

Focus  
Standards  
and Claim

Claim 3  
2.NBT.B

Stimulus

### Going Green

The “Go Green” company held a week-long recycling contest at your school. The grade that collects the most bottles and cans wins the contest.

Your task is to determine which grade won the “Go Green” contest.

The items that can be recycled are shown.



- Plastic bottles
- Aluminum cans
- Glass bottles

Students from the 3rd grade, 4th grade, and 5th grade classes collected bottles and cans and brought them to school.

Table 1 shows how many bottles and cans each grade collected on each day of the week.

**Table 1. Bottles and Cans Collected**

Class	Bottles and Cans Collected Each Day				
	Monday	Tuesday	Wednesday	Thursday	Friday
<b>3rd Grade</b>	50	60	90	120	90
<b>4th Grade</b>	70	90	100	50	80
<b>5th Grade</b>	80	80	80	80	80

## Item Prompt

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.

## Scoring Guide

SCORE	2 POINTS	1 POINT	0 POINTS
	The student develops an approach (add the totals and compares) to determine the winner AND gives a justification for the result.	The student correctly states that 3rd grade won but without an explanation as to why OR gives correct calculations but with a logically flawed justification.	All other responses

## Sample Responses

## Student Sample A



3<sup>rd</sup> grade won the contest because 410 is more than 400 and 390.

**SCORE RATIONALE**

This student correctly found the total number of cans and bottles collected by each grade, and correctly compared the totals to determine that 3rd grade won. The response shows evidence of the student's ability to analyze and evaluate given information to support the conclusion of who won the contest.

## Student Sample B



5th grade won they have a total of 460 more than other grades. 3rd grade had a total of 420 4th grade had a total of 390.

**SCORE RATIONALE**

Although this student made arithmetic errors, the errors do not detract from the evidence of the student's ability to develop a chain of reasoning as part of the problem-solving process. Based on the incorrect sums, this student made an appropriate claim about who won, and supported the claim by comparing the totals for each grade. The response shows evidence of the student's ability to analyze and evaluate given information to support the conclusion of who won the contest.

## Student Sample C



4th grade won because it has 400 and that is a bigger number then 290 or 310.

$$80 + 80 + 80 + 80 + 80 + 80 = 400$$

$$70 + 90 + 100 + 50 + 80 = 290$$

$$50 + 60 + 90 + 120 + 90 = 310$$

**SCORE RATIONALE**

Although this student made arithmetic errors, and assigned the sum of 400 to 4<sup>th</sup> grade instead of 5<sup>th</sup> grade, the errors do not detract from the evidence of the student's ability to develop a chain of reasoning as part of the problem-solving process. Based on the incorrect sums, this student made an appropriate claim about who won, and supported this claim by comparing the totals for each grade. This response shows evidence of the student's ability to analyze and evaluate given information to support the conclusion of who won the contest.

## Student Sample D



3rd  
50  
60  
90  
120  
12,90  
  
4th  
70  
90  
100  
50  
13,00  
  
5th  
80  
80  
80  
80  
320

The winner is 4th grade

**SCORE RATIONALE**

This student provided an appropriate statement of who won based on incorrect calculations. The response does not include a complete chain of reasoning to support the claim with a comparison of the totals for each grade. This response shows partial evidence of the student's ability to analyze and evaluate given information to support a conclusion about who won the contest.

## Student Sample E



$120 + 90 + 90 = 300$   $300 + 60 = 360$   
 $360 + 50 = 410$

$100 + 90 = 190$   $190 + 80 = 240 = 240$   
 $+ 70 = 320$   $320 + 70 = 390$

$80 + 80 = 160$   $160 + 80 = 290$   $+ 80 = 320$   
 $+ 80 = 400$

410 3rd

390 4th

400 5th

3rd grade won Go Green contest

**SCORE RATIONALE**

Although this student made arithmetic errors in the sub-totals, the errors do not detract from the evidence of the student's ability to state a claim based on given information. Based on the sums, this student made an appropriate claim of who won. However, the student did not directly connect the computations to the claim or provide a logical explanation to support the claim. The response shows strong evidence of the student's ability to synthesize, analyze and evaluate information, but insufficient evidence of a logical justification to support a claim.

## Student Sample F



80  
80  
80  
80  
80  
=  
400  
270  
90  
100  
50  
80  
=  
290  
390  
90  
120  
32  
50  
=  
401

**SCORE RATIONALE**

This student calculated totals for each grade, with 2 of 3 calculations incorrect, but the response does not include further information leading to a claim about which grade won, and does not include a justification. This response shows some evidence of the student's ability to analyze and evaluate given information, but insufficient evidence of stating or supporting a claim about which class won the contest.

**Student Sample G**

3rd grade won because on Tuesday it's the only numbers that are the biggest in 3rd and fourth grade is wendsday  
for fourth grade is 100 and 3rd grade Thurs.  
is 120 so it was 20 more than 100.

**SCORE RATIONALE**

This response suggests the student may not have understood the problem. Although the statement regarding Wednesday is correct, it does not address the question of which grade collected the most bottles and cans over the course of the week. This response shows only minimal evidence of the student's ability to analyze and evaluate given information to support the conclusion about which class won the contest.

**Student Sample H**

3rd grade has the most bottles because they have 120.

**SCORE RATIONALE**

This response shows little evidence of understanding the problem. Although 3rd grade did win the contest, the evidence provided does not address the question of which grade collected the most bottles and cans over the course of the week. Instead, the response appears to support a claim of which grade collected the most bottles and cans in a single day. This response shows minimal evidence of the student's ability to interpret given information to support a conclusion about which class won the contest.