Reasoning and Problem Solving
Step 1: Read and Interpret Line Graphs

National Curriculum Objectives:

Mathematics Year 5: (5S2) Solve comparison, sum and difference problems using information presented in a line graph

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Read and interpret the line graph to work out which set of data it is presenting. Includes 1 data set using scales in increments of 1 or 2, where all increments are shown.
Expected Read and interpret the line graph to work out which set of data it is presenting. Includes 2 sets of data using any scale where all increments are shown.
Greater Depth Read and interpret the line graph to work out which set of data it is presenting. Includes 2 sets of data using any scale where some increments are missing.

Questions 2, 5 and 8 (Problem Solving)
Developing Read and interpret the line graph to identify and explain the mistake. Includes 1 data set using scales in increments of 1 or 2, where all increments are shown.
Expected Read and interpret the line graph to identify and explain the mistake. Includes 2 sets of data using any scale where all increments are shown.
Greater Depth Read and interpret the line graph to identify and explain the mistake. Includes 2 sets of data using any scale where some increments are missing.

Questions 3, 6 and 9 (Reasoning)
Developing Explain if an interpretation about a line graph is correct. Includes 1 data set using scales in increments of 1 or 2, where all increments are shown.
Expected Explain if an interpretation about a line graph is correct. Includes 2 sets of data using any scale where all increments are shown.
Greater Depth Explain if an interpretation about a line graph is correct. Includes 2 sets of data using any scale where some increments are missing.

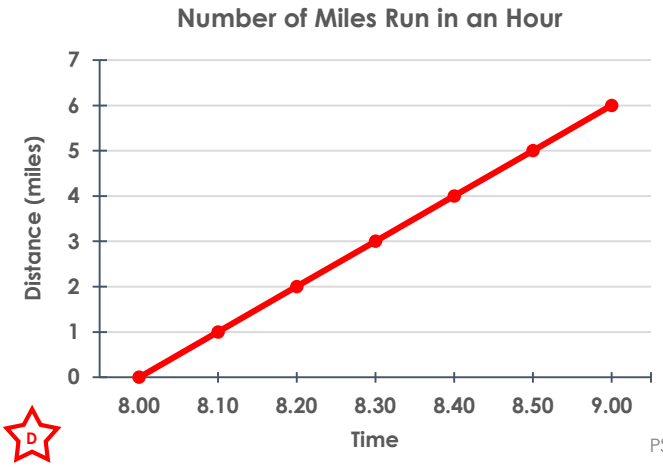
More Year 5 Statistics resources.

Did you like this resource? Don't forget to review it on our website.

Read and Interpret Line Graphs

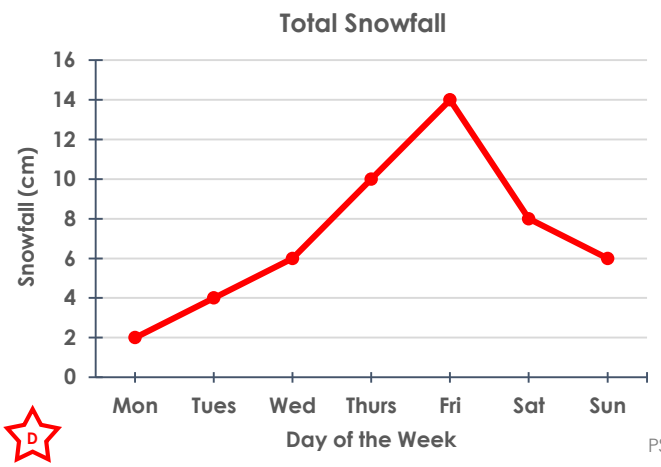
Read and Interpret Line Graphs

1a. By 8.50am, Bella had run 5 miles and Seth had run 6 miles. Whose performance is shown on the line graph?



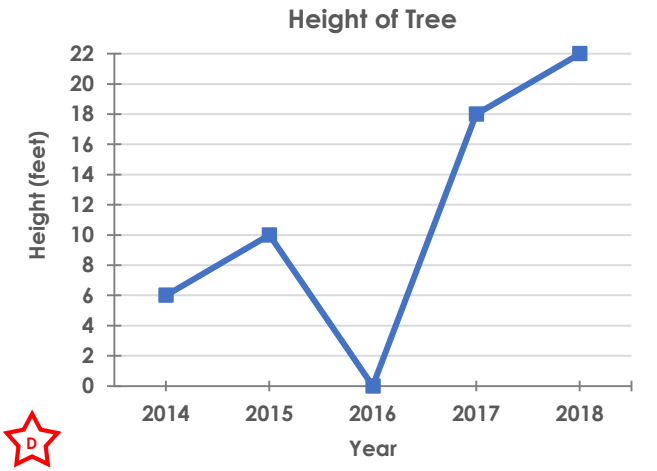
D PS

1b. Last Friday, 12cm of snow fell in Alaska, and 14cm fell in Greenland. Which country is represented on the line graph?



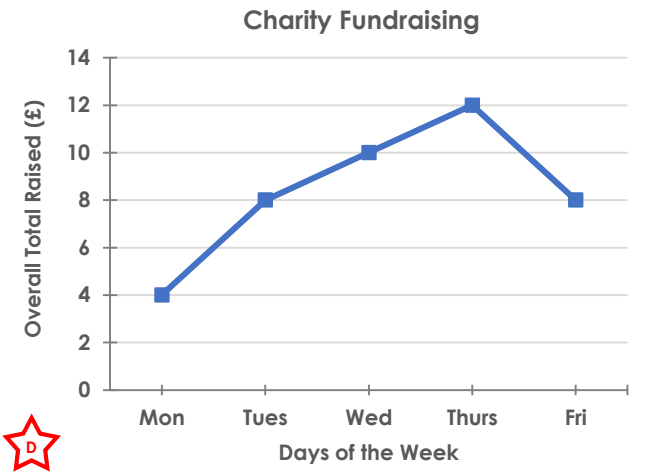
D PS

2a. Jen made a mistake when she plotted her line graph. Where do you think the mistake was made? Convince me.



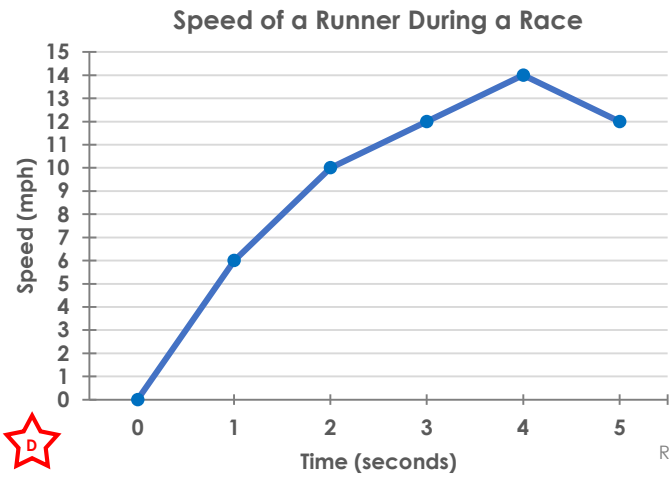
D R

2b. Simon made a mistake when he plotted his line graph. Where do you think the mistake was made? Convince me.



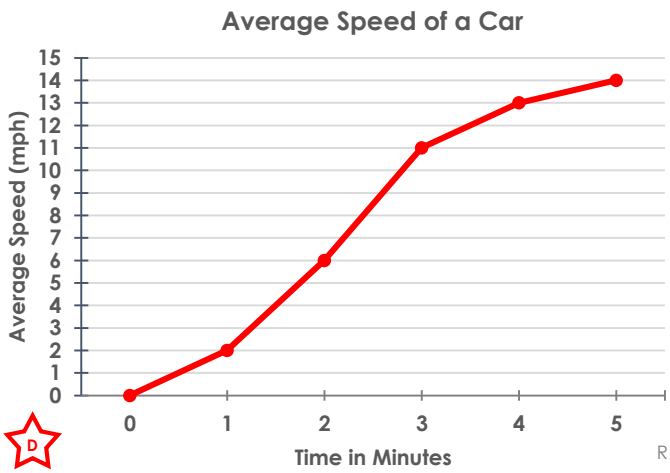
D R

3a. Freddie said that the runner took 5 seconds to reach their top speed. Is he correct? Explain why.



D R

3b. Lily said that the average speed of the car decreased after 4 minutes. Is she correct? Explain why.

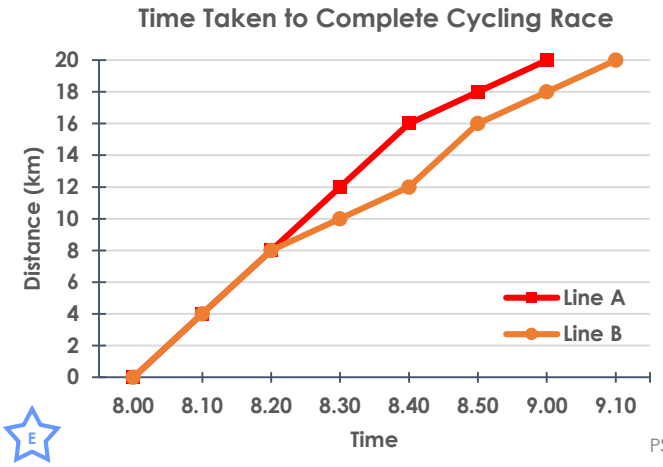


D R

Read and Interpret Line Graphs

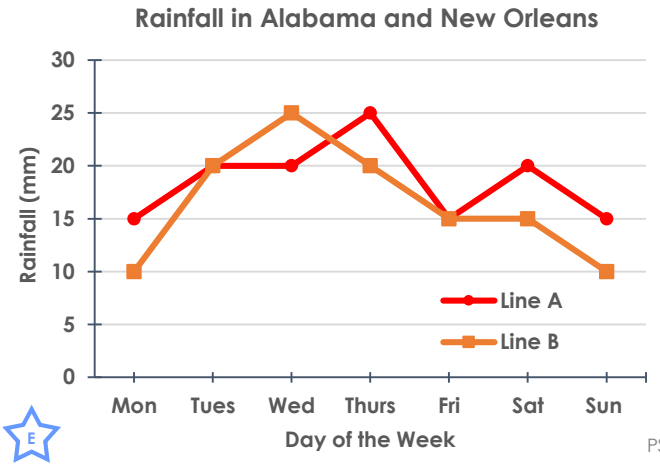
Read and Interpret Line Graphs

4a. Kim reached the finishing line of the cycling race before Danny. Which line represents Kim's performance?



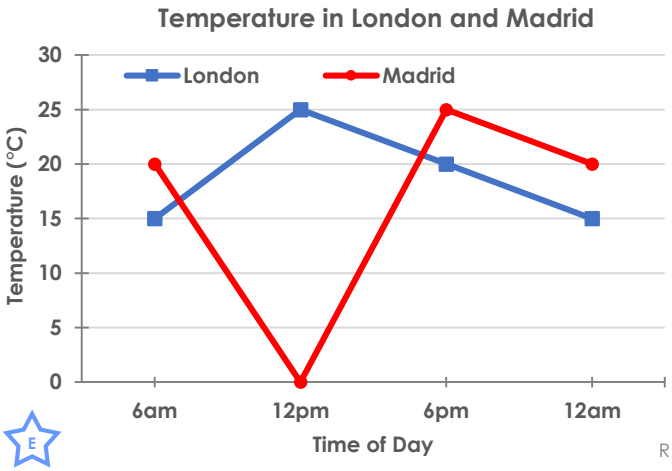
E PS

4b. Last week, it rained less in Alabama than it did in New Orleans. Which line represents Alabama's rainfall?



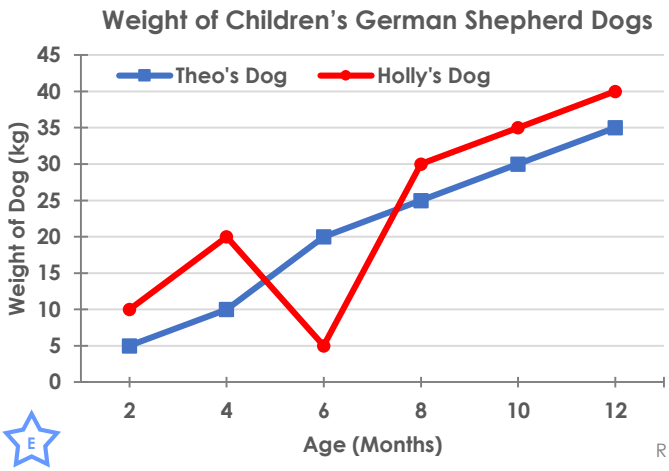
E PS

5a. Liz made a mistake when she plotted her line graph. Where do you think the mistake was made? Convince me.



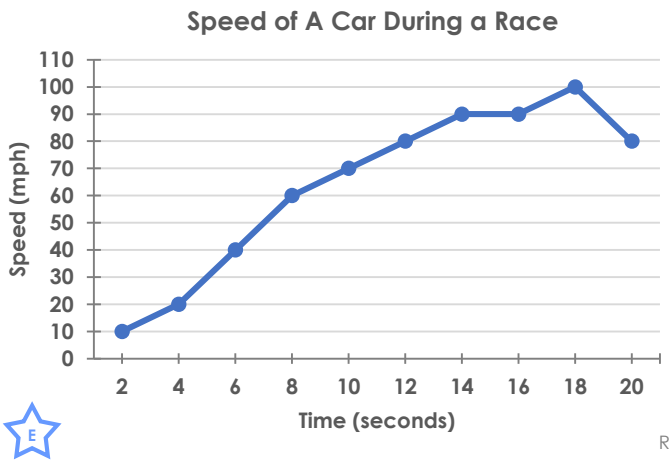
E R

5b. Martin made a mistake when he plotted his line graph. Where do you think the mistake was made? Convince me.



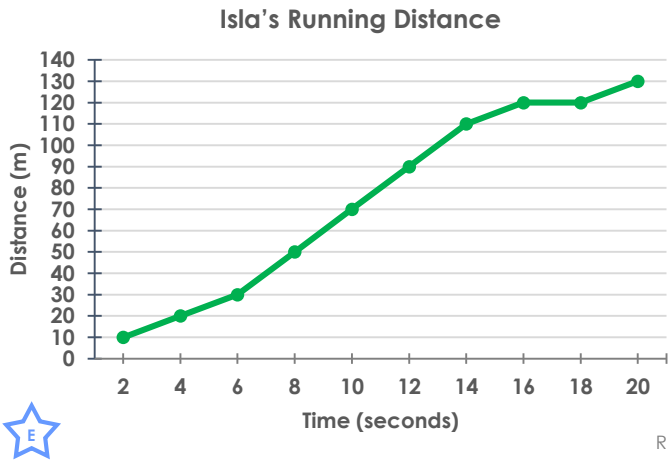
E R

6a. Peter said that his car took 14 seconds to reach its top speed. Is he correct? Explain why.



E R

6b. Isla said that the distance she ran increased between 16 and 18 seconds. Is she correct? Explain why.

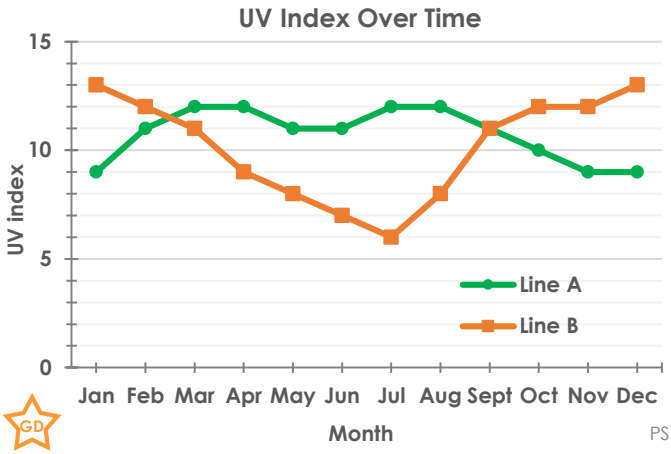


E R

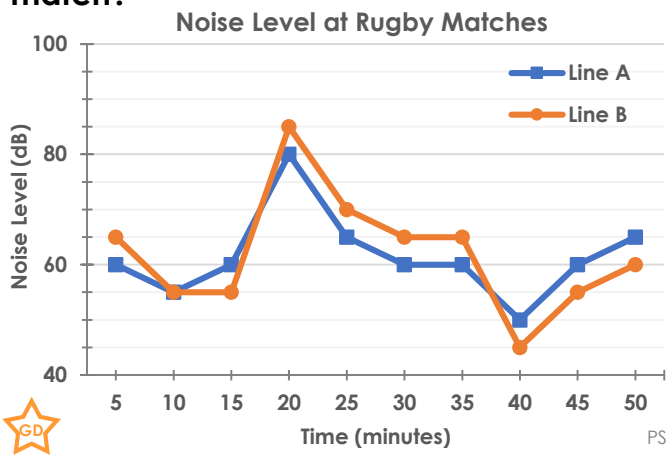
Read and Interpret Line Graphs

Read and Interpret Line Graphs

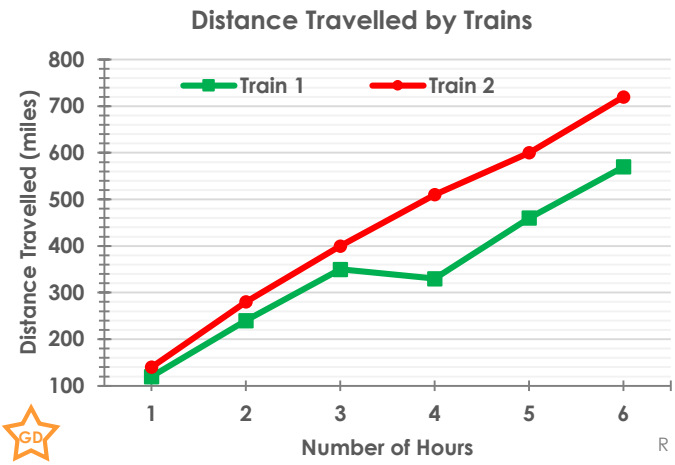
7a. The UV Index was higher overall in Panama than Madagascar. Which line represents Madagascar?



7b. The rugby match at Hull had a lower noise level overall than the match at Halifax. Which line represents the Halifax match?

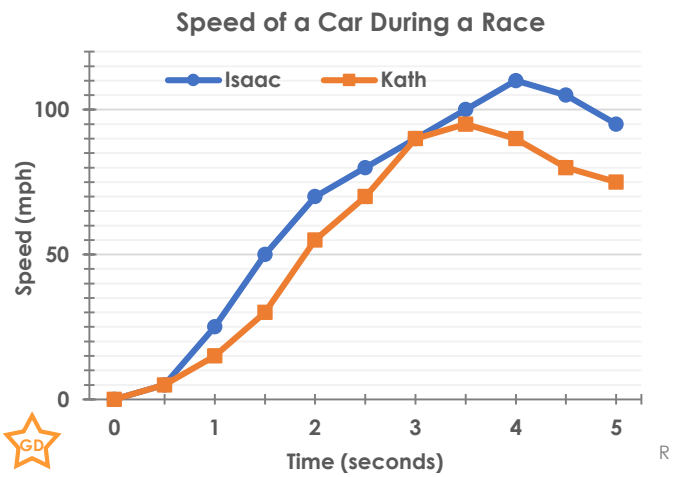


8a. Eva made a mistake when she plotted her line graph. Where do you think the mistake was made? Convince me.

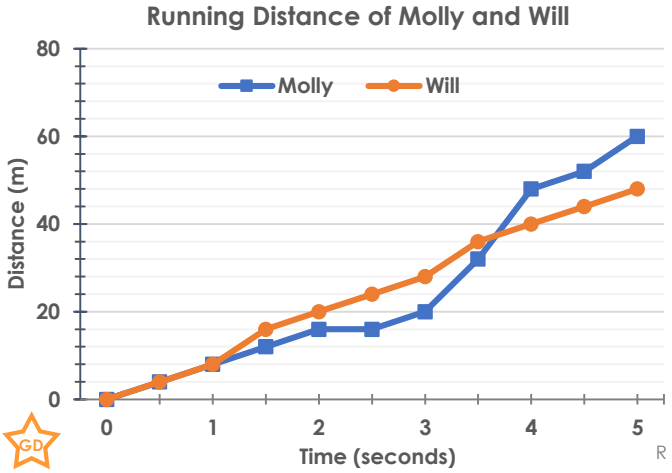


8b. Emilio made a mistake when he plotted his line graph. Where do you think the mistake was made? Convince me.

9a. Isaac said that his car took 3.5 seconds to reach its top speed. Is he correct? Explain why.



9b. Molly thinks she was quicker than Will in the first 2.5 seconds of the race. Is she correct? Explain why.



Reasoning and Problem Solving
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Developing

1a. The line graph represents Bella's performance.

2a. Various answers, for example: Jen has plotted the height of the tree in 2016 incorrectly. The height has dropped to 0 rather than staying the same or increasing.

3a. Freddie is not correct because the runner reached their top speed of 14mph at 4 seconds.

Expected

4a. Line A represents Kim's performance.

5a. Various answers, for example: Liz has plotted Madrid's temperature at 12pm on Sunday incorrectly. The temperature has dropped to 0°C rather than going up as you would expect at this time of day.

6a. Peter is not correct because the car reached its top speed of 100mph by 18 seconds.

Greater Depth

7a. Line B represents Madagascar.

8a. Various answers, for example: Eva has plotted the distance travelled by train 1 after 3 hours incorrectly. The distance has dropped which is impossible.

9a. Isaac is incorrect because it took his car 4 seconds to reach its top speed of 115mph. It took Kath's car 3.5 seconds to reach its top speed.

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Developing

1b. The line graph represents Greenland.

2b. Various answers, for example: Simon has plotted the overall total raised on Friday incorrectly. The total has dropped to £8 which is impossible since he had already raised £12 by Thursday.

3b. Lily is not correct because the car's average speed increased from 13mph to 14mph after 4 minutes.

Expected

4b. Line B represents Alabama's rainfall.

5b. Various answers, for example: Martin has plotted the weight of Holly's dog at the age of 6 months incorrectly, The weight has dropped by 15kg rather than increasing as you would expect.

6b. Isla is not correct because she did not run any further than 120 metres between 16 and 18 seconds.

Greater Depth

7b. Line B represents Halifax.

8b. Various answers, for example: Emilio has plotted the average height for class 2 in term 4 incorrectly. The average height has dropped from 1.32m to 1.31m rather than going up as you would expect.

9b. Molly is incorrect because Will travelled further than her in the first 2.5 seconds.