

STAFF DEVELOPMENT COMPONENT INFORMATION

COMPONENT TITLE: Math Maneuvers II

IDENTIFIER NUMBER: 1009012

MAXIMUM POINTS: 60

GENERAL OBJECTIVE

Professional development in mathematics is designed to provide participants with content knowledge and instructional strategies in order to increase student achievement in all strands of mathematics.

SPECIFIC OBJECTIVE

Within the duration of this component, participants will:

1. demonstrate an understanding of number concepts and representation of numbers.
2. demonstrate knowledge of number systems and number theory.
3. demonstrate an understanding of various algorithms, properties and calculation strategies.
4. demonstrate an understanding of and use relationships between operations to solve problems.
5. analyze instructional strategies for effectively teaching number concepts.
6. demonstrate an understanding of patterns, relations and functions.
7. analyze mathematical situations using algebraic symbols.
8. demonstrate an understanding of best practices for the delivery of algebraic thinking.
9. demonstrate an understanding of geometry and spatial sense concepts.
10. apply basic principles in geometry to solve problems.
11. demonstrate knowledge of attributes and select appropriate unit for measuring each attribute.
12. specify best practices for converting from one unit to another.
13. demonstrate the ability to estimate measures and use appropriate tools to calculate exact measures.
14. analyze instructional strategies for effectively teaching measurement skills.
15. compare categorical and numerical data.
16. demonstrate an understanding of how to formulate questions that can be derived from data that is collected, organized and displayed.
17. analyze measures of central tendency.
18. demonstrate an understanding of basic probability concepts.
19. ensure instructional strategies for effectively teaching data analysis and probability concepts.
20. synthesize a variety of instructional strategies to solve problems.

PROCEDURES

Participants will:

1. Actively participate in professional development opportunities.
2. Read research-based best practices from a variety of current academic journals and texts.
3. Simulate modeled lessons.
4. Observe specified content via video/technology.
5. Engage in small-group directed activities.
6. Record reflections.

FOLLOW-UP ACTIVITIES

Participants will apply their learning by:

1. providing written reflections.
2. gathering student work samples.
3. developing a portfolio.
4. publishing an article, newsletter, or best practice stating impact to student achievement as a result of implementation.
5. collecting and sharing of data that demonstrates analysis of student learning.
6. providing notes of modeled lessons, mentoring, coaching, and/or collegial conversations.
7. providing evidence of an effective learning center created for the classroom.
8. creating an effective demonstration of best practices using technology.

EVALUATION OF PARTICIPANTS

Participants must demonstrate a mastery of the component's specific objectives as measured by assessments, or other valid measures.

The participants will demonstrate mastery of specific objectives as indicated by valid measures of performance as required in Florida Statute 231.508 (1) .

COMPONENT EVALUATION

Participants and instructors will assess the degree to which the activities addressed the specific objectives and will make recommendations for revisions through a component evaluation.