Grade 3 / Case Study 1

MATH ✳ **SMARTER BALANCED PERFORMANCE TASK**

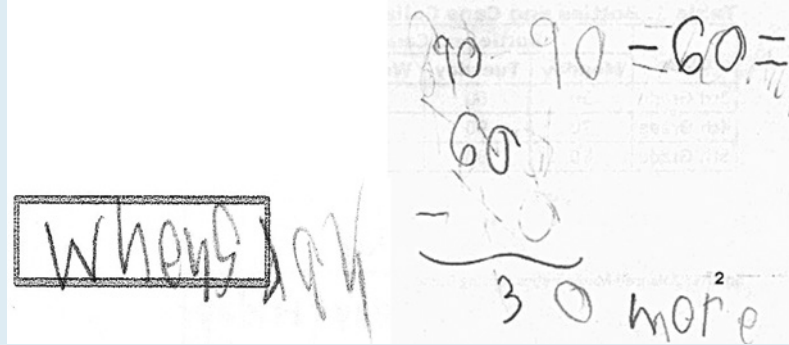| Item 1	Use **Table 1** to help you answer this question. On which days did the 3rd grade class collect more cans and bottles than the other two grades? Select **all** that apply.
Student Response to Item 1	☐ Monday ☐ Tuesday ☐ Wednesday ☒ Thursday ☒ Friday
Analysis of Response to Item 1	The student's response to the first item of the task earns full credit (1 out of 1 possible point). The student accurately selected both of the days that the 3rd grade class collected more bottles and cans than the other grades.

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Item 2	Use **Table 1** to help you answer this question. On Tuesday, how many more bottles and cans did the 4th grade class collect than the 3rd grade class?
Student Response to Item 2	
Analysis of Response to Item 2	The student's response to the second item of the task unfortunately earns 0 out of 1 possible point because the student entered a day of the week rather than the difference between the amounts collected by the 3rd and 4th grades on Tuesday. However, there is clear evidence that this student understood the mathematics of the problem. The correct computation is shown, but the number was not entered into the answer box.

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Item 3	You are the contest judge. You need to figure out who won the contest. Did 3rd grade, 4th grade, or 5th grade win the "Go Green" contest?
	Use words and numbers to clearly explain:
	• which grade won the contest, and
	• how you know they collected the most cans and bottles.

Student Response to Item 3	

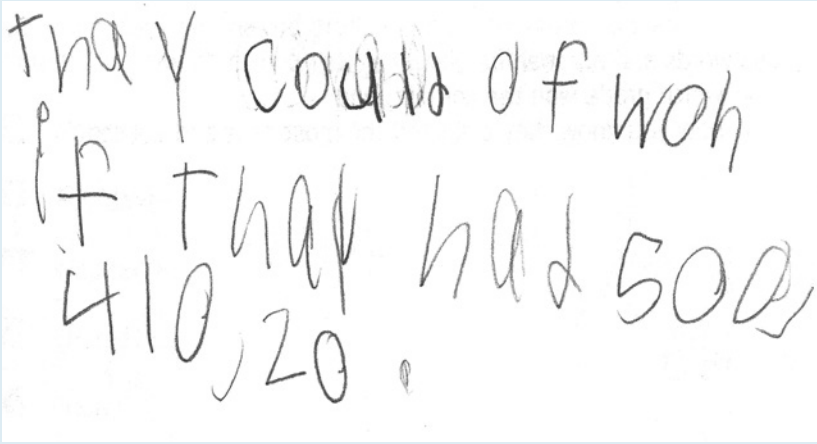| Analysis of Response to Item 3	The student's response to the third item of the task earns 2 out of 2 possible points. The student made two arithmetic errors (290 should be 390; 310 should be 410). These errors occurred when carrying from the tens place to the hundreds place. The student also assigned the wrong grade level to the sum 400. However, the student provided a logical approach and a justification for the result. The student clearly communicated that based on the sums, the 4th grade was the winner by comparing its total to the other grade level totals: "4th grade won because it has 400 and that is a bigger number then 290 or 310."

Item 4	The 2nd grade class got excited about the "Go Green" contest and wanted to join in. They started collecting bottles and cans on Wednesday, even though they missed the first two days.
	Complete the table to show a way for the 2nd grade class to still win the contest.

Student Response to Item 4	

	Wednesday	Thursday	Friday
2nd Grade	500	410	20

Analysis of Response to Item 4	The student's response to the fourth item of the task earns 1 out of 1 possible point. The student chose three amounts for 2nd grade that add up to more than the greatest total in item 3.

Item 5	Use your answers from questions 3 and 4 to explain how the 2nd grade class could have won the "Go Green" contest.
Student Response to Item 5	*[handwritten student response:]* That y could of won if that had 500 410,20.
Analysis of Response to Item 5	The student's response to the final item of the task earns 0 out of 2 possible points. The student restated the amounts from item 4 without comparing the sum of item 4 to the highest total from item 3. This item is intended to assess communicating reasoning, and requires a logical statement that makes use of information that is already established. The response should include a comparison of the sum of the values in item 4 with the highest sum from item 3 to show that grade 2 would have collected more bottles and cans to win the contest.

Overview of Student's Performance

This student's responses show evidence of understanding the context of the situation. The student correctly selected all days that applied for item 1. For item 3, the student transferred the numbers accurately from the table, lined up the numbers by place value, computed to find totals, and drew an appropriate conclusion based on two arithmetic errors. The student chose appropriate values for item 4 and used them in a partial response to item 5.

For item 2, this student correctly subtracted "90-60=30 more" in the workspace, but put a day of the week in the answer space, which indicates the student understood the question but was unclear on the required answer. This student was very specific when responding to item 3, showing all relevant computations and providing a specific claim with specific evidence. However, the reply for item 5 was vague ("Thay could of won") and did not include specific evidence to support the claim by comparing the total for grade 2 to the winning total from item 3. Building on the specificity given in response to item 3, the student could be supported to be as specific in his/her responses to similar problems.

Next Steps

The student's responses to items 2 and 5 on this task suggest that this student would benefit from opportunities to engage in Math Practices 3 and 6, including opportunities to revise and refine explanations and justifications for clarity. The student would benefit from close reading strategies and coaching to connect draft responses back to the questions being asked to ensure all the requirements of a question have been met (e.g., "use your answers from… to…"). The student has provided a lot of evidence of strong mathematical sense-making, including coordinating between the meaning of quantities in context and the management of values abstractly (MP 2). The mathematics content of this task largely connects with grade 2 standards. Evidence from the student's responses indicates this student can accurately add and subtract two-digit numbers, but the student may need more practice adding three-digit numbers. For item 3, this student computed totals for each grade level, but then assigned the values to the wrong grade level. Learning to label his/her work would support this student's accuracy and clarity of communication.

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