



# OUR HOLY REDEEMER

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## Mathematics

### RATIONALE:

Learning mathematics creates opportunities to enrich lives and society. It develops the capacity, confidence and disposition to use mathematics to meet the demands of learning, school, home, work, community and civic life. It ensures there is a future workforce to contribute productively and competitively in our ever-changing global world. Mathematics teaches us how to make sense of the world around us through developing an ability to calculate, to reason and to solve problems.

### AIMS:

At Our Holy Redeemer School we aim to:

- promote enjoyment and enthusiasm for learning mathematics;
- ensure all students are confident, creative users and communicators of mathematics;
- develop in students a thorough knowledge and understanding of number and algebra, measurement and geometry and statistics and probability;
- develop in students, increasingly sophisticated and refined mathematical understanding, fluency, reasoning and problem-solving;
- ensure that the links between the various components of mathematics, as well as the relationship between mathematics and other disciplines are made clear;
- ensure all students develop useful mathematical and numeracy skills for everyday life, work and as active and critical citizens in a technological world;

### IMPLEMENTATION:

The Our Holy Redeemer Mathematics Curriculum is based on the **Victorian Curriculum F-10** for Mathematics.

The curriculum is organised by the three strands of ***Number and Algebra, Measurement and Geometry, and Statistics and Probability***. Computational thinking is an important aspect of the mathematics curriculum across the three strands.

The proficiencies of **Understanding, Fluency, Problem Solving and Reasoning** are fundamental to learning mathematics and working mathematically and are applied across all three strands Number and Algebra, Measurement and Geometry, and Statistics and Probability.

**Understanding** refers to students building a robust knowledge of adaptable and transferable mathematical concepts and structures. Students make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics.

**Fluency** describes students developing skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily.

**Problem-solving** is the ability of students to make choices, interpret, formulate, model and investigate problem situations, select and use technological functions and communicate solutions effectively.

**Reasoning** refers to students developing an increasingly sophisticated capacity for logical, statistical and probabilistic thinking and actions, such as conjecturing, hypothesising, analysing, proving, evaluating, explaining, inferring, justifying, refuting, abstracting and generalising.

**At Our Holy Redeemer we:**

- commit to ten 60 minute Mathematics lessons per fortnight;
- plan sequences of learning using the agreed planning proforma [https://docs.google.com/document/d/18BFsZEdf296EDOn-S4lqAcYUWGWbCXqD0gcCDz\\_mtP8/edit](https://docs.google.com/document/d/18BFsZEdf296EDOn-S4lqAcYUWGWbCXqD0gcCDz_mtP8/edit) and;
- include a range of strategies in our Mathematics lessons. (TABLE ONE)

TABLE ONE:

**EXPLICIT NUMBER FLUENCY**

What might this look like in the classroom?

- Tools session
- Repetition and rote learning
- Mental computation
- Concrete materials
- Matific practice
- Strategies-number bonds, near doubles, counting on
- Games
- Short, sharp and engaging for all

## LEARNING INTENTION IS EXPLICIT AND VISIBLE

What might this look like in the classroom?

- Visual on the board
- Explicit co-constructed success criteria... for example goal, assessment criteria, rubric, dot points attached to task
- Brainstorm charts - ongoing
- Self assessment against criteria
- Collaborative criteria
- Students using the learning intention as part of their explanations

## FLEXIBLE GROUPINGS-WHOLE, PAIR, INDIVIDUAL, GROUP

What might this look like in the classroom?

- Mixed and like ability (gender, age, level, etc.)
- Small teaching groups at point of need
- Whole class
- Individual work
- Partner work
- Guided small focus groups
- Partners working together

## EXPLICIT TEACHING AND MODELLING

What might this look like in the classroom?

- Modelling (the what, how and why)
- Demonstration book
- Focus groups
- Open questioning
- Clarifying misconceptions
- Correcting errors
- Use of tools e.g. using a Think Board or a ruler etc.
- Practising language
- Peer support
- Use of games

## VARIETY OF EXPERIENCES AND USE OF MATERIALS

What might this look like in the classroom?

- Rich tasks - open ended
- Parallel Tasks
- Real life problems
- Differentiated tasks, e.g. Moving from confusion to clarity
- Use of kinesthetic, visual, logical, auditory, hands on materials to cater for different learning styles.
- Integrate maths into other curriculum areas.
- Closed tasks/ Drill and practice
- Concrete materials
- Fun, engaging activities

## LANGUAGE AND COMPREHENSION BASED

What might this look like in the classroom?

- Word walls with mathematical language displayed
- Maths dictionaries available
- Teacher models and explains the Mathematical language
- Use of common maths terminology across the school
- Students show their understanding by using maths language, e.g. by using programs like Explain Everything or iMovie.
- Access prior knowledge about students' maths language.
- Big books/ Picture story books with mathematical themes
- Students sharing their understanding of Maths through the SEESAW App

## REFLECTION OF THE LEARNING

What might this look like in the classroom?

- Brainstorming prior knowledge
- Referring back to the learning intention and relating learning to this
- Success criteria analysis
- Oral discussions or written response
- Class maths journal of e.g. discoveries
- Student placing themselves on a rubric
- Feedback- teacher/ student, student/student, self-assessment
- Maths Learning Wall

## ASSESSMENT

What might this look like in the classroom?

- Open-ended tasks/Rich assessment tasks
- Formal testing i.e. PAT Testing
- Observations and anecdotal records
- Informal discussions
- Teacher devised tests
- Brainstorming prior knowledge

### **EVALUATION:**

- This policy will be reviewed bi-annually as part of the school's development plan.

This policy was updated by staff: February 2019