

Lesson plan showing scaffolding and questioning to support student learning



Education

Generic Learning / Lesson Plan Template

Year Level/s: 7	Date: 14/5/21	Learning Areas: Mathematics	Duration: 70 mins
Curriculum descriptor / Outcomes / Learning or Skills: What is the broad educational goal in terms of the curriculum, syllabus or framework? Investigate and calculate 'best buys', with and without digital technologies (ACMNA174)			
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?" Use unitary method to compare prices of items and work out the "best buy". (Let students know that text I write in blue is to be copied into their books)			
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 ... The unitary method can be used to work out the price per unit. It is expressed as \$/unit Units can be a single item, 1 gram, 1 kilogram, 1 metre, 1 litre etc.		Students need to be able to ... Organise price information as \$/unit. Calculate unit cost by: $cost \div number\ of\ items\ or\ units$	
Evaluation / Monitoring and Assessment:			
Prior Knowledge: (How will I find out what the students know and/or remember?): Students looked at equivalent fractions in Year 6; make links with unitary method.	Formative Assessment: (How will I monitor student understanding along the way?): Observe student responses to questions.	Summative Assessment: (How will I provide concrete evidence of student learning?):	
Resources needed:	2 x containers with lollies; price labels; blue and black whiteboard markers		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.)			
<p>Time Allocation: Engage – 2 containers of lollies – one with 10, another with 14. Have students guess (silent thought) how many lollies in each.</p> <p>Show students the lollies and count – 10 & 14, so they can see how many lollies in each container.</p> <p>Put prices on containers (\$5 and \$6, for 10 & 14 respectively). Which container of lollies is the best buy?</p>	<p>What key messages will I convey?</p> <p>It can be difficult sometimes to mentally work out which is cheaper because the quantities are different.</p>	<p>How will I organise learning activities and utilise resources?</p> <p>Use props (lollies and price labels) to engage students. Helps to develop skills in estimation.</p>	<p>How can I make adjustments to meet individual student needs?</p>
Lesson Body – step by step outline of learning experience sequence (consider HOTS tasks, monitoring understandings, provision and use of resources, general student responsibilities etc.)			
<p>Time Allocation: Explore - Brainstorm – what is meant by "best buy"? (teacher to write responses on board).</p> <p>I do: Write definition of best buy on board. <u>Calculating Best Buy</u> An item is a "best buy" if it has the lowest price for one unit of the item. A unit can be 1 piece, 1 kg, 1 gram, 1 metre, 1 litre etc.</p> <p>Visual worked example, students explore: Remove the prices on the lolly containers and work through the following scenarios to see if students can mentally work out the unit price. Scenario 1: \$10/10 lollies and \$10/14 lollies Scenario 1: \$14/10 lollies and \$14/14 lollies Scenario 3: \$5/10 lollies and \$6/14 lollies.</p> <p>Explain: Show students how to work out cost of one lolly, using method below. Students watch this, no writing. Ask questions – how can we say which is a better buy?</p> <p>Students to write down: <u>Calculate the cost for one unit</u> <i>Unit cost = cost ÷ number of items or units</i></p>	<p>What questions will I ask?</p> <p>What words/ images do you think of when I say "best buy"?</p> <p>Relate best buy to grocery shopping. Where have you heard this term? What is "best" referring to? Which one packet of lollies would you buy? Why? Why not?</p> <p>Which is cheaper – "best value for money"? (Students should recognise, without the need for calculations, that where the price is the same, it is better value to have more in the container). Ask if they can work out how much for 1 lolly? \$10/10 and \$14/14.</p> <p>Back to our original question – which is cheaper \$5/10 or \$6/14? Use the unitary method to compare the price of 1 lolly in each container.</p>	<p>How will I handle the transitions between activities?</p> <p>Mark roll while students estimate number of lollies.</p> <p>Talk to students as I set up for each activity.</p> <p>Let students know that text I write in blue is to be copied into their books.</p>	<p>How will I know if students are achieving the learning objectives?</p> <p>Observe students working on problems on worksheet. Ask questions – how did you get this answer? What does the answer mean? What would happen if...?</p>

<i>Unit cost = cost ÷ number of items or units</i>			
<p>Example 1: Which brand of chips is the best buy? Doritos: \$1.50 for 50 grams Thins Chips: \$2.00 for 200 grams Red Rock Chips: \$4.40 for 220 grams</p> <p>Calculate the unit cost (cost per gram) for each brand:</p> <p>Use the unitary method: <i>Unit cost = cost ÷ number of items or units</i></p> <p>Doritos: $= \\$1.50 \div 50 \text{ grams}$ $= \\$0.03/\text{gram}$ </p> <p>Thins Chips: $= \\$2.00 \div 200 \text{ grams}$ $= \\$0.01/\text{gram}$ </p> <p>Red Rock Chips: $= \\$4.40 \div 220 \text{ grams}$ $= \\$0.02/\text{gram}$ </p> <p><i>∴ Thins Chips is the best buy because the unit price is the lowest at \$0.01/gram</i></p> <p>You do: Students to work on Best Buys worksheet.</p>	<p>Walk around room, observing students as they work on worksheets. If a few students are having difficulties getting started, show working out for first question on board.</p>		
Conclusion – reviewing learning / summarising / articulating where to next (<i>Strategies to capture learning that occurred and move thinking forward.</i>)			
<p>Time Allocation:</p> <p>Finish working on sheet 10 minutes before end of lesson. Students to check answers.</p> <p>Homework: next time you're at the grocery shop, look at the price tags – it will have unit pricing so you can compare different sized packaging of the same product. Link to next lesson: explain how this lesson links to next lesson on Wednesday (19th) on rounding decimals.</p>	<p><i>How will I help students to synthesise learnings?</i></p>	<p><i>What plans are in place for those who finish early?</i></p> <p>For calculations involving 1 gram, work out the cost for 100 grams.</p>	<p><i>What about those who need more time?</i></p> <p>Model examples on the board if students are having difficulty getting started. Refer back to the rule: Unit cost = cost ÷ number of items or units</p>