USQ Education

Generic Learning / Lesson Plan Template

Year Level/s: 10MAT	Date: 25-5-21	Learning Areas: Measurement & Geometry	Duration: 70 mins	

Curriculum descriptor / Outcomes / Learning or Skills: What is the broad educational goal in terms of the curriculum, syllabus or framework?

Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids (ACMMG242)

Lesson Objective: What specific part of this broad goal does this lesson aim to develop? A good objective must indicate "Given what, Do what, How well?"

LI – Determine area of composite shapes

Know and Do: By the end of the lesson, what knowledge (content and understanding) and skills (processes) do students need to develop?

Students need to **know** …	Students need to **be able to** …
Area of rectangles, triangles, parallelograms, trapeziums, circles and sectors to calculate the area of composite shapes.	Calculate the areas of various composite shapes.

Evaluation / Monitoring and Assessment:

Prior Knowledge: (*How will I find out what the students know and/or remember?*):	**Formative Assessment:** (*How will I monitor student understanding along the way?*):	**Summative Assessment:** (*How will I provide concrete evidence of student learning?*):
Check student engagement and response to warm up questions.	Observe students working on exercise questions. Ask questions to check for understanding.	

Resources needed:	Composite shapes worksheet.	**Safety Concerns:** nil

Learning Steps and Teaching Strategies	**What to say**	**Organisation / Resources**	**Individualised learning**
Introduction – key learnings and how they will be achieved (*consider strategies, relevance, individual / group work, clarify student understandings of task, student voice, student choice etc.*)			
Time Allocation: First step – practise drawing conversion diagram. Warm up questions (2 conversion questions, one trapezium, one parallelogram, one sector) Mark roll. Write answer and working out for warm up question.	*What key messages will I convey?*	*How will I organise learning activities and utilise resources?* Get students started on warm up question while I mark roll.	*How can I make adjustments to meet individual student needs?* Show working out for warm up question and explain my thinking as I work through problem.
Lesson Body – step by step outline of learning experience sequence (*consider HOTS tasks, monitoring understandings, provision and use of resources, general student responsibilities etc.*)			
Time Allocation: Write LI on board: Finding area of composite shapes What does composite mean? (made up of different parts – i.e. made up of different shapes) I do/We do: Outline features of each composite shape and a worked example. You do: Worksheet – Ex5_09, Q14 (a-f). Give students a chance to get started, then do working out on board. Last 10-15mins: If students have finished worksheet, hand out blank paper: students to design a composite shape with measurements, for another student to solve. Design could be for a building, artwork, bike obstacle course, playing field (paint), golf course.	*What questions will I ask?* Tell me how you worked this out? Walk around room, checking students as they work on problems. If a few people have the same question, do example on board.	*How will I handle the transitions between activities?* Talk to students and prep for next activity while cleaning board, writing up questions.	*How will I know if students are achieving the learning objectives?* Observing students as they work through questions.
Conclusion – reviewing learning / summarising / articulating where to next (*Strategies to capture learning that occurred and move thinking forward.*)			
Time Allocation: Collect calculators, student to clean board. Link back to LI -Area of composite shapes. Link to next lesson – Surface Area of prisms. Thank class, say goodbye.	*How will I help students to synthesise learnings?* Work through Q's on board if students are having difficulties.	*What plans are in place for those who finish early?* Design a building/artwork/bike ramp using composite shapes. Calculate the total area.	*What about those who need more time?* Write working out for questions on board.

Collaborative activity to ease maths anxiety and improve engagement. While teaching this lesson, I chose to bring this activity forward, spending more time on it, as I could see students becoming disengaged with the previous activity.