

MATHEMATICS: GRADES K-1

Counting activities

Calendar: place value and money

Groups of facts and family of facts

Cover ups and arrow math using the 100 chart (30 for gr. K)

Comparison subtraction

Addition fact strategies

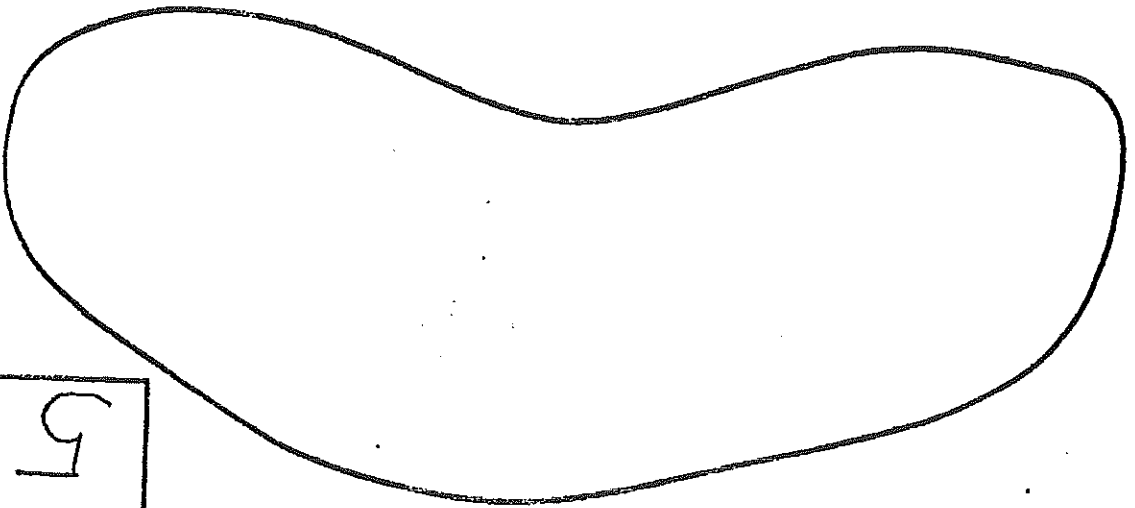
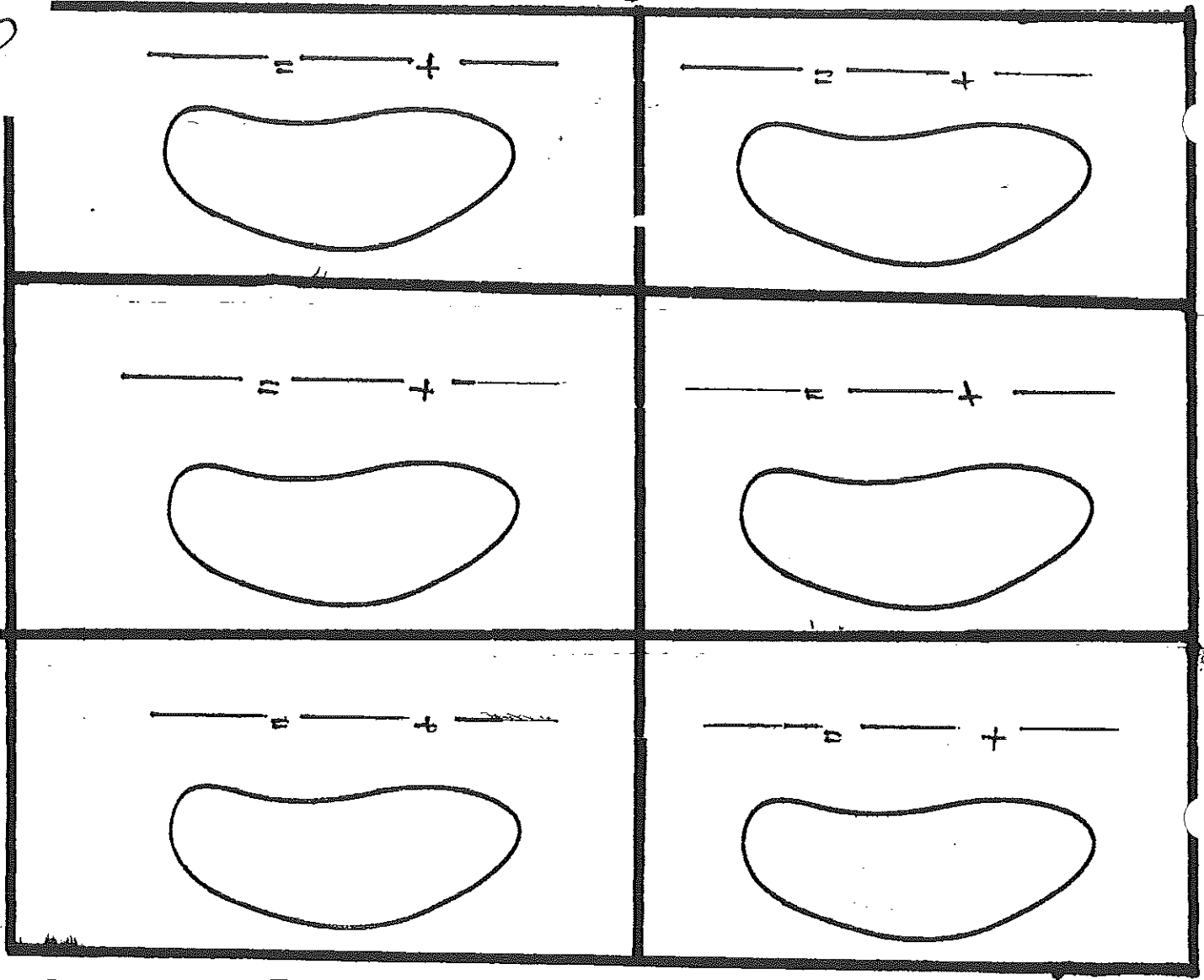
Organized chaos

Rectangle cut outs

Make a 10-link chain

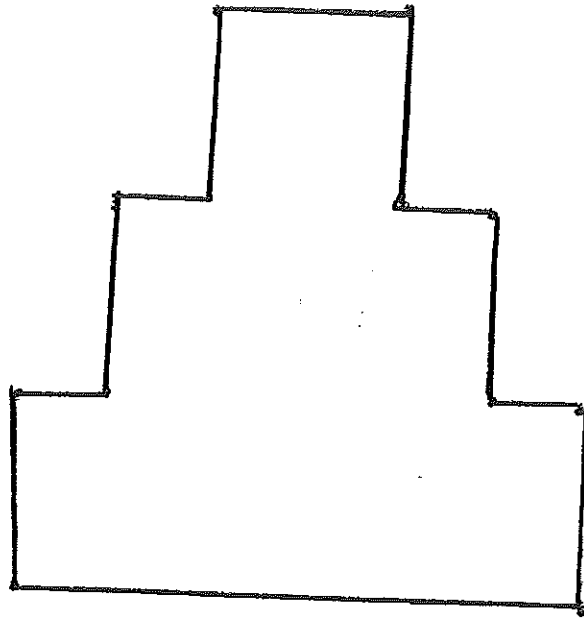
Class story problem book

6



5

MICHIGAN MATHEMATICS PROJECT (GRADES K-2)
 WHOLE NUMBERS
 1-9



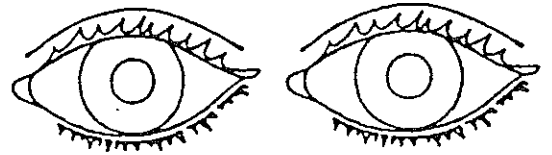
_____ Tiles

Red + Blue = _____
_____ + _____ = _____
_____ + _____ = _____
_____ + _____ = _____
_____ + _____ = _____
_____ + _____ = _____
_____ + _____ = _____
_____ + _____ = _____

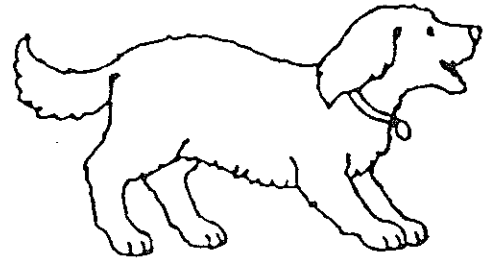
$0 + 0$

Karen Pleasant
Central Elem.
Reeths Puffer
Muskegon

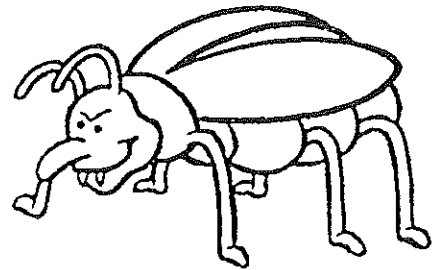
$1 + 1$



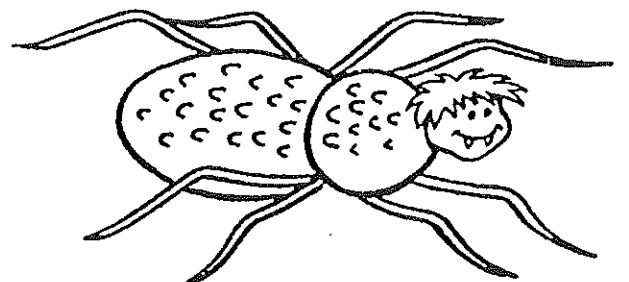
$2 + 2$



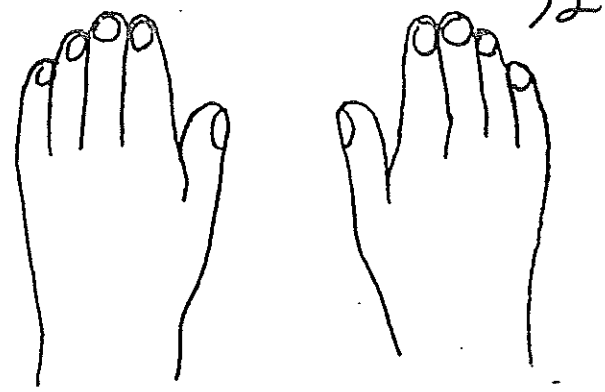
$3 + 3$



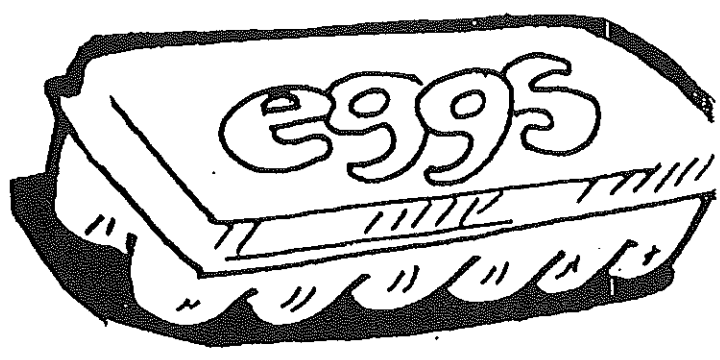
$4 + 4$



5 + 5



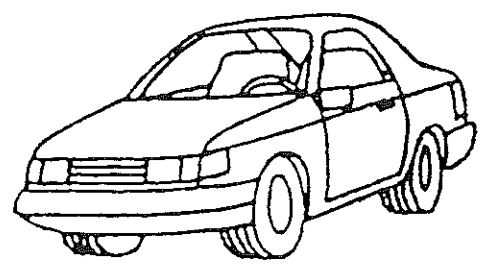
6 + 6



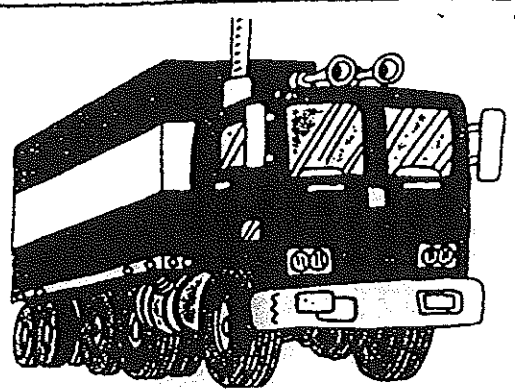
7 + 7

Sun	Mon	Tue	Wed	Th	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14

8 + 8



9 + 9



To the tune of High-Ho the Derry-O

The "Doubles" Song

By: Leslie Ivens

Delton schools

Knowing the doubles ¹³ ~~are~~ cool.

They help us do great in school!

Learn them by heart, they make you smart

Knowing the doubles ~~are~~ cool.

One plus one equals two.

The double of one is two.

Look at two eyes staring at you,

The double of one is two.

Two plus two equals four.

The double of two is four.

Look at the dog walking along,

The double of two is four.

Three plus three equals six.

The double of three is six.

Look at the insect and count his legs.

The double of three is six.

Four plus four equals eight.
The double of four is eight.
Look at the spider and count his legs.
The double of four is eight.

Five plus five equals ten.
The double of five is ten.
Look at you fingers and count them all.
The double of five is ten.

Six plus six equals twelve.
The double of six is twelve.
Look at the eggs and count a dozen.
The double of six is twelve.

Seven plus seven equals fourteen.
The double of seven is fourteen.
Look at the calendar and count two weeks.
The double of seven is fourteen.

Eight plus eight equals sixteen.
The double of eight is sixteen.
Look at the crayons two rows of eight.
The double of eight is sixteen.

~~It's how old you are~~
~~When you can drive a car~~

Nine plus nine equals eighteen.
The double of nine is eighteen.
Look at the semi and count the wheels.
The double of nine is eighteen.

Knowing the doubles ^{is} ~~are~~ cool.
They help us do great in school!
Learn them by heart, they make you smart.
Knowing the doubles ~~are~~ ^{is} cool!

is.

1	1	1	1	1
---	---	---	---	---

Penny



5	5		
10	10	10	

Nickel

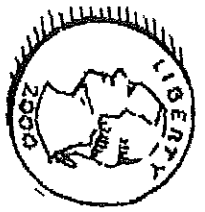


Dime



25	25	25	25
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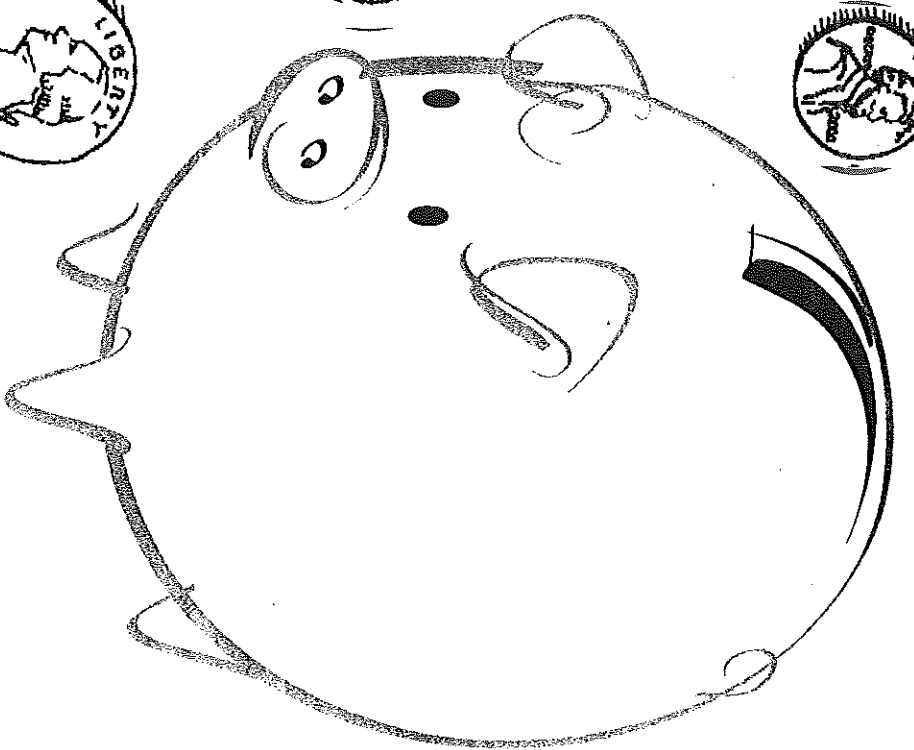
Quarter



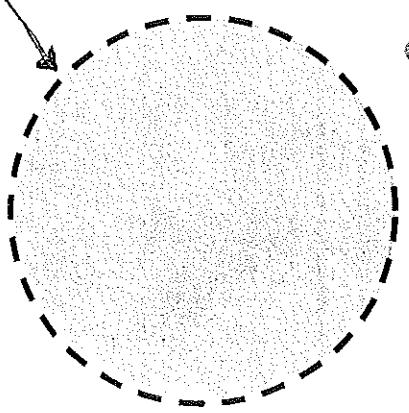
100

Dollar

Dollar



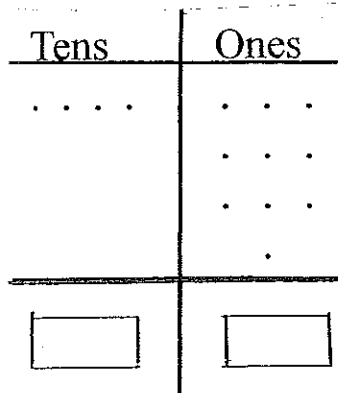
Add to bank



Place Value

The calendar, along with Linky Rinks, can be used to introduce and practice place value concepts. This process works best for grade K and the first half of grade 1. Base ten blocks work well for the second half of grade 1 and grades 2/3.

Use push pins, nails or magnets to set up a recording chart as shown below:



The distance between the horizontal lines should be such that chains of ten links can hang from the pegs in the ten's spot (house) and in the space between the two lines. Note that four push-pins are used in the ten's house. If only three pegs were used children would want to regroup once all three pegs had chains hanging from them, similar to what is done in the one's house. The four push-pins in the ten's house eliminates this error.

The pegs in the one's spot (house) should be spaced so that one link can be hung from each peg without overlapping.

Velcro or magnetic tape should be placed below the bottom line as shown in the diagram above.

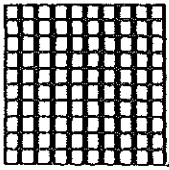
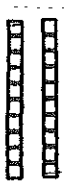
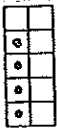
This area will be used to record numbers that match the date on the calendar using number and/or word cards.

Two student helpers go to the place value station each day. One student places a link on a peg in the one's house. If they fill up all pegs, on their turn, they make a chain of ten (regroup) and move the chain into the ten's house placing it on the far right peg. The second student places a number (gr K and gr 1) and/or a word (gr 1) card on the Velcro or magnetic strips at the bottom of the chart.


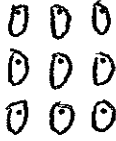
The first time ten links are placed in the ones house, the teacher should take the links off and have the entire class count the links as they are placed on the helpers fingers. This illustrates one-to-one matching. Have the helper close their fists and ask the class: How many links the helper has on his/her fingers? This helps emphasize the importance of the quantity ten. Emphasize that once the house is full we need to do something (regroup) so we have space for the next link (day).


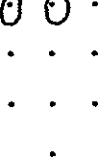
The quantity 31 will be the largest number made as that amount is the most days in any one month. When the next month begins the links are taken off the chart and the process starts over with "1".

Starting in January, grade one teachers may want to switch to a base ten chart. Use base ten blocks matching the blocks with the number of days that students have been in school. This allows students to move to larger numbers in a timely fashion. Grade two teachers may want to start the year matching base ten blocks to the days in school rather than the date each month. Days in school are usually matched to counting numbers at the start of the school year, in grades one and two, thus making a number line for the class. Day 124 of school is shown below in a base ten format. Magnetic tape can be placed on the back of the base ten blocks. A ten-frame works well in the one's house as it allows children to build on the quantity of five and examine what is needed to make a ten.

Hundreds	Tens	Ones
		
1	2	4

When using links for place value the same color should be used in the one's house until it is filled. Once the chain of ten is moved to the ten's house (all one color) another color should be used. This procedure makes it easier to count the total number of links on the chart. The two examples that follow show how the place value center would look on Fri. the 19th and on Mon. the 22nd of the month:

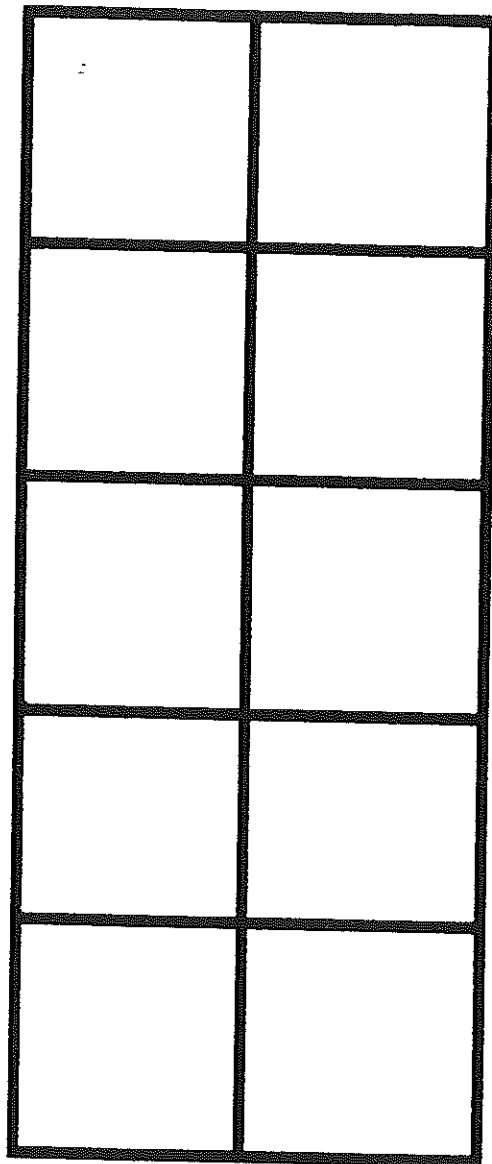
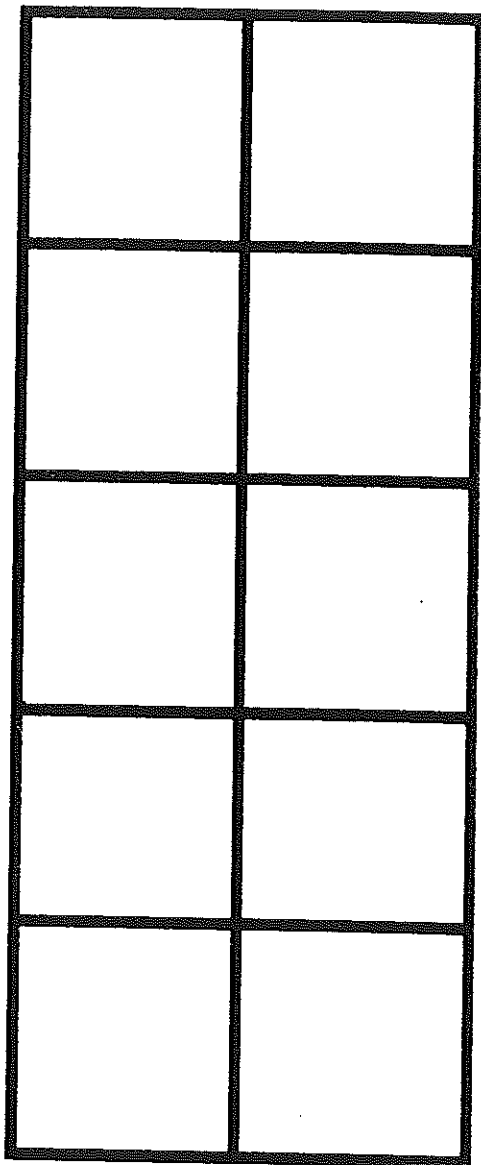
Tens	Ones
	
1	9
One Ten	Nine Ones

Tens	Ones
	
2	2
Two Tens	Two Ones

Teachers should have the two helpers tell the class what they have done and the quantity that is shown. The class should also count (in unison) the number of links shown on the chart each day. They should count by tens and then count on by ones. On the 22nd the class would say: 10, 20, (pause), 21, 22.

Matching links to the date on the calendar allows for more trading (regrouping). Helpers must add links for Sat., Sun. and Mon. each Monday (3 links) when the chart is updated. This gives students more practice in the regrouping process with numbers that are more meaningful. Students are: "Doing, Talking, Visualizing and Recording", thus addressing different learning styles of students.

DOUBLE TEN FRAME



FOR

CONSTRUCTED RESPONSE QUESTIONS

Teach children "How To Think" rather than telling them "What To Think"

by

Adjusting instructional delivery to match various learning styles

using

Models, symbols and words

by having students

Do, talk, visualize and write

Good critical thinkers produce information rather than consume information so change questions from:

Simple answer, quick recall of fact type questions

to

Questions that require students to figure out the answer before they can respond.

Have students respond by:

Describing patterns or situations

Explaining their thinking or why they chose...

Showing all work: Narrative, calculations, tables, diagrams, charts and/or graphs

The words: Describe, explain and show are the key words for constructed response type questions.

Students must realize that there may be more than one way to solve a problem.

Questions that promote thinking:

What is this problem about?

What did you do?

Why did you do that?

How will that help you find the answer?

Show me what to do next!

Can you do it another way?

Show me how to make a picture, graph or chart for this problem!

How would you teach this idea to your best friend!

Tell me in your own words without using any numbers how to do this problem.

Explain how you came up with that answer