

Data Analysis Lesson Plans Grade 9, 10,& 11.
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Resources: The use of the New York Stock Exchange is required, as well as spreadsheet.

Day 1:

- A. Introduce students general ideas about the stock market.
 - *People buy and sell stocks at current values.
- B. Students go to NYSE.com
 - *Find list of stocks
 - *Pick 2 companies you may be interested in.
 - *Write down how you found it and what they are.
 - *Make sure you can find it easily.
- C. Open excel
 - *Follow directions for sheet 1 on “New York Stock Exchange Excel and Formula Activity” sheet
- D. Save As
 - *Make sure student save and are saving to a location that will not be deleted.
(Students will learn about stocks, setting up a spreadsheet)

Day 2:

- A. Internet
 - *Look up stock values.
- B. Open Excel.
 - * Enter date and current values to sheet 1.
 - *Create sheet 2 using directions on “New York Stock Exchange Excel and Formula Activity” sheet.
(Students will enter values into a spreadsheet, enter correct formulas, and purchase stock to spend a certain dollar amount.)

Day 3: Day 4: Day 5: Day 6:

- A. Select of variety of days to have students look up current stock values and enter them in sheet 1.
(Students will track changes in stock values and add values to spreadsheet over a period of time. Students will see how values change over time.)
Note: This will take approximately 5 minutes of class time. The rest of the class will be used for other lessons.

Day 7:

- A. Create Sheet 3 using “New York Stock Exchange Excel and Formula Activity” sheet.
 - * Think and prepare a presentation about what you notice what this means and why you think the results are what they appear to be.

(Students should see a profit or a loss in money, understand why the stock values changes would influence the difference in loss or profit, etc.)

Day 8: Students will create appropriate graphs of their information from sheet 1.

*Any graph is acceptable as long as it represents the data accurately and has labels, a key, and a title.

* Prepare presentations of graphs to the class,

Day 9: Class presentations of stocks, graphs, and conclusions about trends over time.

(Students will explain their stock choices, what happened over a period of time to their stock, did it go up/down/stay. Which graph they chose, why, whether it is the best graph for their data, etc.)

Day 10: Class discussions about stocks, correlations and causation with world events, etc.

(Students will talk about influencing factors and the stock market, ex. Hewlett Packard's stocks could potentially go down if Dell, IBM, DAKTECH, Macs, Compaq, Gateway came out with something new that boosted peoples interest in their companies, etc.)

FORMANCE PACKAGE TASK 1
(Stock Values in Excel)

Content Standard: Data Analysis

Level: Partial

Specific Statement(s) from the Standard:

IV. DATA ANALYSIS, STATISTICS AND PROBABILITY **Grade 9, 10, & 11**

Standard: Represent data and use various measures associated with data to **draw conclusions and identify trends**. Understand the effects of display distortion and measurement error on the interpretation of data.

Benchmarks:

1. Construct and analyze circle graphs, bar graphs, histograms, box-and-whisker plots, scatter plots and tables, and demonstrate the strengths and weaknesses of each format by choosing appropriately among them for a given situation.
4. Know the influence of outliers on various measures and **representations of data about real-world and mathematical problems**.
5. **Understand the relationship between correlation and causation.**

Product(s): The students will gather data and display their data using an appropriate graph, then analyze their data, profits and/or losses, and present their finding to the class.

Task Description: Students will track changes in stock values over a period of weeks, create a spreadsheet of value changes, purchase and compute earnings/losses from beginning of tracking and at the end of tracking. Students will also create appropriate graphs to represent stock value changes.

Special Notes:

Students will have already had previous knowledge in graphing, types of graphs, labeling graphs, basic spreadsheet functions, etc.

PERFORMANCE PACKAGE TASK 1
(Stock Values in Excel)

FEEDBACK CHECKLIST FOR TASK 1

The purpose of the checklist is to provide feedback to the student about his/her work relative to the content standard. Have the standard available for reference.

Y=Yes

N=Needs Improvement

Student

Teacher

_____	Data is entered in spreadsheet with labeled columns, etc. (Sheet 1)	_____
_____	Correctly purchased accurate stock amounts given \$100,000. (Sheet2)	_____
_____	Correctly assessed gain/loss in \$ using accurate date and values. (Sheet 3)	_____
_____	Appropriate graphs on each stock with accurately labels and graph title.	_____
_____	Report presentation to class/ clear understanding of project results.	_____
_____	Participate in class discussion about correlation and causation.	_____

Overall Comments (information about student progress, quality of the work, next steps for teacher and student, needed adjustments in the teaching and learning processes, and problems to be addressed):

Great activity for computer spreadsheet cells, as well as great real life application for graphing and data analysis.