



Name _____

19.1 PROBLEM SOLVING • Frequency Tables

Problem Solving

Use the Favorite Pet table for 1–7.

1. The students in third grade were asked to choose their favorite pet. The data are in the tally table. Count the tally marks and put the data in a frequency table.

Favorite Pet		
Pet Type	Tally	
	Boys	Girls
Dog		
Cat		
Parakeet		
Hamster		
Fish		

2. How many more boys than girls chose dog as the favorite pet?

3. How many students chose cat as the favorite pet?

4. How many more students chose fish than parakeets?

6. How many more students chose cat or dog combined than parakeet or hamster combined?

Favorite Pet		
Pet Type	Number	
	Boys	Girls
Dog		
Cat		
Parakeet		
Hamster		
Fish		

5. Which pet got the least number of votes?

7. Did more boys or girls choose a favorite pet? Explain.

Fill in the bubble completely to show your answer.
Use the Favorite Book table for 8–10.

8. Ernie asked the third-grade classes in his school to choose their favorite type of book. How many more students chose adventure books than fairy tale books?

- (A) 12 (C) 4
- (B) 16 (D) 20

Favorite Book	
Book Type	Tally
Mystery	
Adventure	
Science Fiction	
Fairy Tale	
Historical	

9. How many students in all chose mystery or science fiction?

- (A) 9 (C) 21
- (B) 12 (D) 3

10. **Multi-Step** How many more students chose historical and science fiction combined than adventure?

- (A) 23 (C) 7
- (B) 16 (D) 8

Use the Books Read During Summer table for 11–13.

11. Halle recorded in a tally table the number of books that students read during summer vacation. How many more students read 7 books than 5 books during summer vacation?

- (A) 2 (C) 12
- (B) 5 (D) 27

Books Read During Summer	
Books Read	Tally
5	
6	
7	
8	
9	

12. How many students read 8 books during summer vacation?

- (A) 15 (C) 16
- (B) 4 (D) 7

13. **Multi-Step** How many more students read 7 books than 6 and 9 books combined?

- (A) 11 (C) 4
- (B) 13 (D) 5

Homework and Practice




TEKS Data Analysis—3.8.A, 3.8.B
MATHEMATICAL PROCESSES 3.1.D, 3.1.E,
3.1.F, 3.1.G

Name _____

19.2 Pictographs

Problem Solving

- During recycling day, teams of students collected the materials shown in the table. Use the data in the table to make a pictograph. Use this key:

Each  = 4 materials

Recycling Day Collections	
Material	Number
Glass bottles	20
Plastic bottles	32
Aluminum cans	26
Newspapers	36
Magazines	24

Recycling Day Collections	
Key:	

Use your pictograph for 2-5.

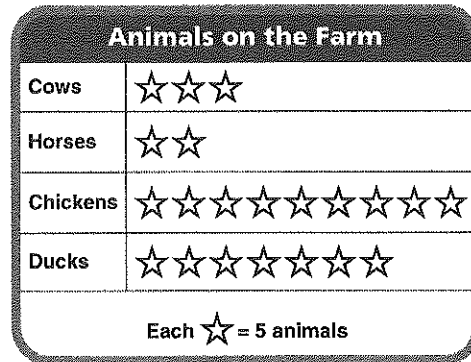
- | | |
|---|---|
| <ol style="list-style-type: none"> How many more plastic bottles were collected than glass bottles?
_____ How many newspapers and magazines were collected?
_____ | <ol style="list-style-type: none"> How many more newspapers were collected than magazines?
_____ How many plastic and glass bottles were collected?
_____ |
|---|---|

Lesson Check

Fill in the bubble completely to show your answer.
Use the Animals on the Farm pictograph for 6–8.

6. **Multi-Step** The pictograph shows the number of animals at Mr. DiPiero's farm. How many more chickens than ducks does Mr. DiPiero have?

(A) 3 (C) 10
(B) 15 (D) 16



7. Suppose Mr. DiPiero gets 30 pigs. How many star symbols would he use to show them on the pictograph?

(A) 6 (C) 5
(B) 15 (D) 30

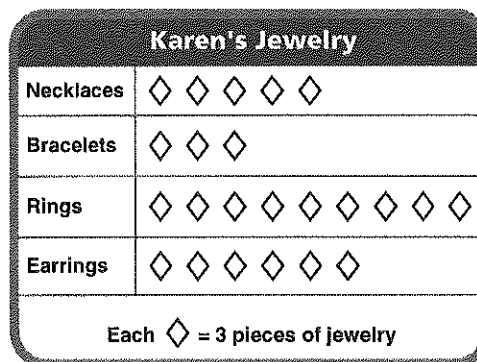
8. **Multi-Step** How many animals does Mr. DiPiero have on his farm?

(A) 21 (C) 105
(B) 26 (D) 130

Use the Karen's Jewelry pictograph for 9–11.

9. Karen has a table at a craft fair to sell jewelry. How many earrings does Karen have to sell?

(A) 27 (C) 3
(B) 18 (D) 6



10. **Multi-Step** Karen sells all of the rings and bracelets. How many pieces of jewelry is this?

(A) 18 (C) 27
(B) 36 (D) 69

11. **Multi-Step** Karen pairs up sets of necklaces and bracelets. How many necklaces will she have left that do not have matching bracelets?

(A) 6 (C) 5
(B) 2 (D) 12



Name _____

19.3 Bar Graphs

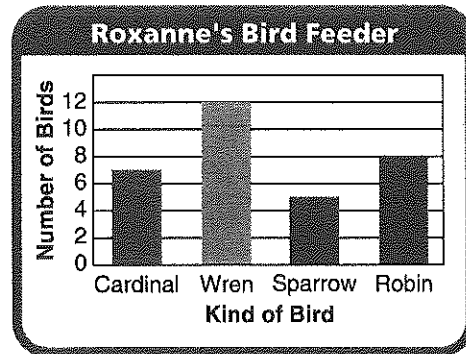
Problem Solving **Real World**

Use the Roxanne's Bird Feeder bar graph for 1–4.

- Roxanne made this bar graph to show the number of birds that she saw at her bird feeder. How many more wrens than sparrows did Roxanne see?

- How many fewer sparrows than robins did Roxanne see?

- Roxanne saw 4 more of this kind of bird than robins. Which kind of bird is this?

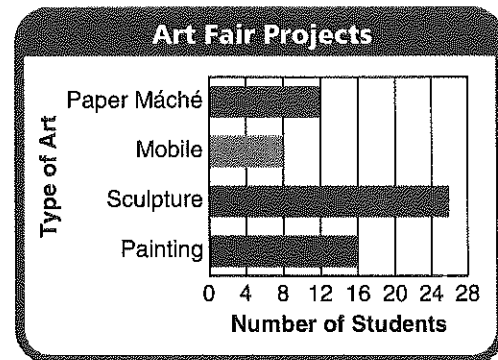


- How many birds did Roxanne see at the feeder that were not cardinals?

Use the Art Fair Projects bar graph for 5–6.

- How many more students would have to make mobiles so that the number of mobiles equals the number of sculptures?

- List the art projects in order from the least number to the greatest number of students.

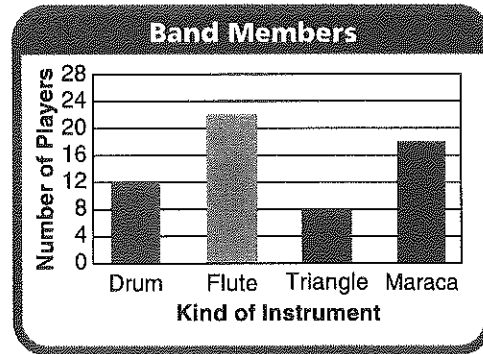


Lesson Check

Fill in the bubble completely to show your answer.
Use the Band Members bar graph for 7–9.

7. How many more flute players than triangle players are in the band?

(A) 22 (C) 30
(B) 8 (D) 14



8. The band needs the number of triangle players to equal the number of drum players. How many more triangle players does the band need?

(A) 4 (C) 8
(B) 12 (D) 20

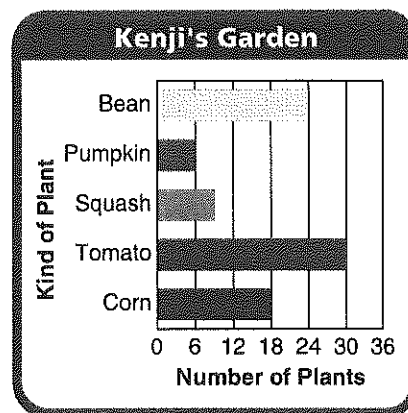
9. Multi-Step How many band members do NOT play the maracas?

(A) 18 (C) 42
(B) 34 (D) 60

Use the Kenji's Garden bar graph for 10–12.

10. Kenji wants to plant an equal number of corn and tomato plants. How many more corn plants does he need?

(A) 18 (C) 48
(B) 30 (D) 12



11. Kenji plants more pumpkin plants. There are double the number of pumpkin plants now. How many pumpkin plants are there?

(A) 6 (C) 12
(B) 9 (D) 15

12. Multi-Step How many fewer squash and pumpkin plants are there than corn and bean plants?

(A) 27 (C) 15
(B) 42 (D) 57



Name _____

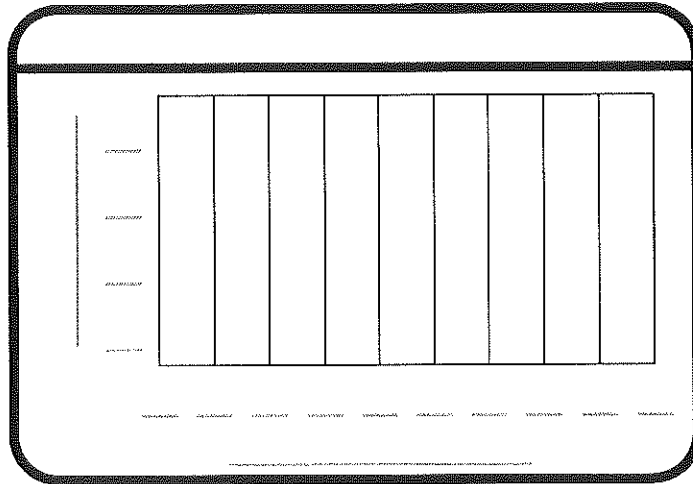
19.4 Solve Problems with Bar Graphs

Problem Solving



1. A scout troop collected cartons of food for a food drive. They recorded the number of cartons each team collected. Use the data in the tally table to make a bar graph. Choose numbers so that most bars will end on a line.

Food Drive	
Team	Number of Cartons
A	
B	
C	
D	



Use your bar graph for 2–5.

2. Which team collected the most cartons of food?

3. How many cartons of food did all of the teams collect?

4. How many more cartons of food must team C collect to equal the number of cartons that Team A collected?

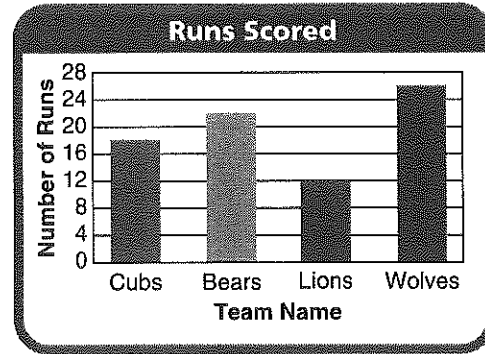
5. Which two other teams combined collected the same number of cartons that Team A collected?

Lesson Check

Fill in the bubble completely to show your answer.
Use the Runs Scored bar graph for 6–8.

6. Morris made this bar graph of the number of runs scored by teams in a softball league. How many more runs did the Wolves score than the Cubs?

(A) 18 (C) 8
(B) 44 (D) 26



7. How many runs will the bar for Lions show if the Lions score 7 more runs?

(A) 19 (C) 12
(B) 7 (D) 18

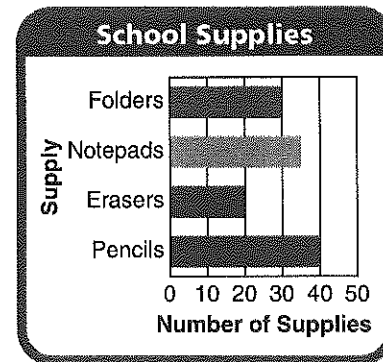
8. Multi-Step How many fewer runs did the Bears score than the Cubs and Lions combined?

(A) 18 (C) 12
(B) 23 (D) 8

Use the School Supplies bar graph for 9–11.

9. Mrs. Susi makes this bar graph of supplies for her classroom. If she has 24 students, how many notepads will she have left?

(A) 35 (C) 30
(B) 10 (D) 11



10. Mrs. Susi's class of 24 students is divided into 4 equal groups. How many pencils will each group get if the pencils are divided equally among the groups?

(A) 10 (C) 8
(B) 12 (D) 40

11. Multi-Step Mrs. Susi wants to have 40 more pencils than erasers. How many more pencils does she need to buy?

(A) 10 (C) 20
(B) 30 (D) 60

Homework and Practice



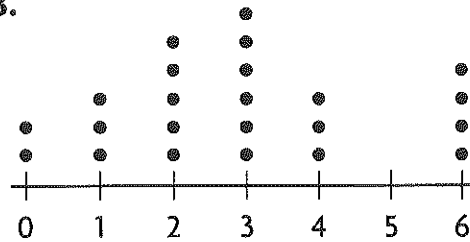
TEKS Data Analysis—3.8.A, 3.8.B
 MATHEMATICAL PROCESSES 3.1.A, 3.1.D,
 3.1.E, 3.1.F

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19.5 Dot Plots

Use the Number of Books Read dot plot for 1–3.

- The dot plot shows how many books students read during summer vacation. How many students read 6 books?



Number of Books Read

- Did more students read more than 2 books or fewer than 2 books?
- How many students read either 0 books or 5 books?

Problem Solving **Real World**

Use the table at the right for 4–6.

- Use the data in the table to make a dot plot.

Number of Miles	Students
1	7
2	5
3	6
4	3
5	2



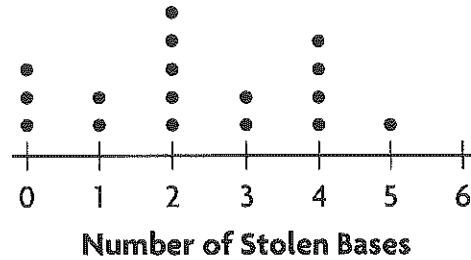
How Many Miles Do You Live From School?

- How many students live less than 2 miles from school?
- How many students live exactly 4 miles from school?

Fill in the bubble completely to show your answer.
Use the Number of Stolen Bases dot plot for 7–9.

7. The dot plot shows the number of bases stolen by each player during the softball season. How many players stole a base 5 times?

- (A) 1 (C) 2
(B) 5 (D) 3



8. Which number of stolen bases is found most often?

- (A) 4 (C) 6
(B) 5 (D) 2

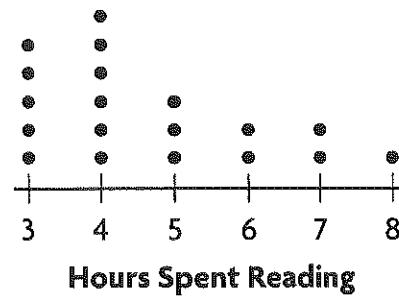
9. Multi-Step How many players stole bases during the entire softball season?

- (A) 16 (C) 12
(B) 21 (D) 14

Use the Hours Spent Reading dot plot for 10–12.

10. The dot plot shows the number of hours students spent reading in one week. How many students read for more than 6 hours?

- (A) 0 (C) 1
(B) 3 (D) 2



11. How would you change the dot plot if one more student read for 6 hours?

- (A) Draw 1 dot above 6.
(B) Draw 6 dots above 1.
(C) Draw 1 dot above 1.
(D) Draw 6 dots above 6.

12. Multi-Step How many students spent 4 or more hours reading?

- (A) 8
(B) 14
(C) 19
(D) 6