

Name: _____ Date: _____

Stack Spending and Saving

GRADE 5

MATHEMATICS

D1.3

B2.4

A stacked bar shows one amount split into its parts. Here each bar is one week's earnings, split into the part that was spent and the part that was saved, so the two parts always add up to the whole bar. Four weeks of the class economy are in the table below. Work out each part before you draw anything.

Four Weeks of the Class Economy

Week	Earned	Spent
Week 1	\$42.50	\$18.75
Week 2	\$38.00	\$22.40
Week 3	\$51.25	\$30.50
Week 4	\$46.80	\$19.30

Source: our class transaction history

PART A: SPLIT EACH BAR

1. Week 1 earned \$42.50 and spent \$18.75, so the saved part of its bar is \$_____.
2. Week 2's saved part is \$_____.
3. Week 3's saved part is \$_____.
4. Week 4's saved part is \$_____.

PART B: WHAT THE GRAPH WILL SHOW

5. Which week will have the tallest bar, and which week saved the most? They are not the same week.

SHOW YOUR WORK

Answer: _____

6. Find the total earnings and the total spending across all four weeks.

SHOW YOUR WORK

Answer: _____

7. How much was saved across the four weeks altogether? Check it by adding the four saved parts.

SHOW YOUR WORK

Answer: _____

PART C: SCALE AND TYPE

8. The tallest bar is \$51.25. Which scale suits the money axis best?
- (A) \$0 to \$60, in steps of \$10 (B) \$0 to \$30, in steps of \$5
(C) \$0 to \$500, in steps of \$50
9. Why stack spending and saving instead of drawing them side by side?
- (A) Because together they make up the week's earnings
(B) Because stacked bars are easier to draw
(C) Because side-by-side bars cannot show money

PART D: BUILD THE GRAPH

10. Draw the stacked-bar graph in the frame: one bar for each week's earnings, with the spent part on the bottom and the saved part on top. Give it a title, label both axes, write your scale up the side, fill in the legend, and write where the numbers came from.

TITLE

AXIS LABEL

LEGEND

AXIS LABEL

WHERE THE NUMBERS CAME FROM

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ANSWER KEY

1. \$23.75
2. \$15.60
3. \$20.75
4. \$27.50
5. Week 3 has the tallest bar at \$51.25 earned, but Week 4 saved the most at \$27.50.
6. Total earnings \$178.55 and total spending \$90.95.
7. \$87.60, which is $\$178.55 - \$90.95$ and also $\$23.75 + \$15.60 + \$20.75 + \$27.50$.
8. A) \$0 to \$60, in steps of \$10
9. A) Because together they make up the week's earnings
10. Four bars reaching \$42.50, \$38.00, \$51.25 and \$46.80, each split into a spent part (\$18.75, \$22.40, \$30.50, \$19.30) on the bottom and a saved part (\$23.75, \$15.60, \$20.75, \$27.50) on top. The weeks under their bars, "Week" along the bottom and "Dollars" up the side, a scale such as \$0 to \$60 in steps of \$10, a title such as "Where Each Week's Earnings Went", a legend naming spent and saved, and a source line naming the class transaction history.

TEACHER NOTES

The grade-level expectation: students split each week's earnings into its two real parts, choose a scale that fits the data, and produce a graph with every convention: title, axis labels, scale, legend and source. A stacked bar only works when its parts make a whole, which is why each bar is earnings split into spent and saved rather than earnings with spending piled on top. Part B question 3 checks itself two ways, and both give \$87.60.