St John’s Mathematics Curriculum Statement

Mathematics Curriculum

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1. COMMUNITY PROFILE

The purpose of this document is to inform curriculum planning and implementation at St. John’s by providing a framework for teachers to achieve a consistent approach to Mathematics curriculum delivery, assessment and reporting. This meets the requirements of Catholic Education in the Cairns Diocese.

Professional development in Mathematics has been undertaken during 2010 by St. John’s staff at staff meetings and during professional development opportunities provided by the Cairns Curriculum Team to all teachers in the Southern Cluster and to the Curriculum Support Teacher at cluster meetings.

St. John’s Mathematics Curriculum Statement was finalised in 2010 and will be reviewed in 2011 after the introduction of the National Curriculum in Mathematics.

Our small rural school of St. John’s at Silkwood prides itself on being both Christ and child-centred, providing excellent teaching delivery to the students it serves. The school is located in the heart of the Southern Deanery in the Johnstone Shire. Geographically placed in between the larger towns of Tully and Innisfail, the school draws many of its students not only from Silkwood but also the surrounding communities of Kurrimeine Beach, Mission Beach and El Arish.

St. John’s School comprises of children from the Silkwood area who are mainly of Italian descent and whose parents work in the sugar cane, banana and fishery industries. Our dedicated staff continues the proud tradition of quality Catholic Education to many of the children and grandchildren of the first students of St. John’s.

St. John’s is blessed to have the Three Saints Organisation actively involved with the school. The feast of the Three Saints is held annually on the first weekend of May in the school grounds. The current St. John’s community is respectful of the past and excited about the future, as it plays its part in inspiring St. John’s students to live the school motto of "Always Reaching For New Heights." In compiling this Mathematics Curriculum Framework all members of the St. John’s community have been consulted.
2. LEARNING AREA RATIONALE

Learning mathematics creates opportunities for and enriches the lives of all Australians. The Australian Curriculum: Mathematics provides students with essential mathematical skills and knowledge in NUMBER AND ALGEBRA, MEASUREMENT AND GEOMETRY, and STATISTICS AND PROBABILITY. It develops the numeracy capabilities that all students need in their personal, work and civic life, and provides the fundamentals on which mathematical specialties and professional applications of mathematics are built.

Mathematics has its own value and beauty and the Australian Curriculum: Mathematics aims to instill in students an appreciation of the elegance and power of mathematical reasoning. Mathematical ideas have evolved across all cultures over thousands of years, and are constantly developing. Digital technologies are facilitating this expansion of ideas and providing access to new tools for continuing mathematical exploration and invention. The curriculum focuses on developing increasingly sophisticated and refined mathematical understanding, fluency, logical reasoning, analytical thought and problem-solving skills. These capabilities enable students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.

The Australian Curriculum: Mathematics ensures that the links between the various components of mathematics, as well as the relationship between mathematics and other disciplines, are made clear. Mathematics is composed of multiple but interrelated and interdependent concepts and systems which students apply beyond the mathematics classroom. In science, for example, understanding sources of error and their impact on the confidence of conclusions is vital, as is the use of mathematical models in other disciplines. In geography, interpretation of data underpins the study of human populations and their physical environments; in history, students need to be able to imagine timelines and time frames to reconcile related events; and in English, deriving quantitative and spatial information is an important aspect of making meaning of texts.

The curriculum anticipates that schools will ensure all students benefit from access to the power of mathematical reasoning and learn to apply their mathematical understanding creatively and efficiently. The mathematics curriculum provides students with carefully paced, in-depth study of critical skills and concepts. It encourages teachers to help students become self-motivated, confident learners through inquiry and active participation in challenging and engaging experiences.

The Diocesan Learning framework is reflected in how we teach mathematics in the following ways;

- At St John’s we aim to provide a high quality mathematics program, which employs strategies that motivate and challenge learners and encourages teachers to strive for
excellence. Mathematics at St John’s supports the principles outlined in the Diocesan Learning framework and also contributes to the Catholic ethos of the school.

- The Catholic ethos of St John’s influences the way mathematics is taught. Teachers and staff value each child as unique and take into consideration their individual differences when planning mathematics. We also teach that by understanding mathematics we can add to our understanding of the world and the wonder and mystery of life.

- Mathematics empowers individuals to become Community Contributors and effective members of society. As an essential part of the curriculum mathematics contributes to an education, which equips all students with the knowledge, skills and understanding, values and attitudes essential for them to succeed in and beyond their schooling. At St. John’s mathematics lessons are authentic and link to real life situations thus enabling students to develop an understanding of the value of mathematics in their own lives. Mathematics at St John’s is planned with the expectation that all students will benefit from access to the power of mathematical reasoning and be able to apply their mathematical understanding. Through this the students can become more Creative and Reflective thinkers.

- Mathematics is a complex system of algebra, number, geometry, measurement, probability and statistics represented by a system of symbols unique to the discipline and universally understood. The learning of knowledge encompassed by this system requires sharing, challenging, thinking, reasoning, and the modifying and testing of ideas and procedures. By sharing their thinking process with others students have the opportunity to develop as Effective Communicators.

- Mathematics provides a framework for the analysis of problems and the development of appropriate solutions from the most basic to those that are much more complex. Students are thus taught to be Active Investigators through Mathematics. During investigations students work cooperatively as members of a team as well as individually and therefore also learn to be Leaders and Collaborators.

Ref: Diocese of Cairns Learning Framework (2007)
3. BROAD SUBJECT AIMS:

The Australian Curriculum: Mathematics aims to ensure that students:

- are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in Number and Algebra, Measurement and Geometry, and Statistics and Probability
- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.

YEARS K - 2 (TYPICALLY FROM 5 TO 8 YEARS OF AGE)

The early years (5–8 years of age) lay the foundation for learning mathematics. Children at this level can access powerful mathematical ideas that are relevant to their current lives, and that it is the relevance to them of this learning that prepares them for the following years. Learning the language of mathematics is vital in these early years.

Children in the early years have the opportunity to access mathematical ideas by developing, for example: a sense of number, order, sequence and pattern; understandings of quantities and their representations, and attributes of objects and collections, and position, movement and direction; and an awareness of the collection, presentation and variation of data and a capacity to make predictions about chance events.

Developing these understandings and the experiences in the early years provides a foundation for algebraic, statistical and multiplicative thinking that will develop in later years. These aspects of early mathematics build the foundations with which children can pose basic mathematical questions about their world, identify simple strategies to investigate solutions, and strengthen their reasoning to solve personally meaningful problems.

YEARS 3 - 6 (TYPICALLY FROM 8 TO 12 YEARS OF AGE)

The AAMT (2005) vision for quality mathematics in these years notes the importance of students studying coherent, meaningful and purposeful mathematics that is relevant to their lives. Students still require active experiences that allow them to construct key mathematical ideas, but there is a trend to move to using models, pictures and symbols to represent these ideas.

The curriculum will develop key understandings by, for example: extending the number, measurement, geometric and statistical learning from the early years; building foundations for future studies by emphasising patterns that lead to generalisations and describing relationships from data collected and represented, to make predictions; and introducing topics that represent a key challenge in these years such as fractions and decimals.
Particularly in these years of schooling, it is important for students to develop deep understanding of whole numbers to build reasoning in fractions and decimals and develop their conceptual understanding of place value. With these understandings, students are able to develop proportional reasoning and flexibility with number through mental computation skills. These understandings extend students’ number sense and statistical fluency.

YEARS 7 – 10 (TYPICALLY FROM 12 TO 15 YEARS OF AGE)

Traditionally, during these years of schooling (12–15 years of age), the nature of the mathematics needs to include a greater focus on the development of more abstract ideas through, for example, explorations that enable students to recognise patterns and why these patterns apply in these situations. From such activities abstract thoughts can develop, and the types of thinking associated with developing such abstract ideas can be highlighted.

The foundations that have been built in the years prior, provide a solid basis for preparing for this change. The mathematical ideas built previously can be drawn upon in unfamiliar sequences and combinations to solve non-routine problems and develop more complex mathematical ideas. However, to motivate them during these years, students need an understanding of the connections between the mathematics concepts and their application in their world in contexts that are directly related to topics of relevance and interest to them.

During these years students need to be able to, for example: represent numbers in a variety of ways; develop an understanding of the benefits of algebra, through building algebraic models and applications, and the various applications of geometry; estimate and select appropriate units of measure; explore ways of working with data to allow a variety of representations; and make predictions about events based on their observations.

The intention is that the curriculum will list fewer detailed topics and encourage the development of important ideas in more depth, and the interconnectedness of the mathematical concepts. An obvious concern is the preparation of students who are intending to continue studying mathematics in the senior secondary years. It is argued that it is possible to extend the more mathematically able students appropriately using challenges and extensions within available topics and the expectations for proficiency can reflect this. This can lead to deeper understandings of the mathematics in the curriculum and hence a greater potential to use this mathematics to solve non-routine problems they encounter at this level and at later stages in their mathematics education.

The national mathematics curriculum will be compulsory to the end of Year 10 for all students. It is important to acknowledge that from Year 10 the curriculum should enable pathway options that will need to be created and available for all students. This will enable all students to access one or more of the senior years’ mathematics courses.
4. CROSS CURRICULUM PRIORITIES

Cross Curriculum Priorities equip young Australians with the skills, knowledge and understanding that will enable them to engage effectively with and prosper in a globalised world. Students will gain personal and social benefits, be better equipped to make sense of the world in which they live and make an important contribution to building the social, intellectual and creative capital of our nation.

Mathematics provides considerable opportunity for students to explore, understand and appreciate the wider world through the integration of across curriculum perspectives. The following statements about cross curriculum content indicate ways in which the following areas are embedded whilst ensuring that subject integrity is maintained.

**CATHOLIC ETHOS**

The overarching purpose of Catholic schools of the past, as well as the future, is to bring the Good News of Jesus to all who hear it. In the midst of a world of educational, social and economic change the focus on the holistic growth of the individual remains the surest way catholic school can prepare students for the uncertainties of the future.

*Defining Features, Diocese of Cairns*

The curriculum provides opportunities for young people to connect their curriculum experiences to a living Christian faith.

St. John’s is a Christian and specifically Catholic school. We value authentic evangelisation in our formal mathematics curriculum. Through our mathematics program we plant the seeds of religious values and understandings in our student’s lives as individuals and as members of society. Through these values and understandings the student’s growth is nurtured to foster knowledge, skills, and attitudes that enable them to become a positive influence in the community.

Staff, students and members of the community celebrate student achievement so that the students may achieve their personal best in a united, challenging, Christ-centred environment, promoting justice for all.

We actively nurture the belief that decisions which individuals make are founded not just on the knowledge they have gained, but also on the values they hold to be important thus developing holistic growth of the individual. At St. John’s, values that are commonly held by the Christian Catholic faith community in Australia are promoted.
The St. John’s vision statement influences all teaching and learning:

**Plant the Seed**

**Nurture the Growth**

**Celebrate the Harvest**

Through this focus students are helped to develop a comprehensive understanding of the relationship between God, their Catholic faith and their personal development and wellbeing as well as fostering their role as stewards over the world, which God’s love continues to entrust us. Social justice issues are presented to the students in a way so as to promote the fundamental Christian Catholic gospel value that ‘all humankind are made in the image and likeness of God’ and as such deserve to be treated fairly and justly. The St. John’s community, through genuine positive relationships, shared beliefs, Gospel values and common goals, participates in the evangelical mission of the church.
**ABORIGINAL AND TORRES STRAIT ISLANDER HISTORIES AND CULTURES**

Active engagement of inclusive curriculum practices which reflect Aboriginal and Torres Strait Islander perspectives, knowledge, histories, cultures and spirituality. A genuine commitment to Reconciliation, guided by principles of personal dignity, social justice and equity, reflects the Gospel message and the mission of the Church.

The curriculum provides opportunities to value and respect:

1. traditional knowledge and practices
2. culture and natural heritage
3. spirituality

and to critically examine and/or challenge:

1. social constructs
2. prejudice and racism

Through the teaching of mathematics students will experience opportunities to explore connections between representations of number and pattern and how they relate to aspects of Aboriginal and Torres Strait Islander cultures. They will investigate time, place, relationships and measurement concepts in Aboriginal and Torres Strait Islander contexts. Students will deepen their understanding of the lives of Aboriginal and Torres Strait Islander Peoples through the application and evaluation of statistical data.

**ASIA AND AUSTRALIA’S ENGAGEMENT WITH ASIA**

This perspective requires students to develop skills, knowledge and understandings related to Asia and Australia’s engagement with Asia.

The curriculum provides opportunities to know, understand and be able to:

1. Understand ‘Asia’
2. Develop informed attitudes and values
3. Know about contemporary and traditional Asia
4. Connect Australia and Asia
5. Communicate effectively with people of the Asian region both within and outside Australia confidently

Through the teaching of mathematics students will experience opportunities to investigate the concept of chance using Asian games. They explore the way Asian societies apply other mathematical concepts such as patterns and symmetry in art and architecture. Investigations involving data collection and representation can be used to examine issues pertinent to the Asia region.
SUSTAINABILITY

Education for sustainability develops the knowledge, skills and values necessary for people to act in ways that contribute to more sustainable patterns of living. It is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through action that recognises the relevance and interdependence of environmental, social, cultural and economic considerations. The curriculum provides opportunities to reflect upon:

1. the gift of creation
2. an attitude of responsible stewardship

and to critically examine and/or challenge:

1. the impact of human interaction with the natural, built and social environment
2. current environmental issues

Through the teaching of mathematics students will experience opportunities become equipped with the skills of measurement, mathematical modelling, and data collection, representation and analysis. These skills are needed to investigate data, evaluate and communicate findings and to make predictions based on those findings.

Mathematical understandings and skills are necessary to monitor and quantify both the impact of human activity on ecosystems and changes to conditions in the biosphere. Actions to improve sustainability involve students in processes such as auditing, reading measures and gauges, and interpreting data on invoices and accounts. Mathematical and statistical analysis enables informed decision making about present and future action.

SOCIAL EMOTIONAL LEARNING

Social and emotional competencies are integral to academic and work success and are the basis of resilience, relational quality and social capital.

The curriculum provides opportunities to develop:

1. Self Awareness
2. Social Awareness
3. Responsible Decision Making
4. Self-Management
5. Relationship Management

At St. John’s social emotional learning is an integral component of the mathematics curriculum. Social and emotional learning is the process of acquiring the skills to:

- Recognise and manage emotions
- Develop caring and concern for others
• Make responsible decisions
• Establish positive relationships, and handle challenging situations effectively

SEL is fundamental to children’s social and emotional development, their health, ethical development, citizenship, academic learning, and motivation to achieve success in sustainable mathematics.

Teachers incorporate the social, emotional and personal learning values, goals and standards in the planning phase of mathematics units. The five keys to help students develop social emotional skills in mathematics are
1. Emotional Resilience
2. Getting Along
3. Organisation
4. Persistence
5. Confidence

**INCLUSIVE EDUCATION**

It is by the quality of interactions and relationships that all students learn to understand and appreciate difference, to value diversity and learn to respond with dignity and respect to all through mutually enriching interactions.

The curriculum provides equitable access for and/or positive interactions with students from different backgrounds and with diverse needs and abilities.

At St John’s students will experience equal opportunities to engage learning in the key learning area of mathematics. This includes students with physical or intellectual disabilities; those with learning difficulties; students who experience poverty, abuse, neglect or isolation; those who have emotional or behavioural difficulties as well as students with particular gifts and talents.

Teachers are required to make modifications to lessons to support these particular students and enable them to reach their full potential in mathematics education. Teachers will ensure that all students are provided with the mathematical opportunities required to achieve their potential through differentiated activities and flexible learning situations. Teachers collaborate to ensure that colleagues are made aware of the special needs of individual students in their class. Professional and systemic support is accessed in order to provide those students with special needs with programs and resources as necessary.
5. GENERAL CAPABILITIES

General capabilities encompass skills, behaviours and dispositions that students develop and apply to content knowledge and that support them in becoming successful learners, confident and creative individuals and active and informed citizens.

Throughout their schooling students develop and use these capabilities in their learning across the curriculum, in co-curricular programs and in their lives outside school.

**LITERACY**

Students become literate as they develop the skills to learn and communicate confidently at school and to become effective individuals, community members, workers and citizens. These skills include listening, reading, viewing, writing, speaking and creating print, visual and digital materials accurately and purposefully within and across all learning areas.

Literacy involves students engaging with the language and literacy demands of each learning area.

As they become literate students learn to:

- interpret, analyse, evaluate, respond to and construct increasingly complex texts (Comprehension and composition)
- understand, use, write and produce different types of text (Texts)
- manage and produce grammatical patterns and structures in texts (Grammar)
- make appropriate word selections and decode and comprehend new (basic, specialised and technical) vocabulary (Vocabulary)
- use and produce a range of visual materials to learn and demonstrate learning (Visual information)

**NUMERACY**

Students become numerate as they develop the capacity to recognise and understand the role of mathematics in the world around them and the confidence, willingness and ability to apply mathematics to their lives in ways that are constructive and meaningful.

As they become numerate, students develop and use mathematical skills related to:

- Calculation and number
- Patterns and relationships
- Proportional reasoning
- Spatial reasoning
- Statistical literacy
• Measurement

INFORMATION AND COMMUNICATION TECHNOLOGY

Students develop ICT competence when they learn to:

• Investigate with ICT: using ICT to plan and refine information searches; to locate and access different types of data and information and to verify the integrity of data when investigating questions, topics or problems
• Create with ICT: using ICT to generate ideas, plans, processes and products to create solutions to challenges or learning area tasks
• Communicate with ICT: using ICT to communicate ideas and information with others adhering to social protocols appropriate to the communicative context (purpose, audience and technology)
• Operate ICT: applying technical knowledge and skills to use ICT efficiently and to manage data and information when and as needed
• Apply appropriate social and ethical protocols and practices to operate and manage ICT.

CRITICAL AND CREATIVE THINKING

Students develop critical and creative thinking as they learn to generate and evaluate knowledge, ideas and possibilities, and use them when seeking new pathways or solutions. In learning to think broadly and deeply students learn to use reason and imagination to direct their thinking for different purposes. In the context of schooling, critical and creative thinking are integral to activities that require reason, logic, imagination and innovation.

As they develop critical and creative thinking students learn to:

• pose insightful and purposeful questions
• apply logic and strategies to uncover meaning and make reasoned judgments
• think beyond the immediate situation to consider the ‘big picture’ before focusing on the detail
• suspend judgment about a situation to consider alternative pathways
• reflect on thinking, actions and processes
• generate and develop ideas and possibilities
• analyse information logically and make reasoned judgments
• evaluate ideas and create solutions and draw conclusions
• assess the feasibility, possible risks and benefits in the implementation of their ideas
• transfer their knowledge to new situations
ETHICAL BEHAVIOUR

Students develop ethical behaviour as they learn to understand and act in accordance with ethical principles. This includes understanding the role of ethical principles, values and virtues in human life; acting with moral integrity; acting with regard for others; and having a desire and capacity to work for the common good.

As they develop ethical behaviour students learn to:

- recognise that everyday life involves consideration of competing values, rights, interests and social norms
- identify and investigate moral dimensions in issues
- develop an increasingly complex understanding of ethical concepts, the status of moral knowledge and accepted values and ethical principles
- explore questions such as:
  - What is the meaning of right and wrong and can I be sure that I am right?
  - Why should I act morally?
  - Is it ever morally justifiable to lie?
  - What role should intuition, reason, emotion, duty or self-interest have in ethical decision making?

PERSONAL AND SOCIAL COMPETENCE

Students develop personal and social competence as they learn to understand and manage themselves, their relationships, lives, work and learning more effectively. This involves recognising and regulating their emotions, developing concern for and understanding of others, establishing positive relationships, making responsible decisions, working effectively in teams and handling challenging situations constructively.

As they develop personal and social competence students learn to:

- recognise and understand their own emotions, values and strengths, have a realistic assessment of their own abilities and a well-grounded sense of self-esteem and self-confidence (Self-awareness)
- manage their emotions and behaviour, persevere in overcoming obstacles, set personal and academic goals, develop self-discipline, resilience, adaptability and initiative (Self-management)
- perceive and understand other people’s emotions and viewpoints, show understanding and empathy for others, identify the strengths of team members, define and accept individual and group roles and responsibilities, be of service to others (Social awareness)
• form positive relationships, manage and influence the emotions and moods of others, cooperate and communicate effectively with others, work in teams, build leadership skills, make decisions, resolve conflict and resist inappropriate social pressure (Social management).

INTERCULTURAL UNDERSTANDING

Students develop intercultural understanding as they learn to understand themselves in relation to others. This involves students valuing their own cultures and beliefs and those of others, and engaging with people of diverse cultures in ways that recognise commonalities and differences, create connections and cultivate respect between people.

As they develop intercultural understanding students learn to:

• identify increasingly sophisticated characteristics of their own cultures and the cultures of others
• recognise that their own and others’ behaviours, attitudes and values are influenced by their languages and cultures
• consider what it might be like to ‘walk in another’s shoes’
• compare the experiences of others with their own, looking for commonalities and differences between their lives and seeking to understand these
• reflect on how intercultural encounters have affected their thoughts, feelings and actions
• accept that there are different ways of seeing the world and live with that diversity
• stand between cultures to facilitate understanding
• take responsibility for developing and improving relationships between people from different cultures in Australia and in the wider world
• contribute to and benefit from reconciliation between Indigenous and non-Indigenous Australians.

6 SEQUENCE AND SCOPE

The scope and sequence of Mathematics can be located in appendix 1. It can also be downloaded from the following link and found in “curriculum documents” in the teacher’s drive of the school server.

http://www.australiancurriculum.edu.au/Mathematics/Curriculum/F-10
Our school vision is:

PLANT THE SEED,

NUTURE THE GROWTH,

CELEBRATE THE HARVEST

Our pedagogical principle is:

ALWAYS REACHING FOR NEW HEIGHTS

Mathematics at St. John’s School is taught for 5 hours each week P-6 and for a minimum of 4 hours in Grade 7.

**Daily Routine**

The daily routine for teaching maths for all grades consists of:

- **Mental Computation**
  
  Students participate in activities that provide opportunities to engage in mathematical thinking e.g. tables, mentals, games, number facts etc.

- **Teacher Modelling**
  
  Students are presented with, or review, the key ideas and concepts being explored.
  
  eg direct teaching, questioning for review etc.

- **Small group/Guided/Pair Activities and independent Activities**
  
  Students engage in group, or individual activities which further develop and consolidate the concept e.g. hands on activities, investigations, games, worksheets, problem solving, using ICT etc.

- **Reflection**
  
  Students review and reflect on their understandings. e.g. verbalising ideas, journaling, whole class or individual correction, response to teacher feedback etc.
Teachers plan units of work in mathematics using the school based planning proformas that meet the requirements stipulated in the Diocesan ‘A Way Forward’ document and align with the Diocesan Learning and Teaching Policy. Copies of these proformas are located in the appendix section 2 of this document.

When planning mathematics, teachers are required to complete the following components:

1. A unit overview
2. Weekly Planning
3. Assessment task sheet
4. Criteria sheet

A unit planning document proforma can be found in appendix 2.

This planning document is required to be submitted to the Curriculum Support teacher by week 3 of each term and again at the end of term. Planning will be digitally stored on the school server and it is the responsibility of the teacher to upload their planning with evaluations added.

Evidence of the St. John’s learning and teaching philosophy will be found not only in planning but also in classroom displays, student portfolios, work samples and student contribution to assemblies.

The table on the following page represents opportunities for teachers and students to experience throughout the learning and teaching process at St. John’s. In this way we are able to see that Mathematics is assisting us in meeting our vision for our students:
8. RESOURCES

A list of current mathematical resources is included in appendix 3

9. ASSESSMENT AND REPORTING

ASSESSMENT

At St. John’s Assessment and Reporting represents our commitment to the dignity of the individual. Our Vision Statement lies at the centre of all our assessment decisions, we:

Plant the Seed, Nurture the Growth, and Celebrate the Harvest.
Assessment is the process by which pupil achievement is measured. It involves identifying, gathering and interpreting information, and making judgements about how satisfactorily students have mastered a skill and achieved essential learnings. Assessment and reporting should be part of the total learning experience of the individual and should be consistent with the School’s Mission Statement.

Thus, assessment and reporting should:

- Inform teaching practice
- Assist each child to develop his/her full potential
- Acknowledge and develop the dignity and worth of each individual learner
- Be relevant, flexible and challenging leading to the development of self-esteem
- Be consistent with Gospel values of equality and justice
- Be honest and accurate
- Be stated in positive language
- Be easily understood and presented
- Be concise
- Demonstrate consistent presentation across the school

PURPOSE OF ASSESSMENT

The purpose of assessment at St. John’s is to reflect consistency with the school goals, general policies and to reflect current essential learnings and content by:

Appraising the achievement of individual students, in order to develop:

- Student potential e.g. reasoning powers
- A plan for future activities and student development
- An incentive for learning
- A positive attitude and self-esteem.
- Diagnosing learning difficulties and gifts and talents of individual students.
- Gauging the effectiveness of:
  - Student learning and teaching programs
  - The program of work presented through teacher self-evaluation.
- Providing information to students, parents/guardians and significant others.

WHAT DO WE ASSESS?

Teachers need to assess student learning across all interrelating strands of the Australian Curriculum - Mathematics.

The three proficiency strands are:
- Problem Solving and Reasoning
- Understanding
- Fluency

The content strands are:
- Number and Algebra
- Measurement and Geometry
- Statistics and Probability

Understanding the Australian Curriculum standards is paramount in developing an overall understanding of assessment. Student achievement is assessed against the achievement standards which describe the standard expected at the end of each year of learning.

TYPES OF ASSESSMENT

Assessment is an integral part of the learning process and should include:

- Assessment for Learning
- Assessment of Learning
- Assessment as Learning

Assessment FOR learning

This type of assessment occurs when teachers use inferences about student progress to inform their teaching. It is frequent, formal or informal (e.g. quality questioning, anecdotal notes, written comments), embedded in teaching and provides clear and timely feedback that helps students in their learning progression.

It has a formative use providing evidence that informs, or shapes, short term planning for learning. The key assessor is the teacher.

Assessment AS learning

This type of assessment occurs when students reflect on and monitor their progress to inform their future learning goals. It is regularly occurring, formal or informal (e.g. peer feedback buddies, formal self assessment) and helps students take responsibility for their own past and future learning.

It builds meta-cognition as it involves students in understanding the standards expected of them, in setting and monitoring their own learning goals, and in developing strategies for working towards achieving them.

The key assessor is the learner.
Assessment OF learning

This type of assessment occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards.

It is usually formal, frequently occurring at the end of units of work where it sums up student achievement at a particular point in time (i.e. is summative).

It is often organised around themes or major projects and judgements may be based on student performance on multi-domain assessment tasks.

It shows how students are progressing against the Standards and provides evidence to inform long term planning. The key assessor is the teacher or system.

QUALITY ASSESSMENT

At St. John’s teachers use the following principles of quality assessment to plan their assessment.

Quality Assessment:

Emphasises the interactions between learning and manageable assessment strategies that promote learning

- In practice, this means:
- Teachers reflect on the purposes of assessment and on their assessment strategies.
- Assessment activities allow for demonstration of learning outcomes.
- Assessment is embedded in learning activities and informs the planning of future learning activities.
- Teachers use assessment to identify what a student can already do.

Clearly expresses for the student and teacher the goals of the learning activity

In practice, this means:

- Students understand the learning goals and the criteria that will be applied to judge the quality of their achievement.
- Students receive feedback that helps them make further progress.

Reflects a view of learning in which assessment helps students learn better, rather than just achieve a better mark

In practice, this means:
• Teachers use tasks that assess, and therefore encourage, deeper learning.
• Feedback is provided in a way that motivates the learner and helps students to understand that mistakes are a part of learning and can lead to improvement.
• Assessment is an integral component of the teaching-learning process rather than being a separate activity.

*Provides ways for students to use feedback from assessment*

In practice, this means:

• Feedback is directed to the achievement of standards and away from comparisons with peers.
• Feedback is clear and constructive about strengths and weaknesses.
• Feedback is individualised and linked to opportunities for improvement.

*Helps students take responsibility for their own learning*

In practice, this means:

• Assessment includes strategies for self-assessment and peer assessment emphasising the next steps needed for further learning.

*Is inclusive of all learners*

In practice, this means:

• Assessment against standards provides opportunities for all learners to achieve their best.
• Assessment activities are free of bias.
ASSESSMENT STRATEGIES

At St. John’s teachers have agreed to use a range of Quality Assessment Strategies to inform their teaching and learning practices. The following table is a selection of assessment strategies used at St John’s.

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<td>Design challenges</td>
<td>Observation of students’ participation in a group activity</td>
<td>Teacher/student discussion or interviews</td>
</tr>
<tr>
<td>Checklists</td>
<td>Students’ journals and comments on the process of their solutions</td>
<td>Graphing</td>
</tr>
<tr>
<td>Teacher-made tests</td>
<td>Matching questions with answers</td>
<td>Students’ plans for and records of their solutions of problems</td>
</tr>
<tr>
<td>Standardised tests</td>
<td>Labelling a diagram or model</td>
<td>Completing timelines</td>
</tr>
<tr>
<td>Response logs</td>
<td>Data collection</td>
<td>Problem-solving and investigations</td>
</tr>
<tr>
<td>Questions posed by students</td>
<td>Research projects</td>
<td>Critical dialogue</td>
</tr>
<tr>
<td>Conferences</td>
<td>Debating</td>
<td>Skills checklists</td>
</tr>
<tr>
<td>Comprehension and interpretation exercises</td>
<td>Peer assessment</td>
<td>Activity journals</td>
</tr>
<tr>
<td>Self assessment</td>
<td>Multimedia presentations</td>
<td>Action plans</td>
</tr>
<tr>
<td>Discussion</td>
<td>Observation of students during learning activities</td>
<td>Students’ oral and written reports</td>
</tr>
</tbody>
</table>

Assessment Timeline

- Teachers design their Assessment Overviews and Plans in Weeks 1-3 of each term. This plan outlines the assessment for and of learning to be conducted within each teaching program. It should reflect a range of assessment strategies including formal and informal, self and peer evaluations.
- The Principal/Curriculum Support Teacher in Week 4 of each term reviews these Assessment Plans alongside the teacher’s unit plans.
- Teachers are also provided with a continuous assessment checklist book each year to record assessment data and this is submitted at the end of each year for checking by the Principal/Curriculum Support Teacher and archived.
• These Assessment Records are used to assist teachers to make an informed, on-balance judgement about how well each student has achieved against the National Curriculum standards for each Learning Area. This on-balanced judgment is expressed using an A-E Scale
• This judgement is used for the ongoing reporting to parents, including formal school reports at the end of Semester 1 and 2.

WRITTEN AND ORAL REPORTING

On-Track reporting software is utilised by St. John’s to formally report on student achievement in terms 2 and 4. In addition 3-way conferences are used to provide feedback to parents and students in terms 1 and 3. These processes are supplemented by informal feedback to parents on an as needs basis.

Teachers maintain an assessment schedule in their term program to highlight the timing of significant assessment tasks. Assessment task sheets provide a detailed summary of the assessment task criteria. Criteria sheets/rubrics are an integral component of major assessment tasks at St. John’s. It is preferred that criteria sheets utilise A-E standard descriptors. Student achievement in assessment tasks is maintained in teacher programs as assessment results. A hard copy of student reports is archived on the school premises until the student reaches the age of 25 years. Additional student samples are also archived into student archive folders annually. A copy of the student archive folder recording sheet can be found in appendix 4.

Student portfolios further supplement the reporting process at St. John’s. Student portfolios typically contain samples of student work and major assessment tasks selected from semester 1 and semester 2 in all KLA’s. Student portfolios are representative of student achievement throughout the school year. The portfolio is presented to parents during semester 2. The presentation evening at the end of the school year acknowledges student achievement in the following categories:

• Spirituality
• SEL awards
• Sporting awards
• Academic achievement awards
• Academic improvement awards

Students with a disability who are unable to access any of the learning areas with their same age-cohort peers will receive a modified report that shows achievement ratings against learning areas indicated in their individual goals.

Parents of students who are engaged in individualised education programs receive regular feedback and support from the classroom and learning support teachers.
St John’s participates in Consistency of Teacher Judgement professional development every year. This provides a forum for St. John’s teachers to compare student work samples with teachers from other schools in the Southern Cluster in order to achieve consistency in grading student work samples.

The national assessment program is used as a supplementary measure of student performance of a broad range of educational outcomes to inform the teaching and learning process at St. John’s. The national testing program provides student performance information to students, teachers, parents and the St John’s community about how our students are performing against the national benchmarks for literacy and numeracy. The NAPLAN results provide a measure of how St. John’s students are performing in the areas of reading, writing, spelling and numeracy. Specifically the NAPLAN report is used at St. John’s for:

- Individual student reporting to parents
- St John’s reporting to the community
- Aggregate reporting against national standards.

Queensland Comparable Assessment Tasks (QCATs) are also utilised to inform teacher judgement of student achievement in years 4 and 6 in English, Science, and Mathematics. QCATs are authentic performance based assessment tasks. St John’s students in years 4 and 6 participate in the QCATs on an annual negotiated basis. Parents receive a formal QCAT report of their child’s achievement on these tasks.

Year 2 students who have not achieved phase C of the developmental continua also participate in the Year 2 Diagnostic Net. Children who do not pass the Year 2 net receive additional funded support.

10. EVALUATION

Evaluation occurs in three ways:

- Evaluation of planning by the teacher/learning area coordinator
- Evaluation of learning and teaching strategies/resources etc
- Evaluation of the school curriculum document to ensure it reflects current understandings and practices.

Evaluation is the process of making judgements about the effectiveness of curriculum documents, teaching programs, procedures and resources. Evaluation is an inherent part of our professional lives as teachers and as a school.

EVALUATION OF PLANNING BY THE TEACHER/LEARNING AREA COORDINATOR
The Curriculum Support Teacher/Principal evaluates the teachers’ planning at the beginning of each term. The Curriculum Support Teacher/Principal provides feedback to the teachers using the Teacher Program Supervision proforma located in appendix section 5.

**EVALUATION OF LEARNING AND TEACHING STRATEGIES/RESOURCES ETC**

Teachers reflect on and evaluate their unit plans at the end of each unit. Recommended modifications are made to improve each unit and digital copies of each unit are amended with suggestions accordingly. Paper copies are archived and digital copies are stored on the server and ‘myclasses St John’s curriculum page’.

Resources will be added to the schools mathematics resources stock as each term progresses and teachers make recommendations regarding the purchasing of appropriate equipment and books.

**EVALUATION OF THE SCHOOL CURRICULUM DOCUMENT TO ENSURE IT REFLECTS CURRENT UNDERSTANDINGS AND PRACTICES**

This Mathematics curriculum document has been evaluated and updated throughout 2011. As the school implements the National Curriculum – Mathematics in 2012, this document will undergo further evaluation.
Mathematics Scope and Sequence