



**THE STOCK MARKET GAME™**

***SMG WORLDWIDE CORRELATION TO THE  
TEXAS ASSESSMENT OF ACADEMIC SKILLS OBJECTIVES  
AND  
TEXAS ESSENTIAL KNOWLEDGE AND SKILLS  
MATHEMATICS – GRADE 8***

**Texas Council  
on  
Economic Education**



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**The Stock Market Game™** (SMG WORLDWIDE), is an educational program of the Securities Industry for Economic Education. It is distributed regionally by the Texas Council on Economic Education and the Newspaper in Education program of *The Dallas Morning News*.

The SMG is an internet-based investment simulation offered each fall and spring. Teams of 3-5 students begin their trading session with a hypothetical \$100,000. They research companies and make decisions about the purchase and sale of stock while learning about markets and the American economic system. The Stock Market Game provides classroom teachers an interesting and real life example that broadens and develops mathematical skills and understanding. It also offers teachers an opportunity to infuse language arts and social studies into the math curriculum, while using computer and Internet skills in a practical and meaningful way.

SMG Worldwide supports student development of the mathematical proficiency desired at the middle grades. It can be utilized in the self-contained classroom or easily adapted to a teaching theme or special learning experience for schools structured around team teaching of the four core disciplines (mathematics, social science, language arts and science). Students work with large number concepts, ratios, fractions, decimals, proportions, and probability while engaged in problem solving and decision making.

The following document correlates the Stock Market Game to TAAS II Objectives and TEKS student expectations for eighth grade math. It illustrates how the SMG program can be used to teach and reinforce state required skills for middle school students. Suggested curriculum resources are included.

Special thanks to Marcie Brown , a mathematics teacher at Van Junior High School, Van ISD, for her work in preparing this document. Her original contributions, as well as adaptations from the *SMG WORLDWIDE Correlation to National Council of Teachers of Mathematics Principles and Standards for School Mathematics*, provide a valuable tool for math teachers across the state of Texas.

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**For more information on the Stock Market Game  
go to [www.smgww.org](http://www.smgww.org) or contact:  
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## ***TAAS II Objective 1***

***The student will demonstrate an understanding of numbers, operations and quantitative reasoning.***

**8.1 Number, operation and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations. The student is expected to:**

- A. compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals;
- B. select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships;
- C. approximate the value of irrational numbers as they arise from problem situations; and
- D. express numbers in scientific notation in appropriate problem situations using a calculator.

### **SMG WORLDWIDE Connections:**

Students will:

- 1. compare and order rational numbers as they research price per share of common stock, analyze gains and losses on team portfolios, work with weekly highs and lows of a stock price, and compare yields.
- 2. use integers and decimals as they compare daily and weekly changes in stock prices.
- 3. convert the 2% broker's fee charged for each transaction into a decimal number.
- 4. determine that it is appropriate to use positive decimals for gains and negative decimals for losses.

**8.2 Number, operation and quantitative reasoning. The student selects and uses appropriate operations to solve problems and justify solutions. The student is expected to:**

- A. select and use appropriate operations to solve problems and justify the selections;
- B. add, subtract, multiply and divide rational numbers in problem situations;
- C. evaluate a solution for reasonableness; and
- D. use multiplication by a constant factor to represent proportional relationships.

### **SMG WORLDWIDE Connections:**

Students will:

- 1. add, subtract, multiply and divide rational numbers as they determine how much of their team's \$100,000 to invest in specific companies.

2. select and use the appropriate operation to determine how many shares they can buy at a given price, to calculate the total cost of a transaction, and to calculate the total value of their team portfolio.
3. evaluate each transaction or trade for reasonableness.
4. use multiplication to find the 2% broker's fee (total cost = 1.02 X cost of stock).

### **Curriculum Resources: TAAS Objective 1**

*Learning from the Market: Lessons 1, 6, 7, 8, 11, 15, 16, 18*

*The Stock Market Game Guide: Lessons 1, 3, 5, 6, 8, 9, 11, 15, 18*

### ***TAAS II Objective 2***

***The student will demonstrate an understanding of patterns, relationships and algebraic reasoning.***

- 8.3** **Patterns, relationships and algebraic thinking. The student identifies proportional relationships in problem situations and solves problems. The student is expected to:**

- A. compare and contrast proportional and non-proportional relationships; and
- B. estimate and find solutions to application problems involving percents and proportional relationships such as similarity and rates.

### **SMG WORLDWIDE Connections:**

Students will:

1. compare interest rates to the percent of increase in a stock price.
2. use proportion properties to determine the change in their team's total investment when the price of a stock changes.
3. determine how a changing stock price affects the 2% broker's fee.
4. examine their team portfolio and determine which stocks have brought the highest profit, and which stocks have brought the greatest percent increase.
5. practice proportional reasoning skills to determine which stocks are better investments and if a high or low price earnings ratio is better for the SMG.
6. compare stock of different industries, stock of companies in the same industry, stock of new vs. established companies, etc.

- 8.4** **Patterns, relationships and algebraic thinking. The student makes connections among various representations of a numerical relationship. The student is expected to:**

- A. generate a different representation given one representation of data such as a table, graph, equation or verbal description.

### **SMG WORLDWIDE Connections:**

Students will:

1. use tables to graph the closing prices of stocks they have purchased.
2. use data from team portfolios to graph their total equity throughout the SMG session.
3. determine what percent of their team's \$100,000 is invested in each company and create a pie chart that shows where their money is invested.

**8.5** **Patterns, relationships and algebraic thinking. The student uses graphs, tables, and algebraic representations to make predictions and solve problems. The student is expected to:**

- A. estimate, find and justify solutions to application problems using appropriate tables, graphs and algebraic equations; and
- B. use an algebraic expression to find any term in a sequence.

### **SMG WORLDWIDE Connections:**

Students will:

1. use various forms of graphs, tables and charts in their predictions of which stocks will make money for their team.
2. use many forms of graphs, tables and charts to determine when to buy or sell stocks in order to turn the biggest profit.
3. use an algebraic expression to find the broker's fee for any trade.

### **Curriculum Resource: TAAS Objective 2**

*Learning from the Market: Lessons 2, 6, 7, 8, 11, 13, 16, 18*

### ***TAAS II Objective 5***

***The student will demonstrate an understanding of probability and statistics.***

**8.11** **Probability and statistics. The student applies concepts of theoretical and experimental probability to make predictions. The student is expected to:**

- A. find the probabilities of compound events (dependent and independent);
- B. use theoretical probabilities and experimental results to make predictions and decisions; and
- C. select and use different models to simulate an event.

**SMG WORLDWIDE Connections:**

Students will:

1. collect and analyze data from various sources on stock performance.
2. use collected data to make predictions and decisions about the probability of those stocks making a profit.
3. use information about interest rates and investment trends to predict changes in stock prices.

**8.12 Probability and statistics. The student uses statistical procedures to describe data. The student is expected to:**

- A. select the appropriate measure of central tendency to describe a set of data for a particular purpose;
- B. draw conclusions and make predictions by analyzing trends in scatterplots; and
- C. construct circle graphs, bar graphs and histograms (with and without technology).

**SMG WORLDWIDE Connections:**

Students will:

1. construct charts and graphs of data used in the SMG WORLDWIDE by hand and/or using graphing software on the computer.
2. analyze and draw conclusions from these charts.
3. calculate mean, median and mode for stocks or team portfolios.

**8.13 Probability and statistics. The student evaluates predictions and conclusions based on statistical data. The student is expected to:**

- A. evaluate methods of sampling to determine validity of an inference made from a set of data; and
- B. recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis.

**SMG WORLDWIDE Connections:**

Students will:

1. evaluate methods their team used to choose investments to determine which data proved to be most effective in making investments.
2. look for biased information and misleading graphs and data as they research stock information.

## **Curriculum Resources: TAAS II Objective 5**

*Learning from the Market: Lessons 3, 6, 7, 8, 10, 11, 15, 16, 18, 21, 22, 23, 24*

*The Stock Market Game Guide: Lessons 7, 8, 9, 11, 12, 13, 14, 15, 17*

## ***TAAS II Objective 6***

***The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.***

**8.14 Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to:**

- A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;
- B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan and evaluating the solution for reasonableness;
- C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and
- D. select tools such as real objects, manipulatives, paper/pencil and technology, or techniques such as mental math, estimation and number sense to solve problems.

### **SMG WORLDWIDE Connections:**

Students will:

1. participate in the SMG program by applying math skills to this “real world” investment simulation.
2. experience the interdisciplinary benefits of the SMG in the areas of social studies, language arts and technology.
3. apply math and research skills to solve the problem of how to best invest \$100,000, implement their plan and evaluate the results in terms of profit/loss.
4. research selected companies and develop decision making strategies about investments.

**8.15 Underlying processes and mathematical tools. The student communicates about Grade 8 mathematics through informal and mathematical language, representations and models. The student is expected to:**

- A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical or algebraic mathematical models; and
- B. evaluate the effectiveness of different representations to communicate ideas.

**SMG WORLDWIDE Connections:**

Students will:

- 1. communicate ideas and research results verbally, with printed articles, with graphs, or with any other form with teammates throughout the SMG.
- 2. develop a final SMG presentation that can include graphs, research and weekly portfolios that summarize their team decisions and performance. Presentations can be turned in as a folder, an oral report with strong visual aids, shared with the class as a multimedia presentation (PowerPoint), or published on a web page.
- 3. conduct peer evaluations to measure the effectiveness of methods of communicating ideas.

**8.16 Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:**

- A. make conjectures from patterns or sets of examples and nonexamples; and
- B. validate his/her conclusions using mathematical properties and relationships.

**SMG WORLDWIDE Connections:**

Students will:

- 1. evaluate their team's investment decisions to determine how and why money was gained or lost.
- 2. identify how they might change their investment strategy in the future to improve results.

**Curriculum Resources: TAAS II Objective 6**

*Learning from the Market: Lessons 1, 3, 7, 8, 9, 11, 13, 15, 23, 24*  
*The Stock Market Game Guide: Lessons 16, 17*

## **SMG WORLDWIDE Curriculum Resources**

### *Learning from the Market: Integrating The Stock Market Game across the Curriculum*

This curriculum is designed to help teachers connect The Stock Market Game to their school's curriculum through 24 classroom-tested lessons. Offering activities for beginning, intermediate and advanced levels, students in grades 4-12 learn the fundamentals of how the market economy works. TO ORDER CONTACT: NATIONAL COUNCIL ON ECONOMIC EDUCATION, 1140 Avenue of the Americas, New York, NY, 10036, 1-800-338-1192 EXT. 763.

### *The Stock Market Game Guide: Classroom Activities*

This guide offers nearly 150 user-friendly pages of games, readings and other interesting classroom activities. These pages show in a clear, concise way what the stock market is, how it works, and why it is important. The stock market is used in the guide to identify and demonstrate basic economic concepts. TO ORDER CONTACT: SECURITIES INDUSTRY FOUNDATION FOR ECONOMIC EDUCATION, 120 Broadway, 35th Floor, New York, NY, 10271, (212) 618-0519.

### *SMG Teacher's Guide to the Internet*

This guide contains an array of activities, tips, and recommendations on how to integrate the Internet into the classroom through the SMG program. For beginners and more advanced users, the guide explains everything teachers need to know about the Internet and demonstrates how they can incorporate this knowledge to enrich and enliven daily classroom lessons. TO ORDER CONTACT: SECURITIES INDUSTRY FOUNDATION FOR ECONOMIC EDUCATION, 120 Broadway, 35th Floor, New York, NY, 10271, (212) 618-0519.





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