



THE STOCK MARKET GAME™

***SMG WORLDWIDE CORRELATION TO THE
TEXAS ASSESSMENT OF ACADEMIC SKILLS OBJECTIVES
AND
TEXAS ESSENTIAL KNOWLEDGE AND SKILLS
MATHEMATICS – GRADE 5***

**Texas Council
on
Economic Education**



nie newspaper in education
The Dallas Morning News
nie.dallasnews.com

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 program 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 the “cornerstone” of number and operations in grades 3-5 mathematics curriculum. It fosters the development of computational fluency, as well as supports understanding of decimals. Operational experience shows that fifth graders are generally ready to handle the mathematical understanding and calculations of the SMG program. Mathematically advanced third and fourth graders have also successfully participated in the program.

The following document correlates the Stock Market Game to TAAS II Objectives and TEKS student expectations. The SMG WORLDWIDE Connections illustrate how the SMG program can be used to teach and reinforce state required skills. Suggested curriculum resources are included.

Special thanks to Stephan Gray, a teacher at S.S. Conner Elementary, Dallas ISD, for his work in preparing this document. His 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.

This project was made possible through a grant from *The Dallas Morning News*. Debbie Mackey served as project manager and editor.

**For more information on the Stock Market Game
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TAAS II Objective 1

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

5.1 Number, operation and quantitative reasoning. The student uses place value to represent whole numbers and decimals. The student is expected to:

- A. use place value to read, write, compare and order whole numbers through the billions place; and
- B. use place value to read, write, compare and order decimals through the thousandths place.

SMG WORLDWIDE Connections:

Students will:

- 1. read numbers correctly as they decide which stocks to purchase.
- 2. compare and order volumes of stock sold of various companies as they consider which stock to purchase.
- 3. increase their understanding of a) the base ten number system b) decimal placements, c) fractions, d) percent equivalents and e) magnitude of numbers, as they invest their \$100,000, calculate broker fees of two percent, calculate number of shares to purchase/sell and calculate total transactions.
- 4. strengthen their understanding of multiplication and division operations as students determine number of shares they may purchase at a given price or anticipate gain if x number of shares is sold at x price, calculate total costs/gains of buys and sells and calculate gain per share.
- 5. work with whole number computations, study and calculate decimal placement, convert percents to decimals as they learn stock price listings, convert whole numbers to dollars and cents, compute broker fees and calculate total buys/sells.

5.2 Number, operation and quantitative reasoning. The student uses fractions in problem-solving situations. The student is expected to:

- A. generate equivalent fractions;
- B. compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators; and
- C. use models to relate decimals to fractions that name tenths, hundredths and thousandths.

SMG WORLDWIDE Connections:

Students will:

1. research the history of stock market pricing (the fractional method) to generate equivalent fractions of the current decimal method and compare with the current decimal method for ease of use.
2. convert the stock prices in the fraction format into equivalent fractions in order to add and subtract them effectively.

5.3 **Number, operation and quantitative reasoning. The student adds, subtracts, multiplies and divides to solve meaningful problems. The student is expected to:**

- A. use addition and subtraction to solve problems involving whole numbers and decimals;
- B. use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology);
- C. use division to solve problems involving whole numbers (no more than two-digit divisors and three-digit dividends without technology);
- D. identify prime factors of a whole number and common factors of a set of whole numbers; and
- E. model and record addition and subtraction of fractions with like denominators in problem-solving situations.

SMG WORLDWIDE Connections:

Students will:

1. add, subtract, multiply and divide 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. identify companies in which they wish to invest.
5. collect and analyze information about the identified companies.

5.4 **Number, operation and quantitative reasoning. The student estimates to determine reasonable results. The student is expected to:**

- A. round whole numbers and decimals through tenths to approximate reasonable results in problem situations; and
- B. estimate to solve problems where exact answers are not required.

SMG WORLDWIDE Connections:

Students will:

- 1. evaluate each transaction or trade for reasonableness by estimating cost of transaction using rounding methods.
- 2. estimate the broker's fee of 2% in order to estimate the total amount spent during a transaction.

Curriculum Resources: TAAS II Objective 1

Learning from the Market: Lessons 1, 6, 7, 8

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

TAAS II Objective 2

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

5.5 **Patterns, relationships and algebraic thinking. The student makes generalizations based on observed patterns and relationships.**

The student is expected to:

- A. use [concrete objects or] pictures to make generalizations about determining all possible combinations;
- B. use lists, tables, charts and diagrams to find patterns and make generalizations such as a procedure for determining equivalent fractions; and
- C. identify prime and composite numbers using [concrete] models and patterns in factor pairs.

SMG WORLDWIDE Connections:

Students will:

- 1. research the history of a particular stock interpreting charts, tables and diagrams in their prediction of a particular stock's success.
- 2. evaluate the success of the stock market by creating charts and graphs of market performance from its inception to current times.
- 3. use the trend (pattern) of increasing performance in the market to predict what a portfolio will be worth given similar circumstances in the future.

5.6 Patterns, relationships and algebraic thinking. The student describes relationships mathematically. The student is expected to:

- A. select from and use diagrams and number sentences to represent real-life situations.

SMG WORLDWIDE Connections:

Students will:

1. use multiplication number sentence to find the 2% broker's fee (total cost = 1.02 X cost of stock).
2. create a pie chart illustrating the proportion a particular stock in their portfolio occupies in relation to their whole portfolio
3. determine, given a quantity of money, how a change in one variable (an expenditure or receipt) relates to a change in the given quantity.
4. examine relationships such as the price of a stock and the amount paid in broker fees and the price of a stock and value it must increase in order to sell at a profit.

Curriculum Resources: TAAS II Objective 2

Learning from the Market: Lessons 2, 6, 7, 8, 9, 13

TAAS II Objective 5

The student will demonstrate an understanding of probability and statistics.

5.12 Probability and statistics. The student describes and predicts the results of a probability experiment. The student is expected to:

- A. use fractions to describe the results of an experiment; and
- B. use experimental results to make predictions.

SMG WORLDWIDE Connections:

Students will:

1. evaluate daily statistics of stock performance and demonstrate how they contribute to weekly, monthly, and yearly stats (e.g. as students monitor daily the highs and lows of the stocks in their portfolio they will understand how the weekly, monthly, and yearly stats have been derived).
2. predict future performance based upon evaluation of past performance.

5.13 Probability and statistics. The student solves problems by collecting, organizing, displaying and interpreting sets of data. The student is expected to:

- A. use tables of related number pairs to make line graphs;
- B. describe characteristics of data presented in tables and graphs including the shape and spread of the data and the middle number; and
- C. graph a given set of data using an appropriate graphical representation such as a picture or line.

SMG WORLDWIDE Connections:

Students will:

- 1. create line graphs and tables of the performance of their portfolios.
- 2. calculate mean, median and mode from particular sets of stocks in order to categorize them by fiscal characteristics.
- 3. compare the daily performance of selected stocks in their portfolios using bar graphs.

Curriculum Resources: TAAS II Objective 5

Learning from the Market: Lessons 3, 6, 7, 8, 10

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