

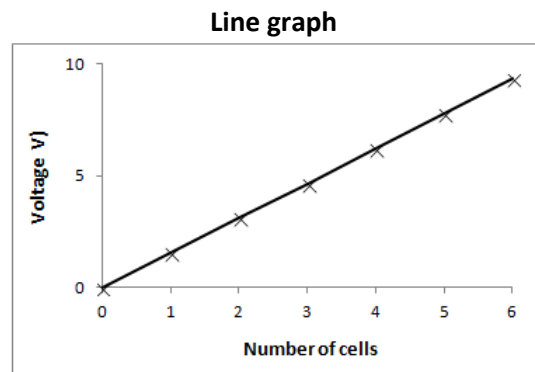
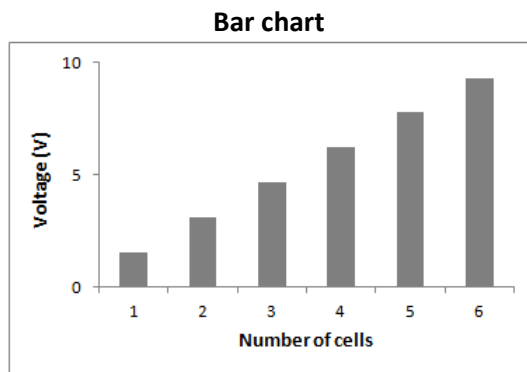
Teacher Activity F: Bar chart or line graph?

Here is a set of data showing the voltage measured across a number of batteries (or 'cells') connected in series.

- Some people say that line graphs are only for *continuous* data, and that with *discrete* data, bar charts must be used.
- Other people say that line graphs are useful for *both* continuous *and* discrete data.

Number of cells	Voltage (V)
1	1.55
2	3.11
3	4.66
4	6.22
5	7.78
6	9.33

The following shows this set of data represented as a bar chart and as a line graph.



- Which type of display do you think is more useful for data like these?
- What advantages do you think a bar chart has? What advantages do you think a line graph has?
- Would your choices be different if there were data for a much larger number of cells (say from 1 to 100)? Or if there were only selected numbers of cells (say 1, 2, 5, 10, 15)?

Further information: *The Language of Mathematics in Science: A Guide to Teachers of 11-16 Science*, 1.4 Naming different types of data (p 12) and Section 3.7 Bar charts and line graphs (pp 32-34)

This activity is part of a series produced by MathsInScience.uk in order to promote engagement with the guidance booklet *The Language of Mathematics in Science: A Guide to Teachers of 11-16 Science*. Note that the activities are intended to stimulate discussion between teachers, and are not intended for student use. MathsInScience.uk is an independent organisation that aims to support the use of mathematics in the secondary science curriculum: see the website www.mathsinscience.uk.