Year 6 — Mathematics Term Planner – Western Adelaide Region *(Draft 15/10/13)* — Term 1

Big Ideas/ Topic focus	Strand/ Sub Strand	Achievement Standard	Content Descriptor(s)	Student Prior Knowledge	Suggested Teaching & Learning Experiences	Assessment Focus/ Task	Time Frame	Resources	Links to other learning areas
Week's 1& 2 –Revise number facts & check for understanding of mental computation strategies for addition, subtraction, multiplication & division. Consider using Peter Westwood's One Minute Maths Tests for diagnostic assessment.									
-Numbers have special properties that can be used to solve problems *(e.g. factor, multiple, prime)* -If a number is divisible by a composite number then it is also divisible by the prime factors of that number *(e.g. 216 is divisible by 8 because the number represented by the last 3 digits is divisible by 8, and therefore is also divisible by 2 and 4)* -An integer is any whole number that is positive, negative or zero	Strand: Number & Algebra Sub-strand: Place Value	By the end of Year 6 students recognise the properties of prime, composite, square and triangular numbers. They describe the use of integers in everyday contexts They solve problems involving all four operations with whole numbers	Identify and describe properties of prime, composite, square and triangular numbers Investigate everyday situations that use integers Locate and represent these numbers on a number line Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers	• Place value to the millions & decimal place value • Efficient strategies for problem solving using the four operations • Recall of basic number facts • Exploring multiplication patterns • Exploring number facts using arrays & regions • Factors and multiples	• Use a 100s chart to explore properties of numbers (integer, prime, composite, square, triangular) through mental routines *(Natural Maths)* • Develop the vocabulary associated with number properties • Locate and order integers (positive and negative) on a number line • Place value of larger numbers, including ordering and sequencing on open number lines • Create posters or 'help sheets' to explain number properties and to give examples *(e.g. ordering integers on a number line; arrays to model commutativity)* • Explore commutativity and generalisations using arrays and regions *(e.g. "4 threes are 12, I know that 2 threes are 6 and double 6 is 12")* • Explore fact family relationships & commutativity using arrays *(e.g. 4 threes are 12, 3 fours are 12, 12 divided by 3 is 4, 12 divided by 4 is 3)* • Arrays and regions games, such as Multiplication Toss *(George Booker, Professor Dianne Siemon)* • Explore, create and deconstruct factor trees to identify multiples and factors. Use arrays models and fact families to assist students. • Mental Routines *(Natural Maths)* - to explore factors and multiples; to develop fluency and automaticity for the recall of number facts and when exploring the four operations. Also use speed drills, personal bests for students who are more competent, use this time to assist other students & provide intervention. • Problematised situations *(Natural Maths)* involving the four operations and multi-step problems with a focus on using estimation as a strategy • Revise efficient strategies for computation for the 4 operations through strategies such as chunking, open number lines, partial algorithms, balance & compensate, round & adjust, landmark numbers *(Natural Maths –Middle Years Mental Computation)* • Use calculators to assist with problem solving • Use thinkboards/ whiteboards for recording • Find the missing number - such as: "When a number is multiplied by x the answer is 24, what might the numbers be? What strategies did you use?	**Diagnostic Assessment** *Big Ideas in Number Test* – Multiplicative Thinking *(Professor Dianne Siemon)* **Formative Assessment** Natural Maths Problematised Situations Work samples involving the use of number properties & identified strategies Student generated glossary or help sheets Doug Clarke – 'Rich Assessment Tasks' *(e.g. Personalised Number Plates, Helping Bert Divide, *Multi Lotto - *Year 7 task, could be adapted to suit Year 6)* Maths300 tasks *(Education Services, Victoria)* **Summative Assessment Tasks *(Western Adelaide Region)*** -6.1: Best Burgers	**Term 1** (5 weeks) Ongoing throughout the year	• Counters- single coloured (for arrays models) • Number cards 0-9 or 0-6, 0-9, 1-10 dice • Flashcards/ Number cards (including missing addend) • 1-100, 0-99 number charts • Thinkboards • Mental routine boards • Natural Maths Computation strategies posters • Calculators • Frieze tape (for open number lines)	• Literacy – creating narrated problem-atised situations; maths glossary of terms
-A pattern requires an element of repetition that can be described and generalised with a pattern rule -Patterns can be represented in many ways and can consist of multiple operations and inverse operations	Strand: Number & Algebra Sub-strand: Patterns & Algebra	By the end of Year 6, students write correct number sentences using brackets and order of operations	Explore the use of brackets and order of operations to write number sentences	• Properties of numbers • Integers • Problem solving involving the four operations • Number lines • Factors & Multiples	• Explore number patterns & revisit efficient strategies for mental computation • Problem solving situations & investigations involving multi-step and combinations of the four operations • Explore how to use a calculator to assist with order of operations • Practise recording number sentences as multi-step solutions (over a number of lines) to show working out & strategies used • Explore formulas in Excel using brackets **BEDMAS** 1. Calculations must be done from left to right. 2. Calculations in brackets (parenthesis) are done first. When you have more than one set of brackets, do the inner brackets first. 3. Exponents/Orders (or radicals) must be done next. 4. Multiply and divide in the order the operations occur. 5. Add and subtract in the order the operations occur.	**Formative Assessment** Natural Maths Problematised Situations Work samples & anecdotal notes **Summative Assessment Tasks *(Western Adelaide Region)*** -6.4: Target Number	**Term 1** (3 weeks) Ongoing throughout the year	• Thinkboards/ whiteboards • Mental routine board • Calculators • Microsoft Excel • Maths300 software • The Card Game- Natural Maths software	• Literacy – creating narrated problem-atised situations; maths glossary of terms

Beginning of Term 2: Revise any content requiring additional teaching and development, then begin a new unit on **Fractions & Decimals or Patterns & Algebra. (see the Western Adelaide Region Year 6 Summative Assessment Tasks for ideas)**

Future Learning Considerations

What were the students able to do and show? What are the areas needing further development? What misconceptions did students have? Have these been adequately addressed? What are the next big ideas? What are the learning goals of my students? What assessment strategies will show me what students know?