

Mathematics
Professional Development Offerings
2008-2009
Available On-site and By Request Only

Beginning TI-73 Graphing Calculator, Grades 6-8

This session is for beginners to the TI-73 graphing calculator. Graphing calculators are one type of graphing technology tool that can be used in the middle school classroom according to the TEKS. In fact, graphing calculators are a teaching and learning tool and not a way to bypass the mathematics. Come learn the basic keys and functions of the TI-73 graphing calculator.

Beginning TI-83/84 Graphing Calculator, Grades 6-12

This session is for beginners to the TI-83/84 graphing calculator. Graphing calculators are one type of graphing technology tool that can be used in the middle school classroom according to the TEKS. In fact, graphing calculators are a teaching and learning tool and not a way to bypass the mathematics. Come learn the basic keys and functions of the TI-83+/84 graphing calculator.

Intentional Use of Technology: Targeting TEKS with Graphing Calculators, CBR's, CBL's and TI-Nspire, Grades 9-12

The mathematics classroom is designed to teach mathematics TEKS, rather than technology. However, technology-based data offers an opportunity to engage students and to strengthen mathematical learning. Participants will rotate through stations to measure distance, light intensity, voltage, and temperature using CBR's and CBL's to gather data, and graphing calculators to analyze data. TI-Nspire will be used to gather data for Geometry.

Intermediate TI-83/84 Graphing Calculator, Grades 6-12

Mathematics instruction in grades 6 through 8 now includes use of graphing technology. Graphing calculators are also an integral part of Mathematics instruction in grades 9 through 12. This workshop is geared toward teachers who have some experience with graphing calculators. The workshop provides activities for the teacher to take back to the classroom.

Lesson Planning with New Textbooks, Grades K-5

This consultation service assists teachers with implementing lessons using their newly adopted textbooks. The consultation will focus on creating or choosing lessons that will appropriately address the TEKS, and will implement best practices in the classroom.

Let the Math Games Begin, Grades 6-8 or 9-12

Students are on task and learning while playing games. This after-school session will provide games that teach/review mathematic concepts while students are engaged in cooperative learning.

Manipulatives in the High School Classroom, Grades 9-12

Bridging from concrete to abstract is essential for students who struggle with Mathematics. Activities that utilize manipulative materials provide alternative methods for teaching concepts in High School Math classes, and provide the bridge to abstract concepts.

More Mathematical Fluency, Grades K-5

An automatic recall of facts allows students to focus on higher order thinking skills. Drill and practice have been proven to be an unsuccessful strategy for student success. Participants will learn ways to teach the basic facts using brain-based strategies. This workshop can focus on addition and subtraction, multiplication and division, or all four operations.

New Approaches to Traditional Computations, Grades K-5

According to John A. Van de Walle and others, teaching with the traditional computational methods consistently fails a large number of students. Evidence from students' work exhibits existing approaches to enhance a student's natural ability to solve problems and develop a deeper understanding of mathematics. Participants will learn new ways to teach the traditional computations such as "carrying" and "borrowing". Addition, subtraction, multiplication, and division through problem solving will be emphasized.

Percents, Proportions, and Problem Solving, Grades 6-9

Proportional Reasoning is a basic thought process in solving problems across the mathematical strands, and vertically throughout the grade levels. Many real-life situations also require proportional reasoning to solve a problem or arrive at a solution. Be prepared to enjoy problem solving with activities that include proportional reasoning and percents.

Small Group Instruction: Not Just for Reading!, Grades K-5

To meet the ever present demands of the diverse learners in the elementary classroom, guided reading – the practice of focused literacy instruction in a small group setting – has been a standard practice. As we strive to reach the demand of higher standards in mathematics, an approach similar to guided reading can be beneficial in creating successful math students. In this session, participants will learn strategies and activities that are effective for implementing mathematics instruction that is tailored for small groups.

Structuring a Successful Mathematics Classroom

Student success is tied directly to what goes on between the teacher and the students in the classroom. Participants will examine effective classroom structure and practices which are vital for students to understand and retain learned mathematical concepts. Templates will be provided to create tools that allow implementation of those strategies, which are based on research by Marzano.

TAKS Data Analysis as a Basis for Curriculum Planning

Participants will use a Data Analysis Tool, a released test (when available), an answer key, and their mathematical TAKS data to determine the basis of errors which occurred: content (Did I teach it?), context (Did I teach it the right way?), complexity (Was it taught at the correct level in Bloom's Taxonomy?), or crossover (Is it a reading issue or a processing issue?). Participants will begin to develop an instructional intervention plan.

TAKS Success with Graphing Calculators, Grades 11-12

Students are allowed two tools to complete the TAKS test: a Mathematics Chart and a Graphing Calculator. This workshop prepares teachers to help students succeed on the TAKS Mathematics Retest or Test using the graphing calculator as a tool. The content addresses problem solving using multiple representation, which leads to a deeper and more complex understanding of concepts tested on the Mathematics TAKS

Teaching for Success with Manipulatives, Grades 6-8

Manipulatives provide concrete ways to tackle mathematical challenges bringing meaning to abstract ideas. In fact, they are the building blocks to develop conceptual understanding. Manipulatives also provide a means for struggling learners to become successful by building the foundational learning of any given concept. Observing students working with various manipulatives can provide the teacher with a sense of how students approach a mathematical problem. Examples of how to bridge student understanding from the concrete to the abstract level will be explored.

Teaching Mathematical Concepts and Problem Solving for Educators of Special Education Students

This staff development session provides rigorous training to those educators of all grade levels who work directly with students in the special education classroom or inclusion students in the regular classroom. Emphasis is on using manipulatives to reinforce basic mathematical concepts and problem solving. A brief introduction to the graphing calculator provides training for those educators who work in the secondary setting.

Understanding Algebra through Patterns, Grades K-5

Understanding Algebra begins in kindergarten, and is built upon throughout the grades. Algebra is an essential component to any mathematics curriculum, but is often misrepresented as an abstract and difficult concept for young students to master. Research from the National Council for Teachers of Mathematics suggests that an understanding of patterns helps build algebraic reasoning skills. The session is designed to provide teachers with a deeper understanding of algebraic reasoning. Student ready activities will be provided as a resource to strengthen understanding of patterns and algebraic reasoning in the elementary classroom.

Using the 5-E Model to Engage Students in Mathematics

The 5-E model was developed for instruction in the Science classroom, but is also an effective instructional model for Mathematics. The Engage Phase creates interest and curiosity through questioning, hands-on activities, videos, audios, guest speakers, etc. Learning continues with Exploration, Explanation, Elaboration, and Evaluation which lead to a depth in understanding of mathematical concepts.

Using the TI-73 to Enhance Instruction, Grades 6-8

The mathematics classroom is designed to teach mathematics TEKS, rather than technology. However, technology-based data offers an opportunity to engage students and to strengthen mathematical learning. By combining mathematics with technology students gain knowledge and confidence to ask good "what if" questions, comprehend cause and effect, and make generalizations. Teachers who have a working knowledge of the graphing calculator, may come and experience a variety of activities using the TI-73 graphing calculator that are designed to enhance students' mathematical understanding.

Using the TI-83/84 to Enhance Instruction, Grades 6-8

The mathematics classroom is designed to teach mathematics TEKS, rather than technology. However, technology-based data offers an opportunity to engage students and to strengthen mathematical learning. By combining mathematics with technology students gain knowledge and confidence to ask good "what if" questions, comprehend cause and effect, and make generalizations. Teachers who have a working knowledge of the graphing calculator may come and experience a variety of activities using the TI-83+/84 graphing calculator that are designed to enhance students' mathematical understanding.