Mathematics Policy

RATIONALE

At St. Joseph’s Collingwood we believe mathematics influences all aspects of our lives. It applies to all human activities and crosses all cultural and linguistic boundaries to provide a universal way of problem solving. Inherent to mathematics is logical and analytical thinking that connects concepts to real life situations. Mathematical competence enhances student understanding of the world and increases a student’s ability to participate effectively in society.

BELIEF STATEMENTS

We believe that children learn to use mathematics best when:

- The study of mathematics is relevant to their experiences, interests and capabilities.
- They are encouraged to see the connections between mathematical concepts and their applications relating to the world in which they live.
- Mathematical activities build upon what they already know as a springboard to further learning.
- They are immersed in mathematical language and experiences, supported by demonstrations, modelling, and the use of a variety of approaches and concrete materials.
- They are given the opportunity to work both independently and in co-operative group situations that encourages problem solving, the practice of skills and the sharing of knowledge.
- They are in a supportive environment that encourages children to take risks, ask questions and solve problems to extend their knowledge.
- Open-ended learning experiences are frequently provided.
- They are encouraged to be autonomous learners and use estimation and be risk-takers.
- They view mathematics as dynamic, practical and creative.
- They receive constructive, non-threatening and meaningful feedback from teachers and significant others.
- They are given sufficient time to develop the concepts which are introduced – time for thinking, reflecting, reacting and sharing.
- Families are interested and involved in their children’s mathematics learning.

AIMS

As a result of learning mathematics at St Joseph’s School all children will be encouraged and assisted to:

- Develop an appreciation and enjoyment of mathematics.
- Realise that mathematics is relevant to them personally and to their community.
- Acquire the mathematical knowledge, ways of thinking and confidence to apply mathematics in real and abstract situations.
- Develop speed and accuracy in computational skills consistent with their age and stages of development.
- Develop in the use and understanding of mathematical language.
- Develop a range of strategies to become mathematical problem solvers.
- Be risk-takers.
- Develop knowledge and skills to develop mathematical understanding.
- Appreciate that mathematics can be used creatively in many different forms.
- Develop curiosity about the relationships of number, space, chance and quantity.
- Develop skills in presenting and interpreting mathematical data.
- Appreciate that mathematics is a dynamic field with origins from many cultures.
- Understand the relationship of mathematics to social, scientific and technological change.
- Communicate mathematically using a variety of tools and strategies to different audiences.
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STRATEGIES

To encourage mathematical learning and understanding, the following inform the mathematics Program at St. Joseph’s

- The implementation of the Success In Numeracy Education (SINE) program P-6 (refer Appendix 1)
- Victorian Essential learning Standards
- Nelson Mathematics Program – VELS Version
- The integration of Curriculum

OUTCOMES

Teachers plan according to the data collected from assessment, ongoing monitoring, growth points and the outcome statements from the Curriculum and Standards Framework.

ASSESSMENT

Teachers use a range of assessment tasks to gather information about a child’s mathematical knowledge, skills and attitudes. These include:

- Teacher observation and questioning.
- One to one interviews with students.
- Conferencing.
- Paper and pencil tests (eg. Sine screening, aim)
- Oral tests.
- Practical skills tests.
- Work or project-based assessment
- Collected work samples
- Independent homework assignment
- Group reports
- Anecdotal records
- Student self-assessment
- Peer assessment
- Sharing time / reporting back

Recommendation for Discussion

Assessment and relevant information needs to be ongoing and needs to be accessible to the next teacher

PROFESSIONAL DEVELOPMENT

Professional Development

- Ongoing PD for 2 SINE Focus Teachers
- SINE PD for class teachers
- Professional Learning Teams

For the effective implementation of the SINE program, ongoing and relevant professional development needs to be offered in the following areas;

- Administering a Clinical Interview
- Scoring and reading the interview
- Planning and implementing a three year Numeracy Plan
- Understanding the use of Growth Points
- Identifying students’ stages of development
- Implementing Growth Point activities with students of various abilities
- Constructing a teaching plan to meet the needs of all students in the classroom
EVALUATION

The evaluation of our mathematics program and policy will consist of the following components:

• The ongoing review and monitoring of the mathematics policy as outlined in the School Development Plan
• A critical examination of the current policy, its relationship to other policies and in the light of information gained from the components in the evaluation process.

PROGRAM RECORDING

• A Term Overview planning sheet is prepared at the beginning of each term. This gives an indication of which units are to be covered throughout each term.
• Daily sessions are recorded in Teachers’ Work Programs
• A variety of planning samples are included.

RESOURCES

• SINE resource folders
• SINE Assessment Tools
• Early Numeracy Resource Kit.
• VELS
• Nelson Maths used as a resource, not a student textbook.

ATTACHMENTS

• Scope and Sequence
• SINE Brochure
• Term Planner
• Weekly Planner
• Sample Unit of Work
• Powerpoint Notes – The Numeracy Session