

## Sample Agenda for an After-School (One-Hour) Workshop

This agenda works best for workshops in a single school setting where teachers from grades three through five are introduced to MECL as a faculty group. Since no teachers can use all the lessons in the guide because of the math skills needed, the workshop should be organized to have teachers grouped by grade level. Locating the appropriate lessons for their own grade should be a part of the workshop.

### Goals for the after-school workshop:

At the conclusion of this workshop, the participants will be able to:

- Describe MECL's purpose for teaching economics and mathematics.
- Use the standards correlation grids in the book to select appropriate lessons for their own classroom.
- Access the NCEE Web-site support for MECL.
- Participate in one demonstration lesson from MECL and take home a sample lesson.
- Describe some of the extension activities connected with the demonstrated lesson and know where to find more lessons.
- Describe where to get more information from the local Center/Council for Economic Education.

### Materials list for demonstration of Lesson 6:

- One copy of Visuals 6.1, 6.2
- One copy of Activities 6.1, 6.5 and 6.6 for each participant
- One copy of Activity 6.2 for each group (before making the copies, be sure the bookmark resource price list includes all the materials in the resource bags and an estimated price for each resource)
- One envelope of craft materials for making bookmarks for each group
- One copy of Activity 6.3 for each group
- Enough copies of Activity 6.4 to provide three \$1.00 bills for each participant
- OPTIONAL: One copy of entire Lesson 6 if you do not plan to distribute MECL as part of the workshop
- Copy of the trade book *Chicken Sundays* by Patricia Polacco, Paperstar Book, Reprint edition, Jan. 1998 (ISBN: 0-69811-615-1) and *The Real McCoy* (a Blue Ribbon Book) by Wendy Towle, Scholastic Paperbacks, Jan. 1, 1995 (ISBN: 0-59048-102-9) to show during discussion

#### I. Welcome and Refreshments (10 minutes)

- Have nametags made ahead of time, and place them on a table for teachers to pick up as they enter the room. Introductions should not be necessary since they all teach in the same school. Provide nametags so that you are able to call on teachers by name. Code the nametags by color or math symbol so teachers are grouped by grade level and sit together.
- Have light refreshments ready as the teachers gather and a display of a variety of NCEE materials for elementary grades. If possible, have several copies of materials to use as door prizes at the end of the workshop.

## II. Overview of MECL and Its Features (10 minutes)

- Use the PowerPoint overview presentation or your own presentation.
- Explain the importance of math instruction. Point out that having students use math skills outside the math content in other subjects represents the highest levels of learning advocated by NCTM in its standards.
- Show and pass out the math and economics standards correlation grids from MECL. Ask a teacher to indicate if the grids show math skills they are currently teaching.
- Ask the teachers if they currently teach economics concepts in math or social studies. You should have obtained the school/district math curriculum and social studies standards, if possible. Refer to the economics standards grid in MECL. If teachers need further information, link them to <http://ecedweb.unomaha.edu/K-12/K-5concepts.cfm> or their own state or local Web site for information.
- Hand out the [glossary](#) from MECL.

## III. Review and Demonstration of Lesson 6, “Bookmark Profits,” and Supporting Web Site (30 minutes)

- Explain that figuring profit is something that entrepreneurs need to do to decide if the risk is worth the reward of introducing new products to the marketplace. This lesson requires students to create a new product and try to sell it to consumers. They then figure out if they made a profit or incurred a loss. Basic math operations are reviewed in this lesson as students create equations.
- Arrange the teachers by grade level into groups of 4-5. Have each group select a leader who will play the role of an entrepreneur. Distribute a large envelope of craft supplies to each group and have them read the instructions in Lesson 6. (Note: Make sure to record the prices of the supplies you have in the envelope on the price list before you make copies of Activity 6.2.) Each group should get the same supplies.
- Review the instructions for the task. Each group will create a sample bookmark, using the supplies in the envelope, and will figure how much the sample will cost to make, using Activities 6.2 and 6.3 to add the inputs. Give the groups 10 minutes to complete the task and have the entrepreneurs of each group display their bookmarks in front of the room where all can see them. All bookmarks will sell for \$3.00.
- Distribute \$3.00 to each participant (use Activity 6.4). Have each entrepreneur come to the front and offer the bookmark for \$3.00. Count the number of buyers, and take money from each buyer so that each participant can buy only one. Act as the recorder, using Visual 6.2 to figure the income each group gets from the sale of its bookmark.
- The teachers should work out the calculations on their own Activity 6.4, and you should work on the overhead. Ask each group to report if it made a profit or loss.
- Part 2 of the lesson asks the groups to write mathematical equations showing the profit or loss as mathematical equations, using Activity 6.5. Have the groups work through the worksheets together. Have a sample group report if there is time.
- Call the group to attention, and ask the groups to analyze the difficulty of the math in the lesson and describe the students or grades that might be able to use this lesson.

Point out that the lessons in MECL can be used for practice following direct instruction or review of a previous day's instructions. The lesson could also be used as a general review of math skills taught in the preceding year or as instruction for students above grade level.

- Project the MECL Web site (<http://mathandecon.ncee.net>) for Lesson 6. Draw attention to the following features: the summary of the lesson, the list of materials and the PDF downloads for Activities and Visuals, the list of Weblinks, the literature connections and *EconEdLink* lessons. Go directly to the links, and show the teachers how to use the Web site to find other activities.
- Show the trade books *Chicken Sundays* and *The Real McCoy*. *The Real McCoy* lesson is listed as an online lesson on <http://ecedweb.unomaha.edu> under entrepreneurs concept. Distribute this lesson or another sample lesson on entrepreneurs.

#### IV. Wrap-Up (10 minutes)

- Give the teachers a few minutes to review the table of contents and the grids to locate another lesson they feel would be appropriate for their students' math level. Ask a teacher from each group to share one lesson they would use with each grade level.
- Review the key features of the book and Web site. Distribute the books if you are giving them to teachers with a sticker on the front with your Center/Council information, phone number and Web site.
- Distribute the Workshop Evaluation Form and allow time for the participants to complete it.
- Give away a few small prizes or curriculum guides as door prizes.
- Discuss other programs your Council/Center is planning in the future.
- Thank the teachers for coming, and distribute your card to the teachers for future contact.

## ACTIVITY 6.1

### MONEY MATTERS REVIEW

**Directions:** Calculate the answers to these questions. Show your work.

**A.** Suppose you have been saving your money to buy a new bicycle. The price of the bicycle is \$175.50. You have saved \$75.25. How much more money must you save?

**B.** You can walk the neighbor's dog for three days. She will pay you \$3.00 a day. If you take the job, how much money will you earn? If you put all of your earnings in your savings account, how much will you still need to buy the bike?

**C.** Your sister is selling lemonade. The price is \$0.15 a cup. If she sells four cups, how much money will she have?

**D.** You bought candy at a store. You paid \$0.15 for gooey worms, \$0.20 for jelly beans and \$0.07 for sour stars. What is the total you spent? If you paid with a \$1.00 bill, how much change will you receive?

**ACTIVITY 6.2**  
**BOOKMARK RESOURCE PRICE LIST**

<b>Resource</b>	<b>Price</b>
Space (rent)	\$0.25
Worker (wage)	\$0.10

## ACTIVITY 6.3 COMPUTING UNIT COSTS OF PRODUCTION

Company Name: \_\_\_\_\_

**In Column 1**, list each resource you used to produce your sample bookmark.

**In Column 2**, write the price for each resource, using the Bookmark Resource Price List on Activity 6.2.

**In Column 3**, write the number of units of each resource that your company used. (For labor, write the number of students in your group, minus the entrepreneur.)

**In Column 4**, compute the cost of each resource by multiplying the number in Column 2 by the number in Column 3.

**Add the amounts** in Column 4 to find the unit costs of producing a bookmark. **Write your unit costs** (total costs of production for one bookmark) in the bottom row of Column 4.

1	2	3	4
Resource	Resource Price per Unit	Number of Units Used	Total Resource Cost (Column 2 x Column 3)
Total Costs of Production for One Bookmark			

ACTIVITY 6.4  
DOLLARS FOR BOOKMARKS

\$1 ONE DOLLAR E \$1	\$1 ONE DOLLAR E \$1
\$1 ENTREPRENEUR \$1	\$1 ENTREPRENEUR \$1
\$1 ONE DOLLAR E \$1	\$1 ONE DOLLAR E \$1
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## ACTIVITY 6.5 COMPUTING BOOKMARK PROFITS

Company Name:	Entrepreneur:
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1. The selling price of your company's bookmark is	<b>\$3.00</b>
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2. How many bookmarks did you sell?	
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3. Use this equation to determine your company's total revenue:			
<b>Selling Price</b>	<b>x</b>	<b>Quantity Sold</b>	<b>= Total Revenue</b>
	<b>x</b>		<b>=</b>

4. Use this equation to determine your company's total cost:			
<b>Unit Cost</b>	<b>x</b>	<b>Quantity Produced</b>	<b>= Total Cost</b>
	<b>x</b>		<b>=</b>

5. Is your company's total revenue > (greater than) its total cost or is your company's total revenue < (less than) its total cost?
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6. If your company's total revenue was greater than its total cost, use this equation to determine your company's profit:			
<b>Profit</b>	<b>=</b>	<b>Total Revenue</b>	<b>- Total Cost</b>
	<b>=</b>		<b>-</b>

7. If your total cost was greater than your total revenue, use this equation to determine your company's loss.			
<b>Loss</b>	<b>=</b>	<b>Total Revenue</b>	<b>- Total Cost</b>
	<b>=</b>		<b>-</b>

8. Did your company's entrepreneur earn income (profit)?
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## ACTIVITY 6.6

### ASSESSMENT: LUSCIOUS LEMONADE

**Directions:** Read the paragraph below. Help Jamal and Sally use this information to figure out whether their lemonade business earned a profit or had a loss. Show your work. (Use the back if you need more room.)

Mrs. Counts talked with Jamal and Sally about their lemonade stand. She learned that they sold 60 cups of lemonade at \$0.25 each. She also learned that Jamal's mother charged them for the resources they used to make the lemonade:

- \$3.50 for lemonade mix
- \$1.00 to rent the table for the lemonade stand
- \$0.75 for cups
- \$0.75 to rent the pitcher, spoon and measuring cup

1. What were Jamal and Sally's total costs? Show your work.
2. Write the equation for Jamal and Sally's total revenue. What was their total revenue?
3. Was Jamal and Sally's total revenue  $<$  or  $>$  their total costs?
4. Who are the entrepreneurs in this activity? Why?
5. Did Jamal and Sally earn a profit or have a loss? How much was their profit or loss?
6. If Jamal and Sally's total costs were \$16.50, would they earn a profit or have a loss? How much would their profit or loss be?

## VISUAL 6.1 COMPUTING UNIT COSTS OF PRODUCTION

Company Name: \_\_\_\_\_

**In Column 1**, list each resource you used to produce your sample bookmark.

**In Column 2**, write the price for each resource, using the Bookmark Resource Price List on Activity 6.2.


**In Column 3**, write the number of units of each resource that your company used. (For labor, write the number of students in your group, minus the entrepreneur.)


**In Column 4**, compute the cost of each resource by multiplying the number in Column 2 by the number in Column 3.

**Add the amounts** in Column 4 to find the unit costs of producing a bookmark. **Write your unit costs** (total costs of production for one bookmark) in the bottom row of Column 4.

1	2	3	4
Resource	Resource Price per Unit	Number of Units Used	Total Resource Cost (Column 2 x Column 3)
Total Costs of Production for One Bookmark			



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**MATHEMATICS & ECONOMICS GRADES 3-5**

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**MATHEMATICS & ECONOMICS GRADES 3-5**  
 developed by NCEE and sponsored by 3M, helps to bring economics and personal finance into the mathematics classroom.

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**MATHEMATICS & ECONOMICS**  National Council on Economic Education

**Why teach Econ and Math together?**

- 48 states have elementary standards in economics
- Economics is usually found in social studies
- NCTM has made math instruction a high priority
- Great opportunity for math teachers since economics uses the language of math.

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**“Recent research on mathematics education continues to confirm that teaching mathematics in the context of an application is highly effective and that significant, worthwhile and grade level appropriate content can have considerable influence on student learning”**

Weiss, Iris R. and Joan D. Pasley  
 “What is High-Quality Instruction”, Educational Leadership, February, 2004

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**MECL: MATHEMATICS & ECONOMICS**  
 CONNECTIONS FOR LIFE

- Produced by the National Council on Economic Education
- Funded by the 3 M Foundation
- Completes the series of **MATHEMATICS & ECONOMICS CONNECTIONS FOR LIFE**
  - 9-12 available
  - 6-8 available
  - 3-5 available

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**About: MATHEMATICS & ECONOMICS**  
 GRADES 3-5

- Written by teams of classroom teachers and content specialists.
- Lessons field tested in both Omaha and Little Rock in different grades.
- Revised with pilot teacher suggestions.
- Edited by mathematics educator and economist.

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**About: MATHEMATICS & ECONOMICS GRADES 3-5**

- 12 lessons teaching economics by using mathematical skills
- Each lesson has teacher's instruction, hands-on activities, closing review and assessment
- Economics instruction is included in each lesson.
- Math instruction is not included and needs to be taught first.

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**Web site: [mathandecon.ncee.net/35/](http://mathandecon.ncee.net/35/)**

- Designed to help teachers prepare to teach lesson
- Downloadable PDF of Visuals and Activities
- Manipulative for student practice in 5 of the lessons
- Literature and language arts connections
- Links to other lessons and resources



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# Glossary of Terms

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**Alternatives:** options among which people can make a choice

**Barter:** direct exchange of goods or services among people without the use of money

**Benefits of trade:** increase in well-being after the voluntary exchange of goods and services

**Budgeting:** making a plan for managing income, spending and saving

**Capital goods (resources):** goods people produce and use to make other goods and services

**Choice:** a decision made among alternatives

**Complementary goods and services:** goods or services people typically consume together

**Consumers:** people whose wants are satisfied by using goods and services

**Costs of production:** the costs of all the resources a business uses in producing goods or services

**Criteria:** standards or measures of value that people use to evaluate something

**Decision making:** a process of choosing among alternatives

**Demand:** the schedule of the quantity of a good or service that people are willing and able to buy at different prices during a given time period, when income and prices of other items remain the same

**Division of labor:** jobs are divided among the workers so that each worker specializes in one part of the production process

**Economic benefits:** improvements in well-being associated with any economic action, good or service; for example, the increase in

satisfaction from consuming something

**Economic wants:** desires that people can satisfy by consuming a good or service

**Entrepreneurs:** people who take risks to develop new products and services and start new businesses. Profit is income for entrepreneurs and is an incentive that encourages them to risk their money and resources.

**Exchange rate:** the price of one country's currency in terms of another country's currency

**Goods:** objects that can satisfy people's economic wants

**Human capital:** the skills, education and talent a person possesses

**Human resources:** the quantity and quality of human effort directed toward producing goods or services

**Interest:** the amount that a borrower of money must pay to the lender for the use of the lender's money

**Interest rate:** the percentage that a borrower must pay of the money loaned in return for the use of the money, usually expressed over a period of one year

**Intermediate goods:** materials that are used up in production and become part of the final good

**Investment in capital:** purchasing capital goods (equipment and buildings) that can assist people in producing goods and services

**Law of demand:** people are willing and able to buy a lower quantity of a good or service at a higher price and a higher quantity of a good or service at a lower price, when income and prices of other items remain the same.

## GLOSSARY OF TERMS

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**Medium of exchange:** a good that people generally accept in exchange for other goods or services

**Money:** anything widely accepted as final payment for goods and services (a medium of exchange)

**Natural resources:** “gifts of nature” that are present without human intervention

**Opportunity cost:** the next best alternative people give up when they make a decision

**Productive resources:** natural resources, human resources and capital goods available to make goods and services

**Productivity:** a measure of output compared to inputs during some time period

**Profit and loss:** difference between the total revenue a business receives and the total costs it pays for resources. If this number is positive, it is called profit; and if it is negative, it is called loss.

**Revenue:** total amount a business receives for selling a product or service

**Savings:** income people have not spent on consumption or taxes

**Services:** actions that can satisfy people’s economic wants

**Specialization:** each worker focuses on one part of the production process

**Trade/Exchange:** voluntarily trading goods and services with people for other goods and services or for money



## Mathematics and Economics: Connections for Life, Grades 3-5 Workshop Evaluation Form

<Insert Center/Council Name>

In our effort to continuously improve our programming, we would appreciate your comments on our workshop. Looking back over your experience, please comment on the following questions.

Date \_\_\_\_\_ Location \_\_\_\_\_

1. Did this MECL workshop meet your expectations? \_\_\_\_yes \_\_\_\_no
2. Did you feel that you were presented with enough information about MECL to be able to go back into your classroom and use the curriculum? \_\_\_\_yes \_\_\_\_no
3. Were the materials and teaching strategies presented appropriate for your students?  
\_\_\_\_yes \_\_\_\_no
4. Did you have ample opportunity to ask questions and express your opinions?  
\_\_\_\_yes \_\_\_\_no
5. Please write your suggestions for improving future MECL workshops.
  
6. Please write any additional comments or recommendations.