



Sunshine College
MATHEMATICS 2013

DIFFERENTIATED CONTENT LESSON PLANNING DOCUMENT

YEAR LEVEL: 8

TERM : 3

TOPIC : Measurement

LESSON 7: Total Surface Area

WARM UP – (5 – 10 min)

Matchmaker

Each student is given a card with a name, a net, a diagram or characteristics (number of faces, vertices and edges) of a 3D shape. Students move around the classroom and locate others who hold a card with matching details, until a full set is made.

LEARNING FOCUS: Consolidation of area and applying this knowledge to determine the total surface area of a shape

INSTRUCTIONS:

Students to select the correct net for the 3D shape which they want to investigate. Measure or count boxes on nets to determine the total surface area of the shape, then create the 3D shape and display in classroom. Some nets will not create the prism, this is intentional students who choose an incorrect net still complete the area calculations and then try to put the net together, they can then swap for the correct net if they are able to identify it.

ACTIVITY (20- 30 min)	EASIER AusVELS LEVEL	★ Rectangular prism printed on grid (square) ★ ★ Rectangular prism on Blank paper (square) Rectangular prism on grid	<p style="text-align: center;"><u>Focussed teacher observations</u></p> <ul style="list-style-type: none"> • Recognises the correct net • Uses the number of rows and the number in each row to determine the area of a rectangle. (NOT rows and columns or L x W) • Accurately measures in cm. • Recognises that they need 6 groups of the area and thus multiply the area calculated by 6 for a cube. • Recognises which faces are identical and multiplies to calculate area.
	MAIN TASK AusVELS LEVEL	★ ★ ★ Right angled Triangular Prism net (can offer with grid if that support is required) ★ ★ ★ ★ Isosceles Triangular prism	<p style="text-align: center;"><u>Focussed teacher observations</u></p> <ul style="list-style-type: none"> • Recognises that a triangle has an area that is half the size of a rectangle of the same dimensions. • Identifies the number of shapes which are identical and uses multiplication to work out the total area.
	HARDER AusVELS LEVEL	★ ★ ★ ★ ★ Cylinder to scale with radius and height given. ★ ★ ★ ★ ★ ★ Cylinder not to scale with diameter given.	<p style="text-align: center;"><u>Focussed teacher observations</u></p> <ul style="list-style-type: none"> • Understands the number of times that a square the size of r^2 fits into the top and base of the cylinder. • Identifies that the length of the rectangle is equivalent to the circumference • Identifies that the width is equivalent to the height of the cylinder. • Constructs a formulaic description of the calculation.

REFLECTION ACTIVITY – (10 min)

Grade 6

Write a set of instructions for a grade 6 student to work out the total surface area of your shape.

