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**Applying mathematical concepts with hands-on, food-based science curriculum.**

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Summary: This article addresses the current state of the mathematics education system in the United States and provides a possible solution to the contributing issues. As a result of lower performance in primary mathematics, American students are not acquiring the necessary quantitative literacy skills to become successful adults. This study analyzed the impact of the Food, Math, and Science Teaching Enhancement Resource (FoodMASTER) Intermediate curriculum on fourth-grade students' mathematics knowledge. The curriculum is a part of the FoodMASTER Initiative, which is a compilation of programs utilizing food, a familiar and necessary part of everyday life, as a tool to teach mathematics and science. Students exposed to the curriculum completed a 20-item researcher-developed mathematics knowledge exam (intervention  $n = 288$ ; control  $n = 194$ ). Overall, the results showed a significant increase in mathematics knowledge from pretest to posttest. These findings suggest that the food-based science activities provided the students with the context in which to apply mathematical concepts to an everyday experience. Therefore, the FoodMASTER approach was successful at improving students' mathematics knowledge while building a foundation for becoming quantitatively literate adults.

*Classification:* D32 M92

*Keywords:* curriculum; mathematical literacy; interdisciplinary education; modeling; real-life problems

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