FUN WITH MATH FACTS

18 LEARNING GAMES AND ACTIVITIES USING

THE LITTLE PROFESSOR™



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TABLE OF CONTENTS

MEET THE LITTLE PROFESSOR 2-3
LEARNING GAMES AND ACTIVITIES 4
BEGINNING ACTIVITIES
Trace-Mates 5 Jackpot 6 Winter Numberland 7 Loco Motion 8-9 Heel to Toe 10 Number Wonders 11
INTERMEDIATE ACTIVITIES
Mathematical Chairs
ADVANCED ACTIVITIES
Sweepstakes 19 Nim Wits 20 The Castle of Venn 21 Steeplechase 22-23 Matricks 24
APPENDIX
Battery Information
Warranty Information Inside Back Cove



MEET THE LITTLE PROFESSOR

The "Little Professor" is designed for folks of all ages. Its four levels of problem difficulty allow selection of problems from the simplest arithmetic facts for beginners, to some "mind testers" for experts. It is suggested that an adult work with children as they learn the basic operating procedures in this book. The "Little Professor" is especially well suited for a variety of parent/child activities, such as those outlined later in this book. A child can read the problem out loud as he or she solves it, providing extra reinforcement. Remember that the "Little Professor" is fully safe and will never display an incorrect answer.

The "Little Professor" was developed to make exploring and practicing addition, subtraction, multiplication and division more fun. Activities with numbers and math happen in an exciting and new way with this rugged, durable and versatile unit. It can be used at home, in the classroom - anywhere. Together with this activity book, the "Little Professor" can make learning fun - for "students" of all ages.

The "Little Professor" is easy to operate. It pops up a problem. You enter your answer. It tells you if you're right or wrong, then moves on to another problem. After ten problems have been presented, your score (number right) is flashed in the display area.

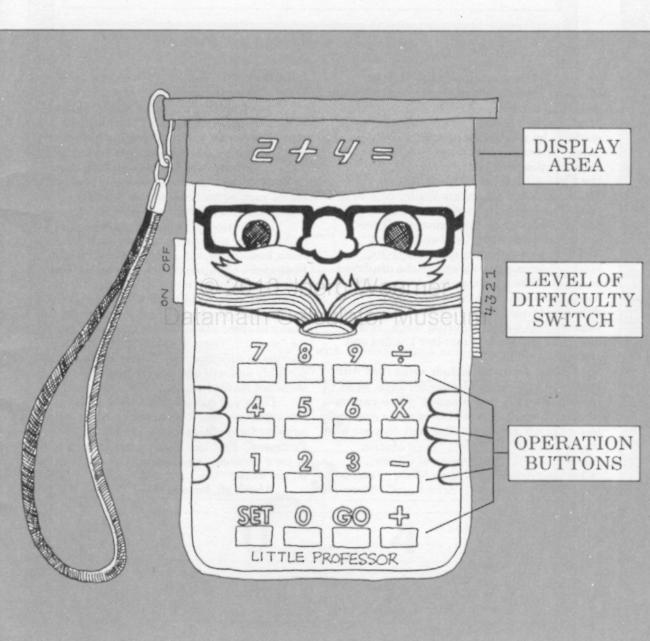
Here's how the "Little Professor" works. The ON/OFF "switch" is located on the left side of the unit. The level switch, on the right

side of the unit, allows you to select the level of problem difficulty. Even "experts" may want to begin at level 1- the simplest levelin order to see the full range of problems. You can select problems involving any of the four basic math operations: addition, subtraction, multiplication and division. Want to try your skill at addition? Press SET + GO . Remember your division facts? Try them out with |SET | + |GO |. The operation keys specify the type of problem the "Little Professor" will display.

After turning the "Little Professor" ON and selecting a degree of difficulty, press SET and select the type of problem [+] [-] X or ÷ Then press GO for the first problem to appear in the display. You enter your answer just key it in using the number keys. If your answer's correct, the "Little Professor" moves on to the next problem. If you're wrong, "EEE" is flashed in the display, and the "Little Professor" gives you two more tries at the problem. If you're still wrong after two more tries, the "Little Professor" then displays the problem with the correct answer, and holds it for you, to give you a good look at it. To move on to the next problem at that point, push [GO]. Following these procedures with all four levels of difficulty and all four different operations will present a vast series of examples - spanning many grade levels of study in arithmetic.

Refer to the Appendix of this book in case of difficulty.







LEARNING GAMES AND ACTIVITIES

After the operation of the "Little Professor" is understood, a child can play the game-like activities included in Fun With Math Facts. The activities are written to be readable by most grade schoolers, but a parent or teacher may want to work through the activities with younger children. Each of the three sections of activities in Fun With Math Facts has a separate border on every page. The first section, with the checkered border, is especially for beginners. These activities involve the first two levels of difficulty and include a special activity, helping beginners to recognize the displayed numerals. The second section, with a striped border, involves the second and third difficulty levels on the "Little Professor". The third section, with the dotted border, is the most sophisticated. It involves the 3rd and 4th levels of difficulty.

These activities include some that will challenge experts and beginners alike. Most of the activities are "open ended"; they can be worked through over and over again and may lead to other games you'll invent on your own. These include "Jackpot", "Loco Motion", "Heel to Toe", "Mathematical Chairs", "Clowning Around", "Name Mix", "Fumble", "The Flying Loopers", "Secret-ary", "How

Long Was Chris Gone?", "Sweepstakes", "Nim Wits", "Steeplechase", and "Matricks".

"Loco Motion", "Name Mix", "Fumble",
"The Flying Loopers" and "Steeplechase" use gameboards that are included in this book.
Small weights (pennies, etc.) placed at the four corners of these gameboards will help them to lie flat. A few of the activities require playing pieces such as buttons, rubber bands, or other common household objects.

In addition to parent/child activities, children can take turns helping each other to learn how to use and play with the "Little Professor". Children can "play teacher", an activity they often enjoy. Using the "Little Professor", one child reads an example out loud to friends who respond with the answer. Many of these activities are especially suited for "waiting" times — riding in the car, waiting at an office, etc. "Little Professor" is portable and will operate for hours on a standard 9-volt battery.

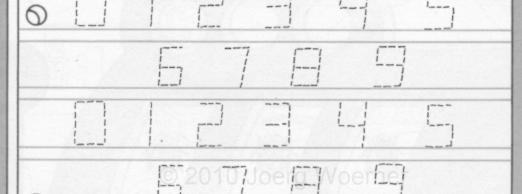
Once you have worked through some of the activities, you'll probably think of others suitable for involvement with the "Little Professor". Feel free to experiment with some of your ideas and encourage your children to do the same.

Above all, have fun!



TRACE-MATES

Take a pencil and trace these "Little Professor" numerals. Then write some of your own.



Match each green numeral with the same black numeral. Draw a line around the matching pairs.

5 9 8 9

0 4

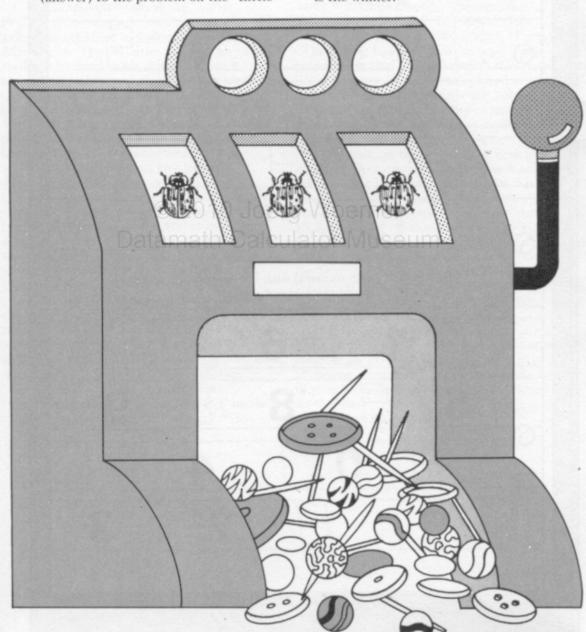


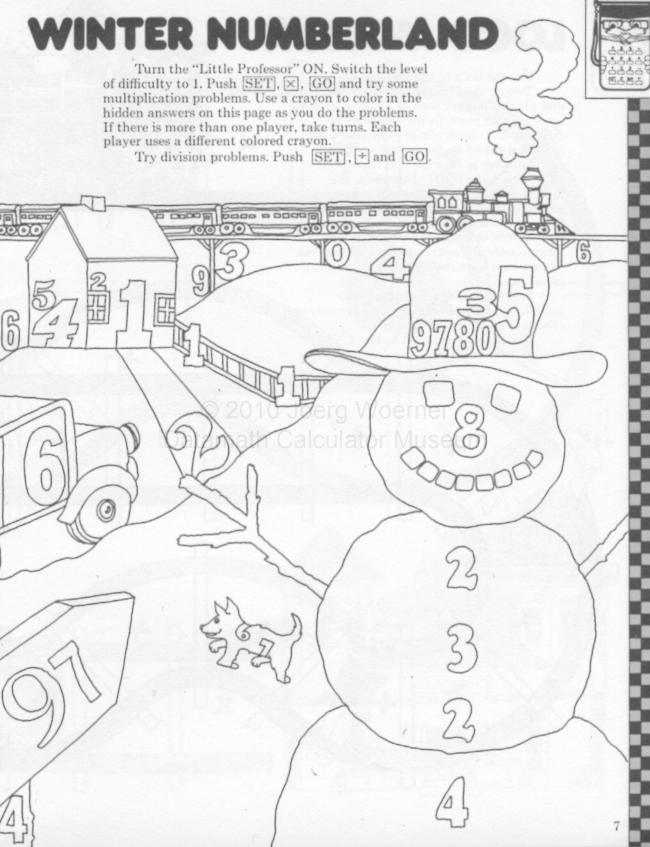
JACKPOT

Jackpot is for two or more players. Each will need many "counters" like buttons, pebbles, marbles or toothpicks. To begin, turn the "Little Professor" ON. Switch the level of difficulty to 1. Push SET, + and GO.

Each player finds the sum (answer) to the problem on the "Little Professor". Count the answer out loud as you add this many counters to your jackpot. Others may help you. Be sure to keep your jackpot separate from the other counters.

After five rounds, find your total jackpot by counting the things in your pile. The player with the most things is the winner.







LOCO MOTION

Get the train to the station!

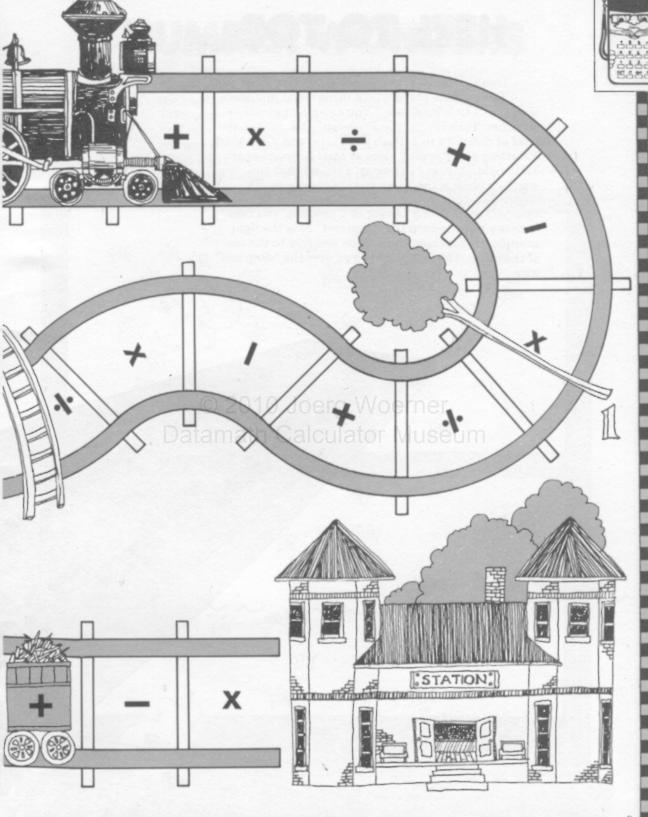
Two or more players will need his or her own playing marker such as a button or other small playing piece. Switch the level of difficulty to 1. Each player switches to the operation shown on the square where his or her marker is. For the first turn, push SET, + and GO. Now enter the answer to the problem given. If you get the correct answer on the first try, move forward two squares. If you don't get the correct answer until the second try, move forward only one square. But if you miss the

move.

When you land on a square with something across the tracks you have only one chance to get the right answer.

correct answer on the second try, you don't

The first player to get to the train station wins.

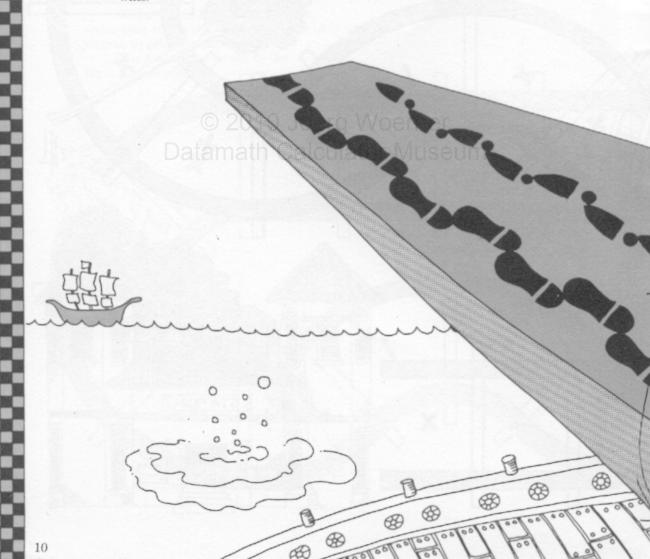




HEEL TO TOE

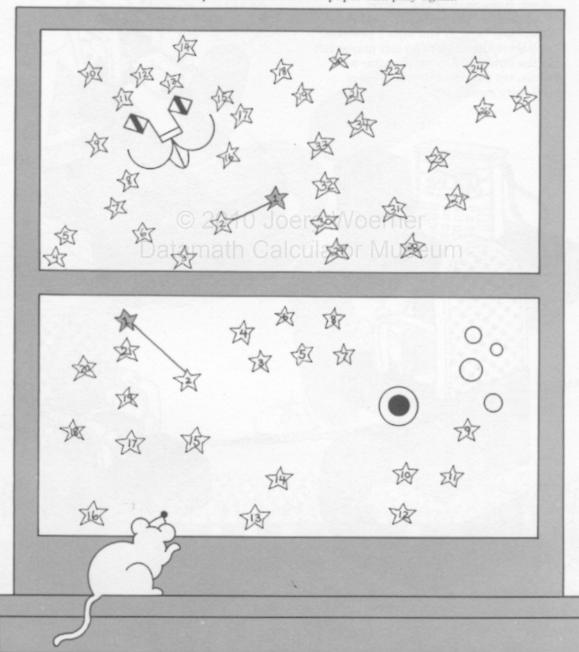
Don't go over the deep end!

Two or more players take turns doing problems with the "Little Professor." You can play indoors or outdoors. Turn the "Little Professor" ON. Switch the level of difficulty to 1. Push SET, — and GO. Mark a starting and stopping place at least 3 meters apart. You might play on a driveway. Pretend that the stopping place is the "deep end" of the ocean. The object is to keep from going over the "deep end." Each time you get a wrong answer to a problem, you take as many steps toward the "deep end" as is the right solution, by touching the heel on one foot to the toe of the other. The last player to go over the "deep end" wins



NUMBER WONDERS

Discover these new constellations with two or more players. Turn the "Little Professor" ON. Switch the level of difficulty to 2. Push SET, + and GO. Take turns trying the problems on the "Little Professor." Each time you get a right answer, connect two of the stars with a straight line. When all of the stars have been connected, make your own dotted picture on a sheet of paper and play again.





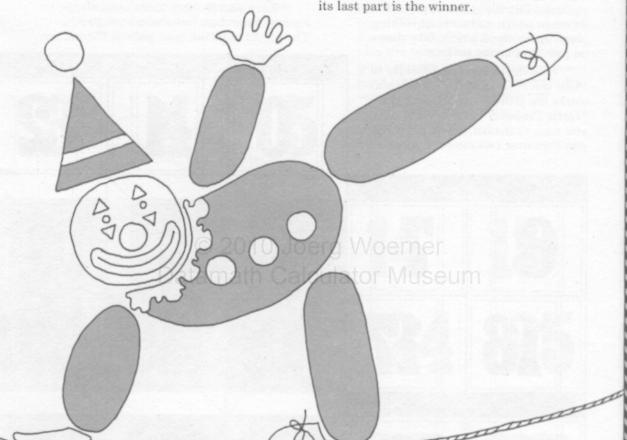
MATHEMATICAL CHAIRS

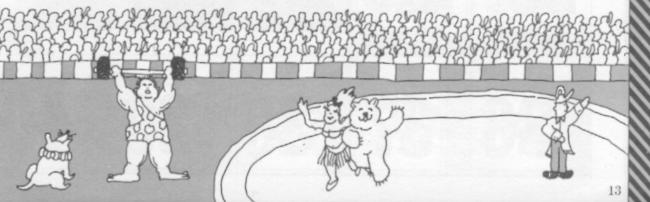
This is an activity for three or more players. Turn the "Little Professor" ON. Switch the level of difficulty to 2. Push [SET], an operation (+, -, × or +), and GO. All players sit in a circle. Take turns finding the answers to the problem given. Keep passing the "Little Professor" to the person to your left after your turn. If you miss a problem, you leave the circle. The last player left in the circle is the winner. After a while, try playing with the level of difficulty switch to 3.

CLOWNING AROUND

This is an activity for two or three players. Turn the "Little Professor" ON. Switch the level of difficulty to 2. Push [SET], [X] and [GO]. Each player takes a turn with the "Little Professor."

When a player gets the right answer, he or she draws on a sheet of paper a part of the clown shown on this page. The next player adds to that same drawing, and so on. The player who completes the clown by drawing its last part is the winner.





200 dddd dddd ddd ddd 8684

FUMBLE

This is an activity for two or more players.

Before you begin, cut out 18
1" squares of paper. Make two sets of squares, each numbered from 1 to 9.
(There will be 9 pairs of numbered squares.) Put the pieces of paper face down in a pile, and without looking, place them one at a time face down on any flat playing surface.

try to pick two that are marked with the same number. Show them to everyone. If they are the same, keep them. If they're not, turn them back face down and remember where they are. It may help you on your next turn.

Each player takes turns until all 9 pairs of numbers have been matched. The player with the most pairs is the winner.

on any flat playing surface.	The player with the most pairs is	the winner.
Switch the level of difficulty to 3. Push [SET], [+] and [GO]. Each player works the problem showing on the "Little Professor". If you get it wrong, you miss your turn. If you get it right, you turn over two pieces of paper and	0 1	2
6 Jatanati C	8	10
16 17	18 19	20
26 27	28 29	30
36 37	38 39	40

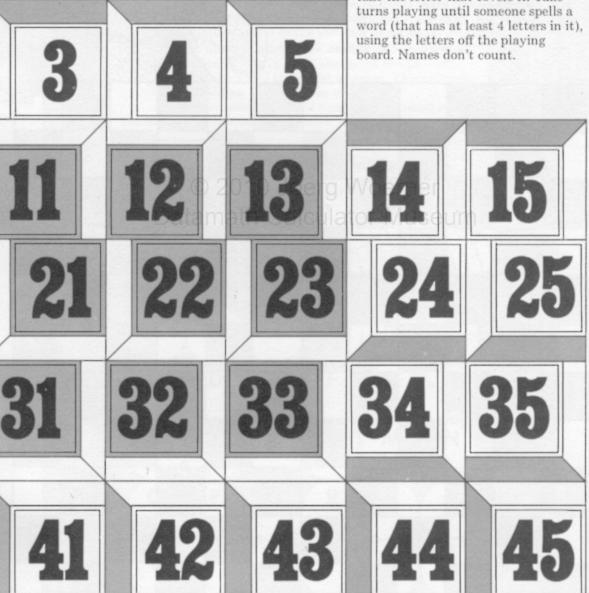
NAME MIX

This is an activity for two or more players.

Before you begin, each player cuts squares of paper that are the same size as the squares on the playing board. On each piece, write a letter until you have spelled your first and last name. Then place your letters, face up, one at a time, on any open square on the

playing board. (All of the squares may or may not get covered.)

Switch the level of difficulty to 2. Push [SET], | and [GO]. When it is your turn, answer the problems showing until an answer appears that has a letter covering it on the playing board. When you get a wrong answer, you miss your turn. If you get it right, take the letter that covers it. Take turns playing until someone spells a word (that has at least 4 letters in it), using the letters off the playing board. Names don't count.





FLYING LOOPERS

Many can play this activity. Turn the "Little Professor" ON. Switch the level of difficulty to 2 or 3. (You decide.) Push SET, \(\times\) and \(\overline{GO}\). Take turns doing the multiplication problems and write the answers in the squares on the gameboard below. Then place this book, open to this page, flat on the floor up against a wall. Practice shooting rubber bands off the wall above the book until you can make them land on the gameboard. Each player shoots and counts the numbers inside his or her rubber bands. The one with the highest score wins.



									, -
)atar	20 mail	10 J	oerg alcul	Woo	erne Mus	r eum		- (

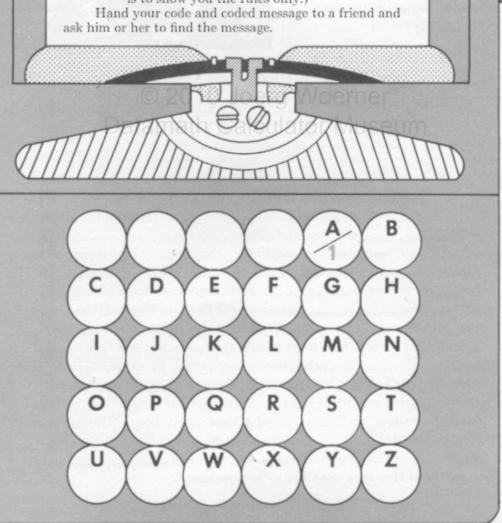
SECRET-ARY

To find your own secret code, turn the "Little Professor" ON. Switch the level of difficulty to 3. Push [SET], [X] and [GO].

Write numbers that are the answers to problems under each letter of the alphabet. The first one is done for you. Each letter must have a different number under it. After you've found numbers for each letter, write a message with numbers instead of letters, using these rules:

- 1. Separate each coded letter with a comma.
- 2. Separate words with a dash.
- 3. Put a period at the end of a sentence.

(A message might look like: 1-13, 3, 3-14, 26, 4. Since you don't know the secret to this code, you can't find the secret message. This example is to show you the rules only.)







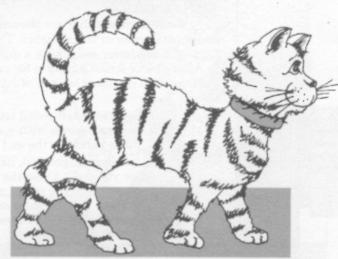
HOW LONG WAS CHRIS GONE?

More than one person can play. Take turns filling in the blanks.

Turn the "Little Professor" ON. Switch the level of difficulty to 3. Push

SET, + and GO.

For each green blank, someone finds the answer to a problem on the "Little Professor" and writes it above the green line. As you come to each blank, look across the top of the chart for that number. Find the answer to a problem. Then find the row where the answer to the problem is. Look across this row until you get to the right column. Use this word.



		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	0 or 1	exploring	walked	centimeters	eye	leaf	touching	hours	ant	arm	dog	tail	quickly
	2 or 3	jogging	ran	meters	arm	bee	smashing	days	giraffe	ear	kitten	eye	clumsily
G.	4 or 5	dancing	danced	miles	tail	ghost	catching	minutes	moth	tail	lion	whisker	lazily
OR AL	6 or 7	fishing	folled	blocks	paw	bear	crunching	weeks	mouse	nose	baby duck	paw	merrily
100	8 or 9	shopping	trotted	shakes	nose	gorilla	swallowing	years	fly	back	cater- pillar	nose	slowly

On one particularly cheerful day, Chris the cat decided to go . (1) He left his house, _____(2) down the garden path and _____ minutes later stopped just three _____(3) from the back door. Something had caught his ______(4). He spun to the right and noticed a teeny, tiny ______(5) tossing in the wind. Each time he came close to ______(6) it, another breeze would send it farther along. _____ minutes went by. Chris believed that it must have been several ______(7) since he left home, and he began worrying about finding his way back home in time for dinner. But just then a teeny, tiny ______(8) scurried from under a stone. Of course, this was very tempting and Chris just had to chase it! He spent _____ more minutes playing with it. By this time it was dark. Suddenly all of the hairs as ______ (12) as he could. It only took him _____ minutes to get there! How long was Chris away from home? ANSWER: minutes.

SWEEPSTAKES

How fast can you "buy" your ticket?
Two or more can play this activity.
You will need a watch with a second hand
to keep time. When it is your turn, choose
another player to keep your time.

Switch the level of difficulty to 2. The player pushes [SET], an operation (+, -, × or ÷), and then pushes [GO]. When the player is ready to begin, the timekeeper says "Go" and records the Starting Time. The first correct answer that the player with the "Little Professor" gets is called the "ticket". To "buy" that ticket, the player must show it to the timekeeper, then do more problems on the "Little Professor" until another problem with the same answer as his "ticket" comes up. When this happens, and after the player shows the problem, the timekeeper records the Stopping Time. Then the timekeeper figures out the total number of seconds it took for the player to "buy" his or her

Everyone sees how fast they can "buy" their ticket, then the player with the shortest time wins the Sweepstakes.

Try playing with the level of difficulty on 3.

ticket.





NIM WITS

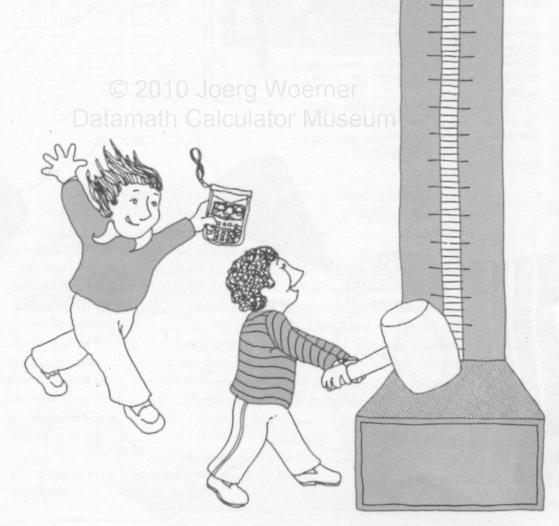
This is an activity for two players. Pencil and paper are needed for scoring.

To begin, set the level of difficulty on 4. Push SET

| X | and GO|. The player with the highest product
goes first.

If desired, the player whose turn it is may reset the level of difficulty switch and/or the operation by pushing SET, + - × or ÷, and GO before he or she plays. Within five tries, the player must choose a problem, find the correct solution, and add it to the "running score" (which is 0 at the start). If the player cannot find a correct solution, he or she misses a turn. (Nothing is added to the "running score".)

The player who makes the "running score" add exactly to 100 wins. If the "running score" goes over 100, the player automatically loses.



THE CASTLE OF VENN

Turn the "Little Professor" ON.
Switch the level of difficulty to 3. Push
[SET], — and [GO].

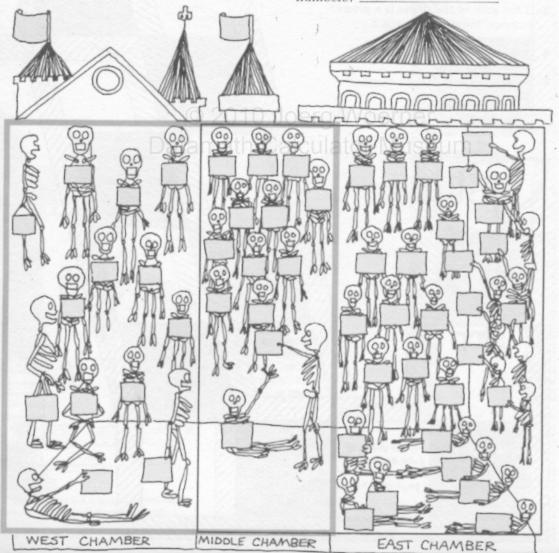
An "even number" is any number that when divided by 2 has a remainder of 0 (zero).

An "odd number" is any number that when divided by 2 has a remainder of 1.

A "prime number" is a number whose only factors are itself and 1. In other words, a prime number can only be divided by itself or 1 without a remainder.

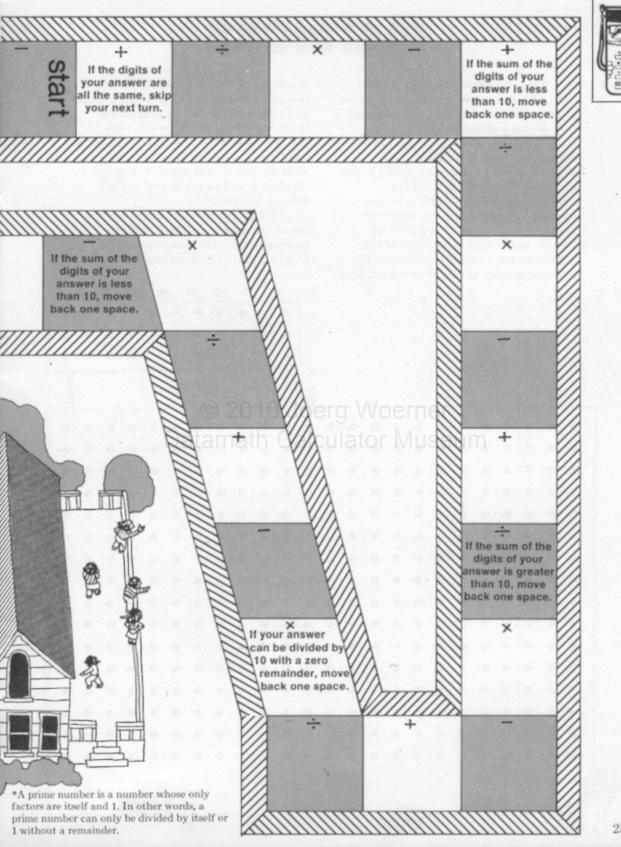
You're the coroner and King
Venn has instructed you to assign odd
numbers to the skeletons in the West
Chamber and even numbers to those in
the East Chamber. The skeletons in
the Middle Chamber are to be assigned
prime numbers. Assign to the skeletons
numbers that are answers to problems
on the "Little Professor", depending
on whether they are odd, even, or prime
numbers (which may be either odd or
even). Then fill in these blanks:
Which even number is also a prime
number?

Which odd numbers are prime numbers?





STEEPLECHASE This is an activity for two or more players. Place a button or other small marker at "Start". Switch the level of difficulty to 4. Each player takes turns pushing SET, the operation (+, -, × or ÷) shown on the space where his or her marker is, presses GO, works the problem showing on the "Little Professor", and moves his or her marker according to these rules: 1 If the answer is an even number, move forward 2 spaces. 2 If the answer is an odd number, move forward 1 space. 3 If the sum of the digits is a prime * number, move backwards 2 spaces. 4 Don't move backwards beyond "Start". 5 If the answer is 0, take another The first player to pass "Stop" is the Oerg Woern winner. If the sum of the digits of your answer is greate than 10, move back one space stop If the digits of your answer are all the same, skip your next turn.





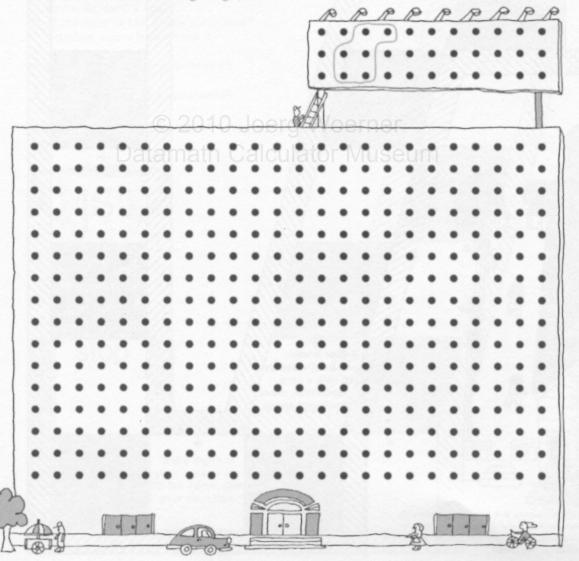
MATRICKS

Can you score the most points?
This is an activity for two or more
players. Each will need a pen or pencil
that writes a different color.

Turn the "Little Professor" ON.
Switch the level of difficulty to 4.
When it is your turn, push SET, an operation (+, -, × or ÷), and GO. Enter the solution to the problem. If your answer is incorrect you miss your turn. If you get the correct answer, add the digits of the answer to get a single digit result. (If the sum is more than a single digit, add

the digits of the sum.) Then enclose this same number of dots inside a loop, and add this number to your score. (For example, if your answer were 18, you would add 8 + 1 to get 9 and circle 9 dots on the board. If your answer were 88, you would add 8 + 8 to get 16, then 1 + 6 to get 7, and circle 7 dots on the board.)

When any player cannot enclose his or her number of dots without crossing a line, the game ends. The player with the highest score wins.





APPENDIX

BATTERY INFORMATION

A standard 9-volt alkaline battery is recommended for maximum operational time. If another type of battery must be used, remove it immediately after it is discharged or when storing the "Little Professor" to prevent possible damage from leakage. The battery compartment is accessible by inserting a small coin in the slot on the back of the unit and prying open the cover of the compartment.

If you need repair assistance with your unit, write Consumer Relations at:

Texas Instruments Incorporated P.O. Box 53

or call Consumer Relations at 800-858-1802 (toll-free within all contiguous United States except Texas) or 800-692-1353 (toll-free within Texas). If outside contiguous United States call 806-747-3841. (We regret that we cannot accept collect calls at this number.)

OPERATING INSTRUCTIONS

Your portable "Little Professor" from Texas Instruments is designed to provide years of reliable service in practicing your arithmetic problems.

The ON/OFF "switch" is located on the left side of the "Little Professor". The four arithmetic operation keys (+, -, ×, ÷) will specify the type of problem the "Little Professor" will display. It will operate on four levels of problem difficulty. The level switch is located on the right side of the unit.

To operate the "Little Professor" after turning it ON and selecting a level of difficulty, push SET and one of the operation keys (+), - , X , or +). Then push GO . A problem will appear in the display. Enter your answer by pushing the number keys. If you're right, another problem is presented. If you're wrong, "EEE" is flashed in the display and the "Little Professor" gives you two more tries at the problem before it displays the correct answer. At this point, push GO to continue. After ten problems have been presented, your score (number right) is flashed in the display area. Repeat these operating instructions to continue practicing arithmetic facts.

LOW BATTERY INDICATION

The "Little Professor" will provide approximately 15 hours of continuous operation when using an alkaline battery. If you observe any of the following indications, the battery is discharged and should be replaced.

- 1. Dim display.
- Erratic display.
- Changing the position of the Level of Difficulty switch has no effect.
- 4. Unusual or inconsistent operation.



IN CASE OF DIFFICULTY

- Check to be sure ON/OFF switch is ON.
- If display fails to light, check for improperly inserted or discharged batteries. See Battery Information on page 26.
- Review operating instructions to be certain problems are performed correctly.

If none of the above procedures corrects the difficulty, return the "Little Professor" PREPAID and INSURED to the applicable SERVICE FACILITY listed below. Texas Instruments cannot assume any responsibility for loss or damage to uninsured shipments.

Please include information on the difficulty experienced with the "Little Professor" along with your name, address, city, state, and zip code. The shipment should be carefully packaged and protected against shock and rough handling.

For out-of-warranty service, carefully pack your "Little Professor", enclose \$6.00 for service and handling and include your complete name, address, and zip code. Send prepaid and insured to the applicable service facility.

If your "Little Professor" requires service, instead of returning the unit to a service facility for repair, you may elect to exchange the calculator for a factory-rebuilt unit of the SAME MODEL at one of the exchange

centers which have been established across the United States. A \$3.00 charge will be made by the exchange center for in-warranty exchanges. Out-of-warranty exchanges will be charged at the rates in effect at the time of the exchange. Please call the Consumer Relations Department (see page 26) for further details and the location of the nearest exchange center.

Texas Instruments Consumer Service Facilities

Texas Instruments Service Facility P.O. Box 2500 Lubbock, Texas 79408

Texas Instruments Service Facility 41 Shelley Road Richmond Hill, Ontario, Canada

Consumers in California and Oregon may contact the following Texas Instruments offices for additional assistance or information:

Texas Instruments Consumer Service 3186 Airway Drive, Bldg. K Costa Mesa, California 92626 (714) 540-7190

Texas Instruments Consumer Service 10700 Southwest Beaverton Highway Park Plaza West, Suite 111 Beaverton, Oregon 97005 (503) 643-6758

NOTE: The P.O. box number listed for the Lubbock Service Facility is for United States parcel post shipments only. If you desire to use another carrier the street address is:

Texas Instruments Incorporated 2305 University Ave. Lubbock, Texas 79415

WARRANTY

ONE-YEAR LIMITED WARRANTY

WARRANTEE

This Texas Instruments electronic calculator warranty extends to the original purchaser of the calculator.

WARRANTY DURATION

This Texas Instruments electronic calculator is warranted to the original purchaser for a period of one (1) year from the original purchase date.

WARRANTY COVERAGE

This Texas Instruments electronic calculator is warranted against defective materials or workmanship. THIS WARRANTY IS VOID IF: (i) THE CALCULATOR HAS BEEN DAMAGED BY ACCIDENT OR UNREASONABLE USE, NEGLECT, IMPROPER SERVICE OR OTHER CAUSES NOT ARISING OUT OF DEFECTS IN MATERIAL OR WORKMANSHIP, (ii) THE SERIAL NUMBER HAS BEEN ALTERED OR DEFACED.

WARRANTY PERFORMANCE

During the above one (1) year warranty period your calculator will either be repaired or replaced with a reconditioned model of an equivalent quality (at TI's option) when the calculator is returned, postage prepaid and insured, to a Texas Instruments Service facility listed on page 27. In the event of replacement with a reconditioned model, the replacement unit will continue the warranty of the original calculator or 90 days, whichever is longer. Other than the postage and insurance requirement, no charge will be made for such repair, adjustment, and/or replacement.

WARRANTY DISCLAIMERS

ANY IMPLIED WARRANTIES ARISING OUT OF THIS SALE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE ABOVE ONE (1) YEAR PERIOD. TEXAS INSTRUMENTS SHALL NOT BE LIABLE FOR LOSS OF USE OF THE CALCULATOR OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE PURCHASER.

Some states do not allow the exclusion or limitation of implied warranties or consequential damages, so the above limitations or exclusions may not apply to you.

LEGAL REMEDIES

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

TEXAS INSTRUMENTS

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