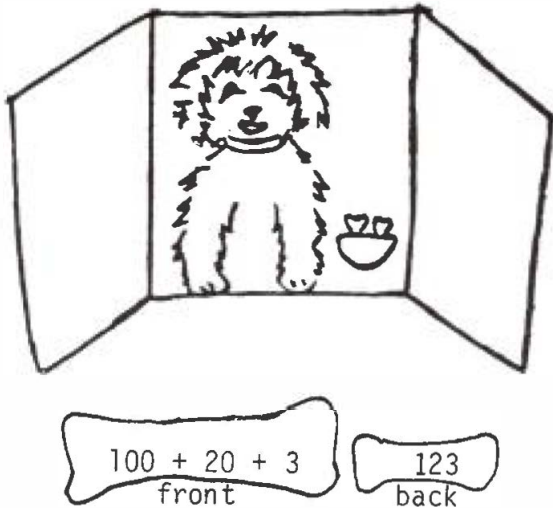


More Teaching Ideas

Reprinted from The Math Post, Volume 7, Issue 2

Mrs. Delores Schreiner, Assistant Principal of Marlborough Elementary School, is a veritable store of ideas. The following pages illustrate some of these. Other ideas will appear in subsequent issues of The Math Post.

Numeration



Feed the Dog a Bone

(two players)

Tape three pieces of pulpboard together and make a dog's (dinosaur, elephant and so on) picture on the middle sheet. Cut out the space for a mouth. Make cards shaped like a bone and place in the dog's dish.

First child sits behind the dog's picture and checks the answers. Second child feeds the bone saying the re-naming for $100 + 20 + 3$ as 123. (First child checks the back; if not correct, he tosses the bone back to the second child.)

This can be played with bones which have

- operations
- fractions
- geometric shapes
- definitions (1 mile = ___ft.)

They can keep track of how many bones they *can* feed the dog to find a winner.

Game is over when the bones are all fed.

Greater - Less - Equal

(two players)

Develop a *set* of cards to 100 (about 50 cards).

Make some of the numbers the same,

for example

42

49

94



42

 and so on

> =<

 front of card
back of card

Deal the whole deck face down to each person. First player predicts his numeral will be $>$, $<$ or $=$. Both players then lay down their top card. If the player's prediction is accurate, he gathers up both cards and puts them at the bottom of his deck. Each player takes turns predicting. The player with the most cards wins.

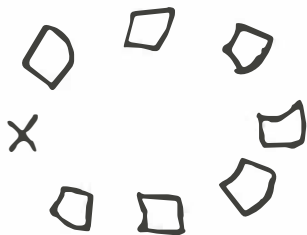
Skunked

(6 - 8 players + teacher)

Drill game.

Make a deck of cards with the numbers 25, 50, 75 and so on. Draw a picture of a skunk on one card and mix into the deck.

Have the children sit around in a circle with the teacher. Deal all the cards out.



The child with the first numeral in the counting by 25s (10s, 5s) sequence lays down his card, calling out 25; the second follows with 50, and so forth.

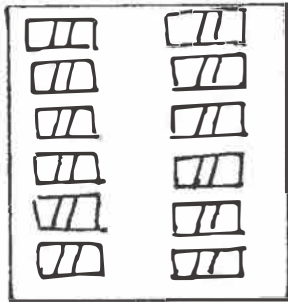
If a child plays the wrong card *or* if a child halts the play by not playing out the next numeral, the teacher calls "skunked," and the person holding the skunk card passes it to the child in error. (The teacher must of course determine *who* has the card which is needed to continue the play).

Each time the play is halted, the skunk card is passed to the child in error.

Whoever has the skunk card at the end of the game is the loser.

Throw-a-Hundred (Thousand - whatever!)

Make a stencil for place value to 100.



Materials - one die
- one pencil

1st player throws the die and enters the numeral in the *ones* place.

2nd player throws the die and enters the numeral in the ones place.

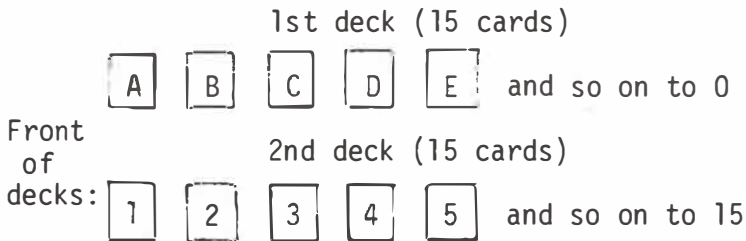
(See who is winning!)

The players go on to fill in the tens, then the hundreds. The person with the largest number wins and puts a check ✓ by the number on his sheet. The game is over when the paper is full. The person with the most ✓'s wins.

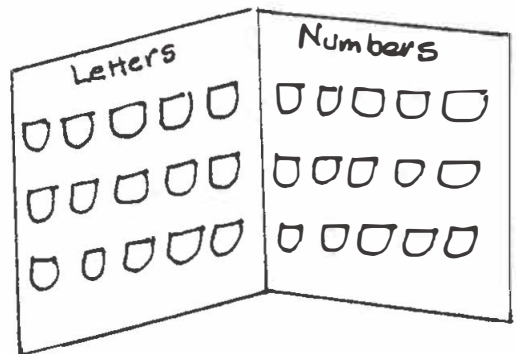
Think

(two to four players)

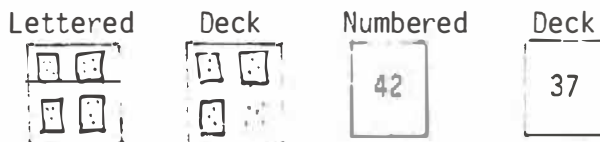
Make 2 decks of cards (15 each).



Make a chart with 15 pockets on each side (use library card pockets).



Back side of decks:



Mix the cards up in each deck so that

A will *not* match 1

B will *not* match 2 and so on.

With the cards in the pockets on each half of the chart, the children take turns trying to turn over a letter card and a number card which are pairs, for example:

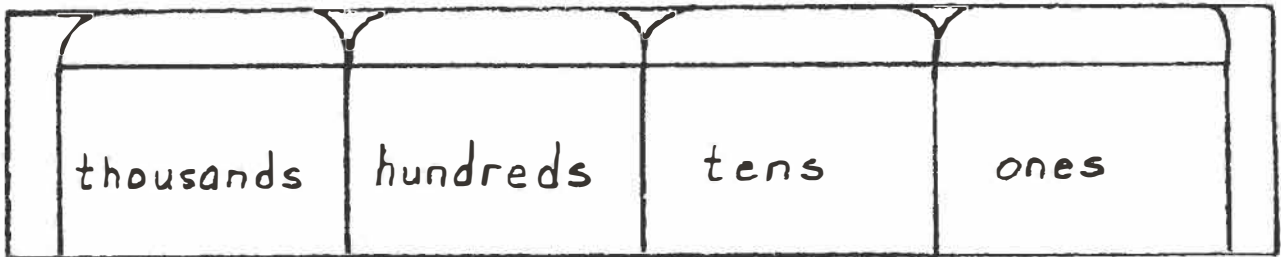


If the two cards turned up do not match, the cards are put back into the pockets, and the next child has a turn. The children try and remember where the cards are placed in the pockets.

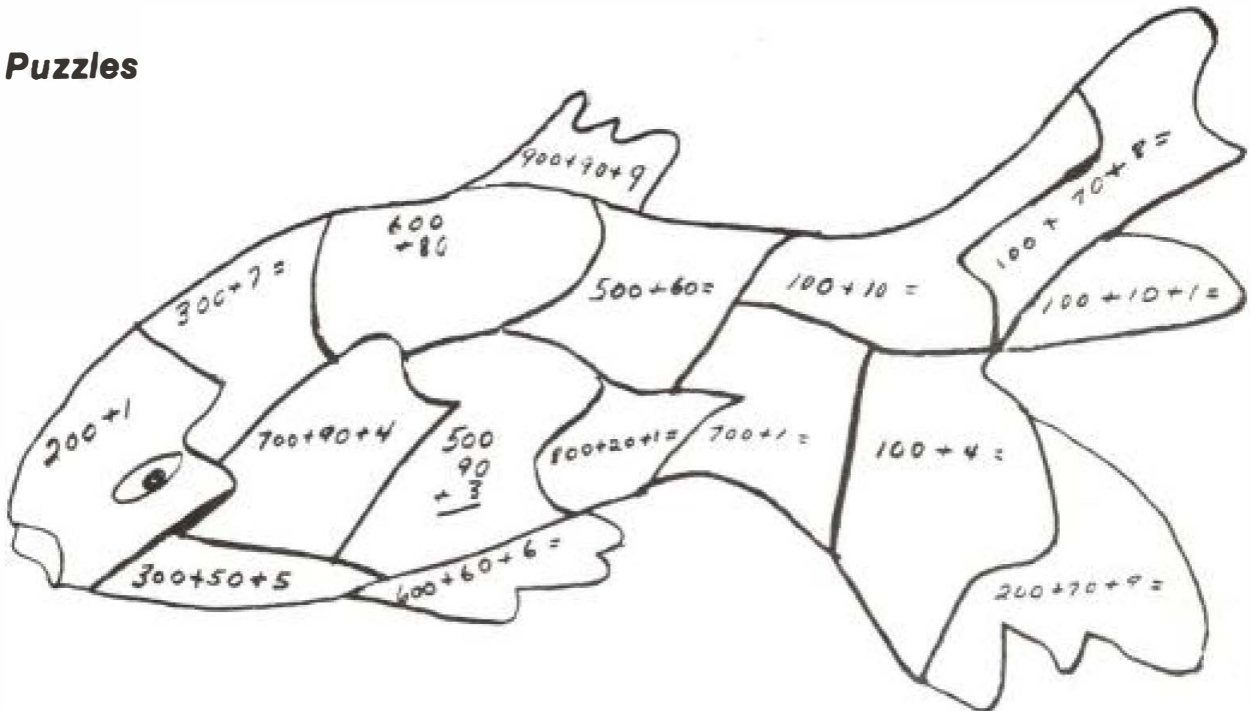
- This game tests:
- a. knowledge of numbers
 - b. memory

The child with the most cards wins.

A handy, easily-made aid for teaching regrouping can be made from a piece of cardboard and a few library card pockets.

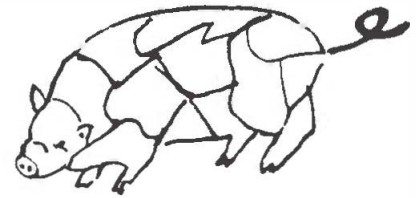
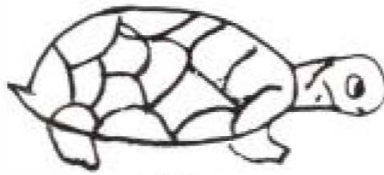


Puzzles



Cut up a second fish with answers 355, 821, and so on, and use this as a puzzle.

other ideas



Use with operations:

$$3 + 5 + 2 =$$

$$5 \times 2 =$$

Use with equalities:

one less than 89

88

Use with definitions:

1 hour

60 min

Use with fractions:

$$\frac{4}{5}$$

$$\frac{2}{10}$$

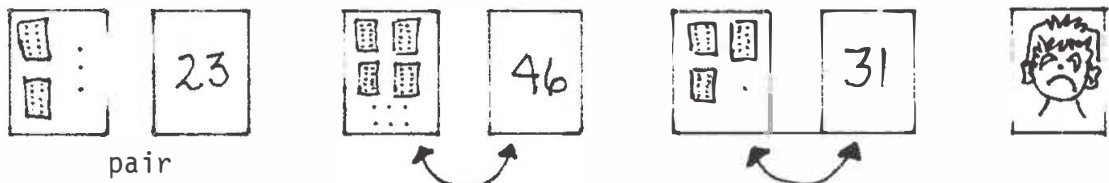
Use with *your* imagination!

A cook wanted to measure four millilitres of oil out of a container but he had only a five-millilitre and a three-millilitre bottle. How did he manage it?

Sad Face (Like Old Maid)

(four players)

Make a deck of cards (28 cards) plus one sad face for this numeration game.



Pass out 7 cards to each - one person will have 8.

Have the children match the pair in their hands and discard. The remainder are kept in the hand.

Player *one* picks one card from the child to his right. If the card he picks matches one in his hand, he discards them, turns, and player *two* picks a card from his hand. This play continues until one card is left - the sad face. The person with sad face is the loser.

You can use the game for

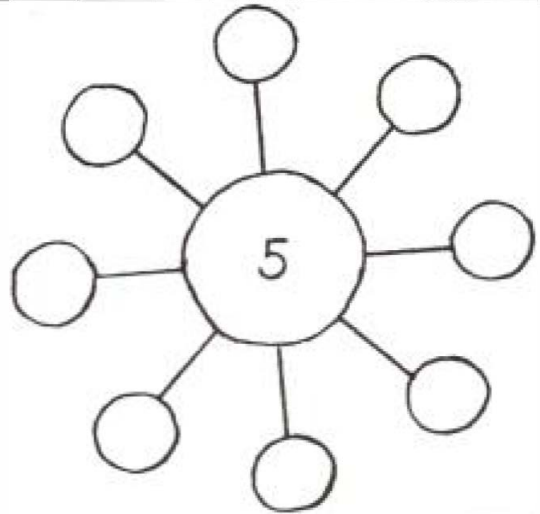
- | | | |
|----------------|-----|-------------------|
| a. operations | | a. homonyms |
| b. time | | b. synonyms |
| c. money | | c. contractions |
| d. measurement | and | d. antonyms |
| e. geometry | | e. compound words |
| f. fractions | | f. ?????????? |

Another brain-teaser from "Math à la Mode"

In each circle place one of the following numbers:

1,2,3,4,5,6,7,8,9

so that the sum of the three numbers in each line is 15.



Active Involvement in Arithmetic Learning

At the annual MCATA conference in Jasper, Robert Eicholtz, full-time writer of mathematics curriculum materials, gave an address on active involvement in arithmetic learning. He cited examples of activities which should be part of daily lessons. Involvement should be obtained in free and open-ended ways.

As a basis for the activities, Mr. Eicholtz uses Piaget's learning theories which are interpreted in the following ways:

Three steps in the formation of a concept are:

1. preliminary stage
 - this is the active involvement stage
 - play, explore, investigate
 - involvement is manipulative, investigative and open-ended

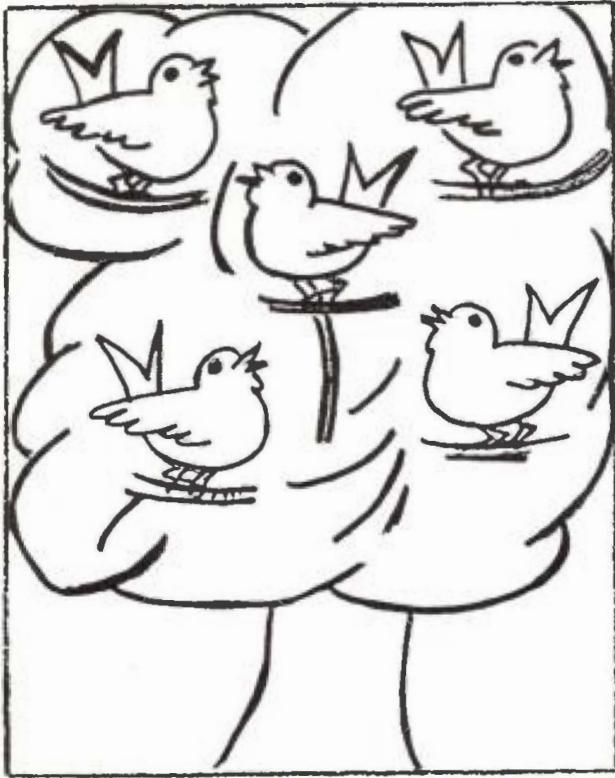
2. structural stage
 - the coming together of ideas
3. practice stage
 - practice what has been learned

A five-point teaching strategy based on these stages involves:

- | | | |
|------------------|---|--------------------|
| 1. preparation | } | active involvement |
| 2. investigation | | |
| 3. discussion | | |
| 4. utilization | | |
| 5. extension | | |

Following are some of the examples presented at the conference:

First Year - Mastery of Basic Facts



Each student chooses four circle counters and four triangle counters.

The teacher asks:

How many birds are in the tree?

Hide the birds with your counters.

How many circles did you use?

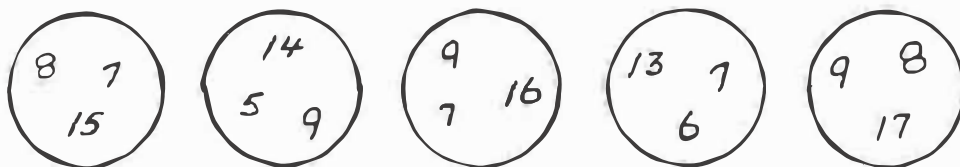
How many triangles did you use?

Find a different way to hide the birds with your counters.

How many different ways can you hide the birds with your counters?
(open-ended)

Note: In his address, Mr. Eicholtz used mice instead of birds.

Second Year - Number Combinations



Memorize one of these sets of numbers.
Put your numbers on paper this size.



Can you place your papers on the spaces below to make equations? Record the equations you find.

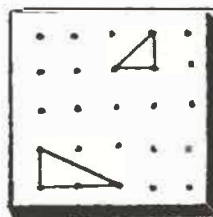


Fifth Year - Areas of Triangles

Two right triangles of different shapes are shown on the geoboard.

How many triangles of the same size and shape can you find on a geoboard?

How many triangles of different sizes or shapes can you find on a geoboard?



Show your triangles on paper.

Sixth Year - Comparison of Decimals

Make 4 slips of paper like these.



How many ways can you place all your slips on the spaces so that the inequality is true? Record your results.



Daffynitions

PRISM - a place for bad mathematicians
MATRICES - what mathematicians sleep on