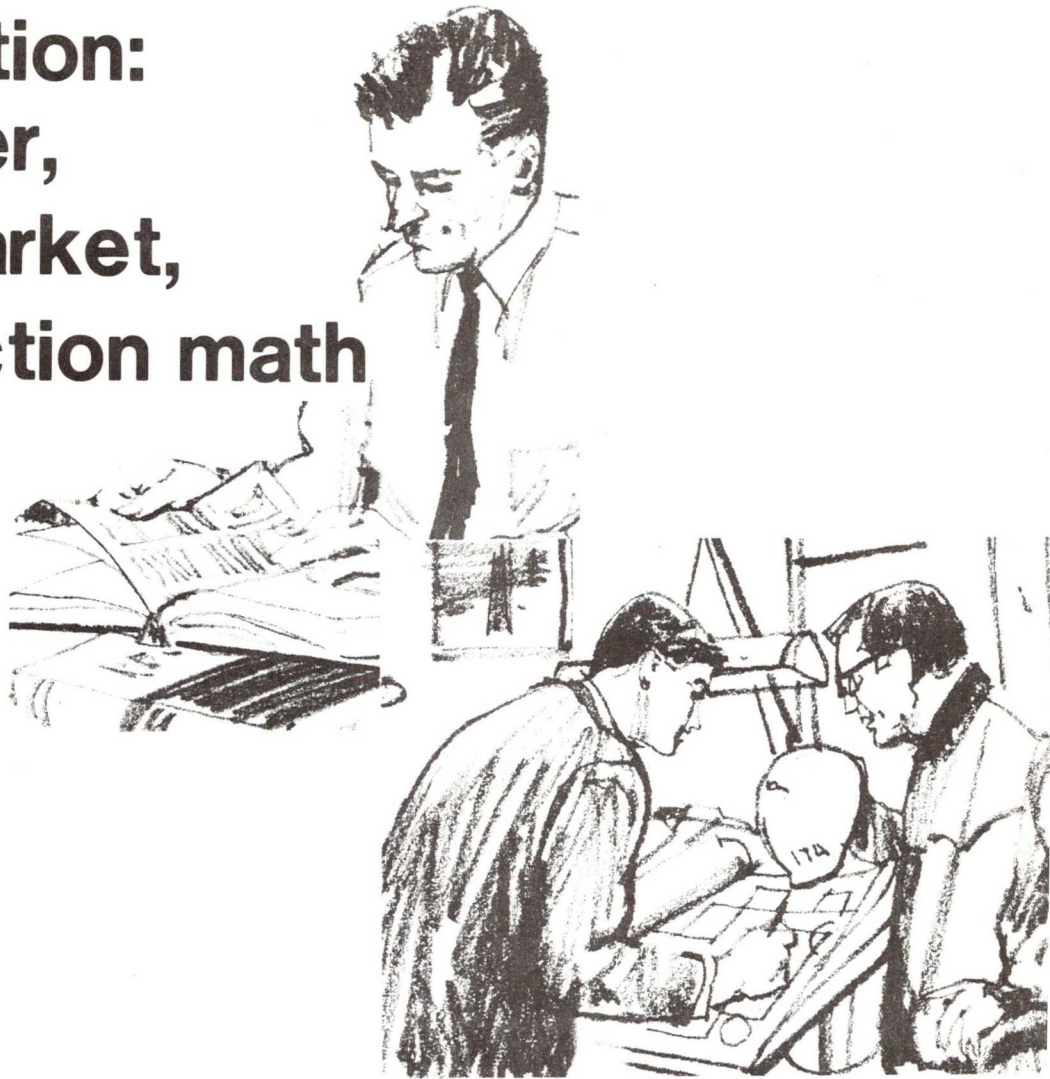# Math option: computer, stockmarket, construction math

Bruce Hedderick

When last year's teaching drew to a close, it was suggested by Marshall Bye, the mathematics supervisor, that a mathematics option be started in Milton Williams Junior High School. Mr. Hamilton, the principal, scheduled choices for student options in mathematics, science, social studies, drama, art, French, language arts, and music. Thirty-six students chose math option out of five Grade VIII classes. The classes were scheduled for three periods per week.

The math option deals with four areas. For the first three areas, the students are divided into groups of twelve students each. Computer math is the first

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area and the intent of this group is to investigate and build simple computers, getting more sophisticated as the year progresses. Stockmarket math is the next area and the intent of this section is to invest $20,000 imaginary money scientifically and mathematically in bonds, and the Calgary and Toronto Stock Exchanges. The construction math, in the third area, deals with the designing of a boat-camper combination that can be towed behind an eight-cylinder car with a maximum price tag of $5,000. If the design looks successful a scale model will be built. The last area involves all the students in the option class in making math puzzles and questions on recipe cards, which allows a variety from the textbook and creativeness on the part of the option class. For the designing of problems a list of story ideas is given including such things as business problems, cost of articles, travel and time problems. Finally a general area guideline is provided, within which students should work on natural numbers, signed numbers, decimals or fractions.

Each individual in the computer company investigates a specific area such as binary language, abacus, Napier's bones, exponent computer, logarithms, slide rule, monographs, digital and analog computers, adding and calculating machines, toy and game computers, and the uses and limits of computers. The stockmarket section deals specifically with bonds, convertible stocks, mutual funds, oil section of common stocks, industrial section of common stocks, annual reports, daily reports in the paper, difference between speculating and investing, and the best method of graphing stocks. The construction company delves into power campers, boat trailers, hull design, interior design, and types of construction materials.

The three groups would like to make field trips to companies dealing with their particular areas. For example, the stockmarket company would like to visit the Calgary Stock Exchange and have a broker speak to the class. The computer company would like to visit a computer installation such as the University Data Centre or International Business Machines, and the boat-camper group would like to visit a company such as Small Craft of Canada Ltd. Some of these field trips have already taken place.

From this point on, it is hoped and expected that the three groups will slowly take over more direction of their own affairs, so that they may learn leadership, responsibility, and cooperation toward a single goal. An excerpt from one of my student's essays on this topic may drive home the point: "In the field of mathematics there is more than just addition, subtraction, multiplication and new forms of applying answers. Things like computers, the stock market, and construction are some of these areas. These topics can be more interesting, more fun, and maybe we can even learn more in terms of this new, complex kind of mathematics."

For teachers wishing to attempt the math option two suggestions might be helpful. First, let us not allow the math option to become just a remedial math period when the province allows us to design our own courses. And second, if you are teaching math option, pick three or four topics with which you feel comfortable; and don't worry too much about the noise level because your students are going to be active.