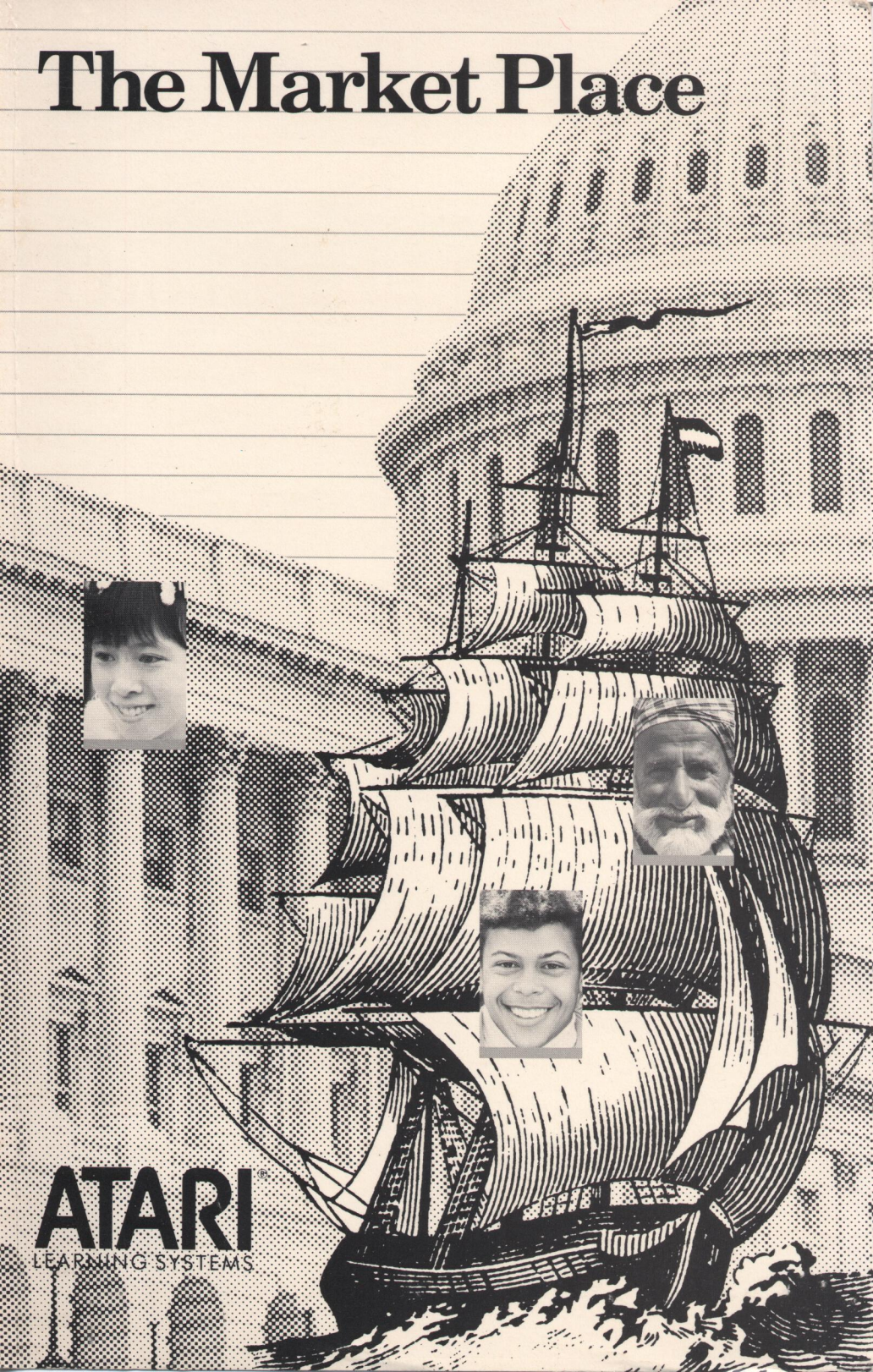
The Market Place



ATARI®
LEARNING SYSTEMS

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Using This Program at Home

Many ATARI® Learning Systems program manuals were originally designed for use by teachers in the classroom. The programs themselves, however, are no less engaging and instructive for "independent learners"—children, students, and adults—working at home.

Every manual includes a "Getting Started" section that explains how to load the program into your computer system quickly and easily. Since many basic prompts and other instructions are displayed right on your screen, that's all you'll need to begin learning and exploring with most ATARI Learning Systems programs. But whether you're a parent, a tutor, or a home learner teaching yourself, it's a good idea to look through the teaching materials in your manual. You're likely to find important details on using the program, valuable supplementary information on its subject matter, and some creative ideas for getting the most educational and entertainment value out of your ATARI Learning Systems program.

Introduction

Graphics will help stimulate high interest in this module of four "sell" situations. These programs put the student in the role of decision-maker, with a variety of choices to evaluate. Each simulation teaches a different aspect of the economic marketplace. The four programs are on the diskette in order of difficulty.

In Sell Apples, the major objective is to determine the best price, based on the number sold.

Sell Plants emphasizes the function of advertising.

Sell Lemonade involves those decisions normally found in running a lemonade stand.

Sell Bicycles deals with the concepts of supply and demand.

The *Market Place* module, consisting of one diskette and this guide, is designed for use with grades three through eight. The diskette will operate all ATARI® computers. This guide provides information necessary in using the diskette effectively in a classroom setting and includes special student handouts to be used in conjunction with the simulations. The handout pages may be duplicated for use with students.

Follow these steps to load the Market Place program into your ATARI computer system:

1. With your computer turned off, turn on your television set or monitor and disk drive. Wait for the busy light on the disk drive to go out.

2. If your computer is *not* equipped with built-in ATARI BASIC, insert an ATARI BASIC cartridge in the cartridge slot (the left cartridge slot on the ATARI 800 computer).

2. Insert the Market Place diskette in your disk drive (disk drive 1, if you have more than one drive) and close the disk drive door or latch.

4. Turn on your computer. As your disk drive goes to work, you'll hear a beeping sound while the first part of the program loads into your computer. After several moments, a title screen will appear on your screen, followed by a menu of program selections.

Because your computer loads portions of the program as you see them, you must leave the Market Place diskette in your disk drive while using the program.

If a question asked by the Market Place program requires a simple Yes or No answer, you may respond by typing **YES** or **NO**, or simply by typing **Y** or **N**. Always press **RETURN** to confirm your response to a question. You may usually change your response before pressing **RETURN**; just use the **DELETE BACK SPACE** key to delete your original response, then type in the new response.

To return to the program menu, hold down the **ESC** key. When the question Do you want to try again? appears, type **N** and press **RETURN**.

For access to any teacher options available in the Market Place program, press **CTRL** and **A** simultaneously.

Index to Programs in the Diskette

Sell Apples

A simulation that involves finding the "best price" for a product

Sell Plants

A simulation on the effect of advertising on sales and profits

Sell Lemonade

A simulation that determines profit based on production and advertising cost

Sell Bicycles

A simulation on the managing of a bicycle company, determining production level, advertising budget, and selling price

Sell Apples

Marketing

Specific Topic:	Economics, Pricing, and Marketing
Type:	Simulation
Reading Level:	3.4 (Spache)
Grade Level:	3–7

Description

Sell Apples is the first of four simulations designed to teach economics. In this simulation, students attempt to find the best possible price at which to sell their apples. They can run the program any number of times, and each time a new "best price" is randomly set between 1 cent and 99 cents. In running this simulation, the students should discover that in a given situation, each product has a price that produces the highest income.

Objectives

- To define the terms *price* and *income*
- To experimentally determine the relationship between price and quantity sold
- To determine a relationship between price and income
- To develop a strategy for determining the most desirable selling price
- To compare the "best choices" for purchase of quantities

Sell Apples

Background Information

The students' task in this simulation is to find the best price to charge for their apples. A high price, such as 40 cents per apple, will give them a lot of money for each apple, but they probably won't sell many apples. At a low price, such as 1 cent per apple, they'll sell many apples but won't make as much money. The best selling price is somewhere in between the two extremes. A graph is used in this simulation to show students the range of prices they've selected.

The simulation proceeds in the following way:

1. The student sets the price to charge for apples.
2. The computer displays a daily report of sales and income.
3. The student changes the price and then is asked to evaluate how the change will affect sales.
4. After the fifth day, a summary of the five days is printed.
5. The student is asked to enter what she or he considers the "best price." Students who haven't found the best price are given an opportunity to run the game again. The computer gives the very best price at the end of the program.

Use in an Instructional Setting

Preparation

Explain that there are some terms everyone must understand before playing the Sell Apples game; these terms are listed on Handout 1, Sell Apples. Have each student or small group of students complete Handout 1 by using the dictionary or discussing the questions among themselves. It could also be completed as a class activity through class discussion.

You may "set the stage" for Sell Apples by having the students form companies of three to five students, and make up names for their companies. After completing the program, the students can use data on Handout 2, Sell Apples Record Sheet, to see which companies were the most successful. A prize can be given the winning company—for example an apple for each student in the company, a promotion to executive vice president of the class, and the like.

The *Trade-Offs* film and the *Trade-Offs* film strip series expand on many of the concepts underlying the Sell series of programs. You can obtain them through your county or state school media centers.

Using the Program

Emphasize that the main purpose is to find the "best price" for apples in Applesville that day, and that the student must experiment to find that price. Have students complete Handout 2, Sell Apples Record Sheet.

In order to demonstrate Sell Apples, you'll need to have a computer set up so everyone in the room can see the television. Let each group select a price and study the results. As the simulation continues, encourage the class to find the relationships between price and number sold, and between price and income. Urge the students to experimentally determine the "best price" for the apples.

As a class activity, you may want to discuss how a company might function with that many people trying to make the decisions. The group interaction in making these decisions is very worthwhile. You may choose to use the simulation in this manner as an instruction and then break the class into smaller groups that can work on the computer independently.

Breaking the class into groups of five or six students is an effective way of implementing this simulation. In this manner, it's possible for an entire class to run it in one hour, especially if the students are familiar with the computer and the program. Take care to ensure that a few students don't monopolize the decision-making.

If possible, allow each student to run the simulation and make individual decisions. The students will gain much personal experience this way, but it may be very time-consuming.

Follow-up

After running the simulation, discuss the results and apply the decisions to the methods used by retail stores to set their prices. Discuss the fact that this is only a simulation, not an

actual experience—the program simulates and simplifies a business, omitting many factors that are realities of the business world, such as the cost of raising the apples, competition between apple stands, and so forth. Discuss the results and have the students list factors that influence profit.

Another approach is to have the class do role-playing. Have three companies set up apple stands, using paper apples and paper money. Have several students own the apple orchard that sells the apples to the stands. Give the orchard owners a rather limited supply of apples. Explain that a late spring frost reduced the apple crop.

The apple stand companies negotiate with the orchard to buy their apples at a certain price. Each company starts out with an equal amount of money.

Students in the class buy apples with paper money, and they try to get the most for their money. The student buying the most apples is recognized in some way—for example, with a Johnny Appleseed Award.

The company making the most profit (not necessarily selling the most apples) should also be recognized in some way—perhaps a Successful Corporation of the Year Award.

During a second role-play, change the variables—for example, allow a limited amount of money and unlimited apples. Conclude by discussing these questions: "Under what conditions was the best price the highest?...the lowest?"

Sell Apples

Name _____

Class _____ Date _____

Before you play the Sell Apples program, there are some things you should know. Find the answers to the following questions by using the dictionary and by discussing the questions or answers with your classmates:

1. What does the word Price mean? _____

   _____

2. What does the word Profit mean? _____

   _____

3. Mr. Martinez and Mrs. Anderson own a toy store. They have a new toy to sell. It's a spaceship that flies into the air when the launch control is flipped. Mrs. Anderson wants to sell the spaceship for $1.00, and Mr. Martinez wants to sell it for 80¢. How can the store owners decide on the spaceship's price? _____

   _____

After your teacher checks your answers, you're ready to play Sell Apples. In this simulation you pretend you have an apple stand and you'll be selling apples. In order to do your best, you must find the best price to charge for your apples. You'll decide how much to charge for each apple, and the computer will tell you how many apples you've sold. Complete Handout 2 as you play Sell Apples.

Good Luck!!

Sell Apples

Name _____

Class _____ Date _____

Handout 2
Record Sheet

The computer will show price, number sold, and income for each day.
Complete this sheet as you run the program.

Day	Price	Number Sold	Income
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

9. _____

10. _____

Sell Apples

Name _____

Class _____ Date _____

After playing Sell Apples, answer these questions:

1. Were you able to find the best price for your apples? _____

   If so, what was it? _____

   _____

2. As you changed your prices, how did the number of apples you sold change? _____

   _____

3. As you changed your prices, how did your income change? _____

   _____

4. Why do stores want to find the best price for their products?

   _____

5. Why do stores sometimes have sales and lower their prices? _____

_____

Sell Apples

Sample Runs

In Sell Apples, students experience the economics involved in finding the best price for a product.

```
This is a computer game about
selling apples.  Imagine you are
living in a town named 'Applesville'
and you have set up a stand to
sell apples. You have several good
apple trees so you don't have to
worry about running out.

Your job in this game is to find the
best price to charge for your
apples.

      Press RETURN to continue.
```

Students are told whether they've found the best price during the five day period. If they haven't, they can continue the simulation. Based on their five-day sales record, they should be able to discover the best price.

```
        Day 1 closing report for
           Lance's apple stand
```

```
At 15 cents per apple,
you sold 15 apples.

You received $2.25 in income today.
Keep experimenting in this price
range to find the best price.

      Press RETURN to continue.
```

Examples of Screen Output

Sell Apples

Sample Runs

```
You have been in business now for
5 days.  Here's how you're doing:

                        Number
Day       Price          Sold     Income
---       -----         ------    ------
 1          10            17      $1.70
 2          20            14      $1.70
 3          25            12      $2.80
 4           9            17      $3.00
 5          30             8      $2.40

What do you think the best selling
price is this week?
```

After five days of marketing their apples, students are asked to identify the selling price that gave them the most income.

```
You have found the best price for
        selling apples.
            GOOD JOB


     Press RETURN to continue.
```

Students set a price for their apples and at the end of the day receive a report on how well they're doing. They're encouraged to continue looking for the best price.

Examples of Screen Output

Sell Plants

Advertise

Specific Topic:	Economics, Advertising, Pricing, Expenses, Income, and Profit
Type:	Simulation
Reading Level:	3.8 (Spache)
Grade Level:	4–7

Description

The Sell Plants simulation demonstrates the purpose of advertising. Students are given the task of selling tomato plants raised as a class project. They're given the amount of the fixed expenses and must set their selling price at the beginning of the simulation. The variable that they control throughout the simulation is advertising. By experimenting, they can determine the best price for the tomato plants and discover the most profitable level of advertising. The computer feedback describes what effects student advertising decisions have on profit, enabling students to revise their strategy throughout the simulation.

Sell Plants

Objectives

- To define the terms *price, advertising, expenses, income,* and *profit*
- To experimentally determine the relationship between advertising levels and quantity sold
- To determine the relationships between price, advertising, and income
- To analyze results and make decisions to determine the most effective level of advertising
- To estimate, compare, and determine costs

Background Information

Sell Plants simulates the advertising and sale of tomato plants. Given 1,000 tomato plants that cost a total of $30.00, the students set a price for the plants. The number sold reflects the difference between the students' price and the "best price."

On the first day, the plants sold are without advertising, so the students discover how many will sell at their chosen price without the influence of advertising. Days 2, 3, and 4 allow the students to advertise, at a cost of $.25 per sign. The effect of the advertising will be shown in the sales. On the last day, Day 5, the students are given a chance to lower their prices (have a sale) to sell as many plants as possible.

Use in an Instructional Setting

Preparation

Hold a discussion on advertising. In what ways do people advertise their products? Can all businesses advertise in the same way?

Have the students pick a name for their plant store and, as an art project, make posters advertising their store and the plants. They could analyze the posters in terms of which would make the most effective advertisement.

Students should complete Handout 3, Sell Plants, before running the simulation, so that they understand terms used in the program and are introduced to the concepts explored in Sell Plants. Questions 6–10 are presented to focus the students' thoughts; complete answers, reflecting a total understanding of the points in question, can't be expected.

See the references to the *Trade-Offs* films/filmstrip series in Sell Apples for an additional preparation suggestion.

Sell Plants

Use of the Program

Organize the class so that each student or pair of students can have time to run the simulation on the computer.

Students should fill in Handout 4, Sell Plants Financial Report, as they run the program.

Use Handout 5, Sell Plants Income Report, to see whether students understand and can do the calculations to determine income, expense, and profit.

Follow-up

Use Handout 6, Evaluation, as a follow-up. Reemphasize that this is a simulation and that things may not go exactly the same in a real-life situation.

You can generate a good discussion by listing ways in which this simulation isn't realistic. For example, why must new signs be made every day? (This restriction was included to give students a better chance to experimentally determine the effects of advertising.)

Sell Plants

Name _____

Class _____ Date _____

Sell Plants is a program that lets you manage a small business. Imagine your class has planted and raised 1,000 tomato plants as a science project. Your job is to start a business to sell these plants and raise money for your class.

Write a short definition of each of the following words.

1. Price _____
2. Advertising _____
3. Expenses _____
4. Income _____
5. Profit _____

Now answer the following questions:

6. What are some ways you could advertise a plant store? _____

_____

7. Should you try to sell all plants or have some left over? Why? _____

_____

8. Is it better to charge a high price or a low price? Why? _____

_____

9. If you set a high price, will you need to advertise more or less in order to sell all your plants? Why? _____

_____

10. If you sell 190 plants at 10¢ each, what will your income be for that day?

_____

Sell Plants

Name _____

Class _____ Date _____

You have 1,000 plants and five days in which to sell them. Before going to the computer, answer these questions:

A. What are you going to call your plant store? _____

B. What price are you going to charge for each plant? _____

On this sheet, show what happens in your plant store. The computer will give you a chart with these data on it at the end of the simulation:

Day	Price	Signs	Plants Sold	Day's Income
1				
2				
3				

4 _____

5 _____

Final Sales Report:

What seems to be the best number of signs to make? _____

What do you want to do differently next time you run Sell Plants? _____

_____

Total Income	Total Expenses	Profit	Plants Left
_____	_____	_____	_____

Sell Plants

Name _____

Class _____ Date _____

Calculate your expenses, your income, and your profit. You're given the selling price per plant, the cost and number of advertising signs, the number of plants sold, and the production costs per plant.

Selling price per plant	Cost of each sign	No. of signs	Production cost of plant	No. of plants bought	No. of plants sold	**Income**	**Ex-penses**	**Profit**
20¢	75¢	10	4¢	250	215			
35¢	50¢	5	20¢	200	50			
3 for $1.00	80¢	20	12¢	400	300			

NOTE:

Income = (number of plants sold) × (selling price per plant)

Expenses = (cost per sign) × (number of signs)
(cost per plant) × (number of plants bought)

Profit = (Income) − expenses

Sell Plants

Name _____

Class _____ Date _____

1. How does the price you set affect the number of plants you sell each day?

   _____

2. Why did making advertising signs increase the number of plants you sold?

   _____

3. If you kept making more and more signs, do you think you would continue to sell more plants?

   _____

4. Would you continue to make more profit with more signs? _____

   _____

5. A plant shop sold 186 plants at 11¢ each while using six advertising signs at 25¢ each.

   A. What was the income today? _____

   B. What were the expenses today? _____

   C. What was the profit today? _____

Sell Plants

Sample Runs

```
This is a computer simulation
of a business to sell tomato
plants. The main purpose is
to let you find the  best way
to advertise your product.

Imagine you are in the school
in a town we will call
'Tomatoesville'.

   Press RETURN to continue.
```

Sell Plants examines the influence of advertising on the successful marketing of a product.

```
You have 1000 plants to sell
and 5 days of selling time.
Your fixed expenses for seeds,
containers, fertilizers, and
other expenses are 3 cents per
plant.  This means you have
expenses of $30.00 before you
start selling your 1000 plants.

   Press RETURN to continue.
```

Students are given information that will help them set a selling price for their plants. (Note that the decimal point for cents is not needed.)

Examples of Screen Output

Sell Plants

Sample Runs

```
This is day 2. How many
advertising signs do you
wish to make?

Each sign will cost you
25 cents, and they are only
good for one day.
```

To help students increase sales, they're given the option of advertising on Day 2.

```
   Day 1 Financial report for LANCE

Price Advertising Signs  Plants sold
 .10            0            101

Sign expenses  Income    Plants left
 $0.00         10.00         899

Would you like to try making some
signs to advertise your business?
```

Each day they're given a financial report that emphasizes the effect advertising had on their income.

Examples of Screen Output

Sell Plants

Sample Runs

```
 Day   Price   Signs   Plants Sold   Day's Profit
 ---------------------------------------------
 1      .10       0        101          10.10
 2      .10       0        101          10.10
 3      .10      15        191          15.35
 4      .10      10        179          15.40
 5.     .08      16        356          24.48
                                        75.43

 Sum of Daily Profits      75.43
 Fixed Expenses          - 30.00
 Total Profit              45.43

       Press RETURN to continue.
```

After five days of sales, they have a good picture of the relationship between selling price, advertising, and profit.

```
Do more advertising signs mean
'more' or 'fewer' plants sold?

MORE

Good, how many signs seemed to
be the best one for you?
```

Students are asked to select the number of advertising signs that proved most successful for them.

Examples of Screen Output

Sell Lemonade

Cost/Profit

Specific Topic:	Economics, Advertising, Price, Expenses, Profit, and Assets
Type:	Simulation
Reading Level:	6 (Fry)
Grade Level:	3–6

Description

Students using the Sell Lemonade simulation make decisions that are similar to those they would make in running a real lemonade stand. Each day the students decide how much lemonade to make (production level), how many advertising signs to make, and how much to charge for the lemonade. The computer analyzes their input and correlates it with random events, such as a heat wave, and gives the students a daily profit/loss chart. Economics and math skills are developed.

Objectives

- To define the terms *advertising, price, expenses, profit,* and *assets*
- To determine the relationship between production, advertising, and pricing in a business
- To reinforce arithmetic skills with practical experience
- To estimate, compare, and determine costs

Sell Lemonade

Background Information

In Sell Lemonade, students operate lemonade stands. When running this simulation, six lemonade stands are allowed. Since one stand's results have no effect on the results of others, competition isn't a factor when relationships are analyzed.

The model is designed to allow students to stop and then continue the simulation later on; thus, the simulation needn't be completed in one time period. To continue a session, enter the last day completed and the assets for each lemonade stand. If you plan to use the program this way, make sure students record the day and assets on paper at the end of the session. The program runs for only fifteen days.

Initially each group is given a fixed amount of assets ($2.00). Each group must make three decisions each day:

- The number of glasses of lemonade to be made
- The number of advertising signs to be made
- The price per glass for lemonade

The number of glasses sold each day is dependent upon price and advertising, but is also limited by the number of glasses made. The "best price" takes into account weather conditions, local population, the profit at that price, and the number of signs.

Expenses are the costs of making lemonade and making signs. Income is the number of glasses sold, times the price. Profit is the difference between income and expenses. Each day's profit is added to the assets to give a cumulative total.

A group's assets govern the number of glasses of lemonade the group can produce and the number of signs it can make.

Early in the game the groups must carefully plan how to spend their resources. To simplify the study of the relationships for the students, the signs are good for only one day, and unsold lemonade from one day is not available to sell the next.

To add realism to the simulation, random events may begin to happen after the second day. These are the events that can happen, and their effects:

Event	Effect
Thunderstorm	All lemonade and signs are lost No sales for any stands
Street construction	Two things can happen (50% chance of either) 1) Sales drop to 1/10 of normal 2) Construction crew buys all the lemonade made at the stand
Weather forecast says 50% chance of showers and cold weather	Sales are cut in half
Heat wave	Sales are doubled

Any of these random events can occur any time during any run of the simulation.

Production cost for each glass starts at 2 cents, increasing to 4 cents on Day 3 and 5 cents on Day 7.

Sell Lemonade

Use in an Instructional Setting

Preparation

Students should complete Handout 7, Sell Lemonade, so they have an understanding of the terms used in the program. Try to leave questions 11 and 12 on Handout 7 open-ended. Let the students think about these questions and attempt to find answers as they run the simulation.

Since this unit emphasizes business, discuss such matters as ways in which students can earn money and the elements of a successful business. It will be beneficial if students have used Sell Apples and Sell Plants before starting this simulation.

See the reference to the *Trade-Offs* film/filmstrip series in Sell Apples for additional preparation suggestions.

Using the Program

Divide the class into groups of two or three students, and schedule computer time for each group. Each student in the group will manage his or her own lemonade stand.

As mentioned in "Background," this program doesn't consider competition as having an effect on the sales of the individual lemonade stands. The students can assume that, because they're located in different parts of town, their stands don't compete with each other.

Each student in the group should complete Handout 8, Sell Lemonade Record Sheet, while running the program. You might want to explain how to fill in this data sheet. On the last day, in order to continue the next day, students must write the day number and profit. This program runs for fifteen days. At the end of that time, students may determine their profit.

If you or the students want to determine a winner, you could use any of the following methods;

- Set a playing time limit of a half-hour or five days—the leader at the end of that time is the winner.
- The first stand to reach $15 in assets wins.
- Any stand that makes money is a winner.

You could follow the small group competition by having the winners from the small groups play each other. When only two winners are left, they could play for the championship, with the class as an audience.

Students can complete Handout 9, Sell Lemonade Financial Report, without using the computer. If students fill in this sheet correctly, you can be assured that they understand the calculations necessary to figure income, expenses, and profit.

Follow-up

Handout 10, Sell Lemonade Evaluation, can be completed in a class discussion. This handout restates and helps to clarify the relationships with which the students have been working. It could also be used as a quiz or as an evaluation of student understanding.

Another follow-up exercise might be to have the students compile a table showing lemonade price, number of signs made, number of glasses sold, and profit. They could learn to draw sales charts and analyze the different trials to find the best combinations.

Lesson 12, "At What Price?" from the *Trade-Offs* series contains a lemonade stand case study.

Sell Lemonade

Name _____

Class _____ Date _____

Look up the following words in a dictionary and tell what each one means to a business person:

1. Advertising _____
2. Price _____
3. Expenses _____
4. Profit _____
5. Assets _____

Now answer these questions:

6. What are some ways you could advertise a lemonade stand if you actually had one? _____

_____

7. What types of expenses do you think you might have in running a lemonade stand? _____

_____

8. If you set the price of your lemonade at 5¢ per glass and you sold 25 glasses, how would you calculate how much money you received?

_____

9. If you had a profit of −50¢, did you make money or lose money on that day? _____

10. If you sold 30 glasses of lemonade at 6¢ each, and had expenses of $1.20, what would your profit be for that day? _____

11. In managing a lemonade stand, is it better to make a lot of lemonade and have some left over, or to make a little and sell it all? Why?

_____

12. Is it better to charge a low price and sell a lot of lemonade or to charge a higher price and sell less lemonade? Why?

_____

Sell Lemonade

Name _____

Class _____ Date _____

Stand Number _____

Day _____

What you tell the computer:

Glasses made _____ Signs made _____ Price _____

What the computer tells you: (Daily Financial Report)

Stand	Glasses Made	Signs	Price	Glasses Sold	Income	Ex-penses	Profit Today	Assets

Day _____

What you tell the computer:

Glasses made _____ Signs made _____ Price _____

What the computer tells you: (Daily Financial Report)

Stand	Glasses Made	Signs	Price	Glasses Sold	Income	Ex-penses	Profit Today	Assets

Day _____

What you tell the computer:

Glasses made _____ Signs made _____ Price _____

What the computer tells you: (Daily Financial Report)

Stand	Glasses Made	Signs	Price	Glasses Sold	Income	Ex-penses	Profit Today	Assets

Sell Lemonade

Name _____

Class _____ Date _____

1. The cost of making lemonade is 3¢ per glass. The cost of advertising is 25¢ per sign. You're selling lemonade at 12¢ per glass. Suppose you make 70 glasses of lemonade and five signs, and then sell 50 glasses of lemonade. Fill in the following totals:

   A. Total income _____

   B. Total expenses: _____

   C. Profit: _____

D. If you were guaranteed the same selling conditions for the next day, what changes would you make in your business, and how do you think they would affect your profit? _____

_____

_____

_____

Sell Lemonade

Name _____

Class _____ Date _____

2. Four lemonade stands are operating. For each stand, calculate the total expenses, income, and profit. You're given the cost of making the lemonade, the cost of each advertising sign, the number of advertising signs, and the selling price and number of glasses made and sold.

	Stand #1	Stand #2	Stand #3	Stand #4
Production cost per glass	5¢	10¢	7¢	6¢
Selling price per glass	10¢	25¢	15¢	13¢
Number of glasses made	50	40	75	85
Number of glasses sold	45	3	35	85
Number of signs	4	5	8	15
Cost of each sign	30¢	50¢	35¢	40¢

Expenses
(Total cost for signs + total production costs for lemonade)

Income
(Number of glasses sold × selling price per glass)

Profit
(Income − Expenses)

Which stand was the most successful? _____

Why was it more successful than the others? _____

_____

Sell Lemonade

Name _____

Class _____ Date _____

If you were to set up a lemonade stand to make money for yourself:

1. What price would you ask for your lemonade? _____
2. Would you make any advertising signs to put up around the neighborhood?

   _____
3. Would you make the same amount of lemonade each day regardless of the weather? Why? _____

   _____
4. In what ways other than by signs could you advertise your lemonade stand?

   _____

5. How could you cut down on your expenses so it would not cost you as much to make your product? _____

_____

6. Would you rather have a lemonade stand by yourself so you did all the work and made all the money, or with a group to help you with the work and share the money? Why? _____

_____

7. What do you think would happen if another lemonade stand opened across your street, selling lemonade for 2¢ a glass less than you do?

_____

8. What would you do to change your business if that lemonade stand kept cutting its price to stay below yours? _____

_____

Sell Lemonade

Sample Runs

```
Each day, you will have to decide:

  1) How many glasses of lemonade
     to make.
  2) How many advertising signs to
     make(15 cents each )
  3) How much to charge for your
     lemonade

Try to manage your lemonade stand
as best as posible so that you
can make the greatest profit.

   Press RETURN to continue.
```

Sell Lemonade examines production level, advertising, and selling price.

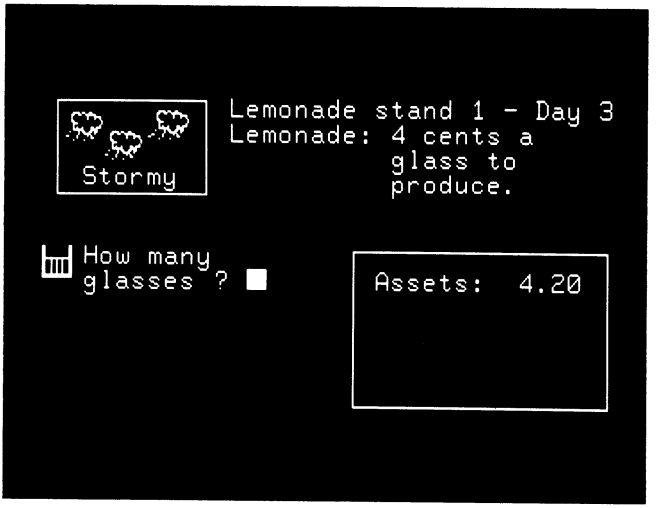
```
      Lemonade Stand 1 - Day 1
      Lemonade: 2¢ a glass to
      produce.

How many                    Assets:  2.00
glasses ? 20          Lemonade: -  .40
                                   1.60
                          Signs: -1.20
How many                          ----
signs at 15¢          Balance:     .40
each? 8

  What price
  (in cents) would you like
  to charge? 12

  Do you want to change anything? ■
```

Students are shown the calculations of assets as they enter their expenses.

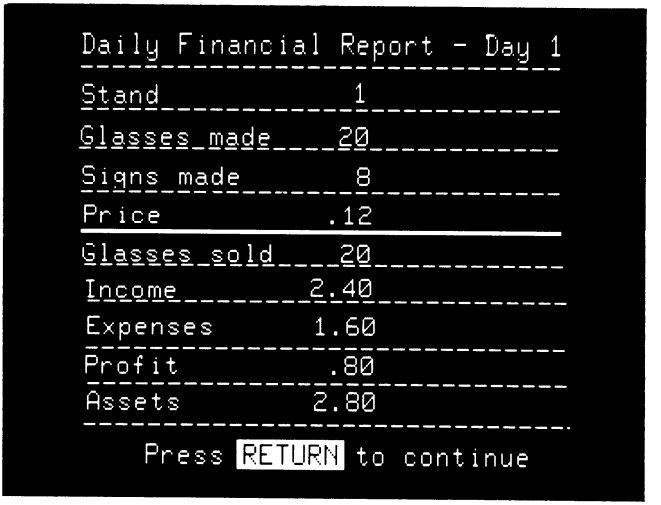
Examples of Screen Output

Sell Lemonade

Sample Runs



Students must change their marketing strategy in response to the effects of such random events as this one.



Each day students receive a financial report; they can change their selling price and the amount of advertising they're doing based on the report.

Examples of Screen Output

Sell Bicycles

Supply/Demand

Specific Topic:	Profit, Advertising, Assets, and Supply and Demand
Type:	Simulation
Reading Level:	6 (Fry)
Grade Level:	6–8

Description...

Sell Bicycles is a simulation in economics dealing with the concepts of supply and demand. This program examines how the factors of pricing, advertising, and production affect supply and demand. Students act as managers of companies and learn to run them profitably.

Objectives...

- To understand the terms *profit, advertising, assets, inventory, production,* and *supply and demand*
- To determine how supply and demand are affected by production, advertising, and pricing
- To use the computer's analysis of both bicycle companies to determine the most effective strategy for marketing a product
- To estimate, compare, and determine costs

Sell Bicycles

Background Information

Sell Bicycles is designed to teach the economic concept of supply and demand. The program features two bicycle companies, each of which starts with $5,000 in cash and 100 bicycles in its warehouse. Each bicycle will sell for $100.00 to $400.00. This simulation will continue until one company has reached $36,000.00 in assets. Each group must make the following decisions each quarter:

- Production level
- Advertising budget
- Selling price

The results of each company's production and marketing efforts are affected by the decisions of the other company. If prices vary greatly between companies, the company with the lower price will have more sales. Advertising can increase the demand for a company's bicycles up to twice as much as the demand without advertising. The effects of advertising depend a great deal on the advertising budget of the competing company. For this reason, the same decisions by a company for two differing time periods may not produce the same sales and profit.

If the demand for a product is larger than the production level plus the inventory, the company will sell out its stock. Additional units that could have been sold are not picked up by the other company. If both companies make identical decisions, they'll perform identically, as if without competition. An inventory charge of five percent per quarter is made for stock on hand at the end of a quarter. The fixed production costs are $250.00 per quarter. This penalizes overproduction.

It's possible to have a negative amount of cash if there is sufficient inventory to make the assets greater than zero. A ten percent credit fee is charged for borrowing money.

In this model it's assumed that:

- The two companies control the entire market for bicycles, with no other companies to provide competition.
- The only variables influencing the market are the price of the product and the amount of money spent on advertising. No consideration is made of factors such as the economic state of the country, the type of advertising used, the season of year, the quality of bicycles, and so forth. Production costs rise every fourth quarter. After the fifth and sixth quarters, random events may begin to happen with these effects:

Event	Effect
Production strike	Neither company can produce any more bicycles.
Wage/price freeze	Companies cannot *raise* their prices for the next two quarters (they may lower them).
Burglary	Company loses $200 in cash.
Fire	Entire inventory is lost, but insurance reimburses company for 75 percent of loss.
Transportation strike	Companies can't transport bicycles to dealers, so there are no sales.

Use in an Instructional Setting

Preparation

It will be beneficial if students have previously run other SELL programs so they're acquainted with the concepts and relationships involved. Have a discussion on businesses in their community, the businesses with which their parents are familiar, the importance of businesses, and so forth. Complete Handout 11, Sell Bicycles, discussing the terms and questions for a better understanding. Leave questions 9 and 10 open-ended; have students think about these questions and plan the answers as the program is being run.

See the reference to *Trade-Offs* film/filmstrip series in Sell Apples for additional preparation suggestions.

Using the Program

Divide the class into groups of four students. Within that group, two will represent Company #1, and two will represent Company #2. Give the group Handout 12, Sell Bicycles Financial Report, and discuss the responsibilities they'll have in this simulation. Have the companies within each group make their first decisions, and then discuss what they believe will be the result of those decisions. For example:

- Which company will sell the most bikes?
- Which company will make more money with each sale?
- Which company will have the most expenses?

Schedule each group so the students can enter their decisions on the computer. They could continue the simulation until one company wins or goes bankrupt, or they could stop after a certain time and continue at a later date. Encourage the students to try different strategies when running the simulation. Students may run as many quarters as they want; duplicate extra copies of Handout 12 for this purpose.

Students can use Handout 13, Sell Bicycles Cost Report, independently—without the computer. It will ensure that students understand the calculations involved in the simulation.

Use Handout 14, Sell Bicycles Quarterly Report, as a class problem. Run the Sell Bicycles program using student-suggested input for the first four quarters. Leave the data on the screen and have the two students in each company complete Handout 6, Sell Bicycles Quarterly Report, by calculating the figures themselves for the fifth quarter. When teams have completed the worksheet, they should continue on the computer so they can check the accuracy of their fifth quarter report.

Follow-up

Complete Handout 15, Sell Bicycles Evaluation.

Visit two competing stores or businesses in your community. Compare prices, advertising, customer services, quality of merchandise, and so forth.

Tour a factory in the area, and take note of everything that contributes to the cost of a product. List fixed costs and variable costs for the company.

Invite business people to be guest speakers in the classroom, describing to the class the decisions they must make in running their businesses.

Investigate Junior Achievement. If there's a chapter at your school, students who are especially interested in business economics might want to join. A Junior Achievement representative could speak to the class and describe the organization and its projects.

Sell Bicycles

Name _____

Class _____ Date _____

Look up the following words in the dictionary and write a short definition of each one.

1. Profit _____

_____

2. Advertising _____

_____

3. Assets _____

_____

4. Inventory _____

_____

5. Production _____

_____

6. Supply _____

_____

7. Demand _____

_____

Sell Bicycles (cont.)

Name _____

Class _____ Date _____

Answer the following questions:

8. What are some ways a bicycle company in your town might want to advertise?

   _____

   _____

9. If your company has a profit of $236, did you make money or lose money? _____

10. If your company has an inventory of 100 bicycles and you sell 36, what is your new inventory? ____ You produce 50 bicycles; what is your inventory now? ____

11. Do you think it would be a good idea for a company to have a lot of bicycles in inventory, or just enough to keep from running out?

_____ Why? _____

_____

12. Is it better in business to charge a low price and sell more bicycles, or to charge a higher price and sell fewer bicycles, but make more money on each sale? _____

Why? _____

_____

Sell Bicycles

Name _____

Class _____ Date _____

Company #1
Members:

_____

_____

Company #2
Members:

_____

_____

Quarter 1

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets
1.						
2.						

Production level _____

Advertising budget _____

Unit price

Quarter 2

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets
1.						
2.						

Production level _____

Advertising budget _____

Unit price _____

Quarter 3

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets
1.						
2.						

Production level _____

Advertising budget _____

Unit price _____

Sell Bicycles

Name _____

Class _____ Date _____

Quarter _____

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets

Production level _____

Advertising budget _____

Unit price _____

Quarter _____

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets

Production level _____

Advertising budget _____

Unit price _____

Quarter _____

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets

Production level _____

Advertising budget _____

Unit price _____

Name _____

Class _____ Date _____

After you've finished the computer program and filled in the quarterly financial reports, answer these questions:

Company _____

1. How did your company decide what its production level should be?

_____

_____

2. How did your company decide what its advertising budget would be?

_____

_____

3. How did your company decide what its unit price would be? _____

_____

_____

4. Which of the two companies was the more successful? _____

_____

5. Why was this company more successful? _____

_____

_____

Sell Bicycles

Name _____

Class _____ Date _____

Answer the following problems:

1. The cost for producing a bicycle is $43, and you produced 90 bicycles. You also have 100 bicycles in stock. After spending $170 on advertising, you sell 65 bicycles at $63 each. You pay a $4 charge for shipping and assembly of each bicycle sold. Unfortunately your shop is relatively small, and you can store only 75 of the unsold bicycles. The rest are kept in a warehouse, where you pay a charge of 1 percent of the selling price for each bicycle stored. Using this information, calculate the following:

A. Cost of producing all the bicycles

D. Total expenses (including advertising)

B. Shipping and assembly charges

C. Charge for renting the warehouse

E. Total income from the bicycles sold

F. Amount of profit

Name _____

Class _____ Date _____

2. You're opening a new business selling lawnmowers. A second store selling the same type of lawnmower is opening across town. The cost of producing the mowers is $52 each. If you find out that the other store is going to spend $400 on advertising and sell lawnmowers at $85 each, how much will you spend on advertising, and what price will you charge for the mowers when you open your store? Why?

_____

_____

_____

_____

3. Do you think it's important for a company that is competing with another company to keep its plans for production, pricing, and advertising secret? Why or why not?

Sell Bicycles

Cost Report Answer Sheet

Answer the following problems:

1. The cost of producing a bicycle is $43, and you produced 90 bicycles. You also have 100 bicycles in stock. After spending $170 on advertising, you sell 65 bicycles at $63 each. You pay a $4 charge for shipping and assembly of each bicycle sold. Unfortunately your shop is relatively small, and you can store only 75 of the unsold bicycles. The rest are kept in a warehouse, where you pay a charge of 1 percent of the selling price for each bicycle stored. Using this information, calculate the following:

A. Cost of producing all the bicycles

$43
× 90 bikes produced
$3870

B. Shipping and assembly charges

65 bikes sold
× $4
$260

C. Charge for renting the warehouse

100 bikes in stock
+ 90 bikes produced
190
− 65 bikes sold
125
− 75 bikes @ store
50 bikes in warehouse

50
× $.63 storage
$31.50 cost

D. Total expenses (including advertising)

65 sold

$2795.00	cost of production
260.00	shipping & assembly
170.00	advertising
31.50	warehouse
$3256.50	

E. Total income from the bicycles sold

$63	selling price
×65	
$4095	

F. Amount of profit

$4095.00	sales
−3256.00	expenses
$ 838.50	profit

2. You're opening a new business selling lawnmowers. A second store selling the same type of lawnmower is opening across town. The cost of producing the mowers is $52 each. If you find out that the other store is going to spend $400 on advertising and sell lawnmowers at $85 each, how much will you spend on advertising, and what price will you charge for the mowers when you open your store? Why?
(answers will vary)

3. Do you think it's important for a company that is competing with another company to keep its plans for production, pricing, and advertising secret? Why or why not?
Yes. If it doesn't, the competition may obtain the information.

Sell Bicycles

Name _____

Class _____ Date _____

Calculating Profit

Company Members: _____ _____

Directions: Continue Sell Bicycles until you have the 4th Quarter results. Copy those results in the space below.

Quarter 4 Results

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets
1						
2						

Enter new production, advertising, and unit values, recording them as you do so.

New values:

Production Level:	**Advertising Budget:**	**Unit Price:**
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____

Now do the calculations:

	Company 1	**Company 2**
1. Find 5th quarter inventory: (4th quarter inventory + production − 5th quarter bikes sold)		
2. Total expenses for 4th quarter: Fixed production cost		
Production costs	$ 250.00	$ 250.00
Advertising	$	$
Warehouse charge (5% charge on value of inventory)	$	$
Credit charges (10% × borrowed money)	$	$
Unexpected events	$	$
Total expenses	$	$

Sell Bicycles

Name _____

Class _____ Date _____

Copy the 5th Quarter results in the space provided. Now do the calculations and see if you get the same 5th quarter results as the computer.

3. Cash after expenses: (subtract total expenses from 4th quarter cash)	$ _____	$ _____
4. Income (price × number sold)	$ _____	$ _____
5. Total Cash: (income + cash after expenses)	$ _____	$ _____
6. New assets: (cash + value of inventory)*	$ _____	$ _____

7. Profit: (new assets – old assets) $_____ $_____

Fifth Quarter Results

Company	Price	Number of Bikes Sold	Profit	Cash	Inventory	Assets
1.						
2.						

*Inventory × production cost = value of inventory

Sell Bicycles

Name _____

Class _____ Date _____

1. Do you think it helps a company to spend some money on advertising?

   In what way? _____

   _____

   _____

2. Do you think it's possible to spend too much money advertising a product? _____

   _____

   _____

3. What way would you choose to advertise in your town in order to reach the most people for the least money?

   _____

4. If two companies sell the same item, will people always buy from the company with the lower price? Why? _____

5. How does competition between companies generally affect the price of an item? _____

6. Is competition between two companies good or bad? In what ways?

Sell Bicycles

Sample Runs

In Sell Bicycles, students examine the relationship of several marketing variables: production level, advertising budget, and selling price.

```
There is a fixed production cost
of $250 dollars per quarter.

Each quarter you must decide:

  1) How many bicycles to make
  2) How  much to spend for
     advertising
  3) What price to charge for
     bicycle

The first company to get assets
of $36000 wins the game.

     Press RETURN to continue.
```

Based on the guidelines provided at the beginning of the simulation, students set values for the production level, advertising budget, and selling price. They receive a quarterly report showing how well they're doing, and they can change their marketing strategy accordingly.

```
                Quarter 1 results

Company   Price   Bikes sold   Profits
   1      $120        107       $-368
   2      $100        115       $-2670

Company   Cash    Inventory     Assets
   1    $16272         3        $16632
   2    $14330         0        $14330

                   Quarter 2

Unit production cost = $120
Company 1
Production level? (99% to end)
```

Examples of Screen Output

Sell Bicycles

Sample Runs

```
                Quarter 4 results

Company   Price   Bikes sold   Profits
   1      $100         50      $-1250
   2      $100         80      $-1850

Company    Cash     Inventory    Assets
   1      $14422         0       $14422
   2      $11800         0       $11800

New labor contract-variable
production cost now = $127/unit

        Press RETURN to continue.
```

Random events, such as a rise in production costs, occur during the simulation.

```
                Company 1

            You have gone

          B A N K R U P T

        Press RETURN to continue.
```

A poorly managed company can go bankrupt. A well-managed company that acquires assets of 36,000 dollars is considered the winner.

Examples of Screen Output

The ATARI Learning Systems Market Place program was developed by the Minnesota Computing Consortium (MECC). All the programs were originally authored for Timeshare Computing by Bob Jamison, MECC, under a MECC-UNIVAC Mini-grant program. Conversion to the ATARI computer was done by MECC Instructional Services staff.

Support material was prepared by Doris Bower, MECC. Documentation included in this manual was taken with minor revision and expansion from the MECC publication *Elementary...My Dear Computer,* written by Marge Kosel. MECC and Geraldine Carlstrom.

Every effort has been made to ensure the accuracy of the product documentation in this manual. However, because we are constantly improving and updating our computer software and hardware, Atari, Inc. is unable to guarantee the accuracy of printed material after the date of publication and disclaims liability for changes, errors or omissions.

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