Year 5 into Year 6 mathematics:

Interpreting line graphs

Key learning

Answer questions and draw conclusions from line graphs; collect, select and organise data using ICT to present line graphs, and identify further questions to ask.

Check that your child can:

- interpret the units on the scales used on line graphs and explain what the graph shows;
- use line graphs to display information;
- answer questions and ask their own questions about a line graph.

Cycle journey

Distance (km)	0	8	15	21	21	28	32	43
Time (hours)	0	1	2	3	4	5	6	7

Use the data in the table to produce a line graph of the total distance travelled over the seven-hour cycle journey. Ask questions such as:

- How far did the cyclist travel each hour?
- What could have happened three hours into the journey?

Together, create a short story of the cyclist's journey. Make up some more questions to ask about the graph.

ICT Links

Let your child use the *Line Graph* ITP to draw line graphs.

This is available at:

http://www.standards.dfes.gov.uk/primaryframeworks/library/Mathematics/ICTResources/itps/

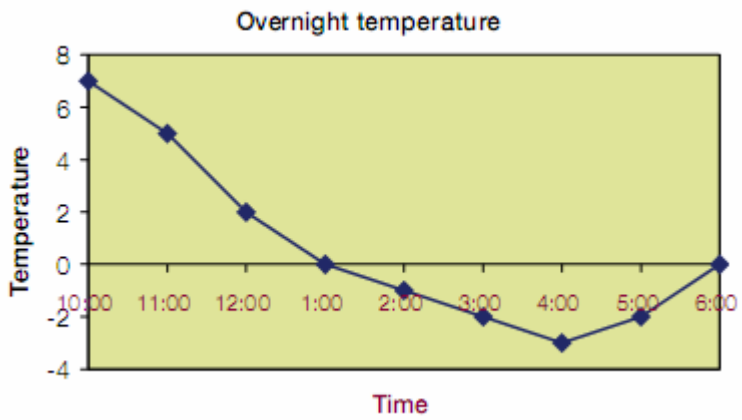
Notes for parents/carers

There are often opportunities to look at and interpret graphs in newspapers, on TV and on the Internet. Ask your child questions about the graphs to help them to interpret and explain the graph for a desert area.

Look at the 'Overnight temperature' graph for a desert area showing outside temperatures in ºC. Ask questions such as:

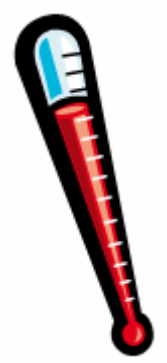
- What were the highest and lowest temperatures? When did these occur?
- When was the temperature at freezing point (0 ºC)?
- How far did the temperature fall from 11:00 pm to 3:00 am?
- How long did the temperature stay below zero?
- Roughly what temperature was it at 11:30 pm?

Use the Internet to research temperatures in different parts of the world. Collect the temperatures of a cooling liquid or melting ice cubes over a period of time. Create your own graphs. Take it in turns to ask each other questions about the information shown.



Make use of opportunities to give your child practical experience of reading graphs in everyday life, such as:

- looking at temperature charts when planning a holiday;
- interpreting information in graphs that illustrate newspaper articles.



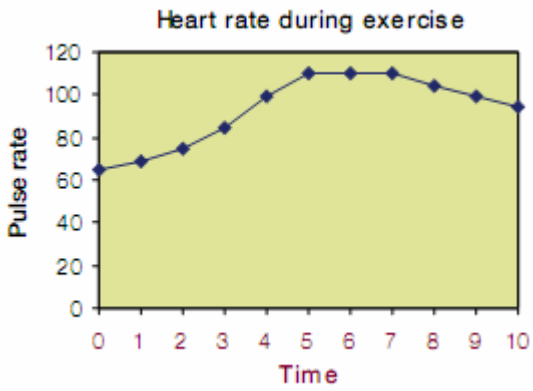
Listen to your child telling you about something they have learnt in mathematics – this may help them understand even better.

Heart rate and pulse rate

Look together at the line graph below. Talk about what the points on the graph represent. Agree they show pulse rates or heartbeats per minute taken every minute. The points are joined up to show the changes in heart rate during the exercise.

Ask questions such as:

- How long did it take for the pulse rate to reach its highest level?
- What was the pulse rate at the start of the experiment?
- What was the pulse rate likely to have been after 2½ minutes?
- When do you think the person stopped exercising?
- When was the heart rate increasing most?
- Carry out your own exercise experiment together and draw a line graph showing your heart rates. How do they compare?



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