

Programme	PR1ME and Math Pro	
Levels	K-6	
Syllabus	Aligned to NZ Draft Maths and Statistics Curriculum	
Pedagogical Practices	From Singapore, Hong Kong and South Korea	
Core Components	<p>PRINT</p> <p>PR1ME K: Student Books A and B, Teacher's Guides A and B</p> <p>PR1ME K: 20 Problem Solving Big Books and Problem Solving Guide</p> <p>PR1ME 1 – 6 : Coursebooks (CB), Practice Books (PB), Teacher's Guides (TG)</p>	<p>DIGITAL</p> <p>Math Pro Teacher Hub</p> <p>Math Pro Student Hub (Books 1-6)</p> <p>Digital Practice and Assessment</p> <p>Concept Videos</p> <p>Digital Manipulatives</p> <p>PPLN – PR1ME Professional Learning Now</p>
Instructional Design of the Student's Book	<p>Based on the Concrete-Pictorial-Abstract approach. CPA</p> <p>It integrates problem-solving, heuristics approaches, bar modelling and metacognition to help pupils gain mastery.</p> <p>Consistent structure of each lesson: Let's Learn, Let's Do, Let's Practise</p>	
Instructional Design features	<p>Coursebook</p> <p>Let's Remember - checks for readiness and prepares students for new learning</p> <p>You will learn to - states the lesson objectives to set clear expectations of learning outcomes</p> <p>Explore -provides the opportunity to engage prior knowledge in problem solving, encouraging mathematical curiosity and leading to greater ownership of learning</p> <p>Let's Learn - develops concepts and skills to mastery through the CPA approach</p> <p>Let's Do - provides formative assessment which is based on CPA to help teachers determine the level of understanding of students</p> <p>Let's Practise - provides independent practice to help students achieve mastery</p> <p>Think About It and Create Your Own - allows for mathematical communication, reasoning and justification, as well as encourages problem posing. Common errors are highlighted and addressed in the Think About It feature.</p> <p>Problem Solving lessons - hones problem-solving strategies (heuristics) and processes. Includes routine word problems and Mind stretchers (non-routine problems)</p> <p>Mathematical modelling - tasks linking maths to more complex real-world problems and other subjects can be found in upper grade Coursebooks, with notes provided in the Teacher's Guides</p> <p>Glossary -- illustrated glossary of new mathematical terms introduced in the Coursebooks</p> <p>Math Journal tasks are designed for students to reflect on and express their mathematical thinking, and to allow teachers to observe students' growth and development in mathematical thinking and communication.</p> <p>Practice Book</p> <p>Exercises and Reviews - provide practices and summative assessments</p>	
Concrete-Pictorial-Abstract Approach (CPA)	<p>Coursebook uses CPA consistently throughout the book. Icons are used to clearly identify each stage of CPA and to show a clear progression from one stage to another.</p> <p>2. Teacher's Guide uses icons to identify each stage of CPA and provides detailed lesson notes for each stage.</p> <p>Conclusion:</p> <ol style="list-style-type: none"> 1. Consistent CPA approach develops student conceptual understanding. 2. Icons make it easy for teachers to implement CPA in lessons. 3. Clear and consistent guidance to teacher builds CPA knowledge and confidence in lesson delivery. 	
Metacognition and Mathematical Thinking	<p>Coursebook uses thought bubbles throughout the book to model the thinking process for students.</p> <p>2. Think About It feature (in Coursebook) provides opportunities to students for mathematical communication, reasoning and justification and develops higher-order thinking skills.</p> <p>3. Create Your Own feature (in Coursebook) requires students to be aware of their thinking in the process of problem posing.</p> <p>Conclusion:</p> <ol style="list-style-type: none"> 1. Provides ample metacognitive experiences to enable students to monitor, direct and communicate their mathematical thinking and thought process to develop understanding to mastery. 	
Problem Solving	<p>Coursebook incorporates a systematic development of problem sets - routine (Word Problem), non-routine (Mind Stretcher), problem posing (Create Your Own) and mathematical modelling tasks.</p> <p>2. Coursebook explicitly teaches different heuristics through worked examples. Teacher's Guide provides detailed notes on how to apply the heuristics.</p> <p>3. Coursebook teaches the use of Bar Models in a scaffolded manner. Teacher's Guide provides detailed notes on this method.</p> <p>4. Coursebook explicitly and consistently teaches a 5-step UPAC+ problem solving process. All Coursebook and Practice Book problem solving tasks include the UPAC+ checklist.</p> <p>Conclusion:</p> <ol style="list-style-type: none"> 1. Teaches via problem solving through the systematic development of problem sets and by focusing on both the method (heuristics) and the process of problem solving, to develop students to become proficient problem solvers. 	

Problem Solving cont.	<p>2. Explicitly highlights different heuristics so that students learn how to select, present and compare strategies.</p> <p>3. Explicitly teaches an efficient problem solving process that builds good habits to approaching problems of all levels of difficulties.</p>
Assessment	<p>1. Diagnostic assessment (Coursebook Let's Remember) tests pre-requisite knowledge in each assessment task.</p> <p>2. Formative assessment (Coursebook Let's Do, Practice Book Exercise) is clearly identified in Coursebook, and tests student understanding of concepts just taught.</p> <p>3. Summative assessment (Coursebook Practice, Practice Book Review) tasks are systematically varied to provide comprehensive practice.</p> <p>4. Teacher's Guide identifies objectives of all assessment tasks in Coursebook and Practice Book so that teachers can pinpoint areas of remediation.</p> <p>Conclusion:</p> <p>1. Comprehensive and systematically varied assessment.</p> <p>2. Allows teachers to identify areas of remediation effectively.</p>
Teacher's Resources	<p>Print:</p> <p>1. Comprehensive Teacher's Guides provide embedded professional learning and support for teachers</p> <p>2. Bar Model Method book</p> <p>3. Classroom Posters</p> <p>Digital:</p> <p>1. Math Pro - Online e-book containing Coursebook, Practice Book and Teacher's Guide content</p> <p>2. Digital Practice and Assessment – Valuable learning insights and reports in Math Pro help teachers track student progress and make data actionable to support every teacher's instructional goals.</p> <p>3. Concept videos – demonstrate how lessons can be conducted</p> <p>4. Virtual manipulatives – allow teachers to explain concepts and demonstrate concrete activities for deep conceptual understanding</p> <p>5. PPLN - provides on-demand professional development for teachers to learn mathematics pedagogy anytime, anywhere - in the convenience and comfort of their home or in-between lessons, or just before teaching a topic</p>
Supplementary Student's Resources	<p>Print:</p> <p>1. Comprehensive Coursebook and Practice Book provide sufficient practice tasks and cater to students of all abilities without the need to spend on many additional materials</p> <p>Digital:</p> <p>1. Math Pro - Online e-book containing Coursebook and Practice Book content</p> <p>2. Digital Practice and Assessment – helps students to consolidate and deepen their learning to achieve mastery in maths</p> <p>3. Concept videos – supports independent learning and revision</p> <p>4. Virtual manipulatives – helps students to deepen their conceptual understanding through concrete activities</p>
Teacher's Guide Features	<p>1. Detailed lesson notes provide guidance on lesson delivery and build content and pedagogical knowledge.</p> <p>2. Wrap-around format with Coursebook/Practice Book thumbnails, detailed Scheme of work, overview of lesson objectives and blackline masters</p> <p>3. Objectives and answers of all practice and assessment tasks in Coursebook and PB</p> <p>4. Developmental continuum showcasing learning across the current, previous and next grade.</p> <p>Conclusion:</p> <p>1. Comprehensive Teacher's Guide builds teacher content and pedagogical knowledge and provides detailed guidance on lesson delivery.</p> <p>2. Provides support to novice and experienced teachers to deliver lesson with confidence.</p>
Key Elements	<ul style="list-style-type: none"> ▪ Explicit CPA approach ▪ Consistent Instructional design and easy to understand format. ▪ Clean and attractive design, layout and mascots ▪ Ample practice ▪ Embedded professional development ▪ Strong and explicit focus on thinking skills, and problem solving skills including processes and heuristics ▪ Explicit and consistent use of features to develop communication and collaboration skills ▪ Inclusion of mathematical modelling tasks to model real world problems ▪ Digital assessment with actionable critical insights - Digital practices based on the Pictorial and Abstract understanding