

WAMC Lab Template

Math Concept(s):

Source / Text:

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Date: 6/26/2019 Summer Conference 2019

Attach the following documents:

- Lab Instructions
- Student Handout(s)
- Rubric and/or Assessment Tool

Short Description (Be sure to include where in your instruction this lab takes place):

This lab will teach students how to invest by simulating the real stock market. The site will mirror the actual market in real time. You will have the ability to limit or allow many things to help guide your students.

Lab Plan

Lab Title: Stock Market Game

Prerequisite skills: Cost per units, budgeting, measuring, research inquiry, and comparison shopping.

Lab objective: Students will be able to create a diversified portfolio that will generate a positive return on investment while learning how the stock market works in real time.

Standards: (Note SPECIFIC relationship to Science, Technology, and/or Engineering)

Mathematics K–12 Learning Standards:

Standards for Mathematical Practice:

- G-MG.3 Apply geometric methods to solve design problems

K-12 Learning Standards-ELA (Reading, Writing, Speaking & Listening):

K-12 Science Standards

Technology

Engineering

Leadership/21st Century Skills:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

- | | | |
|---|--|---|
| <input type="checkbox"/> Global Awareness | <input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy | <input type="checkbox"/> Civic Literacy |
| <input type="checkbox"/> Health/Safety Literacy | <input type="checkbox"/> Environmental Literacy | |

21st Century Skills (Check those that students will demonstrate in the above activity.)

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information

LIFE & CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Productivity and Accountability

Accountability

- Manage Projects
- Produce Results

- Implement Innovations
- Critical Thinking and Problem Solving
- Reason Effectively
- Use Systems Thinking
- Make Judgments and Decisions
- Solve Problems
- Communication and Collaboration
- Communicate Clearly
- Collaborate with Others

- Use and manage Information
- Media Literacy
- Analyze Media
- Create Media Products
- Information, Communications and Technology (ICT Literacy)
- Apply Technology Effectively

- Initiative and Self-Direction
- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners
- Social and Cross-Cultural
- Interact Effectively with Others
- Work Effectively in Diverse Teams

- Leadership and Responsibility
- Guide and Lead Others
- Be Responsible to Others

Teacher Preparation: (What materials and set-up are required for this lab?)

Materials

- A computer

Set-Up Required:

- Create a login and create a contest on howthemarketworks.com

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

-

Cooperative Learning:

-

Expectations:

-

Timeline:

- 3 weeks

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

- I

Career Applications

- Stock Trader, Financial Planners, Wealth Management

Optional or Extension Activities

- Apply Capital Gains to Tax Returns

Lab overview:

This lab will teach students how to invest by simulating the real stock market. The site will mirror the actual market in real time. You will have the ability to limit or allow many things to help guide your students. I like to start simple and then as the weeks go on allow them to do more things like stop losses and such, but you can make those decisions. Just a reminder for teachers that when Mutual Funds are traded they are treated differently. Unlike stocks and ETFs, mutual funds trade only once per day, after the markets close at 4 p.m. ET. If you enter a trade to buy or sell shares of a mutual fund, your trade will be executed at the next available net asset value, which is calculated after the market closes and typically posted by 6 p.m. ET.

Students should have a base knowledge of stocks, mutual funds, and ETFs. This simulation will teach them some of those things, but it works much better if you have already covered the basics and now they get to apply it. They should also know what a ticker symbol. From there you can decide if you want them to invest in different categories or small cap/large cap. You have a lot of options. My biggest advice to the kids is to invest in what you know.

You will even have the ability to reset individual students or all students. The great thing is this isn't real money, but I like to make it competitive and I always have the leaderboard up when the students walk into the room to see who is doing the best.

After a few weeks I like to move on to other curriculum for a few months and then come back to it. This year I covered investing well before taxes. I then made them sell all of their stocks and since it was less than a year it qualifies as short term capital gains. They have to add that income to their tax return.

Teacher Instructions:

Go to howthemarketworks.com

Create a login using your school district email.

Then click on the "Create contest"

You will get to name the contest and then you can create a password.

You can change the amount you want your students to invest. I like to allow a \$100,000 because it creates simple math, but it is enough money to see a meaningful change over a shorter amount of time.

I limit an investment to \$20,000 for a single purchase. This forces them to diversify their investment. I also make the students include a description of why they make each transaction, and that applies to buying or selling.

I also make the students hold an investment for at least 24 hours to prevent day trading.

As we go further I make them look at IPO stocks that happened recently and how the market reacted. After a few weeks I like to move on to other curriculum for a few months and then come back to it. This year I covered investing well before taxes. I then made them sell all of their stocks and since it was less than a year it qualifies as short term capital gains. They have to add that income to their tax return.

Student Instructions:

Go to the link below and register.

(You need to use your personal email address that way if you forget your password you can reset it. Our district email will block any emails coming from this site)

<http://www.howthemarketworks.com/register/107564>

-You will select \$100,000 for the amount to start with.

-For the question "Do you currently own a brokerage account?" Select no.

Join Contests, and look up your contest:(You will need to update with your contest name) via the search bar.

Password: (You will need to update with your contest)

You need to invest in at least five different stocks or mutual funds. The most you will be allowed to spend on one purchase is 20% of your portfolio, which is \$100,000 when you start.

Investment Advice:

1. Invest in what you know.
2. Mutual Funds are a great way to diversify.
3. Remember it's not real money so don't stress too much, but also that winning is fun!

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Bathroom Layout and Cost Comparison

Lab objective: Students will work in groups of 4-5 to design a layout for a bathroom. They will research to determine what materials and how much they need to purchase. The students will then create a scaled image on graph paper.

Each group should have the following:

- a. Roll of painters tape
- b. Clipboard to write on
- c. One of the following: ruler, tape measure, yard stick, piece of computer paper + 1 inch, a shoe about a foot long
- d. Pencils
- e. Calculator
- f. Smartphone

Within your group you need to decide who will fill the jobs/roles below:

Project Manager: Makes sure everyone is participating and doing their job. Has the ability to make final decisions. Will need a smartphone to look up the prices of materials while others are taping the layout of the room.

Laborer: Will be the one taping and measuring.

Scribe: Will record who is assigned to each role. Then will draw the bathroom on paper.

Quality Assurance: Will help laborer with taping, but is also the one who needs to make sure the final product will actually work. This person should also make sure the corners of the room are square and that all items within the bathroom can function with the layout. This person will also need to use a phone to help look up dimension of materials.

Expectations:

In your groups you need to come up with an ideal and realistic bathroom with a double sink vanity. You need to tape the perimeter of your bathroom. You need to plan for at least the tub, toilet, and vanity. If you want to add more you can. Mark each outline with blue painters tape. You have one hour!

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