Australian Mathematics National Benchmarks Addressed Within Numbers Up! 2 Baggin' the Dragon

Age	Level	Bench-marks	Measurement & Data Sense	Spatial Sense
4-8	1-3	Yr 3 BM	**Measurement & Data Sense** Students notice features of objects such as their length, capacity or mass (weight). They compare objects and use words like *heavier* or *longer* to describe these objects, and sense the need for accuracy when measuring length. They are beginning to use analogue and digital clocks to tell the time. The students can sequence everyday events and use calendars to locate information, and can find and discuss information contained in simple graphs. Year 3 students are expected to:- use language such as *shorter than, holds more than, heavier than* and *later than* to describe or compare objects and events. decide whether to focus on length, capacity or mass (weight) when comparing two objects or quantities. choose a uniform unit to estimate, measure and compare lengths. use direct comparison to work out whether one container holds more than another tell the time in hours and minutes on a digital clock, and hours and half-hours on analogue clocks. sequence regular activities during a day; say the days of the week and months of the year in order; and find dates on a calendar. collect and organise information, display it in simple bar or picture graphs, and comment on the information.	**Spatial Sense** Students are able to recognise and name a range of common 2D and 3D shapes and objects, and describe some of their features using everyday language. They are beginning to be able to use simple grids, maps and plans to locate items or landmarks. Year 3 students are expected to:- recognise and name familiar 2D and 3D shapes and objects (e.g. triangle, square, rectangle, circle, cube and pyramid) identify where those 2D and 3D shapes and objects occur or are used in everyday life use everyday language such as *flat, round, side, corner* and *curved* to describe common shapes and objects and their properties. recognise and continue simple patterns based on repetitions of common shapes. use language which shows that they understand position and direction when using a simple grid, map or plan (e.g. *The tree is between the house and the fence*).
8-10	3-5	Yr 5 BM	**Measurement & Data Sense** Students are developing skill in using metric units to estimate, measure and compare length, capacity and mass (weight). They are able to use clocks to tell the time accurately and use basic calendars and timetables to find information. Students collect and organise information to answer specific questions and display their findings on simple graphs. They interpret and comment on information presented in simple tables and graphs. Year 5 students are expected to:-	**Spatial Sense** Students are able to recognise and describe an increasing range of 2D and 3D shapes and objects, and use more formal geometric language to describe their features. They are becoming more aware of spatial patterns as well as symmetry in 2D shapes. The students pay more attention to directions about placement of objects and routes when reading straightforward maps and plans. Year 5 students are expected to:-

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			Know that a group of objects can be ordered differently depending on whether the objects are arranged according to length (or height or width), capacity or mass (weight). Estimate, measure and compare lengths using metres and centimetres. Estimate, measure and compare areas by counting squares on a grid. Estimate, measure and compare capacity using litres (and may have some awareness of millilitres). Estimate, measure and compare mass (weight) using kilograms (and have some awareness of grams). Interpret measures expressed in decimal form. Tell the time in hours and minutes on analogue and digital clocks. Sequence times in a day, and interpret simple timetables and calendars to find information. Organise and summarise information into straightforward lists, tables, horizontal and vertical bar graphs and pictograms, using many-to-one correspondence. Interpret information contained in column and bar graphs and make meaningful comments about that information.	Recognise and name 2D shapes (i.e. pentagon and hexagon) given descriptions or drawings of them. Recognise and name common 3D shapes and objects (e.g. rectangular prism, cylinder, cone and sphere) given descriptions or realistic drawings of them. Describe and compare 2D and 3D shapes and objects according to their important features. Use conventional terms such as *angle, face edge* and *base* to name parts of these 2D and 3D shapes. Recognise 2D shapes that have an obvious line of symmetry. Recognise and continue spatial patterns that use repetitions of 2D shapes. Place an object accurately on a simple map or plan and follow or give directions to find a particular place on a plan or map.
10-12	5-7	Yr 7 BM	**Measurement & Data Sense** Students use common measuring instruments to measure and compare length, capacity and mass(weight), and estimate using a range of standard units. They measure area and volume by counting units. They recognise small and large standard units (e.g.kilometres, tonnes, milliltres, millimetres) and use appropriate units for a task. They tell the time accurately using analogue and digital clocks, and read timetables and calendars. Students recognise the chance of an event occurring on the basis of simple quantitative data, and collect and organise information in a variety of ways to answer questions. Year 7 students are expected to:- Make reasonable estimates of differnet	**Spatial Sense** Students use geometric language to describe the features of 2D and 3D shapes and objects when they have to compare and classify theses. They recognise differnet 2D representations of 3D shapes and objects, lines of symmetry in common 2D shapes, and basic angles (i.e. 90 and 360 degrees). Students use shapes to make tiling or repeating patterns, and identify shapes that match exactly in different arrangements. They use simple co-ordinate systems, scales and basic compass directions to interpret maps and describe locations. Year 7 students are expected to:- Recognise, describe and name common 2D shapes (right-angled

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			measurements – length, capacity, mass (weight) and time – and of area by comparison with a square metre. Use standard measuring instruments and read scales to the neares graduation. Use standard units to measure length (millimetres, centimetres, metres and kilometres), capacity (millilitres and litres), mass (grams and kilograms) and time (seconds, minutes and hours). measure areas by counting squares and part-squares, and volume by counting cubes. Recognise the relative likelihood of events occurring on the basis of simple quantitative data. Collect information, display it in an organised form and interpret the findings. Read and interpret data presented in a variety of ways.	and equilateral triangles, quadrilateral, parallelogram and octagon) and 3D shapes and objects (rectangular, triangular and hexagonal prisms, tetrahedron and square-based pyramid) and representations of these. Use geometrical language (i.e. two-dimensional, three-dimensional, diagonal, right angle, parallel, perimeter, circumference and degrees) to describe, classify and compare shapes and objects. Recognise basic angles and describe them as corners of shapes or rotations. Identify symmetrical 2D shapes and recognise line symmetry in 2D shapes. Describe single movements of 2D shapes (flip-reflection, slide-translation, turn-rotation). Identify and describe locations and routes using simple co-ordinate maps and major compass points (N,S, E, W).