

Integrating the Agricultural Science Curriculum With Academic Achievement Standards for Math

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Introduction

Measuring student progress through the use of standardized test in academic areas such as math, reading, and writing has become the norm in several states, including Texas. In Texas, schools are held accountable for students' performance on the Texas Assessment of Academic Skills (TAAS). Accreditation and funding rewards are heavily based on a school's performance on the TAAS. Therefore, school districts place a great amount of emphasis on preparing students for the TAAS. To ensure that students succeed, all teachers must accept responsibility for educating students in the academic areas of mathematics, reading, and writing.

Because the Agricultural Sciences and Technology Education curriculum provides a natural "fit" for combining agricultural science concepts and skills with the TAAS math objectives, this project was designed to assist agricultural science teachers in meeting their obligations to help students become more proficient in mathematics.

Purpose and Objectives

Agricultural Science 101- Introduction to World Agricultural Science and Technology (AGSC 101) is a comprehensive agricultural science course that is recommended for students in grades 9-12 and may also be offered at the 8th grade level. At the high school level, students are required to take the TAAS test during their sophomore (10th grade) year. For all practical purposes, AGSC 101 is the first agricultural science course taken by 8th or 9th grade students and is usually taken by most agricultural science students prior to their sophomore year, when they would be scheduled to take the TAAS test. Hence, that is the reasoning for the development of the integrated agricultural science and math materials for AGSC 101.

The purpose of this project was to provide agricultural science teachers with the much needed instructional materials that combine agricultural and academic educational objectives. More specifically, the project integrates the required concepts and skills, mandated by the Texas Essential Knowledge and Skills (TEKS) for AGSC 101 – Introduction to World Agricultural Science and Technology, with the mathematics objectives for the Texas Assessment of Academic Skills (TAAS).

The project is designed to provide math problems and solutions that cover one or more of the TAAS math objectives and are related to topics covered by the TEKS for AGSC 101; provide references for both Instructional Materials Services (IMS) materials for AGSC 101 and outside sources, such as web sites, related to the AGSC 101 topics; and,

provide a teacher version of materials, along with a corresponding student version of the materials, that is user-friendly.

Procedure

TAAS Math Problems Teacher's Guide: Introduction to World Agricultural Science and Technology is divided into two sections: *Section I – Teacher Resources* and *Section II – Student TAAS Problems*.

Section I – Teacher Resources is presented in a table format that includes the following informational columns:

Problem # - for identification with corresponding student materials,

IMS # - for referencing Instructional Materials Services materials with topic,

Ref. # - for identification/referencing outside sources that relate to the topic (References are included at the end of Section I),

TEKS # - for identification of mandated Texas Essential Knowledge and Skills that relate to the topic,

TAAS Obj. – for identification of Texas Assessment of Academic Skills math objectives that relate to the topic,

Problem – presents math problem related to a TEKS for AGSC 101 and a TAAS math objective,

Solution – provides correct answer and method of solution for corresponding problem.

At the end of Section I, a list of references is provided.

Section II – Student TAAS Problems is designed for student use in either handout or overhead form. It provides a number and problem, which can be cross-referenced with the teacher materials.

There are 90 problems included in the teacher and student materials, one for each class day in a traditional semester schedule.

Outcomes

This project has received very positive feedback from agricultural science teachers, math teachers, and other educational professionals. Six hundred copies of the materials have been printed for dissemination to agricultural science teachers and educational professionals. The materials will also be available on-line through the Instructional Materials Service's website (<http://www-ims.tamu.edu>).

As teachers, including agricultural science teachers, continue to be held accountable for the academic performance of students on standardized tests, there will be an increased demand for integrated curricular materials.

References

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