

Line Graphs with Fractional and Decimal Increments

Name _____

Learning Target: Make and interpret line graphs with fractional and decimal increments.

Success Criteria:

- I can make a line graph with fractional or decimal increments.
- I can interpret a line graph with fractional or decimal increments.
- I can determine when to use a line graph or a bar graph.

Think and Grow

Example The table shows the depths of a river over several hours during a storm. Make a graph of the data. When does the depth of the river increase the most?

Time (hours)	1	2	3	4	5	6	7
Depth (feet)	$7\frac{1}{4}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$9\frac{3}{4}$	10	$9\frac{1}{4}$	$8\frac{1}{4}$

Because the data values change over time, use a line graph.

Step 1: Write the ordered pairs from the table.

$$\left(1, 7\frac{1}{4}\right), \left(2, 7\frac{3}{4}\right), \left(3, 8\frac{1}{2}\right), \left(4, 9\frac{3}{4}\right), (5, 10), \left(6, 9\frac{1}{4}\right), \left(7, 8\frac{1}{4}\right)$$

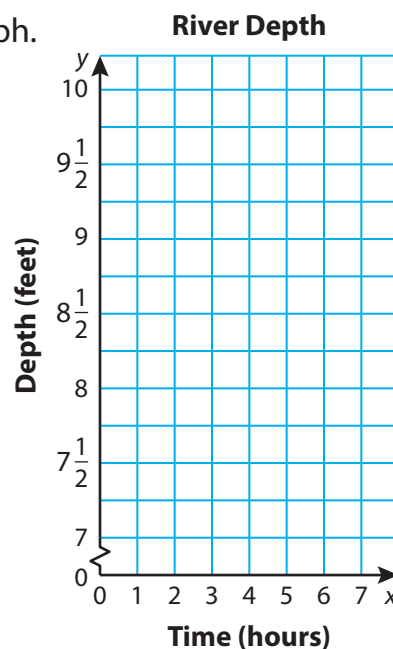
Step 2: For each axis, choose appropriate numbers to represent the data in the table.

Step 3: Write a title for the graph and label each axis.

Step 4: Plot a point for each ordered pair. Then connect the points with line segments.

The greatest increase in depth occurs between the points (_____, _____) and (_____, _____).

So, the depth increases the most between Hour _____ and Hour _____.



Show and Grow

Use the graph above.

1. When does the depth of the river decrease the most?
2. How deep do you think the river is after $6\frac{1}{2}$ hours? Explain.

Practice

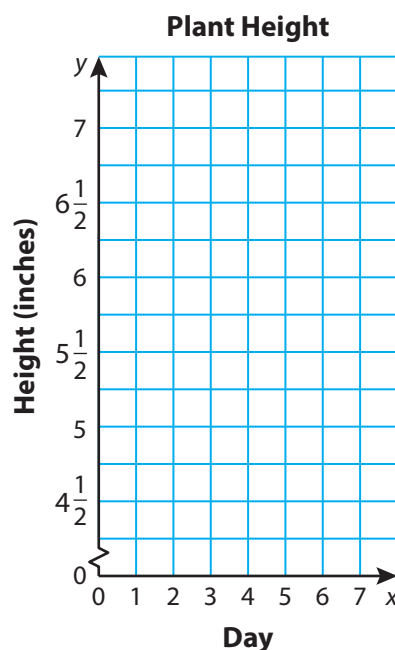
Name _____

3. The table shows the height of a plant over 7 days. Make a line graph of the data. Explain why a line graph is the best way to display the data.

Day	1	2	3	4	5	6	7
Height (inches)	$4\frac{1}{2}$	$4\frac{3}{4}$	$5\frac{1}{2}$	$6\frac{1}{2}$	7	7	$7\frac{1}{4}$

Between which two days does the plant grow the most? the least?

How much does the plant grow between Day 2 and Day 7?

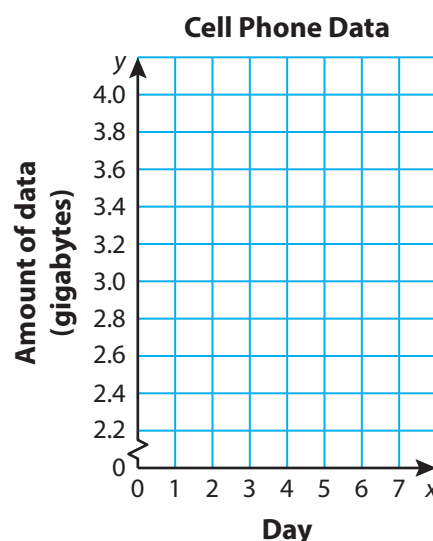


4. The table shows the amounts of cell phone data you have over 7 days. Make a line graph of the data.

Day	1	2	3	4	5	6	7
Amount of Data (gigabytes)	3.8	3.4	3.2	3.0	2.7	2.5	2.4

Between which two days does the amount of data decrease the most? Explain.

How much data do you think you will have after 8 days? Explain.



DIG DEEPER! Your data plan resets to 4 gigabytes on Day 10. Do you think you will run out of data before then? Explain.

MP Reasoning Tell whether you would use a line graph or a bar graph for the situation. Explain your reasoning.

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| 5. the favorite subjects of students in your school | 6. the number of students in a math club each year |
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