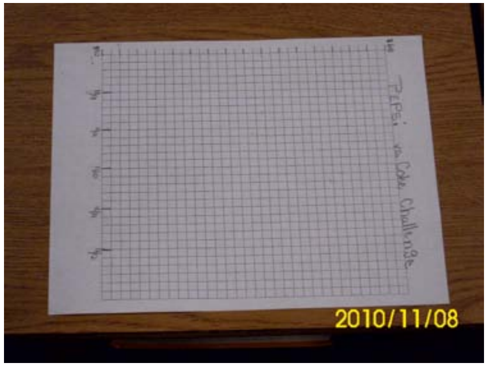

Elementary My Dear Warren Buffett!
A Fifth-Grade Stock Market Project

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Cassidy Larkin, McCartney Ranch Elementary School 5th Grade Teacher

GK-12 and G-TEAMS

- GK-12: NSF program placing STEM graduate students with K-12 teachers.
- G-TEAMS (Graduate Students and Teachers Engaging in Mathematical Sciences): GK-12 program housed in the UA Math Department.
- Goals:

  (i) improve graduate students' communication skills;

  (ii) increase contact between universities and K-12 schools; and

  (iii) cutting-edge research in classroom.

McCartney Ranch Elementary

- Located in Casa Grande, AZ.
- 1 of 9 elementary schools in the District.
- High population of English Language Learners.
- Increasing population of “exceeds” math students.
- Title I school with about 650 students, about 70% of students are receiving free/reduce lunch rates.

Think about this…

- Are we, as educators, producing tomorrow’s problem solvers?
- How can we design real-world projects and simulations that work within our constraints?

The Stock Market Challenge

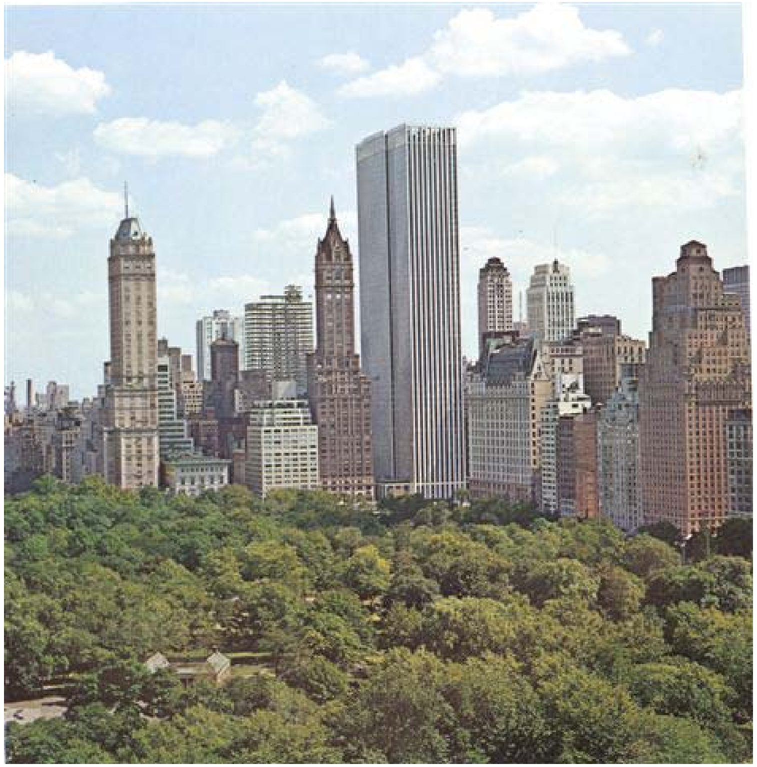
- 4 week project
- Goal: Introduce math in a real world context using real world data.
- First 2 weeks: Coke vs. Pepsi.
- Second 2 weeks: Simulated the purchase and sale of stocks from other companies.

The Stock Market

What Is It?

Introduction

Why do people start businesses?



Profit

When you make money in business, it is called a profit.

Mathematically: Profit = Revenue – Cost

For example: If you buy an iPod for $250 and sell it for $300, you made a profit of …

Loss

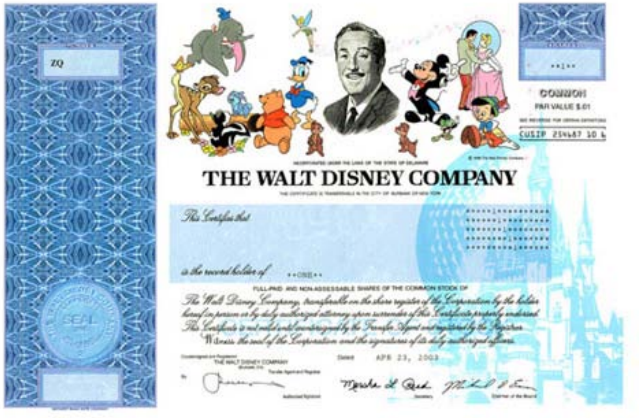
There is also a risk that you will lose money!

How do you raise money to start a new business?

One way to raise money is to borrow money from a bank. This money **must** be paid back.

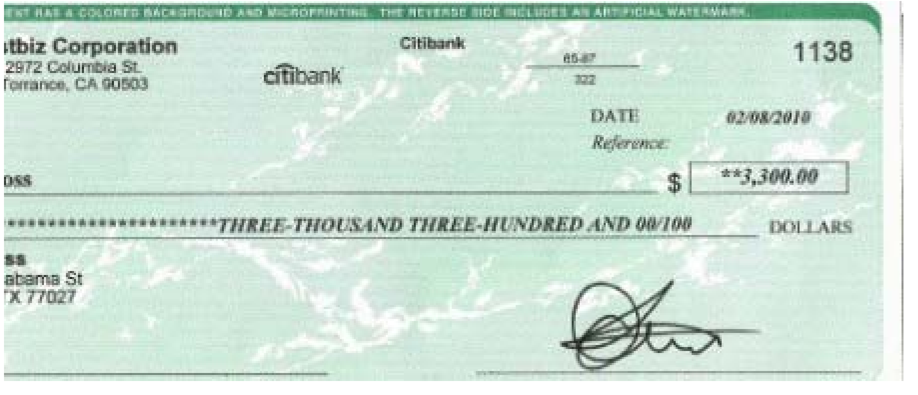
Stocks

You can also sell ownership in the company. This means you have other people give you money and they have a share in the profits (and losses) of the company. These ownership shares are called **shares of stocks**.



Dividends

When a company makes a profit, they typically pay the owners of stock a **dividend**.



The Stock Market

If you own shares of a company, you can sell them to other people in **the stock market**.

The New York Stock Exchange (NYSE) is one of these markets.

Stock Prices

When a company is doing well, more people want to buy the stock and its price in the market rises.

When a company is not doing well, more people want to sell the stock and its price falls.

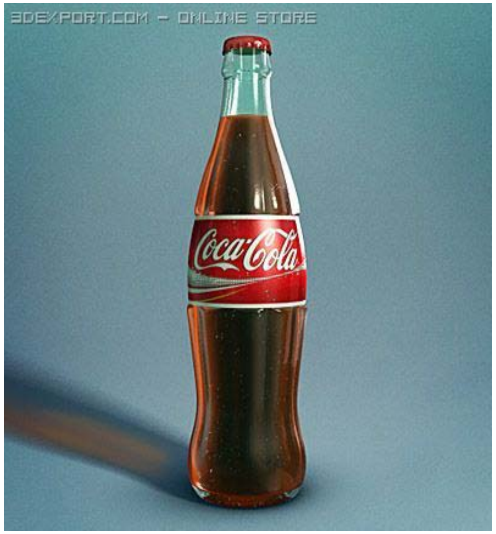
Recap

Businesspeople raise money buy selling stock (ownership claims) in their company. People who buy these shares can sell them on the market at a higher price and make money.

Stock Market in Plain English

The Pepsi/Coke Challenge

This week, each day you will look up and graph the stock prices for two companies: Pepsi and Coke.



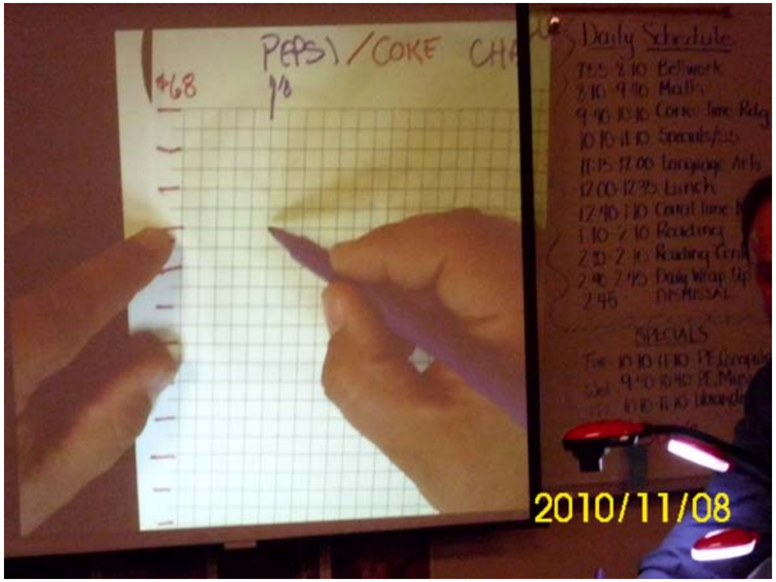
Another Video

- This video does a nice job tying math and the stock market together.

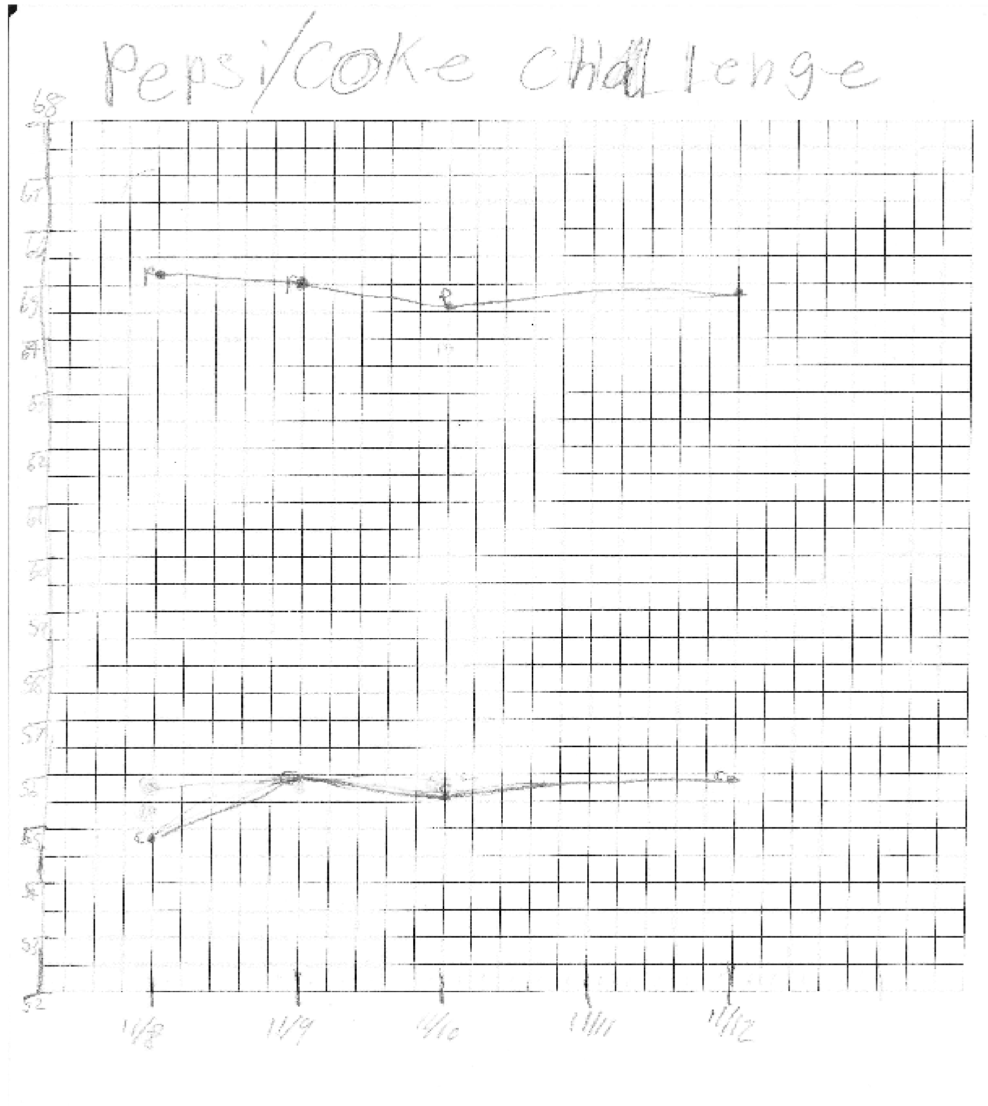
Example_3__Fractions__Decimals__and_Percents__Stocks_and_Statues.asf

Pepsi/Coke Challenge

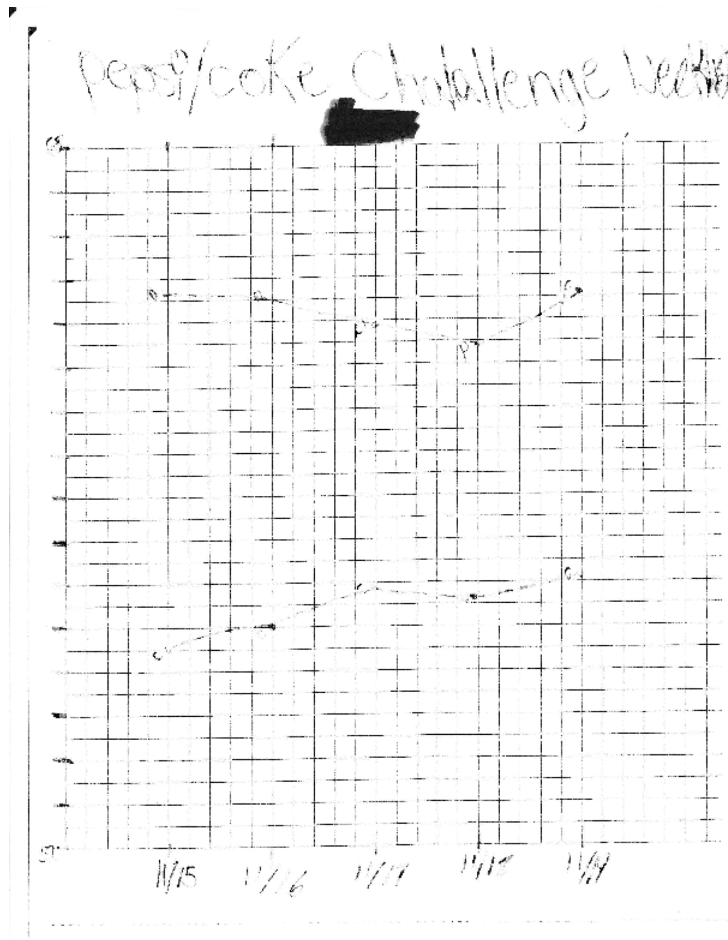
- Each day: Looked up price of Pepsi stock and Coke stock and plotted on a graph.
- This lasted 2 weeks.
- Created line graphs.



Week 1 Sample



Week 2 Sample



Purchase and Sale Simulation

- Students chose from a list of 8 stocks for familiar companies.
- In computer lab: Google Finance (http://www.google.com/finance)
- Wrote down price on a Friday, wrote down price on following Tuesday.
- Who made the most money?
- Some students looked at news articles!

Choose Your Own Stock!

Now your group will choose a stock to track. Using Google Finance (www.google.com/finance), choose one of the following stocks to track. We will see which group makes the most money on a purchase and later sale of 100 shares of your chosen company.

1. The Walt Disney Company. NYSE Ticker: DIS
2. Six Flags Entertainment Corp. NYSE Ticker: SIX
3. McDonald's Corporation. NYSE Ticker: MCD
4. General Motors Co. NYSE Ticker: GM
5. Wal-Mart Stores, Inc. NYSE Ticker: WMT
6. Domino's Pizza, Inc. NYSE Ticker: DPZ
7. Kellogg Company. NYSE Ticker: K
8. Southwest Airlines Co. NYSE Ticker: LUV

As you track your stock, keep the daily price on one piece of paper and plot your graph on a piece of graph paper.

How much money will YOU make??

Who Made the Most Money?

Go to www.google.com/finance and find your stock.

- Click on and highlight the address in the address bar.
- Type in www.google.com/finance
- In the search bar at the top, type in your stock ticker.

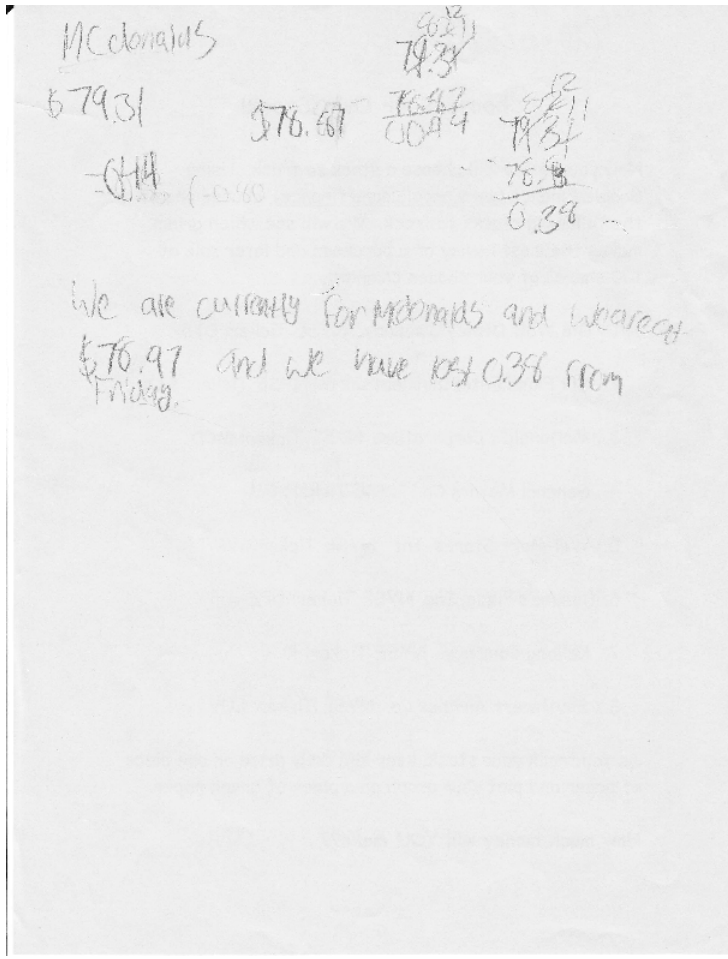
How Much Did You Make?

- Write down the current price for your stock and find the price of your stock from Friday.
- Subtract the lower price from the higher price. If today’s price is lower, this is a **loss**. If today’s price is higher, this is a **gain**.
- If you want, figure out what you made or lost if you bought 100 or 1000 shares!
- If you have time, look at the news articles to see what happened that may have effected the price. Write a brief paragraph describing why you think you gained or lost money.

Sample 1

kellogg company:K
The Walt Disney company
tuesday
$49.16 Friday
$49.15 ✓ 48.98 Lost 00.17
$49.12
$49.11
$49.13
$49.10 49.15
$49.09 − 48.98
$49.08 00.17
$49.07 ✓

Sample 2



MCdonalds

\$79.31

-0.44

(-0.80

\$76.87

79.31

76.87

0.44

79.31

76.93

0.38

We are currently for Mcdonalds and We are at \$76.97 and we have lost 0.38 from Friday.

Sample 3

Domino's Pizza Deriveryman
attacked In Phillipsburg
Police Say around 8 o'clock
two People wearing Black
Hoodies Jumped the unidentified
Emplee Robert Stettner.

Reflections

- The real-world application along with the use of real world data was a great motivator for students!
- Some students who had been previously unengaged became enthusiastic. The context led to student “buy-in”.
- When brought back to first principles and properly motivated, young students can understand fairly complicated concents.
- This type of activity is very difficult to fit within every-day teaching constraints.

Implementation Suggestions

- The main challenge is to work within constraints.
- Computer special – a potential time to do work on such a project.
- Another possibility: Introduce at the beginning of year, use as a source of examples throughout the year.
- Reteaching for specific math topics.
- Vertical Integration

Standards

This project addressed a number of standards simultaneously, for example:

1. S1C1PO3: Locate Integers on No. Line
2. S1C1PO4: Compare/Order Decimals
3. S1C1PO6: +/- No.'s in Context
4. S1C2PO1: Subtract Decimals
5. S2C1PO1,2: Line Graphs
6. S3C4PO1: Describe Change: Inc./Dec.

Our Questions for You

- In most schools today, teachers have constraints. Curriculum calendars and scripted curricula do not leave students with the opportunity to have in depth exploration time. Are we producing tomorrow’s problem solvers?
- What kinds of ideas do you have that could turn into a possible project that relates to real world problems, yet that have fidelity to school districts?

Thanks!
Questions for Us?