# schoollogo.gifschoollogo.gif MATHS OVERVIEW YEAR FOUR TERM ?

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| YEAR LEVEL | **CONTENT DESCRIPTORS** | ASSESSMENT |
| 4 | ***Number & Algebra*** | **Investigation:** |
| DURATION | * **ACMNA071** Investigate and use the properties of odd and even numbers * **ACMNA072** Recognise, represent and order numbers to at least tens of thousands * **ACMNA073** Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems   **ACMNA074** Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9   * **ACMNA075** Recall multiplication facts up to 10 × 10 and related division facts * **ACMNA076** Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder * **ACMNA077** Investigate equivalent fractions used in contexts   **ACMNA078** Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line  **ACMNA079** Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation   * **ACMNA080** Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies * **ACMNA081** Explore and describe number patterns resulting from performing multiplication * **ACMNA082** Solve word problems by using number sentences involving multiplication or division where there is no remainder   **ACMNA083** Use equivalent number sentences involving addition and subtraction to find unknown quantities |  |
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| LINKS TO OTHER  LA’s |
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| ***Measurement & Geometry*** |
| * **ACMMG084** Use scaled instruments to measure and compare lengths, masses, capacities and temperatures   **ACMMG290** Compare objects using familiar metric units of area and volume  **ACMMG085** Convert between units of time   * **ACMMG086** **Use am and pm notation and solve simple time problems**   **ACMMG087** Compare the areas of regular and irregular shapes by informal means   * **ACMMG088** Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies ) ICT   **ACMMG090** Use simple scales, legends and directions to interpret information contained in basic maps  **ACMMG091** Create symmetrical patterns, pictures and shapes with and without digital technologies  **ACMMG089** Compare angles and classify them as equal to, greater than or less than a right angle |
| ***Statistics & Probability*** | ***DEVELOPING INQUIRING & REFLECTIVE LEARNERS*** |
| * **ACMSP092** Describe possible everyday events and order their chances of occurring   **ACMSP093** Identify everyday events where one cannot happen if the other happens   * **ACMSP094** Identify events where the chance of one will not be affected by the occurrence of the other * **ACMSP095** Select and trial methods for data collection, including survey questions and recording sheets * **ACMSP096** Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values * **ACMSP097** Evaluate the effectiveness of different displays in illustrating data features including variability | COMMUNITY CONTRIBUROR  LEADER AND COLLABORATOR  EFFECTIVE COMMUNICATOR  ACTIVE INVESTIGATOR  DESIGNER AND CREATOR  QUALITY PRODUCER |
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# CROSS CURRICULAR PRIORITIES

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| Catholic Ethos | *ats.gif* Aboriginal and Torres Strait Islander Histories and Cultures | asia.gif Asia and Australia’s Engagement with Asia |
| 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. | 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, which 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 | 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 |
| sus.gif Sustainability Education | Social Emotional Learning | Inclusive Education |
| Access to current information about environmental issues and promotion of a reflective and responsive attitude towards stewardship of the gifts of creation.  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 | 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 | 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. |

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# GENERAL CAPABILITIES

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| lit.gif Literacy | num.gif Numeracy | | ict.gif Information and Communication Technology | | cct.gif Critical and Creative Thinking |
| 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) | 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. | | 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. | | 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 focussing 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 |
| eb.gif Ethical Behaviour | | psc.gif Personal and Social Competence | | iu.gif Intercultural Understanding | |
| 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?* | | 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). | | 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. | |

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| Strand: | | | CONTENT DESCRIPTORS | | | | | | | | | | | | | | | | | | | | | | | | |
| Number & Algebra | **ACMNA071** | | | **ACMNA072** | **ACMNA073** | | | **ACMNA074** | | **ACMNA075** | | **ACMNA076** | | **ACMNA077** | | **ACMNA078** | | | **ACMNA079** | **ACMNA080** | | **ACMNA081** | | **ACMNA082** | | | **ACMNA083** |
| Measurement & Geometry | | **ACMMG084** | | | | **ACMMG290** | | | **ACMMG085** | | **ACMMG086** | | | | **ACMMG087** | | | **ACMMG088** | | | **ACMMG090** | | **ACMMG091** | | | **ACMMG089** | |
| Statistics & Probability | | **ACMSP092** | | | | | **ACMSP093** | | | | **ACMSP094** | | | | | | **ACMSP095** | | | | **ACMSP096** | | | | **ACMSP097** | | |
| GENERAL CAPABILITIES | | | | | | | | | | | | | CROSS CURRICULAR PRIORITIES | | | | | | | | | | | | | | |
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| KEY CONCEPTS | LEARNING AND TEACHING ACTIVITIES | | |
|  | Teacher Instruction | Shared/Independent Practice | Assessment |
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| MENTAL COMPUTATION |
| ☐Rehearse  ☐Recall  ☐Refresh  ☐Refine  ☐Read  ☐Reason |
| MATHEMATICAL LANGUAGE |
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| **MATH GROUP ROTATIONS** | | | |
| **GROUP ONE** | **GROUP TWO** | **GROUP THREE** | **GROUP FOUR** |
| **Focus** | **Focus**: | **Focus**: | **Focus**: |

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| **RESOURCES** |
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| REFLECTION |
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| **RESOURCES** |
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| REFLECTION |
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| Classroom Accommodations | For Whom |
| Seat near teacher |  |
| Assign student to low- distraction area |  |
| Seat near positive peer models |  |
| Use support groups / cooperative learning |  |
| Use rows instead of tables |  |
| Use learning centre |  |
| Use of time-out |  |
| Stand near student when giving instruction |  |
| Arrange classroom for safe visibility, accessibility and movement |  |
| Presentation of Lessons | For Whom |
| Adjust work load, reduce assignments or give alternative assignments |  |
| Use visual aids with oral presentation |  |
| Teacher gives student outlines or study guides |  |
| Ensure regular lesson revisits/reviews |  |
| Highlight instructions (marker or highlighter tape) |  |
| Give clear behavioural objectives |  |
| Ask student to repeat instructions for clarification and understanding |  |
| Use high- impact game-like materials |  |
| Call on student often |  |
| Acknowledgment effort put forth |  |
| Give reminders for student to stay on task, monitor student is on task/topic |  |
| Use large type/font and dark ink |  |
| Keep page format simple |  |
| Use visual prompts |  |
| Divide page into clearly marked sections |  |
| Remove distractions from paper |  |
| alternative evaluation procedures | For Whom |
| Reduce number of items |  |
| Practice completely similar questions |  |
| Arrange for oral testing |  |
| Have support staff administer test |  |
| Permit student to type or use word processing |  |
| Adjust grading criteria based on individual |  |
| Adjusted grading option |  |

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| note taking strategies | For Whom |
| Provide student the means to record |  |
| Arrange for note taker e.g. Aide |  |
| Give student a copy of notes |  |
| Provide time for periodic review of student’s notes (written, dictated, word processed) |  |
| ORGANISATIONAL STRATEGIES | For Whom |
| Use calendar to plan assignments |  |
| Use of assignment notebook or work checklist especially diary |  |
| Daily schedule |  |
| Give time top organise desk during class |  |
| AM check-in to organise for the day |  |
| Lunch-time check-in to organise for PM |  |
| PM check-out to organise for homework |  |
| Arrange a duplicate set of classroom material for use at home |  |
| Develop parent/school contract |  |
| Training in time management |  |
| support services | For Whom |
| Peer tutoring |  |
| Cross-age tutoring |  |
| Student buddy |  |
| Work with school officer |  |
| Meet with staff during available times |  |
| Teach student to monitor own behaviour |  |
| Implement behaviour contract/reward |  |
| Self advocacy/communication skill training |  |
| Conflict resolution strategies |  |
| Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

Adapted with permission from Positive Partnerships PD Facilitators Guide

Module 5 Support materials