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Water Quality Curriculum Development for Middle Schools in Dinwiddie County, Virginia

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Abstract:

Water quality education in rural middle schools and high schools is not a primary emphasis in the curriculum. However, such education is critical in building awareness about water resource protection and management. There is a wide variety of educational materials and information on water resources and management currently available, including National Project WET, Healthy Water/Healthy People, Project Underground, Home Assist, and many others. To initiate the project, plans were set to develop educational curriculum that fulfills some of the Standard of Learning (SOL) requirements for science and social sciences. A draft copy of the curriculum was provided to the Principal of Dinwiddie Middle School in Dinwiddie County, Virginia. After approval, all science teachers were encouraged to participate in the water quality education. Educational models including Enviroscape and Groundwater Flow Model were used to provide visual demonstrations. Other water quality test kits were also used for hands-on demonstrations. The curriculum enhanced teacher and student knowledge and understanding about water resource management, with emphasis on water source protection and drinking well water treatment. Teachers gained valuable educational resources; knowledge and skills to better help students understand the importance of drinking water source protection and issues facing their water resources. A local 4-H Extension Agent facilitated the contact made to Dinwiddie County Middle School. The objectives of the project were: (i) to develop a water resources curriculum for middle schools and high schools that correlates to SOL requirements; (ii) to instill awareness and enhance students and teachers knowledge about water resources; and (iii) conduct hands-on training to middle school teachers and students on water quality parameters analysis and interpretation.

Impact Statement:

Pre/post tests were administered to teachers and students to measure changes in knowledge and awareness of water resource processes and issues. A follow-up survey was conducted with teachers and students to determine project effectiveness on Standards of Learning performance and water resource stewardship. Survey queries included: (i) Knowledge of local water resources, (ii) Changes in home water conservation practices, (iii) Actions to protect well heads, and (iv) Actions to protect septic system operation.

Category: Other Water Resource Topics
Type of Presentation: Poster Presentation