Counting River Riders

Use bicycle counts to compare places and plan a graph.

6-9.WH.2.1 "Develop and interpret different kinds of maps, globes, graphs, charts, databases, and models."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline what the volunteers counted, circle why the counts can be compared fairly, and number two limits on what the counts can show.

Where Do the Bicycles Go?

1 A town wants to decide where to add bicycle racks along its river paths. Volunteers stood at four path entrances for the same 15-minute stretch in the morning and again in the afternoon. They counted each bicycle that passed an entrance. The table records the counts, not the number of different riders in town.

BICYCLES PASSING EACH ENTRANCE IN 15 MINUTES

Entrance	Morning	Afternoon
Cedar	12	18
Harbor	20	24
Market	15	10
Ridge	8	16

2 A count from one entrance gives a snapshot of that place at that time. Because each watch lasted 15 minutes, the town can compare the counts fairly across entrances and times. A higher count may point to a useful rack location, but the volunteers did not record where riders stopped or parked their bikes.

3 The town plans to turn the table into a graph before a public meeting. A graph can make differences between places easier to spot, while the table keeps the exact numbers close at hand. The town will also repeat the count on other days because one morning and one afternoon cannot describe every day's travel.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which entrance had the most bicycles counted across both watches? Show how you know.

2. Which entrance had the greatest increase from morning to afternoon? How large was the increase?

3. How many more bicycles passed Harbor than Market in the afternoon?

4. A planner says the table proves that Harbor needs the most bicycle racks. Does it? Explain using what the volunteers did or did not count.

3 YOUR TURN

Your own words

At two other entrances, volunteers counted 6 bicycles at Elm in the morning and 14 in the afternoon, and 11 at Lake in the morning and 9 in the afternoon. Draw a grouped bar graph of these four counts with a title, labeled axes, and a key, then write one sentence comparing how the counts changed.

ANSWER KEY

Counting River Riders

GRADES 6-9 · 6-9.WH.2.1

PART 1 · READ AND MARK

Underline what the volunteers counted, circle why the counts can be compared fairly, and number two limits on what the counts can show. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which entrance had the most bicycles counted across both watches? Show how you know.	**Harbor, with 20 + 24 = 44 bicycles counted.**
2	Which entrance had the greatest increase from morning to afternoon? How large was the increase?	**Ridge increased the most, by 8 bicycles.**
3	How many more bicycles passed Harbor than Market in the afternoon?	**14 more bicycles passed Harbor (24 − 10 = 14).**
4	A planner says the table proves that Harbor needs the most bicycle racks. Does it? Explain using what the volunteers did or did not count.	**No. Harbor had the highest passing count, but the volunteers did not count where riders stopped or parked.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Graph title: Bicycle Counts at Elm and Lake. Horizontal axis: entrance, with Elm and Lake labeled. Vertical axis: bicycles counted in 15 minutes, scaled from 0 to at least 14. Key: morning and afternoon. Elm bars: 6 and 14; Lake bars: 11 and 9. Elm's count rose by 8 bicycles, while Lake's fell by 2.

For the marking job, accept the counted bicycles, the equal 15-minute watches, and limits about parking locations and the single day of counts. For the graph, accept any clear scale that includes 14 and correctly distinguishes morning from afternoon.