CREATIVE CONTRAPTIONS™

Finding it hard to wake up in the morning? Got the dog-walking blues? Inside this package you'll find machines that can do almost anything—from waking to walking, from beating the heat to helping you eat!

The only problem is, these crazy contraptions don't quite work. That's where you come in. Choose from pulleys and levers, springs and magnets to make the machines run. Thinking about actions and reactions is the key to perfecting the connections. So build with care, and conquer life's chores in ways you never have before!

Learning Goals: Simple machine principles, cause/effect relationships, deductive reasoning, creative problem-solving.

Features

☐ Three different games: open-ended or scored!

☐ Choice of difficulty levels

☐ Animated tutorial

☐ Hundreds of combinations to encourage replay

☐ Cartoon-like graphics with animation and music

☐ Full-color poster ☐ No computer experience necessary to play!

(Screens shown above are from IBM version of *Creative Contraptions.*)

About the Developer

Looking Glass Software, Inc. was formed in 1981 by Mary and Gary Schenck, the award-winning principals, who have been active since 1977 in the design of products incorporating electronic technology with delightful and rewarding learning experiences for children. Their industry experience includes product development for Children's Television Workshop (The Software Group, *Sesame Street Magazine*, and *Electric Company Magazine*) and Texas Instruments.

BANTAM SOFTWARE

666 Fifth Avenue
New York, NY 10103

The Learning Advantage

INTRODUCTION

Think of the things you do every day—waking up, combing your hair, eating. Don't you wish there were new and more exciting ways to do these things? Well, you've come to the right place! Enter the world of *Creative Contraptions*.

What's a creative contraption? It's a handy dandy machine designed to make life easier. The original and one of the most imaginative contraption makers was Rube Goldberg. His contraptions solved the simplest problems in the craziest ways. They were filled with parts you'd never dream of, all fitting together perfectly to make creative problem-solving masterpieces.

In *Creative Contraptions* you'll be playing with just these types of creations. You'll see simple machines such as a lever, screw, wedge, pulley, wheel and axle, and inclined plane, and tools such as springs, pendulums, and magnets. But you'll also see zany objects like chickens, roller skates, wind-up toys, and boxing gloves.

As always, the combination is the key! Some contraptions have pieces missing, some have the wrong parts included. It's up to you to figure out which parts belong, and which combinations will make the contraptions work in your quest to become a master builder!

The first thing you'll see is your main game menu. There are four game options.

REVIEW MECHANISMS

To review the mechanisms used in *Creative Contraptions*, select ▨ from the main menu. Pictures of the mechanisms will appear in a strip at the bottom of the screen.

Press ⬅ or ➡ (**J** or **K**) to move the mechanism you want to the center arrow.
Press **RETURN** to choose the mechanism.

You'll see a definition and common examples of the chosen mechanism.

Press **SPACE BAR** to see the mechanism at work.

A mini-contraption using the mechanism will appear. Watch it closely to see how the mechanism can be used in the game. Press **SPACE BAR** again to see the contraption run a second time.

Press **RETURN** to choose a new mechanism.

You'll go back to the choice screen. Use the arrows ← or →
(**J** or **K**) and **RETURN** to pick a different mechanism. When you
are finished reviewing mechanisms, press **ESC** to go back to the
main menu.

FILL IN MECHANISMS

To play Fill in Mechanisms, select ▲ from the main menu.
Mechanisms are the simple machines or tools that are found in a
contraption. In Fill in Mechanisms all of the mechanisms in your
contraption will be missing, though you'll see lots of zany objects
that are part of the contraption. It's up to you to fill in the
correct mechanisms.

Choose your level. In Apprentice all mechanisms shown are correct.
You simply have to put each in the right place. In Master Builder some
mechanisms shown are correct and some are incorrect; you have to
choose and place the correct ones.

Press ↓ or ↑ (**M** or **I**) to move the flashing box to your choice.
Then press **RETURN.**

Next choose your end goal. As you know, contraptions are built with a
purpose in mind. For all *Creative Contraptions* activities there are six
possible end goals. Before you play, you must first choose the
type of contraption you want to build.

Press ↓ or ↑ (**M** or **I**) to move the flashing box to your choice.
Then press **RETURN.**

Consider the Contraption

Your contraption will pop on the screen piece by piece. The spots
where mechanisms belong will be marked by empty boxes. Your job
is to fill in the pieces that will make the contraption run perfectly.
The "running" of the contraption is initiated by a ball that moves
through it.

The starting ball is at the top of the screen. The letters on the screen
show how the pieces connect and the order in which they work.
Remember, correct connections of the contraption parts keep the ball
going. The movement of the contraption balls *approximates* the laws
of physics.

Choose the mechanisms in the order in which they appear in the contraption. A flashing frame will surround the box to be filled. The mechanisms to choose from will appear on the strip at the bottom of the screen.

Press ← or → (**J** or **K**) to move the mechanism you want to the arrow.

Press **RETURN** to lock a mechanism in the contraption.

When you have filled in all the mechanisms, you're ready to give your creation a try.

Press **SPACE BAR** to run the contraption.

Connection perfection? If not, you'll know the first place where you went wrong (your contraption ball will bounce like crazy all over the screen), and the box will flash around the incorrect mechanism. Press the arrows and **RETURN** to choose a new mechanism and run the contraption again. If another mechanism is incorrect, try again. (If there is more than one error, only the *first* one is highlighted.) Got it? Good!

Press **SPACE BAR** to see the contraption run again.

Press **RETURN** to choose a new end goal.

Press **ESC** to go back to the main menu to choose a different game.

Hint: See mechanisms work correctly in Mechanism Review.

FILL IN ZANY OBJECTS

To Fill in Zany Objects select ▓▓▓ from the main menu. As in Fill in Mechanisms, before you play you have to choose your level and end goal.

Press ↓ or ↑ (**M** or **I**) to move the flashing box to your choice. Then press **RETURN.**

The goals are the same as in Fill in Mechanisms. However, in this game you decide which zany objects will make the contraption work. As for levels, if you choose Apprentice, there is one zany object that will work and one that will not. In Master Builder there are more correct and incorrect choices.

Presto! Your contraption will appear. This time the empty spaces mark the spots where zany objects belong. Take a good look at the mechanisms. Knowing the effects they have will help you know what objects to fill in each space. Follow the letters on the screen to figure out connections and fill in the objects one by one.

Press ⬅ and ➡ (**J** or **K**) to see the different objects. (Object choices will not appear at the bottom of the screen, but will show up inside the flashing highlight box, and will change with each arrow press.)

When you think an object belongs in a space, press **RETURN** to lock it into position. The flashing box will move to the next space to be filled, and you can choose your next object.

When you've filled in all of the zany objects, check the contraption once more. If you want to make changes, press **RETURN** to cycle the flashing box to the object to be changed. Then use the arrow keys and **RETURN** to choose a new object. When you're ready, press **SPACE BAR** to run the contraption.

Press **SPACE BAR** to see the contraption run again.
Press **RETURN** to choose a new end goal.
Press **ESC** to go back to the main menu.

CONTRAPTION MIX UP

Now that you know how mechanisms and zany objects work, you're ready to play Contraption Mix Up . In this game you'll have to replace both mechanisms and objects to make a contraption work, and you'll have to race against time to do it. Each time you complete a contraption, you'll get a new one automatically, up to six in all, one for each goal. See if you can complete all six before time runs out!

Since the game chooses contraptions for you, the only thing you have to do is choose your level. As an Apprentice you'll have fewer incorrect parts to start with, a slow timer, and an unlimited supply of balls. As a Master Builder you'll have more incorrect parts, a fast timer, a limited supply of balls, and bonus letters.

Press ⬇ or ⬆ (**M** or **I**) to move the flashing box to your choice. Then press **RETURN.**

Get into the Game

Apprentice is a good way to get to know the Contraption Mix Up rules. As soon as you choose your level, a complete "Up and At 'Em" contraption will appear. Your timer will start ticking and you're off. You have about five and a half minutes to build. Remember you're looking for *any part* that doesn't belong. Follow the letters in order and concentrate on the connections between pieces. If connections won't work, it's up to you to decide which piece to replace.

Press ← or → (**J** or **K**) to see the different contraption parts in place.

Press **RETURN** to lock in a part and to move the flashing box to the next part you want to change.

(If you are changing a mechanism, your choices will appear in the strip at the bottom of the screen. If you're changing zany objects, the choice options will appear one at a time in the flashing box as you press the arrow keys.)

When you think your connections are perfect, press **SPACE BAR** to run the contraption. Did you make your wake-up call? Great! If not, the cursor box will have stopped at the first wrong connector found. Make a change and try again. When your contraption connects, you'll see your score at the top of the screen, and a new contraption will automatically appear. Tinker away! Remember, you have an unlimited supply of balls. However, the faster you complete contraptions, the higher your score will be.

Helpful Hint: For a warm-up before playing the game, try the Mechanism Review option first.

MASTER BUILDER

Ball Control

In the Apprentice level, you'll have an unlimited number of balls. When you become a Master Builder you'll find things a little harder— so you'll have to be more careful. As a Master Builder you'll have about two and a half minutes to work and the number of balls you'll get is only six. That means to work all six possible contraptions you can't waste any balls. So build carefully!

Your balls appear at the top of the screen. If you run out, that's the end of the ball game!

Bonuses

There is one way to get extra balls in Master Builder. You can catch a bonus letter. Bonus letters give you extra points, and sometimes, extra

balls! As you play, a box will appear around one of the letters in the contraption. Most of the time the letter in the box will be upper case (a capital letter); sometimes it will be lower case (a small letter).

If you run a contraption all the way through while a boxed letter is upper case, you'll get bonus points depending on which letter you've caught. The later the letter comes in the alphabet the more points you'll get. See just how many in "What's the Score?"

If you're lucky or quick enough to run a contraption while the boxed letter is lower case, you'll get the same bonus points as above, *but* you'll also get a *free ball added* to your supply. Lower case letters appear for a short time when a contraption is first presented. If you don't catch them, keep your eyes open. They will pop on three or four times later in the game without warning.

WHAT'S THE SCORE?

There are lots of ways to score points in Contraption Mix Up. You get points for every correct part in your contraption, for catching bonus letters, and for having balls or time remaining after you run all six contraptions. You get more points for completing a contraption perfectly on your first try, and if you complete all six contraptions without errors, you'll score even higher!

Here are the score points for Apprentice and Master Builder levels:

Mechanisms and zany objects

    10,000 points for each mechanism or object activated on first try

    5,000 points if you activate it on second try

    2,500 points if it takes more than two tries to activate it

(You can get points for each mechanism or zany object only once.)

Completed contraptions

    100,000 points for a contraption built correctly on first try

    50,000 points for a contraption built correctly on second try

    25,000 points if it takes more than two attempts to build it

Unused time

    1,000 points for each unused tick left on the time bar

Master Builder only:

Bonus letters

    10,000 points if you catch an A; 20,000 points if you catch a B;

    30,000 points if you catch a C; 40,000 points if you catch a D, etc.

Unused balls

    25,000 points for ball left over at the end of the game

CREATIVE CONTRAPTIONS™

SETTING UP YOUR COMPUTER

To play *Creative Contraptions* you need the following equipment:

☐ Apple II, II +, IIe, or IIc with 64K and one disk drive.

– and –

☐ Color or monochrome monitor or television

GETTING STARTED

Slide the *Creative Contraptions* diskette (with the picture facing up) into your computer's disk drive. Close the drive door. Then turn on the computer.

After a brief title sequence and introduction screen, you'll be asked if you want the game to have sound. Press **Y** for YES or **N** for NO. Then you'll be asked to turn over the game disk. Remove the *Creative Contraptions* disk, flip it over, place it back in the disk drive, and close the drive door. Then press **RETURN**. The game menu will appear and you're ready to go.

(Note: At any time during play, sound can be turned off by pressing the "S" key on the keyboard. To turn sound back on, press "S" again.)

CREATIVE CONTRAPTIONS™

COMMAND CARD

Here are the keys you'll need to play *Creative Contraptions.*

← or **→** (**J** or **K**)	To cycle through contraption parts (mechanisms and zany objects)
↓ or **↑** (**M** or **I**)	To move flashing box on menus
RETURN	To select a contraption part or menu choice
SPACE BAR	To run a contraption
ESC	To return to main game menu
S	To turn sound on and off

SPACE BAR   *Apple IIe*   **RETURN**

SPACE BAR   *Apple IIc*   **RETURN**
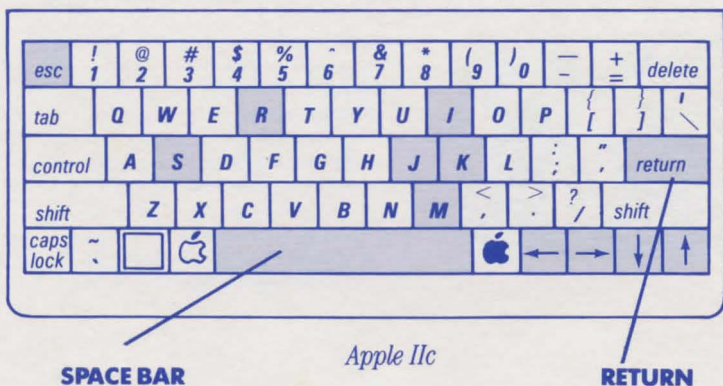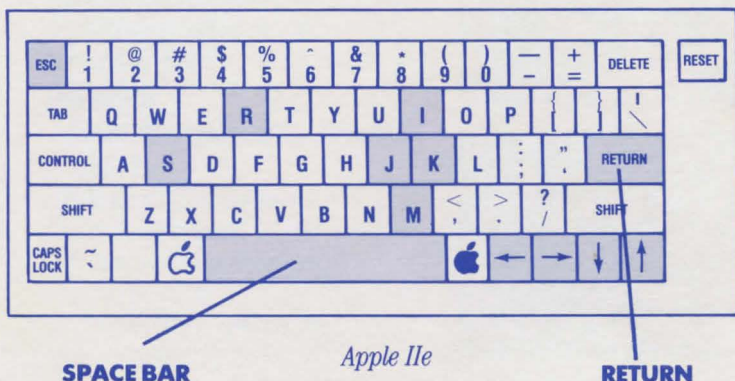
The Learning Advantage Edition