Creek Data Detectives

Compare two days of oxygen readings using one scale.

FSL.3B.2 "Compare or combine data from two or more simple data presentations (e.g., order or sum data from a table, categorize data from a table using a scale from another table, relationships between data sets)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the three ranges in the oxygen scale. Then circle both readings in any table row that changes range between days, so you can compare the days using the same scale.

Two Mornings at the Creek

1. A class tested dissolved oxygen in a creek at four locations on two mornings. Dissolved oxygen is oxygen gas mixed into water, measured here in milligrams per liter (mg/L). Aquatic animals use it to breathe. The class collected water at the same locations both days, but these measurements alone cannot reveal why readings differ.

DISSOLVED OXYGEN AT FOUR CREEK LOCATIONS

Location	Day 1 (mg/L)	Day 2 (mg/L)
Creek Bend	4.2	5.4
Pine Bridge	7.8	8.3
Mill Crossing	6.1	6.6
Spring Pool	9.0	8.7

2. Use this oxygen scale to interpret each reading: below 5 mg/L is low, 5 mg/L up to but not including 8 mg/L is moderate, and 8 mg/L or higher is high. These labels describe measured oxygen, not whether creek water is safe to drink or whether the creek is healthy in every way.

3. Each number in the table is one reading, not a two-day average. To compare a location across mornings, keep the day labels attached to its numbers. You can also add its two readings or compute their average. When you compare locations, apply the same calculation and the same scale to each one.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which locations changed oxygen categories between days? Give each location's category on Day 1 and Day 2.

2. Add the two readings for Mill Crossing and for Pine Bridge. Which location has the larger two-day total?

3. How many high readings were recorded on each day? Which day had more?

4. How much greater is Spring Pool's two-day total than Creek Bend's two-day total?

3 YOUR TURN

Your own words

Design a rule for deciding which locations to check first. Your rule must use a cutoff from the oxygen scale and a calculation using both days. Apply it to all four locations, show your results, and name the locations your rule flags.

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PART 1 · READ AND MARK

Underline the three ranges in the oxygen scale. Then circle both readings in any table row that changes range between days, so you can compare the days using the same scale. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which locations changed oxygen categories between days? Give each location's category on Day 1 and Day 2.	**Creek Bend changed from low to moderate. Pine Bridge changed from moderate to high.**
2	Add the two readings for Mill Crossing and for Pine Bridge. Which location has the larger two-day total?	**Mill Crossing: 12.7 mg/L. Pine Bridge: 16.1 mg/L. Pine Bridge has the larger total.**
3	How many high readings were recorded on each day? Which day had more?	**Day 1 had one high reading, and Day 2 had two. Day 2 had one more.**
4	How much greater is Spring Pool's two-day total than Creek Bend's two-day total?	**Spring Pool totals 17.7 mg/L, and Creek Bend totals 9.6 mg/L. The difference is 8.1 mg/L.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would check a location first if its two-day average is below 5 mg/L, the scale's low cutoff. Creek Bend averages 4.8 mg/L, Pine Bridge averages 8.05 mg/L, Mill Crossing averages 6.35 mg/L, and Spring Pool averages 8.85 mg/L. Only Creek Bend meets my rule.

For Part 3, accept any clearly stated rule that uses a scale cutoff and a calculation with both days, provided the results for all four locations and the flagged locations match the rule.