

Discussion Problems

Step 4: Line Graphs

National Curriculum Objectives:

Mathematics Year 4: (4S1) [Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs](#)

Mathematics Year 4: (4S2) [Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 4 Statistics](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Line Graphs

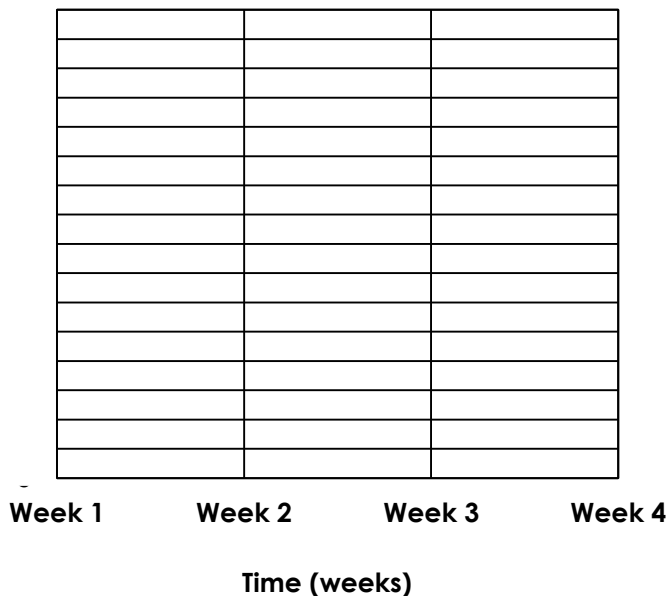
1. Use the data and the clues below to create line graphs to show the progress on a building site over four weeks. Use a different colour to plot the data for each building.

Height of Building 1	
Week 1	One third of the height in week 3
Week 2	Double the height of week 1
Week 3	51 metres
Week 4	5 times the height of week 1

Height of Building 2	
Week 1	One third of the height in week 2
Week 2	Half the height of week 4
Week 3	10m more than week 2
Week 4	54 metres

Height (m)

Height of Buildings 1 and 2

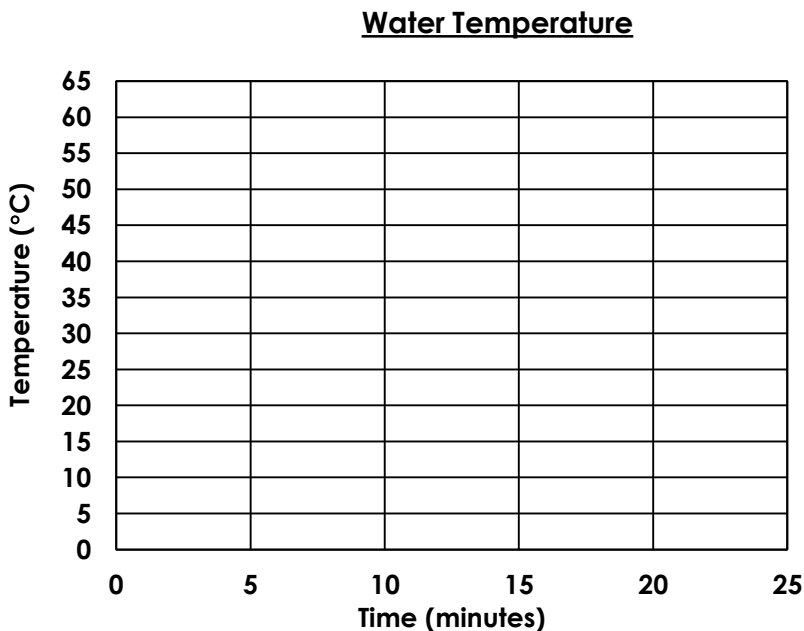


Compare the line graphs.

DP

2. Choose approximate temperatures for the missing data and plot the data on the line graph.

Time	Temperature
0 minutes	0°C
5 minutes	___°C
10 minutes	12°C
15 minutes	32°C
20 minutes	___°C
25 minutes	65°C



Using the words sum, compare and difference, tell me all you know about this data.

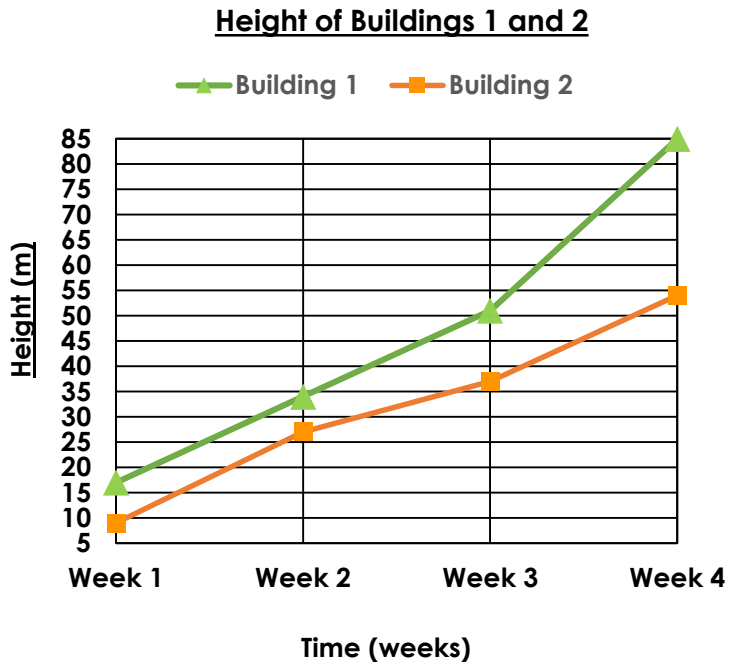
DP

Line Graphs

1. Use the data and the clues below to create line graphs to show the progress on a building site over four weeks. Use a different colour to plot the data for each building.

	Height of Building 1
Week 1	17 metres
Week 2	34 metres
Week 3	51 metres
Week 4	85 metres

	Height of Building 2
Week 1	9 metres
Week 2	27 metres
Week 3	37 metres
Week 4	54 metres

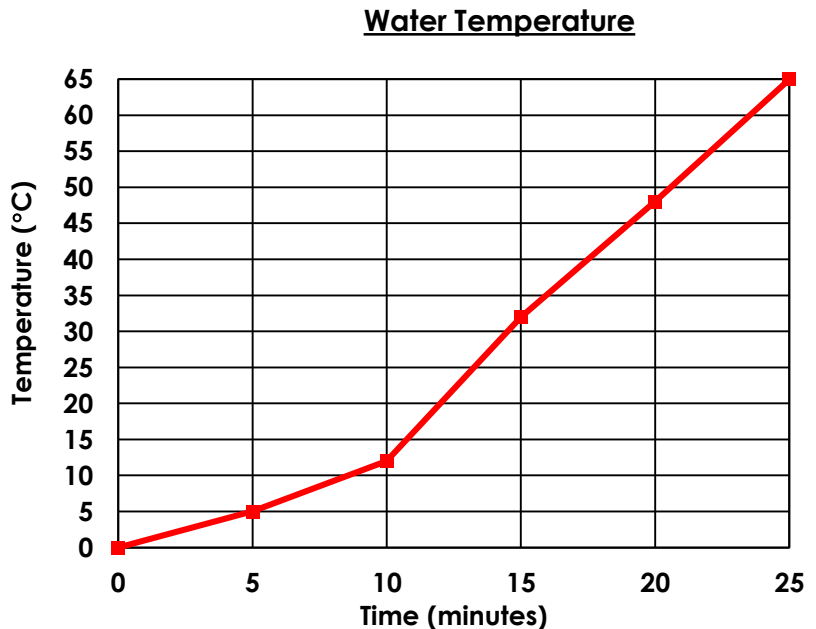


Compare the line graphs. **Various possible comparisons including; The difference in the height of building 1 and building 2 in week 3 was 14 metres.**

DP

2. Choose approximate temperatures for the missing data and plot the data on the line graph. **Various possible estimated temperatures within the temperatures given.**

Time	Temperature
0 minutes	0°C
5 minutes	5 °C
10 minutes	12°C
15 minutes	32°C
20 minutes	48°C
25 minutes	65°C



Using the words sum, compare and difference, tell me all you know about this data. **Answers and the comparison of data will vary depending on temperatures added. An example is; The temperature increased by 43°C between 5 minutes and 25 minutes.**

DP