Montana Comprehensive Assessment System *(MontCAS, Phase 2)*

Criterion-Referenced Test (CRT)

COMMON CONSTRUCTED-RESPONSE ITEM RELEASE
MATHEMATICS, GRADE 5

2008

OPI

OFFICE OF PUBLIC INSTRUCTION

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Mathematics

Session 1 (No Calculator)

You may NOT use a calculator during this session.

Write your answer in the space provided for it in your Student Response Booklet. Show all of your work.

25. Parents of King School students will buy a new piece of playground equipment. The fourth- and fifth-grade students voted for the type of playground equipment they would like to have. The results are shown in the chart below.

Students' Voting Results for Playground Equipment

Equipment	Fourth Grade	Fifth Grade
Monkey bars	25	25
Basketball hoop	16	28
Soccer net	32	18

a. On the grid in your Student Response Booklet, make a double bar graph that shows the fourth- and fifth-grade students' votes for each type of playground equipment. Be sure to label your graph, provide a title, and provide a key to show which bars are fourth-grade votes and which bars are fifth-grade votes.

b. Which type of playground equipment should the parents buy? Use the data to support your reasoning.

Scoring Guide

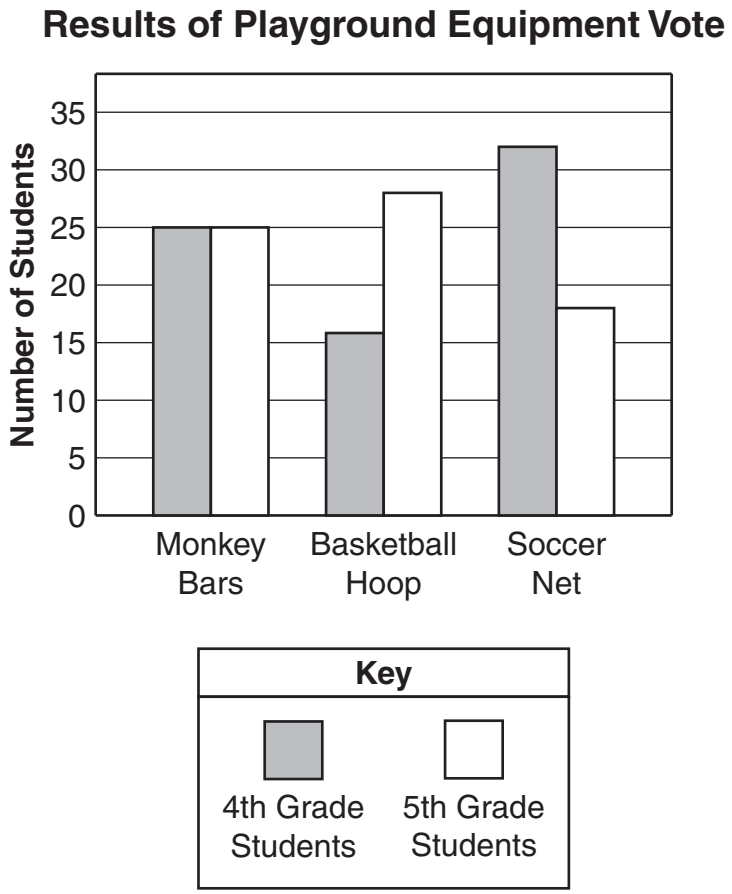
Score	Description
4	4 points
3	3 points
2	2 points
1	1 point OR Student shows minimal understanding of creating and/or interpreting a graph.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

Part a:	3 points	for a correct and complete double bar graph with axis labeled, title and key
	OR	
	2 points	for a bar graph with one or two minor errors, e.g., missing title, missing label, missing key, minor error in drawing a bar
	OR	
	1 point	for a complete and correct graph of some other type (e.g., line graph)
	OR	
	1 point	for a bar graph with no more than 3 minor errors (e.g., missing title, etc.)
Part b:	1 point	for a recommendation that is clearly justified and based on correct mathematical reasoning

Sample Response:

Part a:

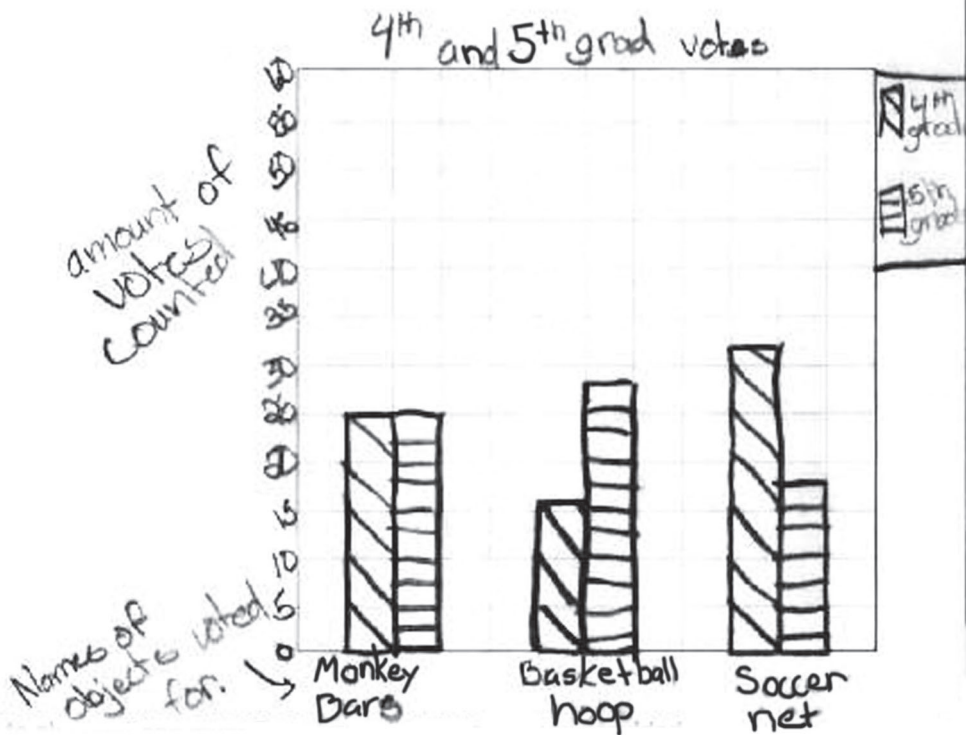


Part b: Because both grades' votes are 25 for monkey bars they should be bought. Choosing the mode is a fair choice because both grades had the same number of votes for this piece of playground equipment.

Score Point 4

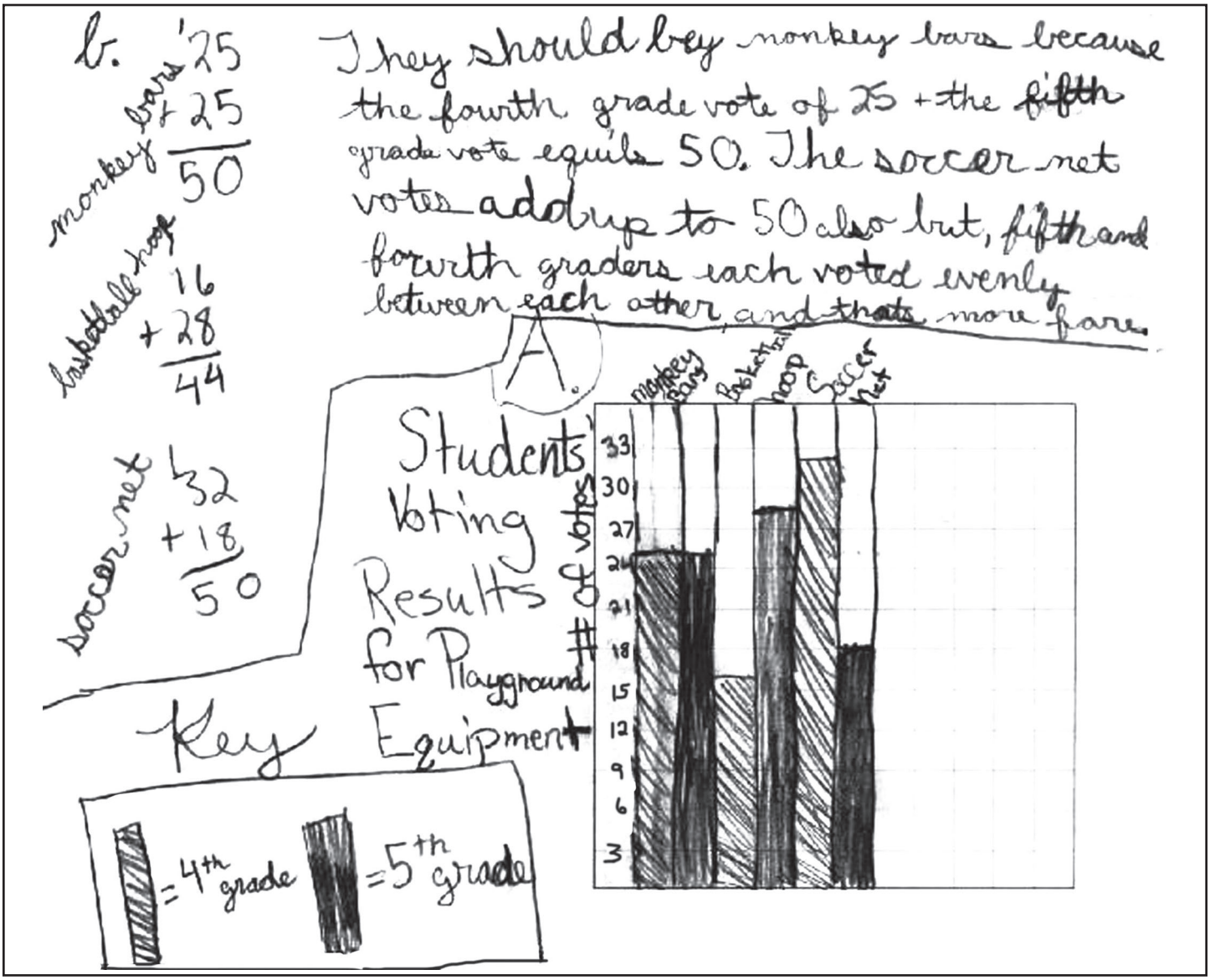
Sample 1

I think the parents should get the Monky bars Because the 5th and 4th grade had the same amounts of votes for the Monky bars.



Score Point 4

Sample 2



Score Point 3

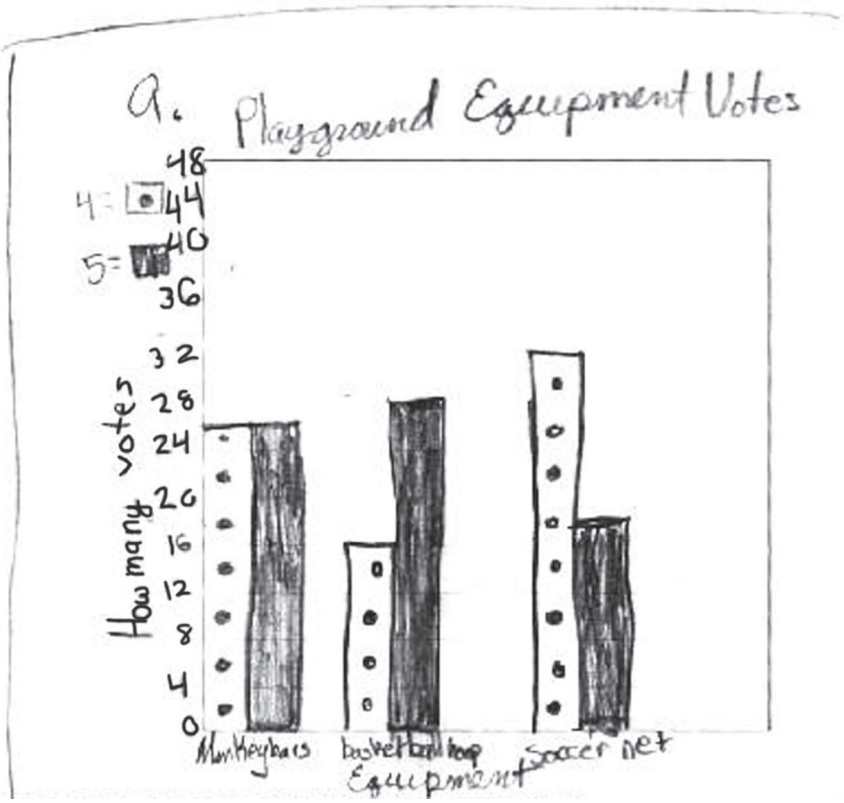
Sample 1

B.

monkey Bars	Basket ball HOOP	Soccer net
50	44	50

The monkey bars and Soccer net got the same votes they should do the vote over with all the same people but they can only vote for the monkeybars or the soccer net

$$\begin{array}{r} {}^{1}28 \\ \times 16 \\ \hline 44 \end{array}$$

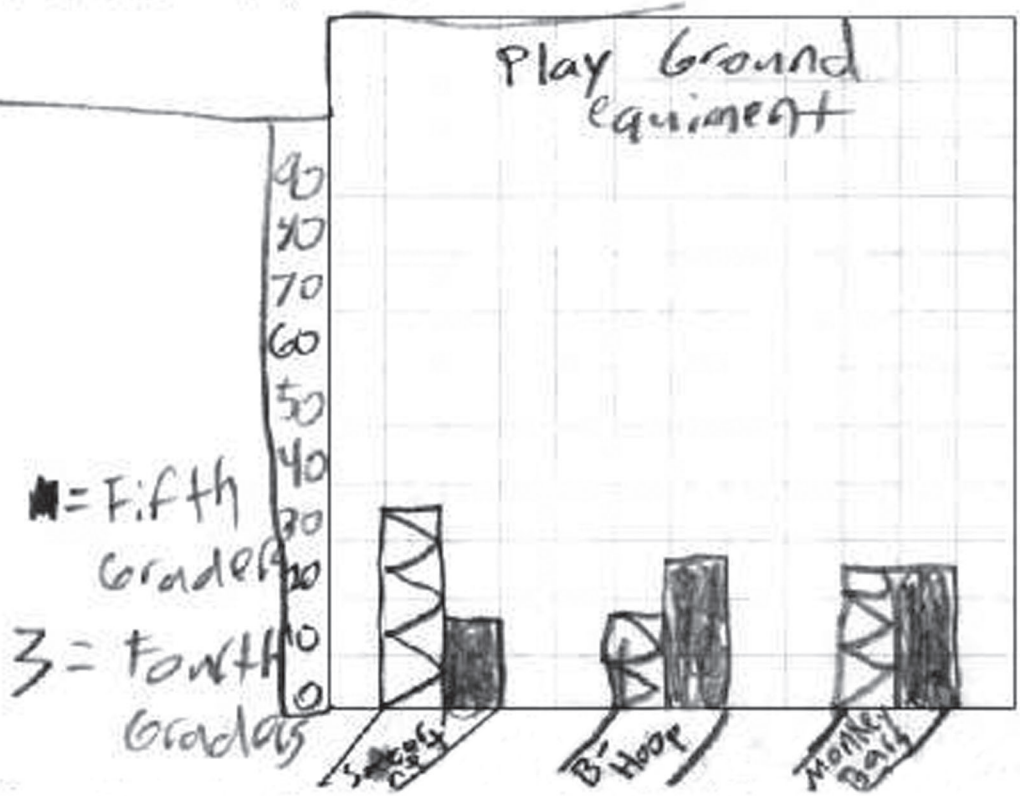


Score Point 3

Sample 2

B. They should by the Monkey Bars because Both the same amount of 4th graders and 5th grades want it and it has a total of 50 votes, More thaN the Basketball hoop.

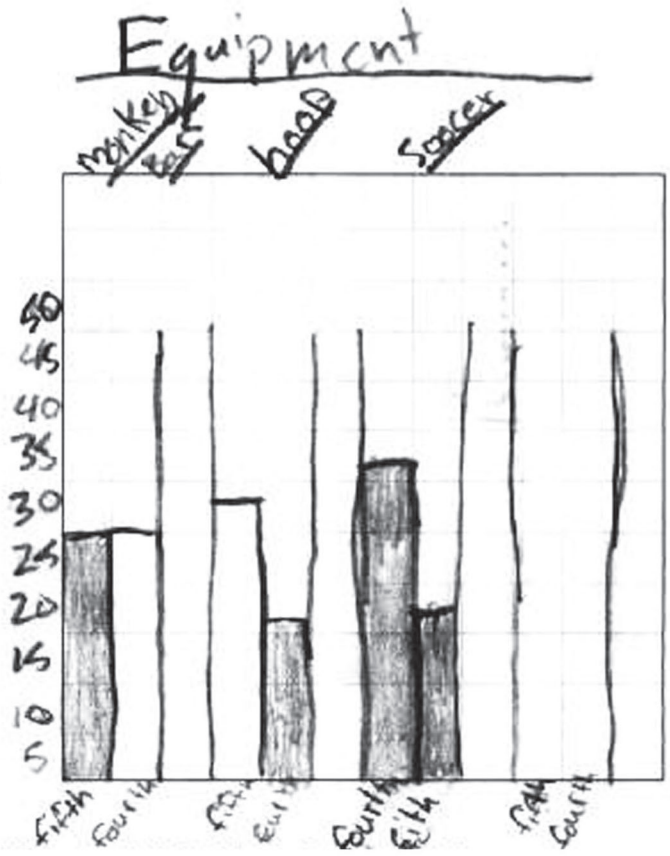
A.



Score Point 2

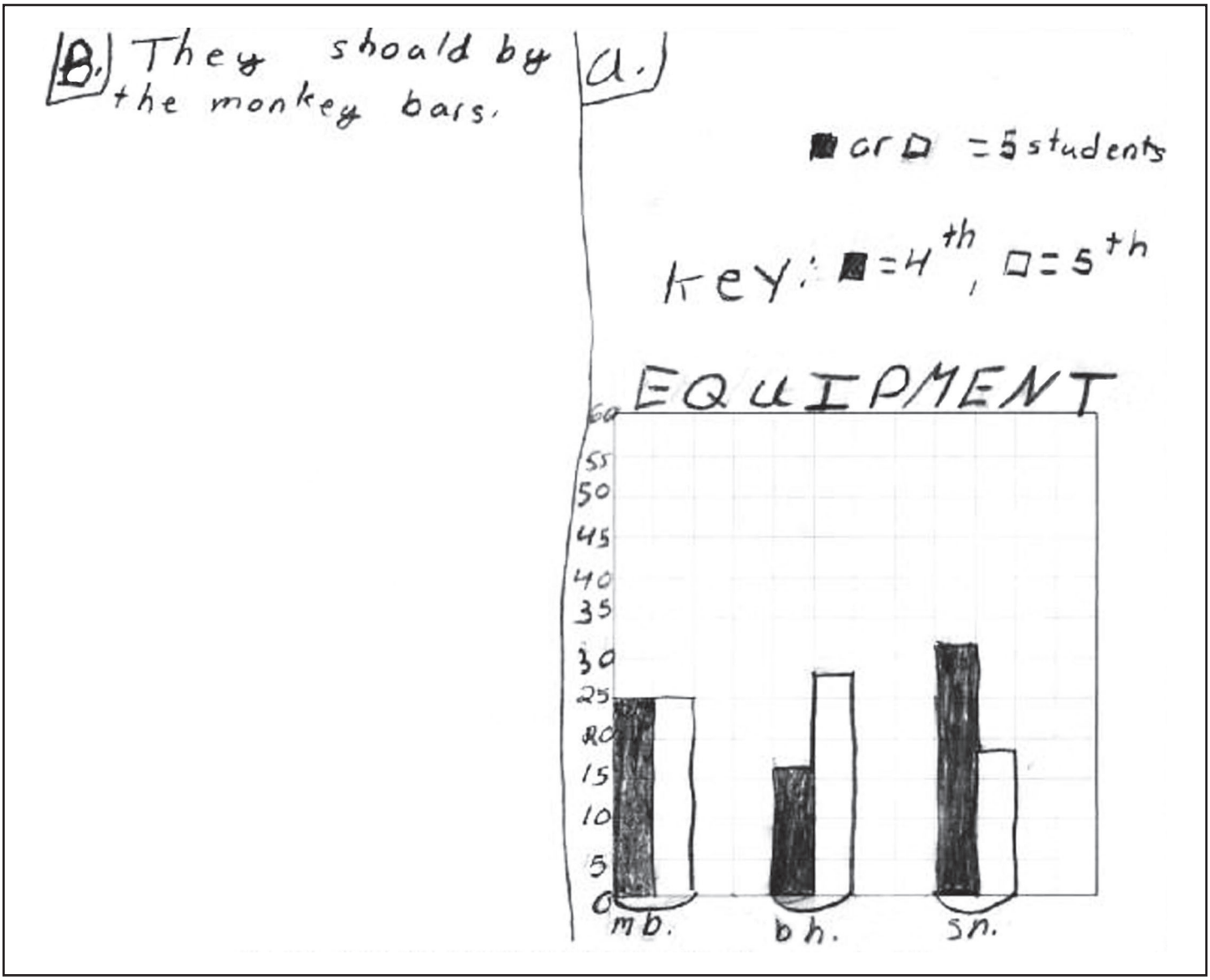
Sample 1

b. Basket ball because
it is safer the
the monkey bars because
you can fall and split your
head open. it is also
safer then the soccer
net because when you
dive you might dive
into the bars and cut
your head.



Score Point 2

Sample 2



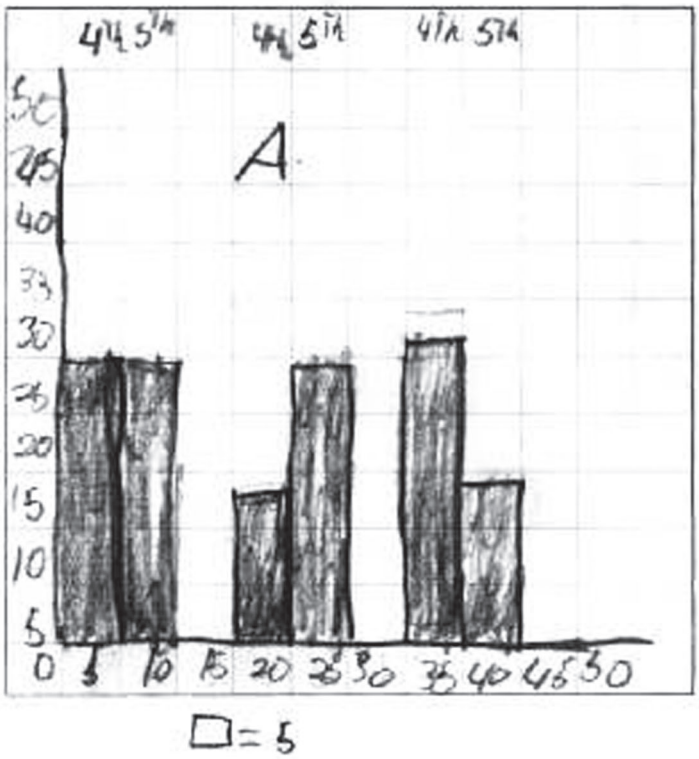
Score Point 1

Sample 1

$$\begin{array}{r} 2 \\ 25 \\ 28 \\ +15 \\ \hline 71 \end{array} \qquad \begin{array}{r} {}^{1} \\ 32 \\ 25 \\ 16 \\ \hline 73 \end{array}$$

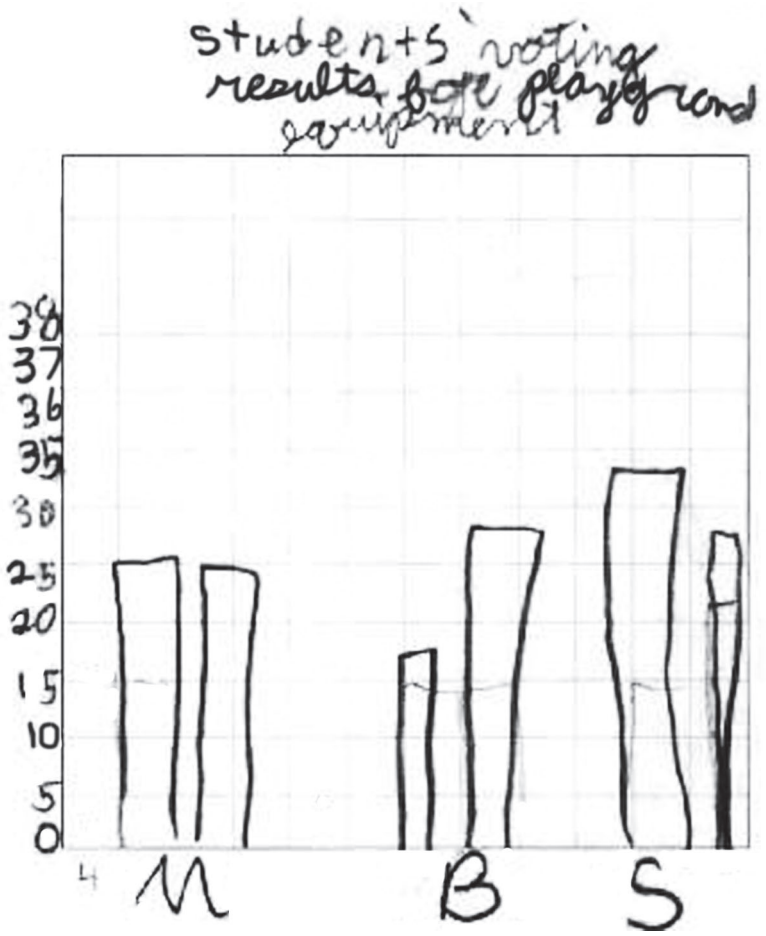
$$\begin{array}{r} {}^{1} \\ 32 \\ 18 \\ \hline 50 \end{array}$$

B. Thy should by monkey bars because it has The most votes.



Score Point 1

Sample 2



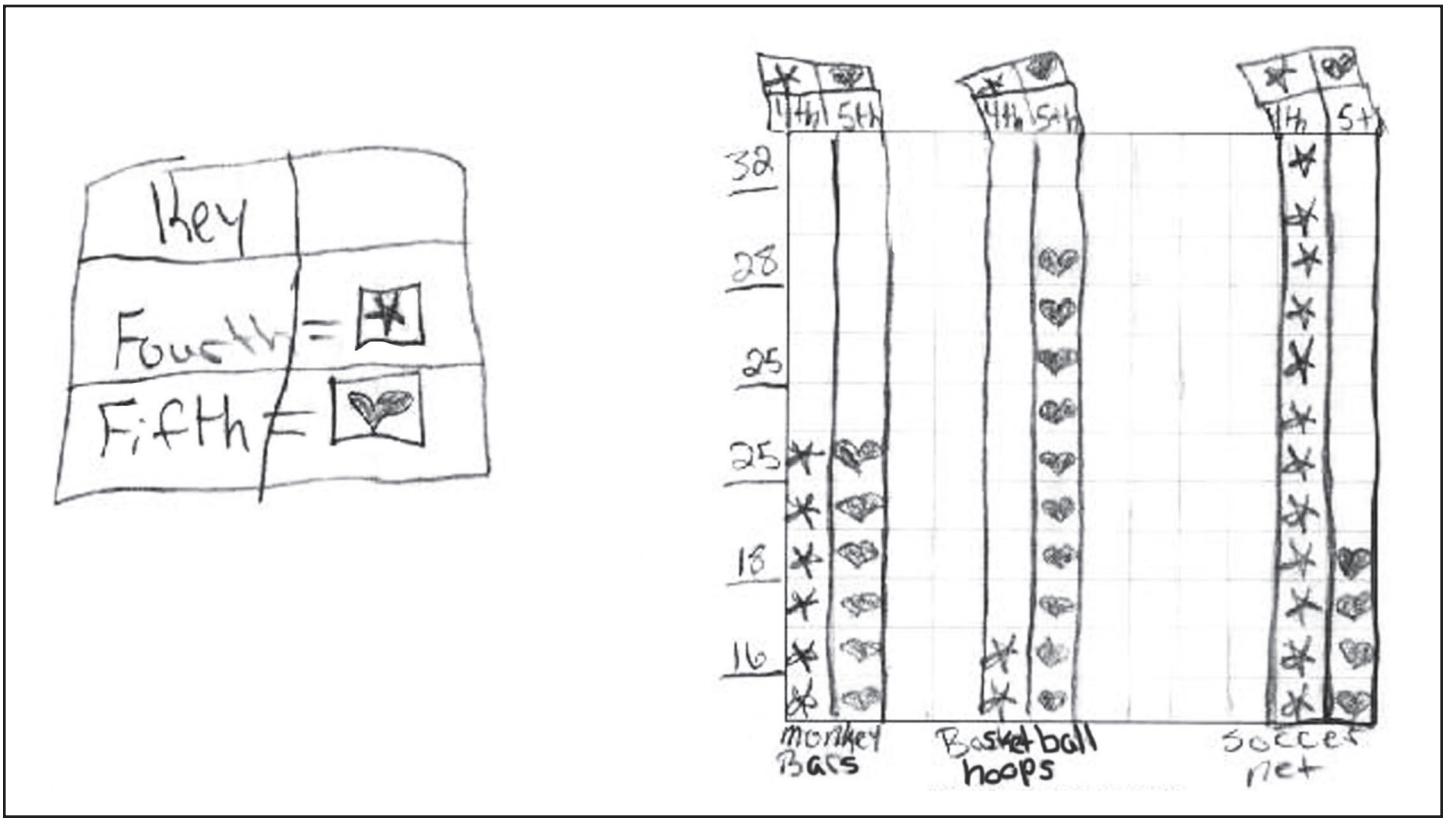
Score Point 0

Sample 1

B. The should get the Basketball hoop and the monkey bars too. That the most Votes

A. Student Voting Results for playground Equipment

Equipment	4 Grad	5 grad
Bars monkey	25	
basketball hoop	16	28
Soccer Net	32	18

Score Point 0

Sample 2