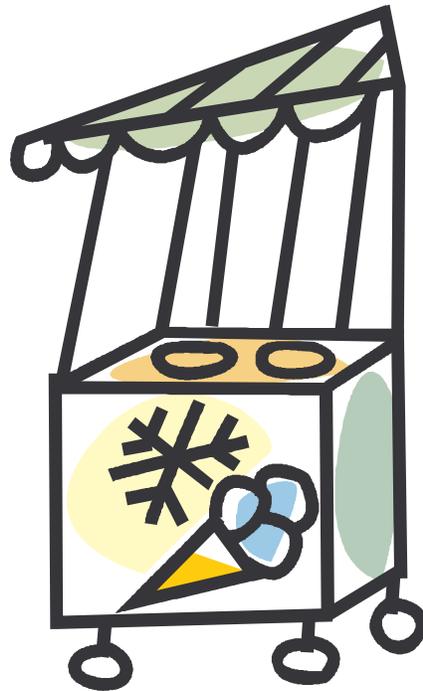


Concord's Best Ice Cream  
**Profit Challenge©**  
5<sup>th</sup> grade Integration Project  
Teacher Supplement



Created by Celeste F. Craig  
December, 2006  
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## Create a schema

Read aloud The Facts

Write out facts on board:

Define retail price – price charged for ice cream

Retail price: Jan. \$4.79 & July \$5.15

Increase of .06 per month

Milk fat: Jan. 1.30/pound & July 1.79/pound

Vanilla: Jan. 18.88/gallon & July 28.96/gallon

Calculate cup per gallon (hint: 18.88/gal. = 1.18/cup – 16 cups per gallon)

Show students how to use calculator on computers

Define wholesale price – cost to make ice cream

Wholesale price in Jan. \$2.48

Questions to ask

Write out answers on board:

Define profit – difference between retail and wholesale

*Profit = Retail – Wholesale*

How can you lose profit?

*Wholesale too high*

*Retail too low*

How can you increase profit?

*Wholesale lower*

*Retail higher*

What factors can influence profit?

*Cost of supplies (supply)*

*Price being charged (demand)*

What will the cost of supplies for the rest of the year?

*From % increase, use the mode (most number)*

If costs go up and retail goes up, what happens?

*People won't buy*

How can you plan for the future?

*Increase retail that will be tolerated in market*

**Describe the project** – predict the future and notify your customers of a price increase

Read over tasks 1-6.

Complete a worksheet and line chart in excel

Copy/paste line chart into word document (letter)

Create a mailing list in Filemaker Pro

Merge mailing list with word document and print 1 letter

## Task 1: Excel Worksheet and Line Chart

Open Concord's Best Ice Cream Cost Analysis worksheet

### 1. Calculate costs for supplies

In C4, calculate the cost for milk fat using this formula: **=C3\*(1+d4)**

Fill cells c5-c9 with this formula (change the cell location each time)

(hint: use the fill handle the excel will automatically change the formula)

In E4, calculate the cost of vanilla using this formula: **=e3\*(1+f4)**

Fill cells e5-e9 with this formula (change the cell location each time)

(hint: use the fill handle the excel will automatically change the formula)

### 2. Calculate wholesale price

In H4, enter this formula: **=(c4+e4)**

Fill cells h5-h9 with this formula (change the cell location each time)

(hint: use the fill handle the excel will automatically change the formula)

### 3. Calculate retail price

In I4, enter this formula: **=(I3+.06)**

Fill cells i5-i9 with this formula (change the cell location each time)

(hint: use the fill handle the excel will automatically change the formula)

### 4. Calculate profit

In J3, enter this formula: **=(I3-H3)**

Fill cells j4-j9 with this formula (change the cell location each time)

(hint: use the fill handle the excel will automatically change the formula)

Months	milkfat	% increase or decrease	vanilla	% increase or decrease	Wholesale	Retail	Profit
January	1.3	0.1183	1.18	0.1633	=C3+E3	4.79	=(I3-H3)
February	=C3*(1+D4)	-0.11	=E3*(1+F4)	-0.16	=(C4+E4)	=(I3+0.06)	=(I4-H4)
March	=C4*(1+D5)	-0.0083	=E4*(1+F5)	-0.0033	=(C5+E5)	=(I4+0.06)	=(I5-H5)
April	=C5*(1+D6)	0.1183	=E5*(1+F6)	0.1633	=(C6+E6)	=(I5+0.06)	=(I6-H6)
May	=C6*(1+D7)	0.1183	=E6*(1+F7)	0.1633	=(C7+E7)	=(I6+0.06)	=(I7-H7)
June	=C7*(1+D8)	0.1183	=E7*(1+F8)	0.1633	=(C8+E8)	=(I7+0.06)	=(I8-H8)
July	=C8*(1+D9)	0.1183	=E8*(1+F9)	0.1633	=(C9+E9)	=(I8+0.06)	=(I9-H9)

### 5. Create a line chart

Highlight months, milk fat, and vanilla

Hint: use CTRL to select non-consecutive columns

Go through 4 steps for charts and save (either it own worksheet or with spreadsheet).



## Task 2: Excel worksheet and price increases

- Cost for supplies – August to December*  
Enter 11.83 in D10, fill column to D14  
Enter 16.33 in F10, fill column to F14  
Using 1 & 2, calculate milk fat cost and vanilla cost
- Calculate wholesale, retail and profit – August to December*  
Using 2, 3, & 4, calculate wholesale, retail, and profit  
Discuss with students what they need to do to keep profits “out of the red”  
Hint: Increase retail up to **.40** (try different values)  
Increase retail – August to December  
At I10, change the formula to **=(I9+.40)**  
Fill column with new calculation  
Save workbook and chart

## Task 3: Copy & paste line chart into client letter

Open *Concord's Best Client Letter*

Highlight [Enter date...]

Enter date

In Excel, select chart

Edit/Copy

In Letter, highlight [Insert line chart...]

Select Paste

Using drag handles, resize chart to fit letter on one page

Highlight \_\_\_\_\_

Enter .40

Highlight [Click here and type...]

Type your first and last name

Save letter

### Concord's Best Ice Cream

16 Rumford Street  
Concord, NH 03301  
603-225-0811

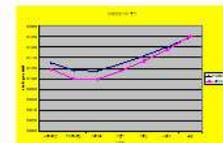
December 19, 2008

[a,cc];the address fields  
Dear [enter in contact name]

As a valued customer, I feel it is important to keep you informed of any sudden changes with our pricing. We have shared a forthright working relationship for the last five years and any increases in costs of goods or services have been absorbed by Concord's Best Ice Cream.

Due to soaring energy costs, seasonal reduction in milk production, and sudden weather fluctuations, we have experienced a 38% and 54% increase for milk fat and vanilla, respectively.

The chart below displays the progression of price increases that we have been experiencing over the last six months.



I regret to inform you that due to these unforeseen circumstances, the prices for ice cream products will be increasing by **.40**. Our prices are aligned with industry averages and are aggressively matched with our competitors.

Sincerely,

**Celeste F. Craig**  
Owner & Operator of Concord's Best Ice Cream



## Task 4: Internet Research

Search for names and addresses of 6 businesses in the surrounding area

From their websites, find the name of a contact

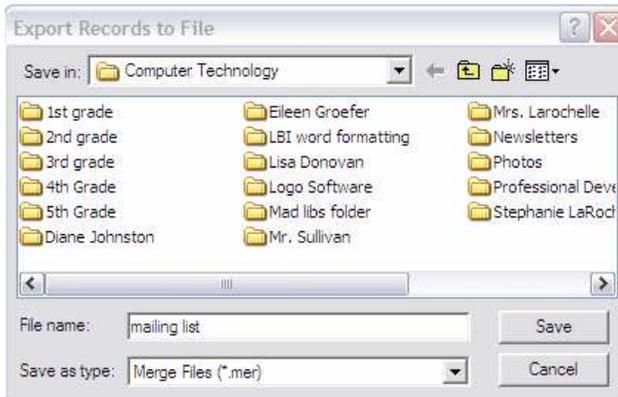
Optional: Use the list of names, addresses and contacts provided.

## Task 5: Create a mailing list in Filemaker Pro

Open Filemaker Pro  
Create a new database  
Name it *Ice Cream client mailing list*

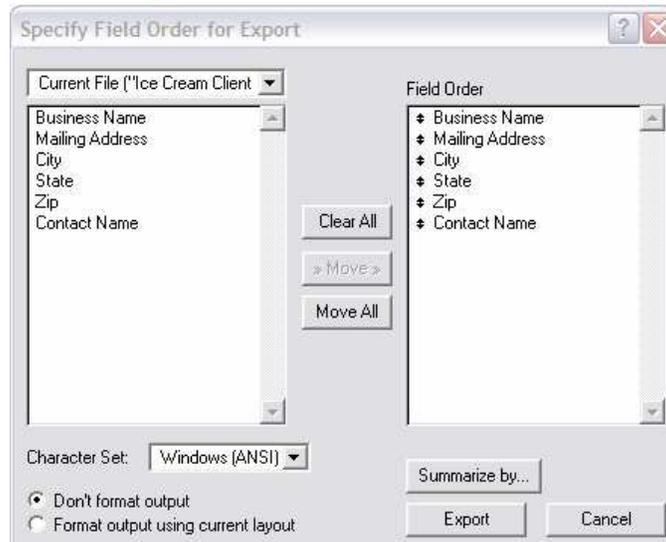
Define the fields for the mailing list

Enter in the contact names under each record  
Review each record and check for accuracy.  
Save database



File/Export Records  
Choose the folder  
Name it mailing list  
Select "Merge Files (\*.mer)" under  
Save as Type

Specify Field Order to Export  
Choose **Move all**  
Select **Export**



## Task 6: Merge address with Word File

Open *Concord's Best Client List*

Choose **Tools/Letters and Mailings/Mail merge**

*Step 1:* select letter & next

*Step 2:* select “use current document: & next

*Step 3:* Browse for existing list in folder

Files of type should be *All Files*

Look for mailing list and select

Mailing list appears, select OK

*Edit recipient list* if changes need to be made (not necessary)

Select next

*Step 4:* Merge your addresses

Highlight [enter address...]

Select **More items**

Select & insert the fields & OK

Add an extra **Enter** between each field and a comma (,) and space

Highlight [Dear]

Select More items

Choose **Contact**

Add a colon (:) and extra **Enter**

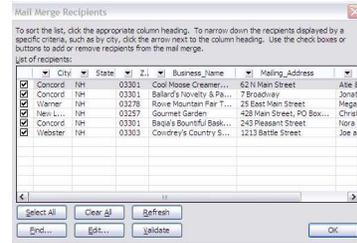
*Step 5:* Preview your letters

Check the letters to the address are entered correctly

*Step 6:* Complete the merge

Choose **Print**

Print from 1 to 1



## Appendix A

# Concord's Best Ice Cream Profit Challenge (Part 2)

### The Facts:



At the end of January, our retail price for a half-gallon of ice cream was \$4.79. At the end of July the price was \$5.15, an average increase of .06 per month. Research studies show our ice cream products sell for 6% less than our competitors. The cost to make Concord's Best Ice Cream products has increased by approximately 8% over the last six months.

Industry sources point to a shortage in milk fat, a principal ingredient in ice cream, as the main culprit. Soaring energy costs, poor feed quality, and a seasonal lowering of milk production has cut back on the available milk fat, said Tom Thieding, a spokesman for the Farm Bureau Federation. The price of milk fat has jumped from \$1.30 per pound in January to about \$1.79 in July, a .49 increase. Industry analysts predict milk fat will continue to rise at a mode of 11.83%.

For ice cream makers, another headache is the skyrocketing cost of vanilla. Madagascar, one of two chief vanilla producing countries, was hit by Cyclone Hudah a year ago and lost about 30% of its crop. Production in Indonesia, the other major vanilla producer, has been lowered thanks to the El Nino/La Nina weather pattern.

At the end of last year, vanilla prices were \$18.88 dollars a gallon (\$1.18 per cup). At the end of July they were at \$28.96 a gallon as reported by Lynda Utterback, publisher of The National Dipper, a trade magazine for those in the frozen dessert industry. This is an increase of .63 with a mode of 16.33%. This industry feels the increase will continue to the end of the year.

"Higher demand for ice cream during the summer further boosts the prices", Thieding said. "It doesn't help that in the last couple of years, more people have turned to super-premium ice creams, such as Concord's Best, which have higher concentrations of milk fat. This is supply and demand working the way it does in the textbook."

At Concord's Best, we're trying to make the best of a situation that we can't totally control. We hope it doesn't dampen anyone's taste for their favorite past time.

Concord's Best makes all of its own ice cream from scratch. The shop uses the best milk fat and vanilla available. To make one half-gallon of ice cream, the process uses 1 pound of milk fat and 1 cup of vanilla. This process takes about 2-3 days.

One of the challenges of a successful business is learning how to balance the costs of making ice cream (wholesale) and the prices you charges (retail). Good planning means making money (*profit*), as well as keeping your customers happy.

There are a number of *factors* that influence the cost of your product. These factors are critical to understand so you can price your ice cream products accordingly. Discuss the following questions to prepare:

1. What does the word “*profit*” mean? Discuss.
2. How is profit calculated? How can you lose profit? How can you increase profit?
3. What “*factors*” can influence profit? Brainstorm a list of factors.
4. How can you predict what the costs for supplies will be? (hint: using mode of previous data)
5. What could happen if your costs increase and you try to maximize your profit?
6. How do you predict the future and plan accordingly?

### The Tasks:

1. Enter cost data into the Excel worksheet called Concord's Best Ice Cream Cost Analysis and create a line chart showing the first 7 months of price increases to milk fat and vanilla. Students will learn how to enter mathematical formulas into Excel cells.
2. Students will complete the excel worksheet and decide how much of a price increase they need in order to continue making a profit.
3. Copy and paste your line charts into the client letter which is notifying your customers of price increases due to increasing costs. Students will also add in what the price increase will be.
4. Research on the Internet the names and addresses of 6 businesses your ice cream products are distributed to.
5. In Filemaker Pro, create a client contact database. Be sure the information is entered correctly. As a final step, export the data as a “merge” file into their document folder.
6. In MS Word, merge the addresses in with the letter and print out 1 letters to be sent to a client. Use this link as a tutorial if unsure how to merge databases in with a document:



[https://sharepoint.agriculture.purdue.edu/agit/instrtools\\_mail\\_merge.aspx](https://sharepoint.agriculture.purdue.edu/agit/instrtools_mail_merge.aspx)

Months	% increase or decrease		% increase or decrease		Wholesale	Retail	Profit
	milkfat	vanilla	milkfat	vanilla			
January	\$1.30	\$1.18	11.83%	16.33%	\$2.48	\$4.79	
February			-11.00%	-16.00%			
March			-0.83%	-0.33%			
April			11.83%	16.33%			
May			11.83%	16.33%			
June			11.83%	16.33%			
July			11.83%	16.33%			
August							
September							
October							
November							
December							

1. Calculate the cost of milk fat and vanilla from Feb-July using formula: **=old price\*(1+%)** – this will automatically calculate new cost. Use cell locations as variables and fill handle to pull calculations down into all cells.
  2. Calculate wholesale price from Feb-July using formula: **=milk fat+vanilla** – this will calculate wholesale. Use cell locations as variables and fill handle to pull calculations down into all cells.
  3. Calculate retail price from Feb-July using formula: **=retail+.06** – this will calculate retail. Use cell locations as variables and fill handle to pull calculations down into all cells.
  4. Calculate profit from January-July using formula: **=retail-wholesale** – this will calculate profit. Use cell locations as variables and fill handle to pull calculations down into all cells.
  5. Create a line chart for the first 7 months (Jan-July) of the costs for milk fat and vanilla. Format with colors and titles and save it on a worksheet of its own.
1. Students discuss what the % increase for supplies will be from August to December and enter it into the worksheet. Calculate the cost of milk fat and vanilla for the rest of the year using formula: just use fill handle to drag down calculations.
  2. Calculate wholesale, retail, and profits from August to December using formula: just use fill handle to drag down calculations.
  3. Discuss with students what they need to do in order to keep profits out of the “red”. Ideally, students want to increase their retail price enough to cover for their expenses. Whatever they decide will need to be entered into the client letter.

### Concord's Best Ice Cream

16 Rumford Street  
 Concord, NH 03301  
 603-225-0811



[enter today's date]

[enter the address fields]

[enter the address fields]

Dear [enter in contact name],

As a valued customer, I feel it is important to keep you informed of any sudden changes with our pricing. We have shared a forthright working relationship for the last five years and any increases in costs of goods or services have been absorbed by Concord's Best Ice Cream.

Due to soaring energy costs, seasonal reduction in milk production, and sudden weather fluctuations, we have experienced a 38% and 54% increase for milk fat and vanilla, respectively.

The chart below displays the progression of price increases that we have been experiencing over the last six months.

[insert line chart of milk fat and vanilla increases for January-July here]

I regret to inform you that due to these unforeseen circumstances, the prices for ice cream products will be increasing by \_\_\_\_\_. Our prices are aligned with industry averages and are aggressively matched with our competitors.

Sincerely,

[Click here and type your name]

Owner & Operator of Concord's Best Ice Cream

## Appendix B

### Concord's Best Ice Cream Cost Analysis

Months	milkfat	% increase or decrease	vanilla	% increase or decrease	Wholesale	Retail	Profit
January	\$1.30	11.83%	\$1.18	16.33%	\$2.48	\$4.79	
February		-11.00%		-16.00%			
March		-0.83%		-0.33%			
April		11.83%		16.33%			
May		11.83%		16.33%			
June		11.83%		16.33%			
July		11.83%		16.33%			
August							
September							
October							
November							
December							

## Appendix C & D

### CLIENT LIST

Cool Moose Creamery & Candies  
62 N Main Street  
Concord, NH 03301

Atie & Chet Caron

Ballard's Novelty & Party  
7 Broadway  
Concord, NH 03301

Jonathan Ballard

Rowe Mountain Fair Trade  
25 East Main Street  
Warner, NH 03278

Megan Hunt & Richard Stewart

Gourmet Garden  
428 Main St, PO Box 1646  
New London, NH 03257

Christian Peters

Baqia's Bountiful Baskets  
243 Pleasant Street  
Concord, NH 03301

Nora Baqialague

Cowdrey's Country Store  
1213 Battle St  
Webster, NH 03303

Joe and Judy Cowdrey

## Concord's Best Ice Cream

16 Rumford Street  
Concord, NH 03301  
603-225-0811



[enter today's date]

[enter the address fields]

Dear [enter in contact name]:

As a valued customer, I feel it is important to keep you informed of any sudden changes with our pricing. We have shared a forthright working relationship for the last five years and any increases in costs of goods or services have been absorbed by Concord's Best Ice Cream.

Due to soaring energy costs, seasonal reduction in milk production, and sudden weather fluctuations, we have experienced a 38% and 54% increase for milk fat and vanilla, respectively.

The chart below displays the progression of price increases that we have been experiencing over the last six months.

[insert line chart of milk fat and vanilla increases for January-July here]

I regret to inform you that due to these unforeseen circumstances, the prices for ice cream products will be increasing by \_\_\_\_\_. Our prices are aligned with industry averages and are aggressively matched with our competitors.

Sincerely,

[Click **here** and type your name]

Owner & Operator of Concord's Best Ice Cream