# Language Focused Teaching Template — Completed

Make a copy of this template, or another of your choosing, to organize your daily instruction.

Day___

| Lesson Component | Notes | | |
|---|---|---|---|
| **Learning Goal** | Students will use what they know about rates and ratios to develop a strategy for solving real world problems.[1] | | |
| **Language Goal** | Students will use justifying language and academic vocabulary to support their answers ("I know this because," "This is the best deal because," "This is the best deal because the unit rate is...") | | |
| **Language Demands** | **What mathematical academic language must students know?** | **What language in the problem could be supported?** | **What language should students use in their answers?** |
| | Unit rate<br>Unit price<br>Calculate<br>Equivalent unit rates<br>Ratio<br>Multiply | School carnival<br>Ticket booth<br>Best deal<br>Running the ticket booth | The best deal is _____ because each ticket costs ____. I know this because…<br>The students running the booth could modify the list of prices by… |
| **Introduction** | Today, you are going to use what you've learned about rates and ratios to help a group of students figure out the best price to charge per ticket for their school carnival. | | |

[1] The problem being discussed in this sample template comes from IM 6-8 Math.

**Use the slides with picture vocabulary words to help students build context.*

Before we dive into the problem, let's talk a little bit about what goes on at a school carnival. Has anyone ever been to one? What was it like? How did you pay for rides and food? **As kids are sharing their answers, use this time to talk about the key vocabulary words on the slide.*

## Monitoring Chart

| Strategy | Specific Solution Method | Example | Assessing Questions | Advancing Questions | Who & What | Order |
|---|---|---|---|---|---|---|
| Find the price per ticket (i.e., unit rate) | Calculate each unit rate separately using division | Option C: $10 divided by 25 tickets<br><br>= $.40/ticket | Why did you divide the dollars by tickets? What does each of your answers represent? How does this tell you which option is<br><br>the best deal? | Is there a way you could've found the answer without finding the unit price for all five options? | *Juan's solution: He organized his information in a table.* | *First- this strategy works, but it is a lot of work and not as efficient as other strategies. It's a good entry point though.* |
| | Calculate some of the unit rates and use the relationship between tickets and price to identify equivalent unit rates | Option B: $5 divided by 12 tickets =<br><br>~$0.42/ticket<br><br>Option E: $50 for 120 tickets will have same unit rate as Option B because<br><br>$5 x 10 = $50 and 12 tickets x 10 = 120 tickets | Why did you start by dividing the dollars by tickets?<br><br>Why didn't you divide the dollars by tickets for all five options? How did you figure out the other options if you didn't divide? | What if I changed Option E to $60 for 150 tickets? Is that still the same deal as Option B (or better or worse a deal)? | | |

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|---|---|---|---|---|---|---|
| Compare ratios of tickets to price in the different options | Multiply one option to get same number of tickets as another option | Option A: multiply<br><br>$0.50 / 1 ticket by 12 to get $6 / 12 tickets<br><br>Compare to Option B ($5 / 12 tickets) | Why did you multiply by __?<br><br>How did you decide which numbers to multiply? | Would it also have worked to multiply to get the same price between 2 options? Why or why not? | *Julia's solution:*<br><br>*She multiplied each group of tickets by*<br><br>*.50 to see if it was cheaper to buy tickets individually or in groups.* | *Second- this can connect to Juan's because she does this for each ticket group, and it will connect to Cristian's.* |
| | Multiply one option to get same price as another option | Option B: double $5<br><br>/ 12 tickets to get<br><br>$10 / 24 tickets<br><br>Compare to Option C ($10 / 25 tickets) | Why did you multiply by __?<br><br>How did you decide which numbers to multiply? | Would it also have worked to multiply to get the same number of tickets between 2 options? Why or why not? | *Cristian's solution: He saw doubling relationships with*<br><br>*$5.00 & $10.00 and*<br><br>*$25.00 & $50.00, as well as 25 tickets and 50 tickets.* | *Third- Cristian used relationships to figure out which had the best deal. This required the least amount of complex*<br><br>*computation.* |
| | Find a common multiple and multiply both options | Comparing Options B (12 tickets) & C (25 tickets), multiply<br><br>12 x 25 to get common multiple of 300 (Option B =<br><br>$125 / 300 tickets, Option C = $120 / 300 tickets) | Why did you multiply ___ by ___?<br><br>How did you decide which numbers to multiply? | Is there another way you could have multiplied to find the answer? | | |

**Connecting Student Responses To Each Other And to Learning Goals**

- What was the big math idea of this lesson? How and where did students have chances to connect to this idea?
- How will I know if they "got it"?
- What supports will students need to be able to start productive conversations?
- How will students demonstrate mastery of the language goal? What supports will they need to demonstrate this mastery?
- What will I look for in student work or hear in conversations that tells me they understood the mathematical ideas?

In this lesson, I want students to use what they know about rates and ratios to develop a problem-solving strategy. I also want them to start thinking about how to use what they know to solve problems more efficiently. I will start with Juan's solution because it provides an entry point for all students, then move to Julia's and end on Cristian's. I will ask questions like, "how is Julia's strategy similar to Juan's?", and "What's different between Cristian and Julia's strategy?" I want them to notice how Cristian and Julia used what they know about ratios and relationships, where Juan relied on a procedure (finding unit rate). I may also ask, "How did Cristian and Julia use relationships to help them solve?".

I will also be listening to the language they use. I want to hear them use the vocabulary and sentence frames that we introduce at the beginning of the lesson to communicate their thinking.