

Homework/Extension

Step 1: Read and Interpret Line Graphs

National Curriculum Objectives:

Mathematics Year 6: (6S1) [Interpret and construct pie charts and line graphs and use these to solve problems](#)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Read and interpret line graphs to identify which statement applies to which graph. Includes 1 data set using scales in increments of 1, 2 and 10. All increments are shown.

Expected Read and interpret line graphs to identify which statement applies to which graph. Includes 2 data sets using any scales where all increments are shown.

Greater Depth Read and interpret line graphs to identify which statement applies to which graph. Includes 2 data sets using any scales where some increments are missing.

Questions 2, 5 and 8 (Varied Fluency)

Developing Mark and correct statements about line graphs which include 1 data set using scales in increments of 1, 2 and 10. All increments are shown.

Expected Mark and correct statements about line graphs which include 2 data sets using any scales where all increments are shown.

Greater Depth Mark and correct statements about line graphs which include 2 data sets using any scales where some increments are missing.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Identify and explain errors when reading and interpreting line graphs. Includes 1 data set using scales in increments of 5 and 10. All increments are shown.

Expected Identify and explain errors when reading and interpreting line graphs. Includes 2 data sets using any scales where all increments are shown.

Greater Depth Identify and explain errors when reading and interpreting line graphs. Includes 2 data sets using any scales where some increments are missing.

More [Year 6 Statistics](#) resources.

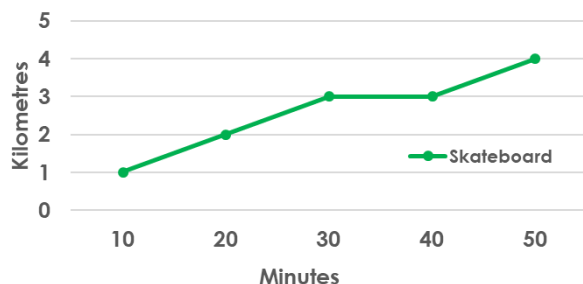
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Read and Interpret Line Graphs

1. Identify whether each statement relates to graph A or graph B.

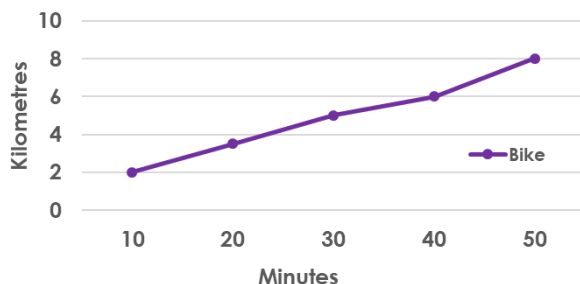
Travelling

A



Travelling

B



- 1) The distance travelled in 40 minutes was 6km.
- 2) There was a rest period of 10 minutes.
- 3) A distance of 1km was travelled between 10 and 20 minutes.
- 4) The distance travelled in 30 minutes was 5km.



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2. Lenny has answered some questions about the line graph below. Mark his work and correct any mistakes.

A. Tia lost weight between 2 and 3 months.

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B. Tia weighed about 9lbs at 3 months old.

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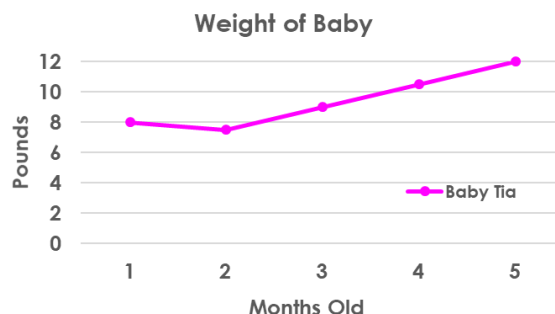
C. Tia has gained 2lbs since the 1st month.

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D. Tia weighed 12lbs at 5 months old.

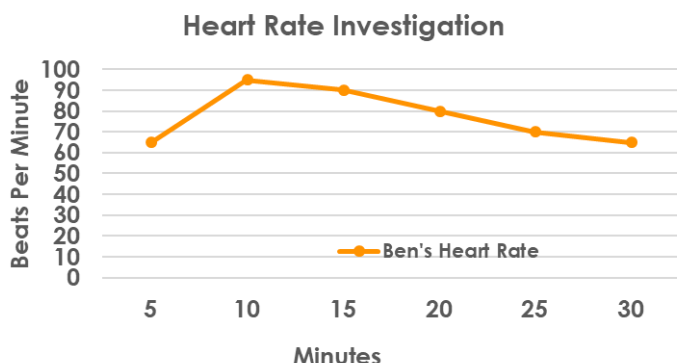
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E. Tia weighed under 11lbs at 4 months old.

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HW/Ext

3. Class 6F were investigating the effect of exercise on the heart rate. They plotted their results on the graph below.



Mr Faraday

Ben's heart takes 15 minutes to return to its resting heart rate after exercise.

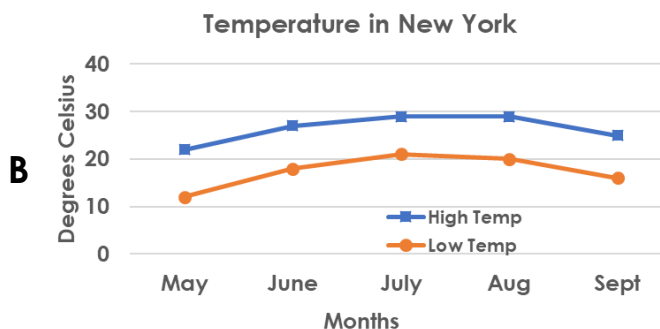
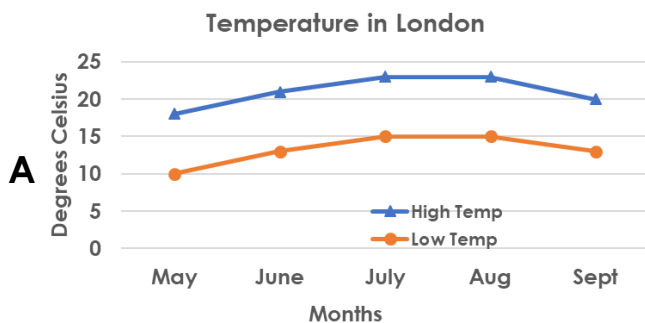
Is he correct? Prove it.



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Read and Interpret Line Graphs

4. Identify whether each statement relates to graph A or graph B.



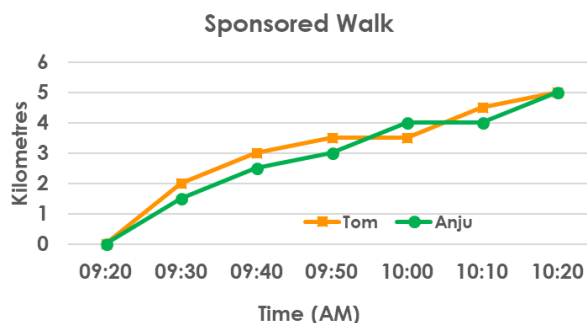
- 1) The lowest temperature in May was 10°C.
- 2) The highest temperature in August was 29°C.
- 3) The difference between the high and low temperature in September was 7°C.
- 4) The low temperature in July was above 20°C.



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HW/Ext

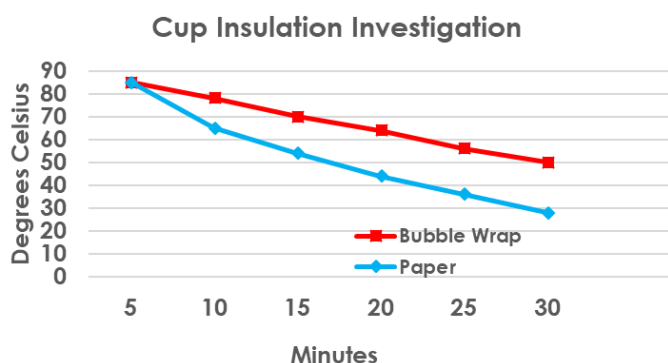
5. Sasha has answered some questions about the line graph below. Mark her work and correct any mistakes.

- A. Tom had a rest at 9:50am.
- B. Anju walked 3km in the first 20 minutes.
- C. Tom rested for 5 minutes.
- D. Anju rested at 9:40am.
- E. Tom walked 0.5km in the last 10 minutes.

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HW/Ext

6. Class 6C were investigating which material was best at maintaining the temperature of a hot drink. They plotted some of their results on the graph below.



Mrs Cauldron

After 30 minutes, the temperature of the drink insulated with bubble wrap, was 50°C warmer than the drink insulated with paper.

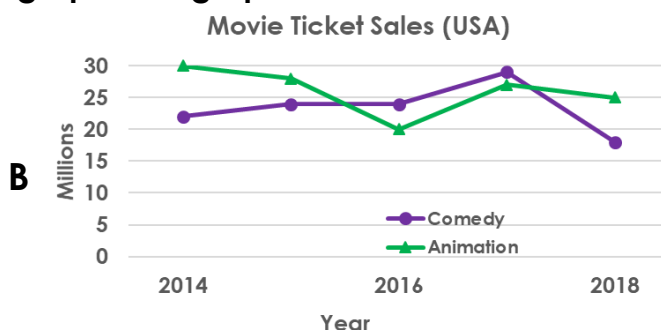
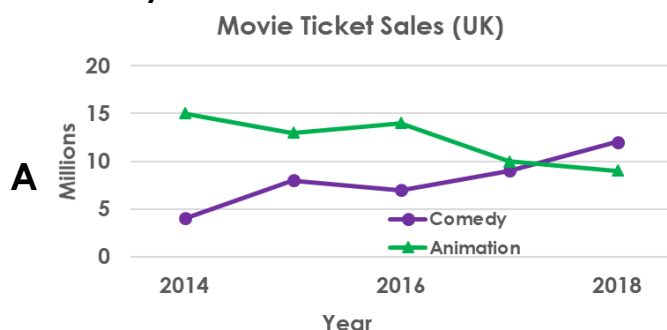
Is she correct? Prove it.



RPS
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Read and Interpret Line Graphs

7. Identify whether each statement relates to graph A or graph B.



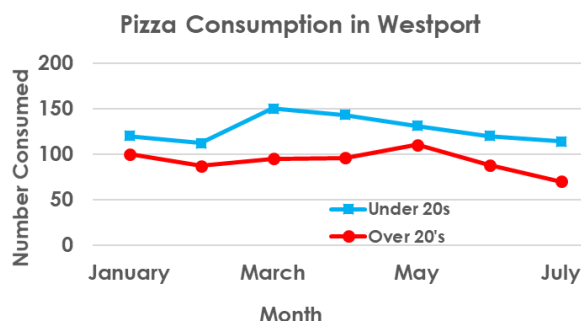
- 1) In 2017, comedy films were more popular than animation films.
- 2) In 2015, 8 million people watched a comedy film.
- 3) In 2016, 7,000,000 more people watched an animation than a comedy.
- 4) 2 million more people watched a comedy than an animation film in 2017.



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HW/Ext

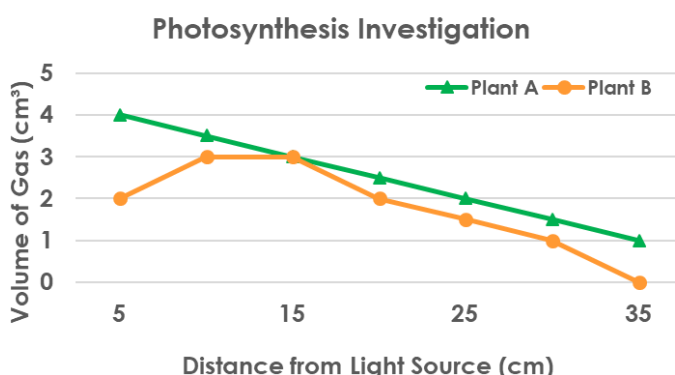
8. Rob has answered some questions about the line graph below. Mark his work and correct any mistakes.

- A. In May, the over 20s ate about 110 pizzas.
- B. In March, the under 20s ate about 100 pizzas more than the over 20s.
- C. In February, the under 20s ate more than 125 pizzas.
- D. Both groups ate the most pizzas in March.
- E. This data was collected over 4 months.

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9. Class 6H were investigating how the speed of photosynthesis is affected by the intensity of light that a plant receives.



Is he correct? Prove it.



Mr Hawking

Both results show that the further away from the light source the plant is, the less gas it produces.



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Homework/Extension

Read and Interpret Line Graphs

Developing

- 1 = B, 2 = A, 3 = A, 4 = B
- A and C are incorrect. Corrections: A = Tia gained weight between months 2 and 3; C = Tia has gained 4lbs since month 1
- Mr Faraday is incorrect as it takes 20 minutes for Ben's heart rate to return to its resting heart rate of 65 beats per minute.

Expected

- 1 = A, 2 = B, 3 = A, 4 = B
- B, C and D are incorrect. Corrections: B = Anju walked 2.5km; C = Tom rested for 10 minutes; D = Anju rested at 10:00am
- Mrs Cauldron is incorrect as the temperature of the hot drink with bubble wrap was 50°C and the temperature of the hot drink with paper was 28°C. This means that the drink insulated with bubble wrap was 22°C warmer than the drink insulated with paper.

Greater Depth

- 1 = B, 2 = A, 3 = A, 4 = B
- B, C, D and E are incorrect. Corrections: B = the under 20s ate about 50 pizzas more; C = the under 20s ate less than 125 pizzas; D = only the under 20s ate more pizza in March; E = the data was collected over a 7 month period
- Mr Hawking is incorrect as the results for Plant B show that when the plant was only 5cm away from the light source, it produced 1cm³ less gas than when it was 10cm away. It also produced the same amount of gas when it was 10cm and 15cm away.