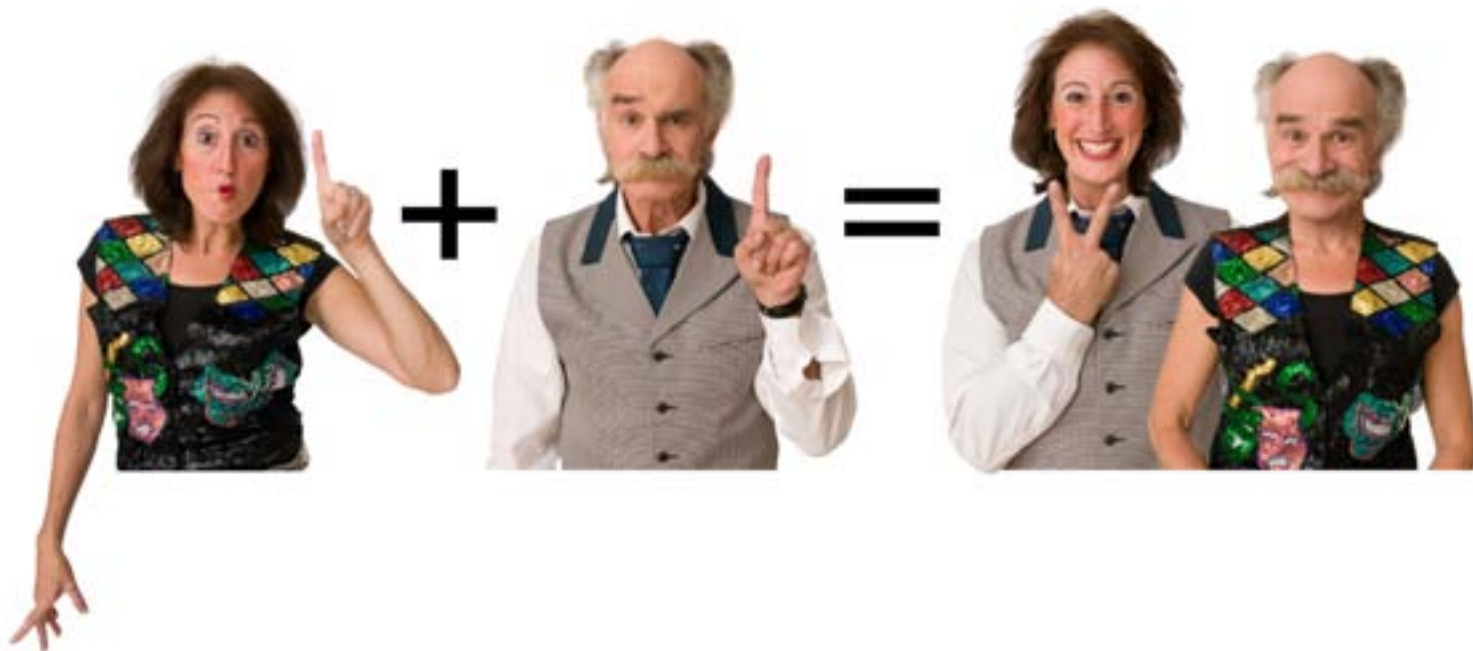


MATH + MAGIC = FUN

Study Guide

1 2 3 4 5 6 7 8 9 10

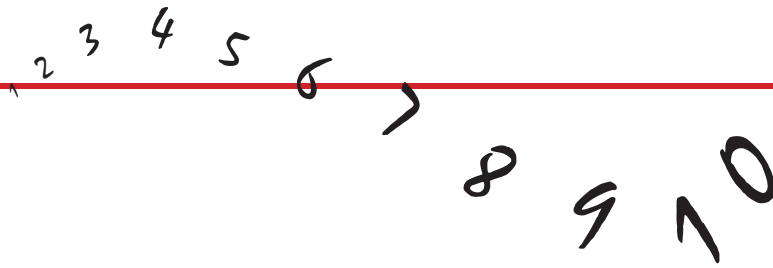


$$1 + 1 = 2$$

Many young students struggle with math. No matter how math is taught, the students must memorize, “the facts.”

Math + Magic = Fun is a program designed to help young students memorize fundamental mathematical concepts in a fun way.

The program uses; visual aids, choral recitation, magic, music and audience participation to help create excitement for mathematics and reinforce memory skills.



TIME GAMES

For many young students, the phrases, “just a minute,” “wait a second,” or “we have to leave in half an hour,” have no meaning.

Creating “time games” for basic activities can be a fun way to focus a group of students while learning time duration;

For example

1. “We have 10 seconds to put our books away... Let’s count. One thousand one, one thousand two...etc.”
 2. “We have 30 seconds to line up, Let’s count.”
 3. “Look at the clock, you must finish your work before the big hand points to 5.”
 4. Use your imagination to create new games.
-

MONEY GAMES

Money is based on the number 100 and can be very useful as a visual aid to help students understand number groups.

1. Put students in teams of 5 at a table.
 2. Give each group 100 pennies, 20 nickels, 10 dimes, 4 quarters and 1 dollar.
 3. Tell the students they have 30 seconds to make 25¢ using the **most** coins possible.
 4. Tell the students they have 10 seconds to make 25¢ using the **least** coins possible.
 5. etc, etc, etc.
-

MEMORY CHARTS

The following 2 pages are charts and graphs that allow students to visualize mathematical facts.

The graphs are designed so that they can be photocopied and given to the students.

Teachers can also “white out” various numbers on the charts and use them as quizzes.

Doubles:

Memorizing doubles facts (2+2, 5+5, etc.) is easier to remember than (1+3, 6+4, etc.) This chart helps students with basic addition and subtraction.

Addition = Subtraction:

This chart helps students understand that subtraction is addition backwards. If $1+1=2$ then $2-1=1$.

Counting:

Learning to count by 2’s, 3’s, 4’s, etc. is a painless and sneaky way to learn multiplication and division facts.

MEMORY CHART ^{2 3 4 5 6 7 8 9 10}



DOUBLES		ADDITION = SUBTRACTION	
$2 + 2 = 4$	$12 + 12 = 24$	$1 + 1 = 2 - 1 = 1$	$1 + 5 = 6 - 5 = 1$
$1 + 3 = 4$	$13 + 11 = 24$	$2 + 2 = 4 - 2 = 2$	$2 + 5 = 7 - 5 = 2$
$3 + 3 = 6$	$13 + 13 = 26$	$3 + 3 = 6 - 3 = 3$	$3 + 5 = 8 - 5 = 3$
$4 + 2 = 6$	$14 + 12 = 26$	$4 + 4 = 8 - 4 = 4$	$4 + 5 = 9 - 5 = 4$
$4 + 4 = 8$	$14 + 14 = 28$	$5 + 5 = 10 - 5 = 5$	$5 + 5 = 10 - 5 = 5$
$5 + 3 = 8$	$15 + 13 = 28$	$1 + 3 = 4 - 3 = 1$	$1 + 6 = 7 - 6 = 1$
$5 + 5 = 10$	$15 + 15 = 30$	$2 + 3 = 5 - 3 = 2$	$2 + 6 = 8 - 6 = 2$
$6 + 4 = 10$	$16 + 14 = 30$	$3 + 3 = 6 - 3 = 3$	$3 + 6 = 9 - 6 = 3$
$6 + 6 = 12$	$16 + 16 = 32$	$4 + 3 = 7 - 3 = 4$	$4 + 6 = 10 - 6 = 4$
$7 + 5 = 12$	$17 + 15 = 32$	$5 + 3 = 8 - 3 = 5$	$5 + 6 = 11 - 6 = 5$
$7 + 7 = 14$	$17 + 17 = 34$	$1 + 4 = 5 - 4 = 1$	$1 + 7 = 8 - 7 = 1$
$8 + 6 = 14$	$18 + 16 = 34$	$2 + 4 = 6 - 4 = 2$	$2 + 7 = 9 - 7 = 2$
$8 + 8 = 16$	$18 + 18 = 36$	$3 + 4 = 7 - 4 = 3$	$3 + 7 = 10 - 7 = 3$
$9 + 7 = 16$	$19 + 17 = 36$	$4 + 4 = 8 - 4 = 4$	$4 + 7 = 11 - 7 = 4$
$10 + 10 = 20$	$19 + 19 = 38$	$5 + 5 = 10 - 5 = 5$	$5 + 7 = 12 - 7 = 5$
$11 + 9 = 20$	$20 + 18 = 38$		
$11 + 11 = 22$	$20 + 20 = 40$		
$12 + 10 = 22$	$21 + 19 = 40$		

MEMORY CHART ^{2 3 4 5 6 7 8 9 10}



COUNTING BY 2's, 5's, 10's, 100's

Young students enjoy counting out loud.
 Counting out loud as a group is a fun way to learn.
 Counting forward and backwards
 helps students understand
 the concepts of addition and subtraction.

1's	1	2	3	4	5	6	7	8	9	10
2's	2	4	6	8	10	12	14	16	18	20
5's	5	10	15	20	25	30	35	40	45	50
10's	10	20	30	40	50	60	70	80	90	100
100's	100	200	300	400	500	600	700	800	900	1000

Young students find that counting by 2's, 5's and 10's
 is easy and fun, after some practice.
 Counting by 3, 4, 6, 7, 8, 9 is much more difficult to master.
 However, if students can master this skill, it can be a painless and
 sneaky way to memorize multiplication facts.

MEMORY CHART ^{2 3 4 5 6 7 8 9 10}



COUNTING BY GROUPS = MULTIPLICATION

The grid below allows the students to visualize number sequences.

It also allows students to match the numbers 1-10 across the top of the grid with the number 1-10 in the left column to solve any multiplication problem.

	1	2	3	4	5	6	7	8	9	10
2's	2	4	6	8	10	12	14	16	18	20
3's	3	6	9	12	15	18	21	24	27	30
4's	4	8	12	16	20	24	28	32	36	40
5's	5	10	15	20	25	30	35	40	45	50
6's	6	12	18	24	30	36	42	48	54	60
7's	7	14	21	28	35	42	49	56	63	70
8's	8	16	24	32	40	48	56	64	72	80
9's	9	18	27	36	45	54	63	72	81	90
10's	10	20	30	40	50	60	70	80	90	100

MAKE YOUR OWN MULTIPLICATION CHART

2 3 4 5 6 7 8 9 10



NEED EXTRA HELP?
www.mathnasium.com

Mathnasium is an independent and excellent organization dedicated to helping students who are struggling with math.

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													