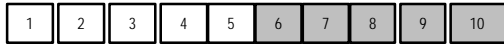


## Grade 1 – Math Tools

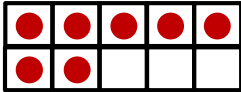
### Number Path:

A number path is different from a number line in that it represents quantity. A number line illustrates distance between one point and another.



### Ten Frame and 2-Sided Counters

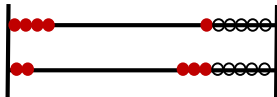
A ten frame is organized in two rows of 5 to visualize ten. It supports the benchmark numbers of five and ten. It is used in the horizontal position and filled top to bottom, left to right. Children's addition strategies are developed through the use of this tool.



### Rekenrek/Math Rack:

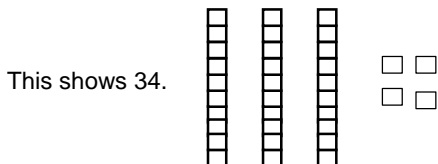
The Rekenrek allows students to move groups/sets of beads supporting the skill of **subitizing**, (the ability to recognize a quantity without counting) unlike the ten frame where counters are moved one at a time. Red and white beads are arranged in groups of 5 so that the benchmark numbers five and ten are easily visible. Students move beads from right to left. In the ten frame counters are placed one at a time.

This shows 6 using the top and bottom rows.



### Base Ten Blocks:

Base ten blocks help children to conceptualize larger numbers. A single cube is equal to one, a rod is equal to 10.



## Grade 1 Mathematics

### What's In?

Building conceptual understanding with manipulatives

Explaining why the answer is correct and how they arrived at the answer

Understanding there are multiple strategies to arrive at a solution and attempting to solve a problem in more than one way

Applying mathematical understandings to new situations in order to solve a problem

### What's Out?

~~Learning the steps, algorithm, without conceptual understanding~~

~~Giving the "number" as the correct answer and moving on without explanations~~

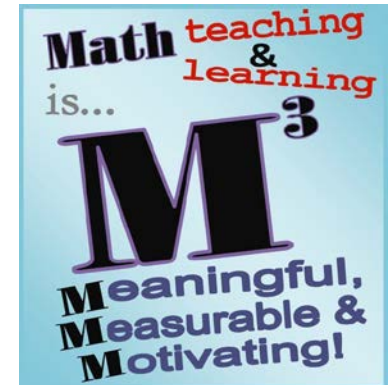
~~Thinking there is only one method to finding a solution to a problem~~

~~Applying their understanding of mathematical concepts to only similar problems to find a solution~~



Long Beach Unified School District  
K-5 Math Curriculum Office  
Teacher Resource Center  
1299 E. 32<sup>nd</sup> St., Room D  
Signal Hill, CA 90755

# Math Tools and Strategies Your Child Will Use in Grade 1



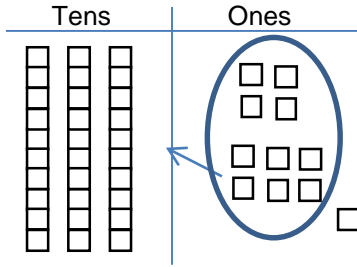
This brochure illustrates mathematical strategies students will be learning throughout the school year. Additional Parent Resources can be found at [www.lbschools.net](http://www.lbschools.net) under Mathematics and Family Resources.

Pamela Seki  
Assistant Superintendent of Curriculum, Instruction and Professional Development

Lisa Dougan  
K - 5 Mathematics Curriculum Leader

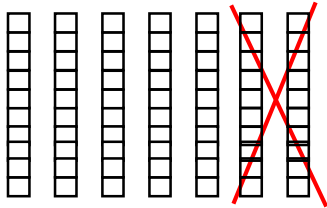
## Grade 1 – Strategies Using Base Ten Blocks

Base ten blocks are used to concretely build conceptual understanding. Students build an understanding for the concept of “regrouping for addition” in grade one, and “regrouping to subtract” in grade two.

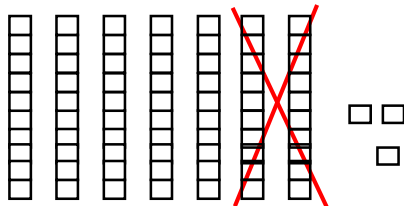


$34 + 7$  can be shown this way:

Students subtract ten from tens within 100. The first example below shows  $70 - 20$ .



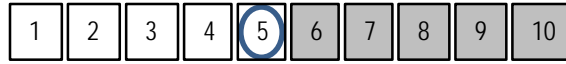
In the example  $73 - 20$ , Teachers can check to see if students understand the value of the digit 2 in 20. This misconception would be noted if the child crossed out 2 ones rather than the 2 tens.



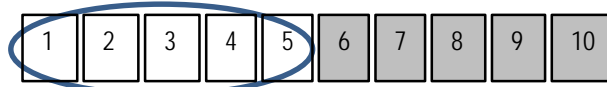
$$73 - 20 = 53$$

## Grade 1 – Strategies Using a Number Path

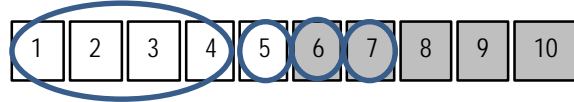
When asked to show “5”, children incorrectly circle the symbol 5 rather than circling 1, 2, 3, 4, and 5.



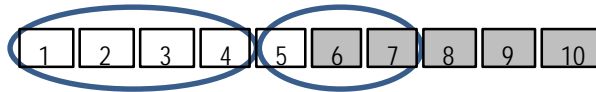
The example below shows that the quantities 1, 2, 3, and 4 are a part of what makes 5.



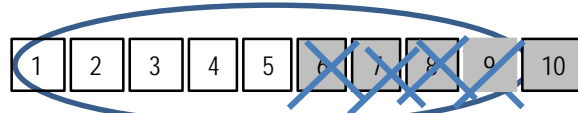
This shows  $4 + 3$  by counting on one at a time from a set of four.



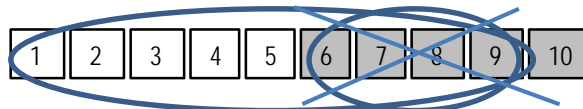
This shows  $4 + 3$  by joining a set of four to a set of three. Showing four and three have been subitized.



This shows  $9 - 4$  counting backwards one at a time from nine.



This shows *subitizing* a group of four and subtracting the group.

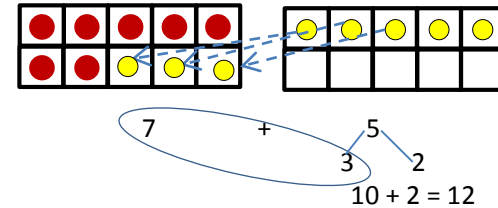


## Grade 1 – Strategies Using A Ten Frame

### Making a Ten to Add:

Making a ten is an important strategy to develop fluency. Making a ten helps students to simplify a problem.

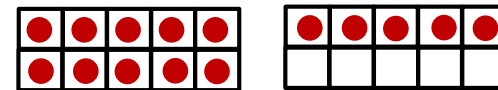
The example below,  $7 + 5$ , shows how the five is broken into a 3 and 2. Moving 3 to the left frame in order to make a ten and creates the easier problem of  $10 + 2 = 12$ .



### Making a Ten to Subtract:

The “back down to a ten” strategy is shown here with the example  $15 - 8$ .

15 is represented in the ten frames.



Break apart the “subtrahend” 8 into 5 and 3, which will allow subtracting 5 from 15 to get “back down” to ten. This creates the easier problem,  $10 - 3 = 7$ .

