



Putting a Spin on It

Part A Be sure students are familiar with a spinner, so they understand the scenario. Prompt students to tell you the rules for rounding: the ones digits 1 through 4 mean you round down to the nearest 10, and the ones digits 5 through 9 mean you round up to the nearest 10. For students who are fairly new to rounding, you may want to have them go through the scores and put a red dot or other mark by the numbers whose ones digits are 1 – 4. This may help them remember which are rounded down and which are rounded up.

Part B Students should quickly identify which addition is easier, but they may be challenged to verbalize a reason. You can ask those students to add a few of each sort of number from the table. This will help them identify exactly what problems they encounter adding ones and tens. Encourage students to give their reason in a complete sentence.

Performance Task Rubric

Task Scenario Students will explore the benefits, effects, and potential problems when rounding the scores of a game to the nearest ten.

Depth of Knowledge DOK2, DOK3

		Scoring Rubric				
Part A 2 points	Full Credit		Sara's Score	Sara's Rounded Score	De'Quan's Score	De'Quan's Rounded Score
		Turn 1	78	80	81	80
		Turn 2	67	70	77	80
		Turn 3	86	90	72	70
		Turn 4	73	70	63	60
	Partial Credit	1 point will be given for two or fewer incorrectly rounded scores.				
	No Credit	No points will be given for more than three incorrectly rounded scores.				
Part B 2 points	Full Credit	Sample answer: It is easier to add numbers that are rounded than it is to add numbers that are not rounded because all I need to add is the tens.				
	Partial Credit	1 point will be given for a response indicating that the scores are easier to compare when rounded but no reason is given.				
	No Credit	No points will be given for an incorrect answer.				



PERFORMANCE TASK

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Part C Students will have to refer back to the table in Part A to complete this comparison. You may choose to have students add the numbers directly in the table and write the sum below for easier comparison. To extend the problem, have students count how many of the numbers were rounded up for both students, and how many numbers were rounded down.

Part D Again, you may have students add the numbers directly from the table and write the totals below. Although they are now dealing with 3-digit numbers, the rounding should only include the ones and tens digits. Students who find this confusing can cover the hundreds digit with a piece of paper or their finger and then think about the rounding.

Part E Students discovered in Part A that the highest score was not necessarily the highest rounded score when the scores were rounded before adding. This problem reverses the actions. Students who dispute that De’Quan could not get a higher actual score but a lower rounded score could be invited to investigate and try to find such a score.

Performance Task Rubric (continued)

Task Scenario Students will explore the benefits, effects, and potential problems when rounding the scores of a game to the nearest ten.

Depth of Knowledge DOK2, DOK3

Scoring Rubric	
Part C 2 points	<p>Full Credit Sara: $78 + 67 + 86 + 73 = 304$; $80 + 70 + 90 + 70 = 310$ De’Quan: $81 + 77 + 72 + 63 = 313$; $80 + 80 + 70 + 60 = 290$ Yes, rounding changes the outcome. De’Quan had more points without rounding, but fewer points after rounding.</p>
	<p>Partial Credit 1 point will be given for calculating the scores but not stating whether rounding changes the outcome or for not calculating the scores but stating that rounding does change the outcome.</p>
	<p>No Credit No points will be given for an incorrect answer.</p>
Part D 2 points	<p>Full Credit Sara’s score is 312, which rounds to 310. De’Quan’s score is 314, which rounds to 310. The rounded scores are tied, so no one wins the game.</p>
	<p>Partial Credit 1 point will be given for calculating all the scores correctly, but not providing a response to who wins or not calculating the scores but responding that the game will be tied.</p>
	<p>No Credit No points will be given for an incorrect answer.</p>
Part E 2 points	<p>Full Credit No. If De’quan’s score is higher before rounding, it will not round to a lower score than Sara’s.</p>
	<p>Partial Credit 1 point will be given for answering “no” without explanation or only explaining that if one number is greater than another, it cannot be rounded to a number that is less.</p>
	<p>No Credit No points will be given for an incorrect answer.</p>

TOTAL 10 points maximum