LESSON MAKER PRO

# Data Detectives

*Turn data into tables and bar graphs*

**GRADE 4 · 4.D.1.2**

**4.D.1.2** "Organize data sets to create tables, bar graphs, timelines, and Venn diagrams. The data may include benchmark fractions or decimals (1/4, 1/3, 1/2, 2/3, 3/4, 0.25, 0.50, 0.75)."

NAME _____ DATE _____

## FROM BARS TO TABLES

A frequency table shows how many times each category appears. To make one from a bar graph, read each bar's length and write that number beside its label. A fraction or decimal can be a category label.

## WORKED EXAMPLE

Use the bar graph to make a table of club votes in alphabetical order.

**CLUB VOTES**




1. Put the club names in alphabetical order: Art, Coding, Music.
2. Read each bar's length: Art has 9, Coding has 11, and Music has 13.
3. Write each count beside its club.

**Answer: Art: 9; Coding: 11; Music: 13**

## PRACTICE 6 problems

**1** The table shows how much of a puzzle each student finished. Make a frequency table for 1/4, 1/2, and 3/4.

**PUZZLE PROGRESS**

| Student | Puzzle finished |
|---|---|
| Ava | 1/2 |
| Ben | 3/4 |
| Cam | 1/4 |
| Dee | 3/4 |
| Eli | 1/2 |
| Fin | 3/4 |

**ANSWER** _____

**2** Use the graph to make a table of the votes for each game.

**FAVORITE GAMES**




**ANSWER** _____

**3** These are the parts of a book that students read: 0.25, 0.50, 0.50, 0.75, 0.50, 0.25, 0.75, 0.50. Make a frequency table for 0.25, 0.50, and 0.75.

**ANSWER** _____

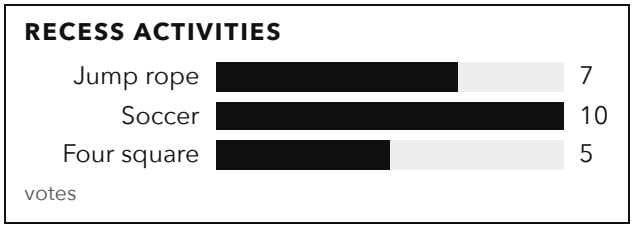
**4** You are making a bar graph from this table. What should the bar lengths be in order from 1/4 to 3/4?

**TRAIL COMPLETED**

| Part completed | Hikers |
|---|---|
| 3/4 | 7 |
| 1/4 | 3 |
| 1/2 | 5 |

**ANSWER** _____

**5** Use the graph to list the activities from most votes to fewest votes.




**ANSWER** _____

**6** Players finished these parts of a game: 1/3, 1/2, 2/3, 1/3, 2/3, 2/3, 1/2. Make a frequency table for 1/3, 1/2, and 2/3.

**ANSWER** _____

## APPLY IT Show your work

**1** Students voted for a class party activity. Use the graph to make a table of votes for each activity. How many students voted in all?

**PARTY ACTIVITY VOTES**




votes

**ANSWER** _____

**2** At a reading challenge, students reported the part of their books they had finished: 0.75, 0.25, 0.50, 0.75, 0.25, 0.50, 0.25, 0.50. Make a frequency table. Which part was reported most often?

WORK SPACE

**ANSWER** _____

## CHALLENGE One step up

The table shows how much of a book students read on Monday and Tuesday. Combine the counts into a new table with one total for each fraction. Which fraction has the greatest total?

**READING PROGRESS BY DAY**

| Day | Part read | Students |
|---|---|---|
| Monday | 1/4 | 4 |
| Monday | 1/2 | 6 |
| Monday | 3/4 | 8 |
| Tuesday | 1/4 | 10 |
| Tuesday | 1/2 | 12 |
| Tuesday | 3/4 | 14 |

WORK SPACE AND ANSWER

**ANSWER KEY**

# Data Detectives

**GRADE 4 · 4.D.1.2**

## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | The table shows how much of a puzzle each student finished. Make a frequency table for 1/4, 1/2, and 3/4. | **1/4: 1; 1/2: 2; 3/4: 3** |
| 2 | Use the graph to make a table of the votes for each game. | **Tag: 8; Chess: 4; Kickball: 12** |
| 3 | These are the parts of a book that students read: 0.25, 0.50, 0.50, 0.75, 0.50, 0.25, 0.75, 0.50. Make a frequency table for 0.25, 0.50, and 0.75. | **0.25: 2; 0.50: 4; 0.75: 2** |
| 4 | You are making a bar graph from this table. What should the bar lengths be in order from 1/4 to 3/4? | **1/4: 3; 1/2: 5; 3/4: 7** |
| 5 | Use the graph to list the activities from most votes to fewest votes. | **Soccer, jump rope, four square** |
| 6 | Players finished these parts of a game: 1/3, 1/2, 2/3, 1/3, 2/3, 2/3, 1/2. Make a frequency table for 1/3, 1/2, and 2/3. | **1/3: 2; 1/2: 2; 2/3: 3** |

## PART 2 · APPLY IT

1. **Games: 10; Crafts: 6; Movie: 8. Total: 24 students.** Read each bar to make the table. Add 10 + 6 + 8 to get 24.
2. **0.25: 3; 0.50: 3; 0.75: 2. The most frequent parts are 0.25 and 0.50, tied.** Count how often each decimal appears. Both 0.25 and 0.50 appear three times, more than 0.75.

## CHALLENGE

**1/4: 14; 1/2: 18; 3/4: 22. The greatest total is 3/4.**

Accept frequency tables with categories in any order unless an order is requested. In the second word problem, students must name both tied categories.