dot to see nine dots.



Rekenreks (Beads Used for Counting)

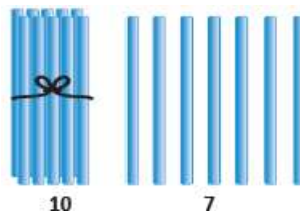


First grade students have to be able to mentally rearrange beads to model strategies of addition and subtraction. The use of rekenreks fosters instant recognition of sets (*subitization*), fluency, and computation with addition and subtraction. In this example, the student may see 6 as 5 red beads and 1 white bead.



Concrete Models

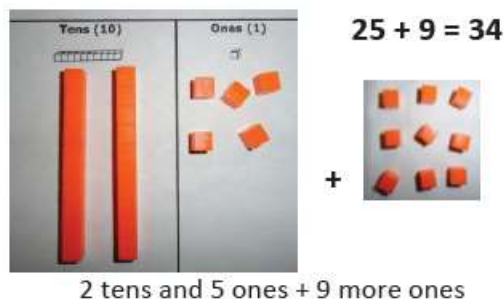
Initially, students must work with concrete models for addition and subtraction. Students start by building representations of a collection of 10 things to make a bundle of ten ones called a ten. The example below shows one ten and some more ones (7).



Students build numbers using base ten blocks. In the picture below, a student has built the number 35 using 3 tens and 5 ones.



Once students understand the concrete models, they move to the written form.



2 tens and 5 ones + 9 more ones

Making a Ten

The goal is for students to *make a ten*. In this example, the child moved two dots from the second ten-frame to completely fill one ten-frame. Four dots were left over.



$$\begin{array}{r} 8 + 6 = \\ \quad \swarrow \searrow \\ \quad 2 \quad 4 \\ 10 + 4 = 14 \end{array}$$

After much practice with ten-frames, the written model should be included.

Break to a Ten

In this example, students will break the 5 into a 3 and a 2. The 3 allows the 13 to subtract a 10. The 2 can easily be taken away from the 10 to make an 8.



$$\begin{array}{r} 13 - 5 = \\ \quad \swarrow \searrow \\ 13 - 3 - 2 = \\ 10 - 2 = 8 \end{array}$$

Doubles Strategy

First graders will also add using the *doubles* strategy. This example shows two ways in which students can do the problem $6 + 8$.

$$\begin{array}{l} 6 + 8 = \\ 6 + 6 + 2 = \\ 6 + 6 = 12 \\ 12 + 2 = 14 \end{array} \quad \text{OR} \quad \begin{array}{l} 6 + 8 = \\ 6 + 2 + 8 = \\ 8 + 8 = 16 \\ 16 - 2 = 14 \end{array}$$