PROGRAM OVERVIEW

Introduction to the Program

Introduction

The *North Carolina Math 1 Teacher Resource* is a complete set of materials developed around the North Carolina Standard Course of Study (NCSCOS) for Mathematics. Topics are built around accessible core curricula, ensuring that the *North Carolina Math 1 Teacher Resource* is useful for striving students and diverse classrooms.

This program realizes the benefits of exploratory and investigative learning and employs a variety of instructional models to meet the learning needs of students with a range of abilities.

The *North Carolina Math 1 Teacher Resource* includes components that support problem-based learning, instruct and coach as needed, provide practice, and assess students' skills. Instructional tools and strategies are embedded throughout.

The program includes:

- More than 150 hours of lessons
- Essential Questions for each instructional topic
- Vocabulary
- Instruction and Guided Practice
- Problem-based Tasks and Coaching questions
- Step-by-step graphing calculator instructions for the TI-Nspire and the TI-83/84
- Station activities to promote collaborative learning and problem-solving skills

Purpose of Materials

The *North Carolina Math 1 Teacher Resource* has been organized to coordinate with the North Carolina Math 1 content map and specifications from the NCSCOS. Each lesson includes activities that offer opportunities for exploration and investigation. These activities incorporate concept and skill development and guided practice, then move on to the application of new skills and concepts in problem-solving situations. Throughout the lessons and activities, problems are contextualized to enhance rigor and relevance.

This program includes all the topics addressed in the North Carolina Math 1 content map. These include:

- Introduction to Functions and Equations
- Linear Functions
- Modeling with Linear Functions
- Connecting Algebra and Geometry on the Coordinate Plane
- Systems of Equations and Inequalities
- Exponential Functions
- Polynomial Operations and Quadratic Functions
- Statistics

The eight Standards for Mathematical Practice are infused throughout:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Structure of the Teacher Resource

The *North Carolina Math 1 Teacher Resource* materials are completely reproducible. The Program Overview is the first section. This section helps you to navigate the materials, offers a collection of research-based Instructional Strategies along with their literacy connections and implementation suggestions, and shows the correlation between the NCSCOS for Mathematics and the district-specfic content map and course requirements.

The remaining materials focus on content, knowledge, and application of the eight units in the North Carolina Math 1 custom program: Introduction to Functions and Equations, Linear Functions,

Modeling with Linear Functions, Connecting Algebra and Geometry on the Coordinate Plane, Systems of Equations and Inequalities, Exponential Functions, Polynomial Operations and Quadratic Functions, and Statistics. The units in this program are designed to be flexible so that you can mix and match activities as the needs of your students and your instructional style dictate.

The Station Activities correspond to the content in the units and provide students with the opportunity to apply concepts and skills, while you have a chance to circulate, observe, speak to individuals and small groups, and informally assess and plan.

Each unit includes a mid-unit assessment and an end-of-unit assessment. These enable you to gauge how well students have understood the material as you move from lesson to lesson and to differentiate as appropriate.