Western Australia Outcomes in Year 8-10 Mathematics for *Measure Island*

Strand	Level 4 Outcomes	Level 5 Outcomes	Level 6 Outcomes	Measure Island exhibit
Understand units and direct measure Students decide what needs to be measured and carry out measurements of length, capacity/volume, mass, area, time and angle to needed levels of accuracy.	M 9a.4 Understand units The student: Selects appropriate attributes, distinguishes perimeter from area, area from volume and time from elapsed time, and chooses units of a sensible size for the descriptions and comparisons to be made. M 9b.4 Direct measure The student: Measures area by counting uniform units, including part units where required, volume by counting cubes and length, mass, capacity, time and angle by reading whole-number scales.	M 9a.5 Understand units The student: Takes purpose and practicality into account when selecting attributes, units and instruments for measuring things and uses the relationship between metric prefixes to move between units. M 9b.5 Direct measure The student: Uses a range of whole number and decimal scales for measuring, including making measurements that are more accurate than the available scales allow.	M 9b.5 Direct measure The student: Uses a range of whole number and decimal scales for measuring, including making measurements that are more accurate than the available scales allow.	Balance Platform High Horse National measurement Kiosk (computer) Order in the Court There's an Area in There Thermal Mosaic What a Croc!

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Indirect measure Students select, interpret and combine measurements, measurement relationships and formulate to determine other measures indirectly.	M 10a.4 Measurement relationships The student: Understands elapsed time and relationships involving the perimeter of polygons, the area of regions based on squares and the volume of prisms based on cubes, and uses these for practical purposes.	M 10a.5 Measurement relationships The student: Understands and applies directly circumference, length, area and volume relationships for shapes based on rectangles and rectangular prisms and circles and uses similarity and Pythagoras's Theorem to solve straightforward right triangles.	M 10a.5 Measurement relationships The student: Understands and applies directly circumference, length, area and volume relationships for shapes based on rectangles and rectangular prisms and circles and uses similarity and Pythagoras's Theorem to solve straightforward right triangles.	Go with the Throw High Horse National measurement Kiosk (computer) There's an Area in There What a Croc!
Estimate Students make sensible direct and indirect estimates of quantities and are alert to the reasonableness of measurements and results.	M 11.4 The student: Uses the known size of familiar things to help make and improve estimates, including centimetres, metres, kilograms, litres and minutes.	M 11.5 The student: Makes sensible estimates of length, area, mass, volume, capacity, angle and time in standard units and identifies unreasonable estimates of things.	M 11.6 The student: Estimates in situations in which it is sensible to do so, including those where direct measurement is impossible or impractical, and judges whether estimates and measurements are reasonable.	High Horse Order in the Court There's an Area in There What a Croc! Worth the Wait

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Reason geometrically Student reason about shapes, transformations and arrangements to solve problems and justify solutions.	S 16.4 The student: Selects, describes and compares figures and objects on the basis of spatial features, using conventional geometric criteria.	S 16.5 The student: Analyses, describes and applies distinguishing features of common classes of mathematical figures and objects, including angle relationships and uses the terms 'parallel' and 'perpendicular' in context.	S 16.6 The student: Analyses, describes and applies properties of, and relationships between, the classes of figures that can be reasoned about in terms of the properties of triangles, similarity and congruence, parallel and intersecting lines and angle relationships, including circle. geometry	There's an Area in There
Appreciating Mathematics Students appreciate the role mathematics has had, and continues to have, in their own and other communities.	NA	NA	NA	All exhibits

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