

# Spensley Street Primary School

## MATHEMATICS EDUCATION POLICY

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### RATIONALE

Mathematics through the ages has developed into a sophisticated and complex body of knowledge with significant applications in all aspects of society. Mathematical understandings are essential in order to solve problems in such diverse areas as science and engineering, business and finance, technology, arts and crafts and many everyday activities, including further schooling. Competence in mathematics enhances both our understanding of the world and the quality of our participation in society.

### DEFINITION

While it deals with concepts such as number, space, and chance and data, mathematical knowledge is fundamentally concerned with patterns arising from the real world. Because mathematics is about relationships between things, and between ideas, it is inherently an abstract discipline.

Mathematics education includes skill development, understanding of concepts, ability to solve problems, application to real life situations, development of a positive attitude towards mathematics, and learning to construct one's own knowledge.

### PRINCIPLES

*For general principles about teaching and learning, refer to the Teaching and Learning Policy.*

- Mathematics should be taught from a base of concrete experience. Manipulation of concrete materials is vital to help children construct their mathematical ideas. As children grow, their knowledge, experience and ability to conceptualise develops.
- Mathematics education should be developmentally appropriate. New ideas and skills are built on students' previous knowledge.
- Children need opportunities to talk about their experiences, in order to enhance their understandings.
- Children are encouraged to develop and share their own strategies for learning and solving problems.
- Individuals have different learning rates and styles (which leads them through similar broad stages – concrete, symbolic and abstract).
- Children should be provided with tasks which challenge them and allow them to experience success.
- Children need opportunities to apply their understandings and skills to real life contexts. A developmentally appropriate curriculum encourages children to explore a wide range of mathematical ideas, enhances their enjoyment of and curiosity about maths, and allows them to apply their understandings in meaningful ways.

## **GOALS**

Mathematics education aims to develop in all students an interest in, and a positive attitude towards, mathematics. Students should develop the ability to;

- apply their knowledge and skills to real life situations
- develop and use personal strategies to solve problems
- verbalise and explain their mathematical understandings
- use a variety of resources and materials to solve problems
- work both independently and cooperatively to solve problems

## **STRATEGIES**

Mathematical skills and understandings are best developed through;

- provision of a developmentally appropriate curriculum
- providing students with adequate time and breadth of experience
- providing opportunities for cooperative problem solving
- providing mathematics tasks which attempt to engage 'the whole child' (the cognitive, language, physical, social and emotional domains)
- integrating mathematics with other areas of the curriculum.
- informing parents and carers about the maths program through the bulletin and parent information sessions

Teachers should be knowledgeable about current initiatives in mathematics education, and should participate in regular, relevant, professional development.

## **REFERENCES**

*The S.S.P.S. Teaching and Learning Policy and Program*  
*The Mathematics Curriculum and Standards Framework*  
*The Mathematics Course Advice*

Date: August 2002  
Review: 2007