

Focus Standards and Claim

Claim 3
4.OA.A

Stimulus

Picking a Pet

Your class is trying to decide what type of animal to get for the class pet. Your teacher is letting the class vote to choose a goldfish, a turtle, or a hamster as the class pet.

All 20 students in your class voted for both their 1st choice and their 2nd choice for the class pet. The results are shown in Table 1.

Table 1. Class Pet Votes

Student	1st Choice	2nd Choice	Student	1st Choice	2nd Choice
1	Turtle	Hamster	11	Turtle	Hamster
2	Goldfish	Hamster	12	Turtle	Goldfish
3	Goldfish	Turtle	13	Hamster	Turtle
4	Hamster	Turtle	14	Hamster	Goldfish
5	Goldfish	Turtle	15	Turtle	Goldfish
6	Turtle	Goldfish	16	Goldfish	Turtle
7	Hamster	Goldfish	17	Turtle	Goldfish
8	Turtle	Goldfish	18	Turtle	Goldfish
9	Goldfish	Hamster	19	Turtle	Hamster
10	Goldfish	Hamster	20	Goldfish	Hamster

Item Prompt

Your classmate claims that there is **no** point system that could result in the goldfish winning. Do you agree or disagree with your classmate?

Use words and numbers to explain your reasoning.

Scoring Guide

SCORE	2 POINTS	1 POINT	0 POINTS
	The student disagrees with his/her classmate's claim and explains his/her reasoning by providing a point system for 1st and 2nd choice which meets the criteria from Item 3 and results in the Goldfish winning the contest. For example: Equal values for 1st and 2nd choice, 4 pts for 1st and 3 pts for 2nd, etc.	The student disagrees with his/her classmate's claim and provides a point system for 1st and 2nd choice which may be flawed or lack sufficient detail, OR the student agrees with his/her classmate's claim and provides a point system that supports his/her position.	No scoring method or incorrect scoring method given.

Sample Responses

Student Sample A



I disagree because when you count all the goldfish on both 1st and 2nd choice you should get 15 and that's the greatest out of turtle and hamster.

SCORE RATIONALE

The student disagreed with the claim and explained the reasoning by providing a point system with which the goldfish would win: both 1st and 2nd choice votes are counted, and each vote is worth one point. This would result in the goldfish winning. The response demonstrates understanding of the essential components of this task, and receives full credit.

Student Sample B



Disagree. If votes are equal worth first choice or second choice than goldfish wins. Even if votes are worth 5 or 10 or 1, equal for first and second choice than goldfish win. even if votes are 5 for first choice 4 for second choice goldfish gets $5 \times 7 = 35$ for first and $4 \times 8 = 32$ for second choce.

$$35 + 32 = 67 \text{ for goldfish}$$

$$\text{turtle gets } 5 \times 9 = 45 \text{ and } 4 \times 5 = 20$$

$$45 + 20 = 65, \text{ less than } 67 \text{ for goldfish}$$

SCORE RATIONALE

This response states disagreement, and provides several different point systems to show ways that the goldfish could win. One way is for the 1st and 2nd choice votes to be worth the same number of points; another way is for 1st choice votes to be worth 5 points and 2nd choice votes to be worth 4 points. The explanation includes values and computations that illustrate how the goldfish could win, and demonstrates a robust understanding of the relevant quantitative relationships in this situation. The response receives full credit.

Student Sample C



I would disagree because there is many ways the goldfish could win. For example, the turtle could have 3 1st choice votes and 3 2nd choice votes. The hamster could have 4 1st choice votes and 2 2nd choice votes. So, that would mean the goldfish would have 4 1st choice votes and 4 2nd choice votes. So, that would mean the goldfish would have 8 votes in all.

SCORE RATIONALE

This student disagreed and then provided fictitious votes to show how the goldfish could win, hypothetically. Although the response correctly disagrees, it indicates a misunderstanding of the task. The point system is flawed in that it is based on invented data instead of given data. Still, the response does provide some evidence of claims 3G and 3F, which are assessed by this item; the response earns partial credit.

Student Sample D



I agree because 1st choice votes have to be more than the 2nd choices and the goldfish got less of the first votes which are key to winning.

SCORE RATIONALE

This response states agreement with the statement. The explanation suggests a point system that considers both 1st and 2nd choice votes, assigns more points to 1st choice votes than 2nd choice votes, and notes that “the goldfish got less of the first votes which are key to winning.” However, the explanation lacks sufficient detail to communicate clear enough support for agreement. The response receives 1 point.

Student Sample E



I agree, because no matter how or what number times it, no matter whether it's 1st choice or 2nd choice, goldfish won't win.

$$9 \times 4 = 36 \text{ turtle}$$

$$7 \times 4 = 28 \text{ gf}$$

$$4 \times 4 = 16 \text{ hs}$$

SCORE RATIONALE

The student agreed with the classmate, and gave the explanation, “no matter how or what number times it, no matter whether it's 1st choice or 2nd choice, goldfish won't win.” The response also includes an example point system where only the 1st choice votes were considered; each 1st choice vote was assigned 4 points. In this example, the goldfish does not win, so the example supports the position taken, however, the explanation is not sufficiently supported by a single example. The response earns 1 point.

Student Sample F



I disagree because technically The goldfish has more points on the second counn.

SCORE RATIONALE

This response includes a statement of disagreement, and indicates a promising focus on the 2nd choice votes; however a scoring method is not described. 0 points.

Student Sample G



I agree because I even multiplied bigger numbers compared to the turtle and the turtle still won

same with the hamster

turtle - 24

hamster - 20

goldfish - 21

SCORE RATIONALE

The student agreed with the classmate, and provided a rationale that does not clearly support this position and is not articulated enough to fully understand. Rather than assigning different amounts of points to 1st vs. 2nd choice votes, the suggested point system seems to assign different amounts of points to votes for different animals. This is an incorrect scoring method. The response earns 0 points.