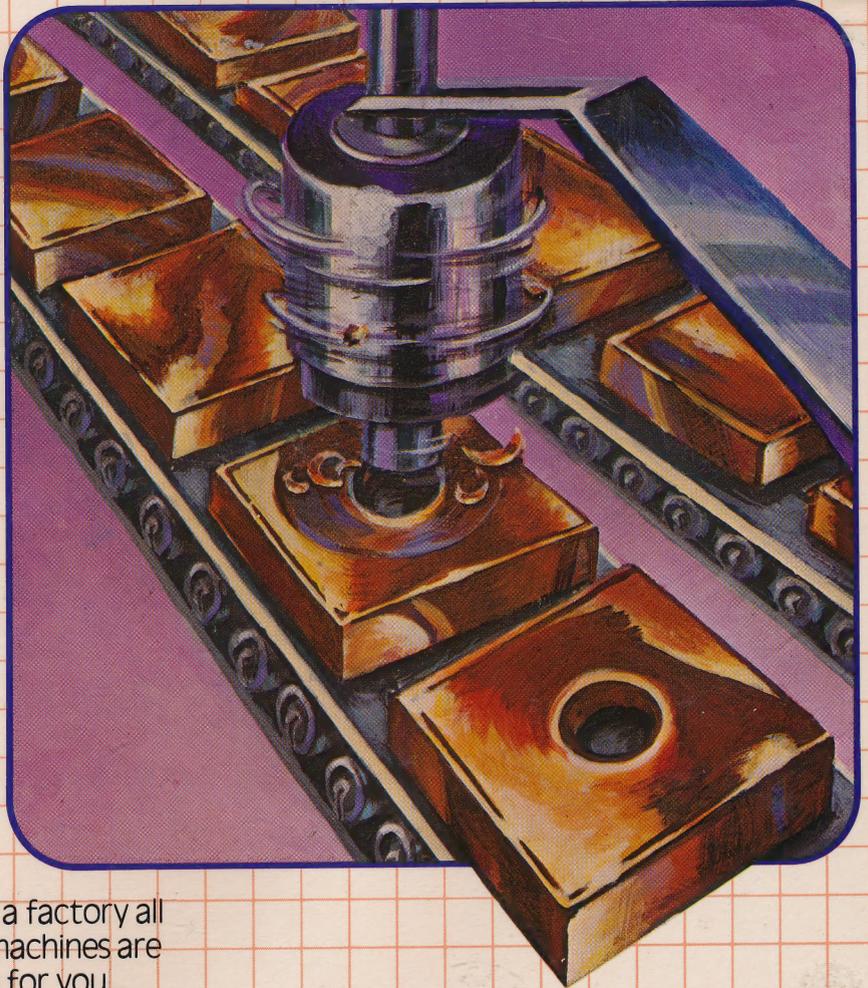


The Factory



Ages 7-adult

Think you can run a factory all by yourself? The machines are ready and waiting for you...



SUNBURST
EDUCATION

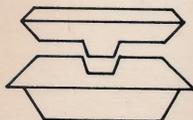
Bright ideas for learning

APPLE II+ / IIe
48K DISKETTE

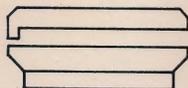
The Factory



Here's your challenge. Design one of these. Here's what you have to work with — a slab of raw material . . . and three kinds of machines:



a hole puncher,



a striper,



and a block rotator.

First, see what each machine can do. (Plenty, you'll discover!) Then set up your assembly line to make

the product you want. Now start the machines and see what you've got.

Some turn out perfect. Some don't. It all depends on how cleverly you arrange your machines.

Watch yourself get better and better. Challenge your friends to give it a try. Create new designs.

You're the chief designer, the foreman and the boss!



Designers: Marge Kosel, Mike Fish, Sunburst Communications

Educational Benefits and Thinking Skills

This program helps kids

- solve problems by thinking ahead and learning to break problems down into parts
- work with basic math concepts
- practice step-by-step computer programming logic

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39 Washington Ave., Pleasantville, NY 10570

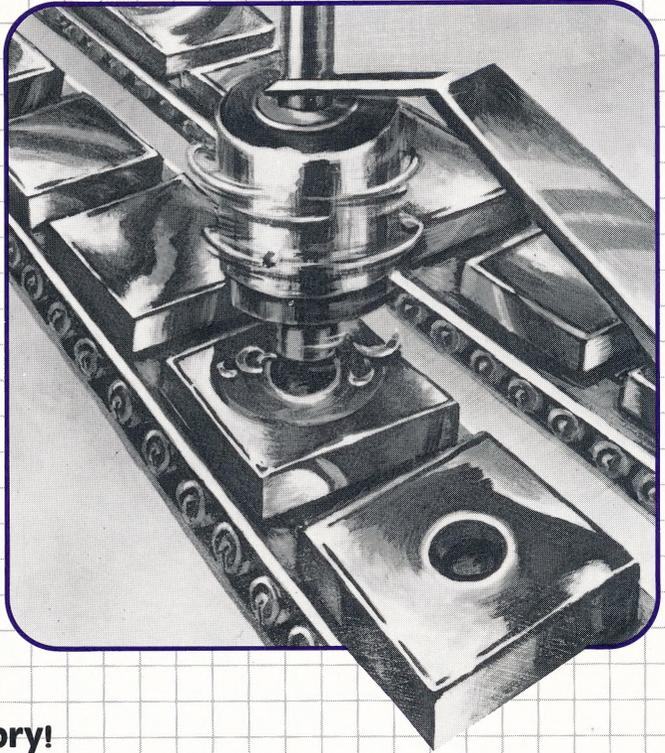
(800) 431-1934 or call collect (914) 769-5030

ISBN 0-911831-06-1

USMI 33034-01009-0558HO

Program Guide

The Factory



Ages 7-adult

You run the factory!

- You invent new products, decide the best way to make each one, or challenge friends to make the factory work as well as you can.
- Every step of the way, you solve factory-type problems that build up your thinking skills, school skills, computer skills.



SUNBURST
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Bright ideas for learning

HOW'D YOU LIKE TO RUN YOUR OWN FACTORY?

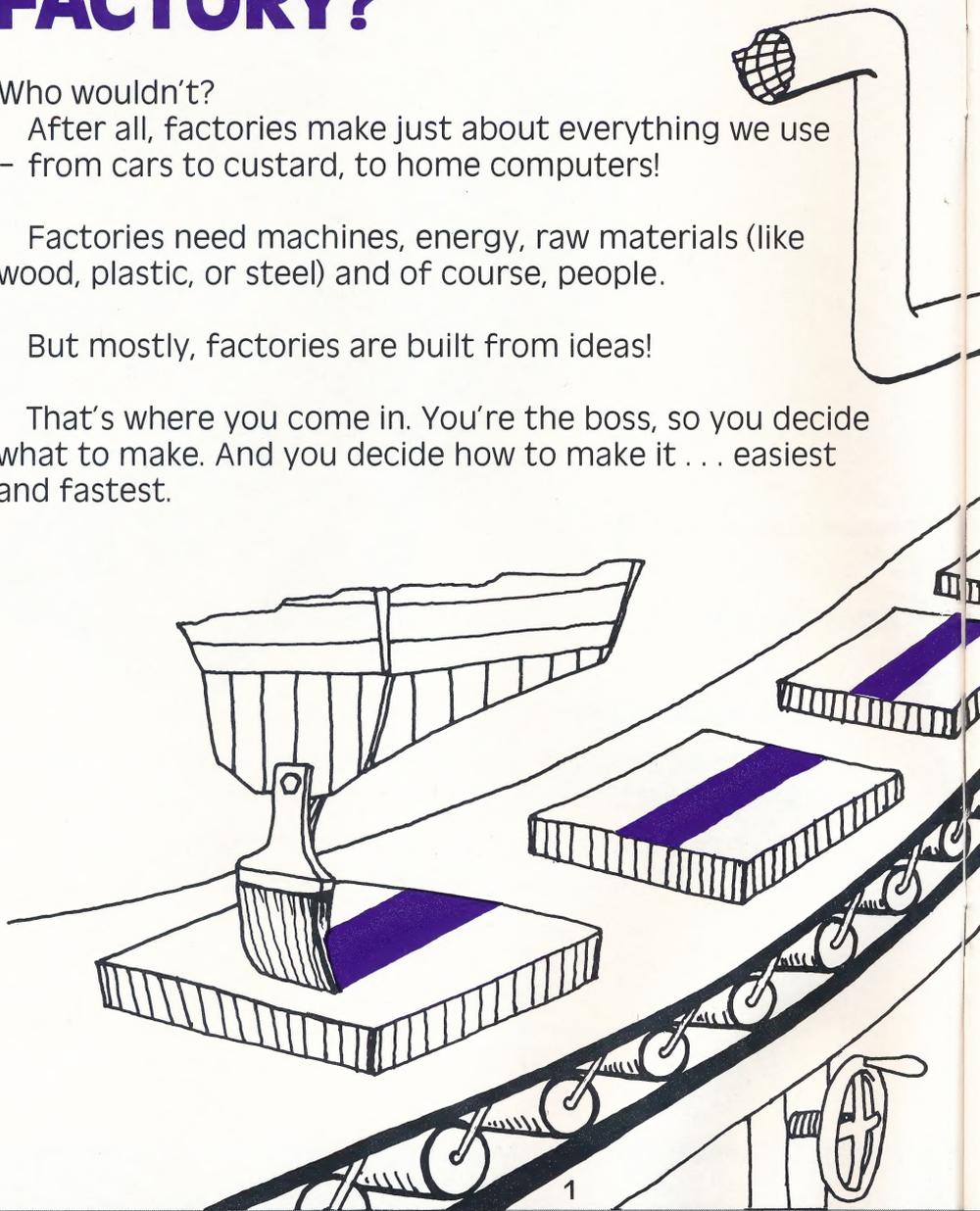
Who wouldn't?

After all, factories make just about everything we use - from cars to custard, to home computers!

Factories need machines, energy, raw materials (like wood, plastic, or steel) and of course, people.

But mostly, factories are built from ideas!

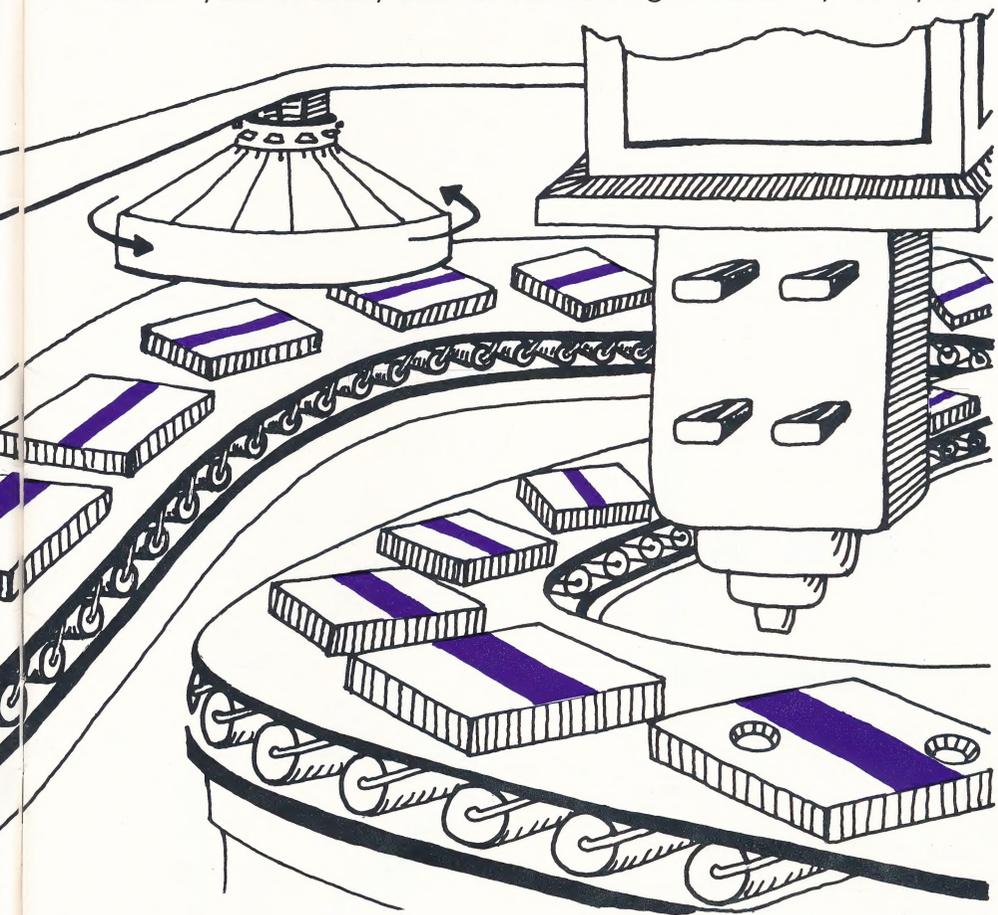
That's where you come in. You're the boss, so you decide what to make. And you decide how to make it . . . easiest and fastest.



Some of the problems may stump you at first. But that's where most of the fun comes in. Every time you solve another problem, you get another thrill!

Of course, you probably have friends who think they can do the job as well as you. Okay, give 'em a chance. See how they measure up.

Or maybe you're a work-alone genius who'd rather sit back thinking up more and more new products - and then watch your factory turn them out right before your eyes.



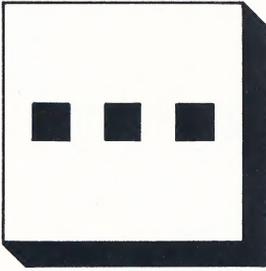
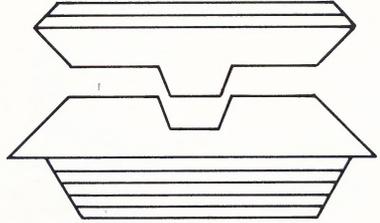
Well, this is your factory so you'll be making all the decisions. Just enter this program in your computer, and ... LET IT ROLL!

JOB 1

Your first job is to see and understand how each of the machines work.

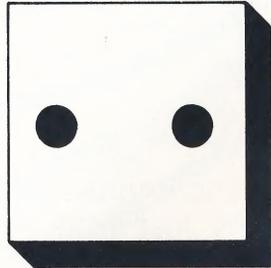
... Select Job #1: Test A Machine

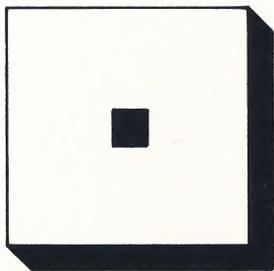
STEP #1: How The Punch Machine Works



You can make square or circular holes. The Punch Machine lets you punch 1, 2, or 3 holes ...

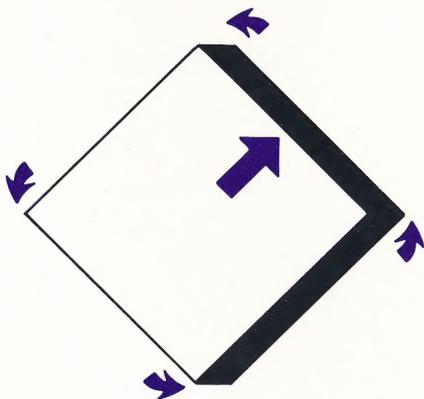
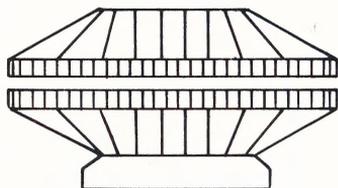
The Punch Machine punches holes through the middle of the square of raw material.





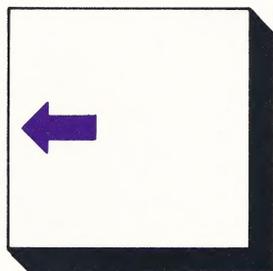
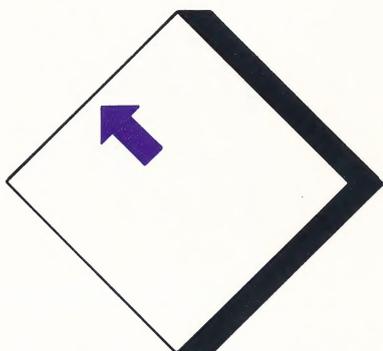
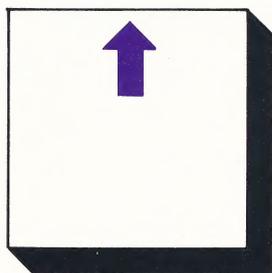
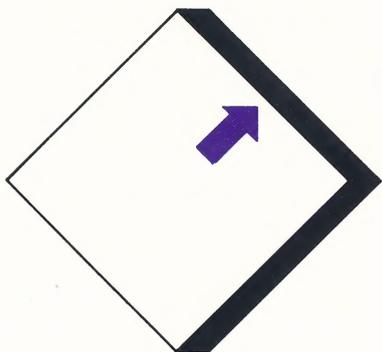
Select the Punch Machine, the kinds of punches, and then the number of holes for the machine to make.

STEP #2:
How The Rotate Machine Works



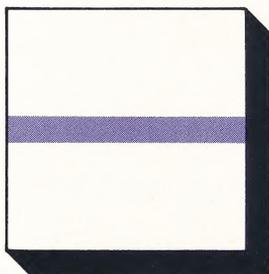
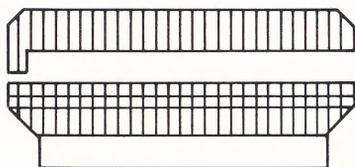
The Rotate Machine turns the square of raw material around "counterclockwise," as shown on the left.

You decide how far to turn it... 45, 90, 135, or 180 degrees.



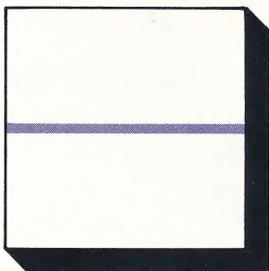
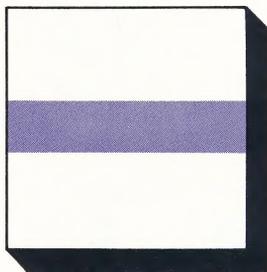
Select the Rotate Machine.
Try turning it 45, 90, 135,
and 180 degrees.

STEP #3:
How The Stripe Machine Works.



The Stripe Machine paints stripes across the middle of the square of raw material.

You choose how wide the stripes will be: thin, medium, or thick.



Select the Stripe Machine and try making thin, medium, and thick stripes.

JOB 2

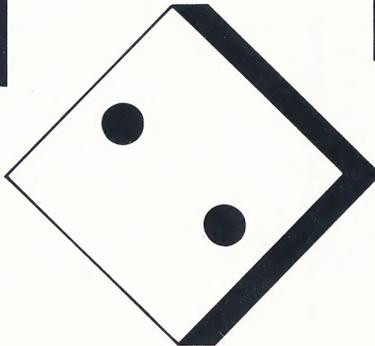
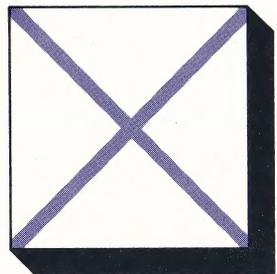
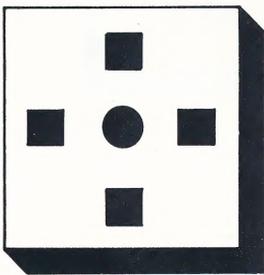
Now that you've seen how the machines work, your second job is to use them to make products.

Select Job #2: Build A Factory

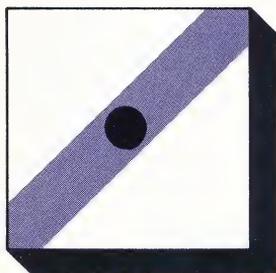
You will use the same machines that you worked with in Job #1.

You will be able to use up to eight of these machines at once to make each product .

Select your machines, and then select the word DONE when you are finished. The Factory will begin to make your product!



After your product has been built, challenge friends to make the product you just made. Your friends will have to select the right machines. Can they do it? Use the machines to invent more products – did the products come out the way you expected them to?

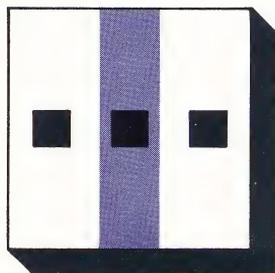
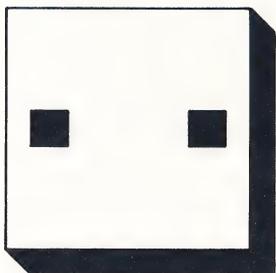


JOB 3

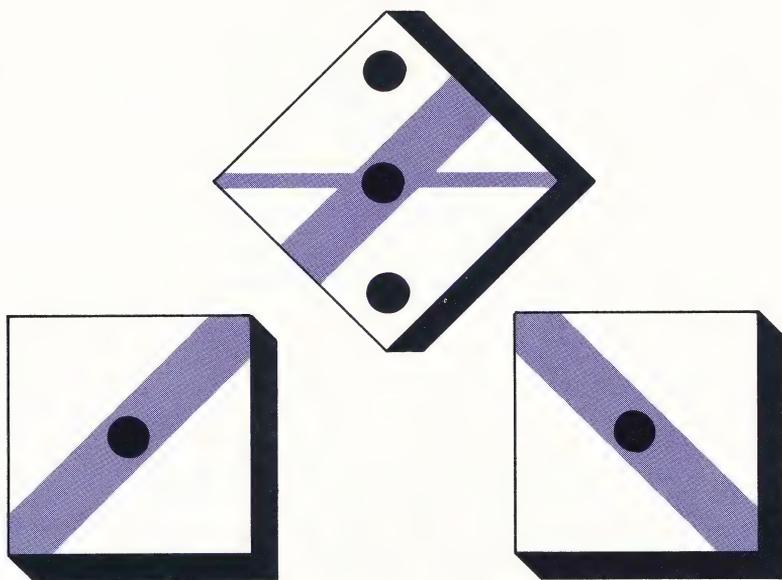
In your last job, you invented your own products . . . but now try to make a product the computer creates!

Select Job #3: Make A Product

You can have the computer show easy, medium, or hard products for you to make.



Try to select the machines that will make the same product the computer challenged you with. Once you have finished, select DONE.



Did your product come out not-quite-right?

That's okay! Try it again by selecting a new group of machines.

Even if you made the product just right, you might be able to think of a faster or easier way to put it together .

Try it!

Once you master one level, try moving up to the next level. The products can be really tough! Have fun!

KNOWING MORE ABOUT OPERATING THE FACTORY

- **To select a machine**, move the box to your choice. This is how:

On the **Apple, Atari** and **TRS-80 Color**, use the ←, → arrows.

On the **Commodore**, use the < , > keys.

When the box is around the correct choice:

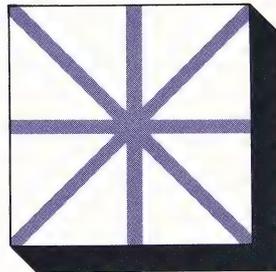
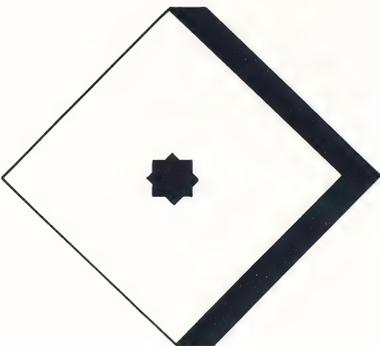
On the **Apple, Atari** and **Commodore**, press the RETURN key.

On the **TRS-80 Color**, press the ENTER key.

- **The ERASE box** always allows you to erase the last machine you put up.
- **The BACK-UP box** goes back to selecting a machine.
- **To stop a job**,
On the **Apple, Atari**, and **Commodore**, hold the Control key and press E.
On the **TRS-80 Color**, press the ↓ and E key.
- **To turn the sound off and on**,
On the **Apple**, type a Control T at the menu.

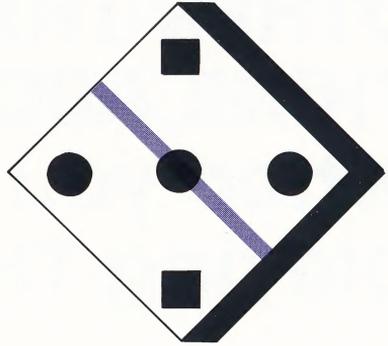
OTHER THINGS TO THINK ABOUT ... when you are playing THE FACTORY

1. Can you make these designs on your products?
 - A star
 - A face
2. Can you produce the designs of these flags?
 - Austria
 - Greece
 - Jersey State Flag of the United Kingdom
3. Can you make products that look like these:



4. Can you make this product:

- Using 8 machines?
- Using 6 machines?
- Using 5 machines?



5. What's the most machines needed to build an EASY LEVEL product - if you do it as simply and easily as possible? What's the most you need for a MEDIUM LEVEL product? For a HARD LEVEL product?

6. When you get to be an expert, add extra excitement to the game by playing against the clock.
- Keep track of your speed records for matching EASY, MEDIUM, and HARD products. Keep working against your own records.
 - When competing, use the clock. How fast can your friend match the product you've designed? How fast can you match your friend's product?

OTHER THINGS TO THINK ABOUT . . . when you are not playing THE FACTORY

1. Go into your kitchen. Look at any object. Chances are, it was made in a factory - on an assembly line. What kinds of machines might have been used? In what order?

(For example, a decorated plate. Looking at it, you might imagine at least three machines making it: one machine to mix the material it's made of; one machine to mold or shape it; one machine to put on the paint.)

Wherever you go - in school, the movies, other people's homes - play this little game. Was it made in a factory? By what machines? In what order?

2. Computer run assembly lines look like the wave of the future - at least to many people. In that sense, playing your factory computer game gives you an idea of what's coming.

To keep on top of the subject, look and listen for news stories dealing with computer-run factories, factory robots, computer "automation."

HOW THE FACTORY HELPS KIDS LEARN:

- **Thinking Skills.**

THE FACTORY teaches how to “think ahead,” break problems down into parts in order to solve them, pick the best problem-solving solutions.

- **School-Related Skills.**

THE FACTORY gives valuable practice in using basic math concepts including shape, angle, and rotation.

- **Computer-Related Skills.**

THE FACTORY builds mastery of simple, step-by-step programming logic, encourages a creative approach to the computer.

THE FACTORY was designed by Marge Kosel and Mike Fish of Sunburst Communications.

Programming was done by:

Apple version: Mike Fish

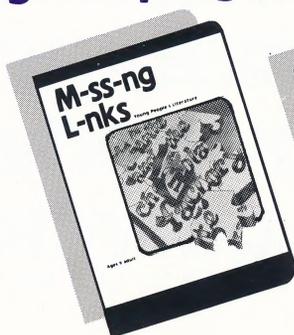
Atari version: Mike Fish

TRS-80 Color: Larry Bank

Commodore version: Eric Grubbs

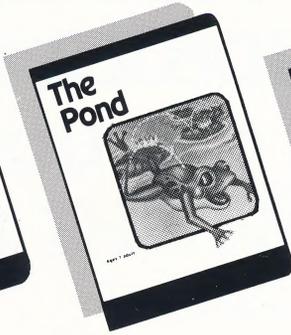
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Pleasantville, NY

If you enjoyed and were challenged by The Factory – try these other great programs from Sunburst:



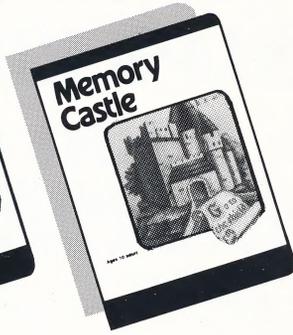
M-ss-ng L-nks:

Here's a puzzle that challenges you to read words and letters that aren't there. Think you can do it? Good Luck!



The Pond:

Can you lead the frog through the lily-pad maze? Only one pathway is safe. Make a mistake and SPLASH . . . you're in THE POND.



Memory Castle:

Remember your orders exactly! Use your secret memory code. Just one mistake brings doom in the Memory Castle.

Get the program from your local dealer or

Sunburst Communications

Room AB
39 Washington Avenue
Pleasantville, NY 10570

or, for immediate service, call Betty Higgs
TOLL-FREE at 1-800-431-1934.

In New York, Hawaii, Alaska, or Canada
call collect 914-769-5030.



The Sunburst Warranty

Congratulations on your purchase of quality Sunburst courseware! If this diskette should fail to boot within the first 90 days following purchase, simply return to an authorized dealer or contact us directly for a FREE replacement.