West Torrens Partnership *(Draft 15/09/14)*	Australian Curriculum Mathematics V7.0	Year 4

Year Level Description

The proficiency strands *Understanding, Fluency, Problem Solving and Reasoning* are an integral part of mathematics content across the three content strands: *Number and Algebra, Measurement and Geometry, and Statistics and Probability*. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics.   *At this year level:*

- *Understanding* includes making connections between representations of numbers, partitioning and combining numbers flexibly, extending place value to decimals, using appropriate language to communicate times, and describing properties of symmetrical shapes
- *Fluency* includes recalling multiplication tables, communicating sequences of simple fractions, using instruments to measure accurately, creating patterns with shapes and their transformations, and collecting and recording data
- *Problem Solving* includes formulating, modelling and recording authentic situations involving operations, comparing large numbers with each other, comparing time durations, and using properties of numbers to continue patterns
- *Reasoning* includes using generalising from number properties and results of calculations, deriving strategies for unfamiliar multiplication and division tasks, comparing angles, communicating information using graphical displays and evaluating the appropriateness of different displays

Achievement Standard

By the end of Year 4, students choose appropriate strategies for calculations involving multiplication and division. They recognise common equivalent fractions in familiar contexts and make connections between fraction and decimal notations up to two decimal places. Students solve simple purchasing problems. They identify unknown quantities in number sentences. They describe number patterns resulting from multiplication. Students compare areas of regular and irregular shapes using informal units. They solve problems involving time duration. They interpret information contained in maps. Students identify dependent and independent events. They describe different methods for data collection and representation, and evaluate their effectiveness.

Students use the properties of odd and even numbers. They recall multiplication facts to 10 x 10 and related division facts. Students locate familiar fractions on a number line. They continue number sequences involving multiples of single digit numbers. Students use scaled instruments to measure temperatures, lengths, shapes and objects. They convert between units of time. Students create symmetrical shapes and patterns. They classify angles in relation to a right angle. Students list the probabilities of everyday events. They construct data displays from given or collected data.

Content Descriptors

Number and Algebra	Measurement and Geometry	Statistics and Probability
- Investigate and use properties of odd and even numbers - Recognise, represent and order numbers to at least tens of thousands - Apply place value to partition, rearrange and regroup (rename) numbers to at least tens of thousands to assist calculations & solve problems - Investigate number sequences involving multiples of 3, 4, 6, 7, 8 and 9 - Recall multiplication facts up to 10 x 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 - Investigate equivalent fractions used in contexts - Count by quarters, halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line. - Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation. - Solve problems involving purchases and the calculation of change to the nearest five cents with & without digital technologies - Explore and describe number patterns resulting from performing multiplication - Solve word problems by using number sentences involving multiplication & division where there is no remainder - Use equivalent number sentences involving addition & subtraction to find unknown quantities	- Use scaled instruments to measure and compare lengths, masses, capacities and temperatures - Compare objects using familiar metric units of area and volume - Convert between units of time - Use am and pm notation and solve simple time problems - Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without digital technologies - Use simple scales, legends and directions to interpret information contained in basic maps - Create symmetrical patterns, pictures and shapes with and without digital technologies - Compare angles and classify them as equal to, greater than or less than a right angle	- Describe possible everyday events and order their chances of occurring - Identify everyday events where one cannot happen if the other happens - Identify events where the chance of one will not be affected by the occurrence of the other - Select and trial methods for data collection, including survey questions and recording sheets - Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Includes tables, column graphs and picture graphs where one picture can represent many data values - Evaluate the effectiveness of different displays in illustrating data features including variability