Year 4	Mathematics Term Planner – Western Adelaide Region *(Draft 15/10/13)*								Term 1/2
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 basic 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.

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-Place value has a logical, repeating pattern that extends to the thousands and beyond -Numbers can be renamed in various ways *(i.e. 254 can be renamed as 25 tens and 4 ones, or 254 ones)* -In place value there are names for each new unit (multiples of 10) *(i.e. tens, hundreds, thousands)* -The decimal numeral system has 10 as the base. A decimal is a tenth part *(e.g. 0.6 is 6 tenths of a part, the part being 1 whole)*	Strand: Number & Algebra Sub-strand: Place Value Fractions & Decimals	By the end of Year 4 students make connections between fractions and decimal notations up to two decimal places *(Fractions & Decimals outcome)*	Recognise, represent and order numbers to at least tens of thousands Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems Recognise that the place value system can be extended to tenths and hundredths Make connections between fractions and decimal notation	• Place value knowledge to 10 000 • Efficient counting strategies and counting patterns • Adding 10, 100, 1 000 • Using a 100s board • Comparing, ordering, sequencing, renaming numbers • Part-part whole and partitioning of numbers	• Revise hundreds chart counting patterns (1-100 chart) – counting on & back by 10's; exploring the one doesn't change when adding 10 • Mental routines –Natural maths Place Value software • Problematised situations *(Natural Maths Strategies, Book 3; Problem Solving Books 3 & 4)* • Place Value boards, whiteboards- using MAB blocks (use bundled popsticks for students experiencing difficulty with place value) • Thinkboards or whiteboards for recording – The answer is… • Sequence numbers with a specified number of digits. Discuss highest, lowest numbers, etc. as small and larger groups • Roll and say- using an interactive die roll and record each number. Students repeat the number recorded (e.g. 6, 26, 426, 7426, etc.) The emphasis is on the place of the number tells us its value and practising reading and numbers. *Extension* – change where the number is placed • Counting games such as, Big Step, Little Step, Tiny step *(big step add on 1000, little step add on 100, tiny step add on 10)* – also subtract • 0-9 Cards and PV word cards – compare, order, sequence count on, count back in place value parts, rename • Mixed number expanders, including to hundredths for renaming • Calculators – practice using calculators for PV (*e.g. choose a number and add 10, keep pressing the = sign, what happens?)*; Explore number patterns *(e.g. adding 10 from any starting point)* • Interactive whiteboard place value activities, such as those found on Scootle/Moodle *(e.g. Wishball – tens/ hundreds/ decimals and more)*, strategic maths, rainforest maths, interactive hundreds boards and dice • Place Value games and problem solving – see Big Ideas in Number *(Professor Dianne Siemon)*; Michael Ymer's games 'Jackpot $100'; Natural Maths games • Model tenths and hundredths of a whole through using materials such as clay, paper folding (using a square), unifix (tenths), 100s grid, frieze tape	**Diagnostic Assessment** *Big Ideas in Number –* Place Value diagnostic test *(Professor Dianne Siemon)* **Formative & Summative Assessment Ideas** Natural Maths Problem Solving, Book 2; Natural Maths Strategies Book 2; and Place Value book *(Ann & Johnny Baker)* Thinkboards – make, name, record, rename Place Value Poster (what I know about …) Place value games – BIN, Michael Ymer, Natural Maths Maths300 tasks *(Education Services, Victoria)* **Summative Assessment Tasks *(Western Adelaide Region)*** -3.1: Take 4! Task (Year 3 task)	**Term 1** (5-6 weeks) Ongoing throughout the year	• Place Value boards to the millions • Place value boards for tenths and hundredths • Gameboards • MAB blocks • Number cards 0-9 and place value word cards • Mixed number expanders • Dice 1-6, 0-9, 1-10 sided • Calculators • Whiteboards • Mental routine boards, cloths & markers	• Spelling theme words • Literacy – shared text (e.g. 1 is a Snail, 10 is a Crab); Word wall • P.E – counting, organising teams, games, equipment
-It is important to work flexibly and efficiently with a range of numbers and explore generalisations -Each operation has its appropriate use in solving a range of problems involving multiplication or division -Solutions to problems can be found and communicated in a variety of ways -Fluency with number facts is essential for developing and applying efficient mental strategies	Strand: Number & Algebra Sub-strand: Place Value	By the end of Year 4, students choose appropriate strategies for calculations involving multiplication and division They recall multiplication facts to 10 x 10 and related division facts	Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 Recall multiplication facts up to 10 × 10 and related division facts Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder	• Place value to the millions & decimal place value • Efficient strategies for computation involving 2 digit numbers • Number facts and automatic recall • Problem solving • Arrays/ groups of/ fair share	• Explore multiplication patterns using a 100s chart • Explore arrays, including generalisations *(e.g. "4 threes are 12, I know that 2 threes are 6 and double 6 is 12")* • Record multiple ways of making arrays for different numbers *(e.g. 12, 18, 24, 32, 48)*; Identify arrays in the real world *(e.g. Channel nine symbol, carton of eggs, muffin tin, computer icons)* • Explore fact family relationships using arrays *(e.g. 4 threes are 12, 3 fours are 12, 12 divided by 3 is 4, 12 divided by 4 is 3)* • Problem solving involving the four operations and including making equal groups, including students creating their own problematised situations • Explore fair shares *(e.g. money, counters, jellybeans)* • Use a thinkboard for recording simple multiplication and division problems • Arrays and regions games, such as Multiplication Toss *(George Booker, Professor Dianne Siemon)* • Mental routines to develop fluency and automaticity for the recall of number facts for single-digit numbers; also use speed drills, personal bests for students who are more competent, use this time to assist other students & provide intervention • Explore efficient strategies for computation with 2 digit numbers through strategies such as chunking for addition/subtraction, open number lines, partial algorithms *(Natural Maths –Middle Years Mental Computation)Extension: 3 no.'s* • Use thinkboards/mini whiteboards for recording when exploring problem solving situations *(Natural Maths, Doug Clarke)* • Find the missing number - such as: "When a number is added to 23 the answer is 57, what might the number be?"	**Diagnostic Assessment** *Big Ideas in Number Test –* Multiplicative Thinking *(Professor Dianne Siemon)* **Formative Assessment** Natural Maths Problem Solving Book 3 & 4; Natural Maths Strategies Book 3 Doug Clarke – 'Rich Assessment Tasks' *(e.g. Sharing 25, *Cubes & Hoops, *Booze Buses – *Yr 5 tasks, can be easily adapted to suit year 4)* **Summative Assessment Tasks *(Western Adelaide Region)*** -4.1: Buying Biscuits; Arrays of 24	**Term 1 & 2** (5-6 weeks) Ongoing throughout the year	• Counters- single coloured • Number cards 0-9 • 0-6, 0-9, 1-10 dice • Flashcards – number cards, simple addition & subtraction, arrays • Subitising cards – 2 and 3 collections (Professor Di. Siemon) • 1-100, 0-99 number charts • Mixed counting games • Thinkboards • Mental routine boards • Number stories	• Literacy Number stories • P.E – counting games, making groups

Middle of Term 2: Revise any content requiring additional teaching and development, then begin a new unit on **Fractions & Decimals**

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 my learning goals?