

## Conclusion

Individuals or groups concerned with the future of the mathematical sciences in Canada are urged to make their views known by writing letters, submitting briefs, or participating in study groups. For further information, contact Dr. A.J. Coleman (Study Director) or Dr. G. Edwards (Assistant Study Director) at the following address:

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The preceding material is printed for information primarily. However, you may react by corresponding with The Math Study. I am sure late reactions will be useful, although MCATA cannot now act as a group.

## Is new 'New Math' next?

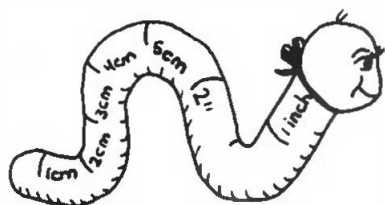
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Does the "newest math" equal the new math plus the old math minus the rote? There is no doubt that the teaching of math has become a major concern - again - and educators are hopeful that a new reform movement will produce a compromise along these lines rather than a swing back to traditional math. The new math, which began as a reform in 1958, is now being strongly criticized for its emphasis on learning concepts rather than on computation or application of math principles. It was recently panned severely in a new book, *Why Johnny Can't Add*, by New York University math professor Morris Kline. It lost its biggest supporter with the phasing out of the School Mathematics Study Group last year. And it hasn't fared at all well in standard achievement tests.

Educators and mathematicians, however, refuse to describe the current concern as a duel between the "old" and the "new". There is no groundswell against the new math, says Gordon Cawelti, executive secretary of the Association for Supervision and Curriculum Development, "just an examination of its excesses". The objective of the new math, in his opinion, "was to get the rotteness out of math teaching and try to remove the blocks that kept students from liking it". James Gates, executive secretary of the National Council of Teachers of Mathematics, predicts that math teaching in the future will emphasize the application of math to everyday problems, "but I hope we don't go too far with the application and overdo it". California, where the new math is used in all grades, now has a legislative committee investigating why its students' math achievement test scores have dropped over the past four years. The legislature has mandated that additional emphasis be given to computation skills in the next textbook adoptions. However, Jack Price, a former math teacher and now assistant superintendent for curriculum in the San Diego, Calif., schools, hopes the pendulum doesn't swing back too far, "although it probably is good that it's moving back a little." His district, as well as many others in the state, has produced supplemental units to improve computational skills, which the achievement tests emphasize.

Increasing the application of math to "real world problems" was the central discussion point at four workshops held this summer by the National Science Foundation (NSF). There was a consensus at the meetings to apply math to real situations, not just in the physical world, but also in other sciences, such as geography, biology, population studies, and statistics, says Lauren Woodby, NSF precollege math specialist. This shouldn't be presented through "phony problems", he says, but should involve students in solving problems about their world. He also believes that the new math concern for stimulating more capable students is now being replaced by a goal of math literacy for all students. All of those who commented on math teaching for *EDUCATION U.S.A.* agree that teacher training is a high priority for introducing any changes.

Emphasis on the application of math will get a natural boost from the conversion to a metric system, according to Gates. "Learning the metric system is a more practical exercise than worrying about base and sets," he says, and he predicts that the metric conversion will go ahead even if Congress is slow to approve it. Only three states have moved to introduce the metric system into education, but Ohio is now using road signs with both the metric and English systems, and National Instructional Television is preparing film materials for schools on the metric system.



## Inching our way toward the metric system

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"What is heavier, a pound of gold or a pound of feathers?"

"They both weigh the same," answers the bright child in whom we have carefully nurtured logical thinking.

"Wrong!" we reply. "A pound of feathers is determined by avoirdupois weight and measures 7,000 grains. A pound of gold is determined by troy weight and measures 5,760 grains. Thus a pound of feathers is heavier. Clear? Let us try once more. What is heavier, an ounce of gold or an ounce of feathers?"

"An ounce of feathers?"

"Wrong!"

"They both weigh the same?"

"Wrong again! A pound of gold consists of 12 ounces because it is determined by troy weight. Therefore an ounce of gold is equal to 480 grains. But there are 16 ounces in an avoirdupois pound. Therefore an ounce of feathers equals 437.5 grains."