ELEMENTARY ACTIVITIES

Place Value

TEN3 AND ONES (Grade 1)

This is very important as an introduction before any written work is done. Children are given containers of counters such as bread tags, shells, bottle caps, paper clips or pennies, and several ten cards or egg cartons. Children fill ten cards and record how many tens and how many ones are left over.

Ten Card:

HUNDRED BLOCK (Grade 1)

Cut a grid of numerals 1-100, printed on card, into small squares. Children reassemble the grid.

Measurement

PUMPKIN ACTIVITIES (Grade 1)

Measure the weight of pumpkin and seeds, the length or circumference of pumpkin and seeds end to end, and count the seeds by tens.

Money

VALUE PICTURES

Use pictures made of shapes. Give each shape a monetary or numerical value: 5¢, 10¢, 25¢.

Variation: Give the letters of your name these values: vowels - 25¢, A-M - 5¢, N-Z - 10¢.

Number Facts

NUMBER FACTS BOOK (Grade 1) and
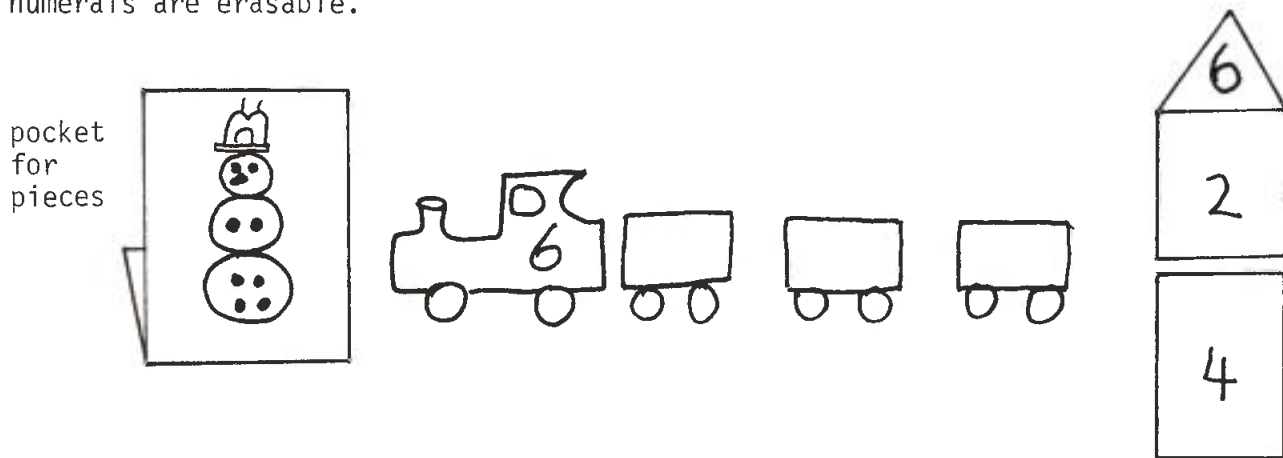TIMES FACTS BOOK (Grades 2 and 3)

These can be used either as a discovery activity when introducing a new number or times table, or as a review exercise once all facts are learned.

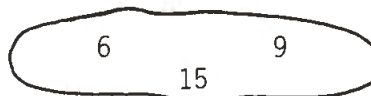For example:
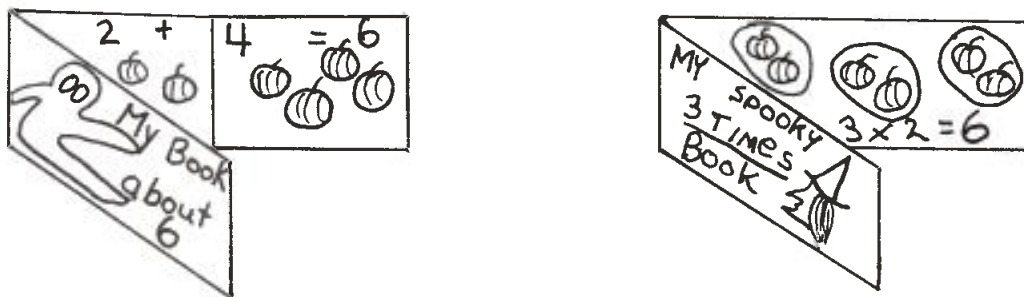
SNOWMEN, TRAINS, ROCKETS (Grade 1)

Children find pieces to form a number fact. If pieces are laminated first, numerals are erasable.
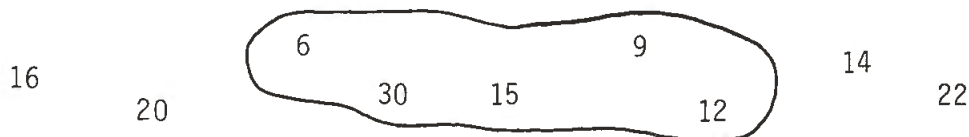
pocket
for
pieces

FACTORS (Grades 2 and 3)

This activity must be preceded by extensive work on counting by twos, fives, tens, et cetera, and completing number patterns.

Draw cloud on blackboard.
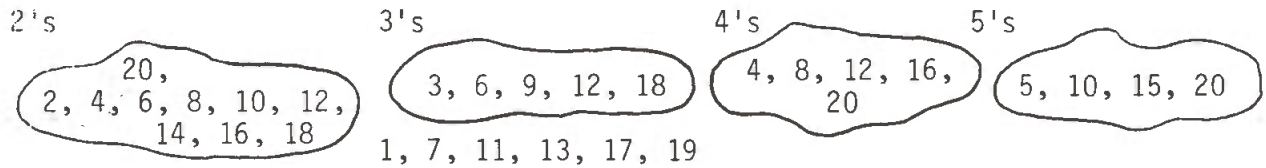Print several numerals in it.

Ask children if they can think of other numerals that belong in the cloud. As the answers are given, print them either inside or outside the cloud.

Children study the numerals inside and outside to discover the secret pattern. The correct answer form should be: ""3 is a factor of all these numerals."

Draw several clouds on blackboard and label with appropriate factors. Pick several children to come to the blackboard, one to be responsible for each cloud and one having no cloud. As numbers are called out, each child puts number in correct cloud. Those not belonging in any cloud are put outside.

2's
20,
2, 4, 6, 8, 10, 12,
14, 16, 18

3's
3, 6, 9, 12, 18
1, 7, 11, 13, 17, 19

4's
4, 8, 12, 16,
20

5's
5, 10, 15, 20

As children become familiar with these procedures, they will notice that such numbers as 6 belong in several clouds.

FACTOR TREES

Show the children how to make factor trees. Start with an easy number (like 12) and ask for factors. Then, ask for factors of the factors. Write it like this:

$$12 = 3 \times 2 \times 2 \qquad 12 = 2 \times 2 \times 3$$

12
6   2
3   2

12
4   3
2   2
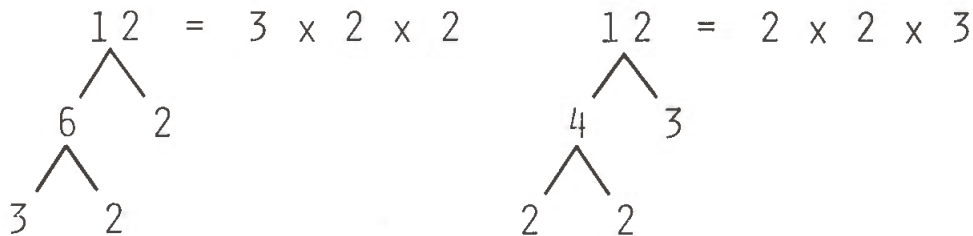
Make sure the children notice that it doesn't matter how you first factor 12; you always end up with the same factors.

BLOCK IT

Topic:
Whole Number Combinations

Grade Level:
5 - 9

Time:
30 - 45 minutes

Number of Players:
2 - 4

Materials Needed:
Game Board
3 Spinners or 3 Dice
10 or 12 colored Markers for each player

Object:
To get four in a row, horizontally, vertically, or diagonally, while trying to block opponents from getting four in a row.

Rules:

1. Each player spins one spinner, highest spin goes first.

2. Each play consists of spinning all three spinners (or rolling all three dice). The player combines his three numbers using any operation to arrive at a number.

3. The player then places his marker on that square to cover that number.

4. Each player takes turns spinning and combining three numbers to cover numbers on the board.

5. Player tries to get four of his markers in a row, while trying to block his opponent. If questioned, players must justify their number.

Variations:

The use of powers may be used in addition to the four basic operations. Perhaps some students will be more challenged by trying to get five markers in a row.

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	44	45	48	50	54	55
60	64	66	72	75	80	90	96
100	108	120	125	144	150	180	216

MARTINETTI

Topic:
Addition

Grade Level:
1 - Adult

Time:
15 minutes

Number of Players:
2 - 4

Materials Needed:
Game Board
3 Dice
Game Piece for each player

Object:
Each player tries to be the first to move his counter, in accordance with the rolls of the dice, from 1 to 12 and back again.
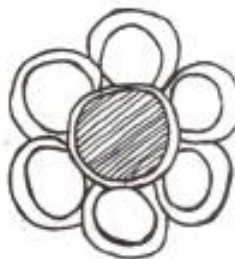
Rules:

1. High roller goes first. Each player, in turn, rolls the three dice once. Player's throw must contain a "1" before he can put his marker in the box so numbered.

2. After his throw, the dice are passed to the next player, and so on.

3. Once a player has thrown a "1," he must try for a "2." He can make a "2" by throwing either a "2" or two "1s." He continues to move his marker in this way from box to box.

4. Some throws may enable him to move through more than one box on a single throw. For example, a throw of 1, 2, and 3 would not only take him through the first three boxes, but on through the fourth (1 + 3 = 4), the fifth (2 + 3 = 5), and the sixth (1 + 2 + 3 = 6).

5. Players should watch the throws of their opponents. If a player throws a number he needs, but overlooks and does not use that number, the opponent should wait until the dice are passed, explain the move, and then move his own marker one space forward.

Variation:
Use the face value of the dice, but permit any combination of operations - multiplication, division, addition, or subtraction - to make the numbers.

1
2
3
4
5
6
7
8
9
10
11
12

Studying Puddles

1. If it was a light rain and the sun is out, time how long it takes various size puddles to shrink or disappear.

2. What is the rate of shrinkage during a class period?

3. Count the number of puddles in various areas. Make a graph of the results. What conclusions can you draw?

4. If it was a hard rain, measure the width, depth, and length of a variety of puddles. Keep records throughout the day and into the next. Graph the results.

Rocks

1. Bring a rock to class.

2. Estimate the mass of your rock, then weigh it exactly.

3. Line the rocks up largest to smallest. Is the larger rock always the heavier? Why? Why not?

4. Find something in your classroom desk which has the same mass as your rock. Estimate first.

5. What is the total mass of all the students' rocks?

How Many Blades of Grass are in the Schoolyard?

Reprinted from The Math Post

1. Estimate first, then sample one square metre of area.

2. Find the average of several square metres.

3. Measure the schoolyard and find how many square metres there are in all.

4. Approximately how many blades of grass are in the schoolyard?

KIDS' STUFF MATH

(Grades 1 - 6)

-Frank

Activities, games, and ideas for the elementary classroom for teachers who enjoy working with busy, enthusiastic young mathematicians. The experiences here vary widely and can be used in all kinds of classrooms. They may easily be adapted to different ability levels and teaching methods. Each idea is designed to fit a specific math skill. A complete list of skills for the elementary years is included in the Appendix. This helps you to determine which skills need teaching or reinforcing for individual students.

Contents: Numeration and Number Theory; Sets and Number Concepts; Whole Numbers and Integers; Practice Paper; Fractional Numbers; Problem-Solving; Measurement; Geometry; Probability, Stats, and Graphing. Cost is $12.95; over 300 pages.

Available from:
Western Educational Activities Ltd.
Box 3806
Edmonton, Alberta T5H 2S7

Publisher: Incentive Publications