Orbis
Exemplary learning

Mathematics 3-5

Program outline

Government of South Australia
Department for Education

Welcome to the Mathematics 3-5 program

The Mathematics 3-5 program, co-designed by department experts Maureen Hegarty and Dr. Pauline Carter, aims to enhance your pedagogical content knowledge, empowering you to design engaging learning that develops learner confidence and ability in mathematics. It also offers insights for developing numeracy skills across the curriculum, aligning with our commitment to equity and excellence in education.

The program consists of 5 face-to-face program days over 2 terms and covers the below key learning goals.

Understanding the SA Curriculum: Mathematics

- Integrating the content, dispositions and capabilities.
- Developing critical and creative thinking across the strands.
- Using the department's suite of resources for mathematics.

Developing pedagogical content knowledge and teacher expertise

- Understanding the big ideas in number framework and the importance of sequentially developing a strong number sense.
- Understanding the role of multiple representations and intentional sequencing in developing conceptual understanding.
- Designing engaging and challenging tasks in mathematics that cater for and grow all student's knowledge and skills.
- Understanding and addressing key misconceptions in mathematics.
- Developing and maintaining professional learning communities to support the teaching and learning of mathematics in schools.

The learning

Day 1: Key number concepts

- Understanding how attitudes and beliefs influence how we teach and how students learn mathematics.
- Unpacking the SA Curriculum: Mathematics, including the interaction between the content and proficiency strands.
- Understanding the big ideas in number and the importance of sequentially developing strong number sense.
- Understanding the importance of designing learning which develops mastery.

Day 2: Number concepts and operations

- Developing fluency and understanding of number concepts and operations.
- Using a range of strategies for addition, subtraction, multiplication and division.

- Understanding the problem-solving process and strategies, such as Polya's 4 steps and the Singapore bar model.

Day 3: Statistics and probability

- Developing statistical understanding and reasoning.
- Examining how different learning tasks elicit different types and levels of thinking.

Day 4: Measurement and geometric reasoning

- Recognising and developing geometric reasoning.
- Using reasoning for measurement tasks.

Day 5: Bringing it all together

- Developing understanding of place value and multiplicative thinking.
- Transforming tasks to increase student engagement, challenge and support in mathematics.

Applied learning activities

Applied learning is key to improving your professional practice. Across each day of the program you'll consider how to apply the learning to your context and your students by making your own commitments to action. Then, you'll plan and trial tasks for your class and share your findings with other participants.

The applied learning task is outlined in detail during the program and support provided to you by the facilitators.

Program requirements

To achieve satisfactory completion, you need to:

- actively participate in all program days and activities
- complete the applied learning task.

When you have met the above requirements, you'll receive a certificate of completion from Orbis. This can be used as evidence for your required professional learning hours for registration renewal. If you're unable to meet these requirements, please contact Orbis to discuss.

"The presenters were engaging, knowledgeable and most of all inclusive of everyone's maths knowledge and experience. After each session we felt inspired to try the ideas back at school and our confidence and understanding of maths as a discipline improved a lot."

Margy Holland, Paringa Park Primary School

Engaging.
Empowering.
Purposeful.
Collaborative.
Exemplary.

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