# Maths skills – M2.5 Using logarithms

### Quiz

**1.** You’re doing an experiment where a bacterium divides every 30 minutes under standard conditions. There were 10 bacteria in your starting culture. You want to plot the bacterial growth rate over a period of 4 hours and take measurements every half an hour.

Work out the sequence of numbers, complete the table below and plot two graphs, one of which should be a logarithmic graph.

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| --- | --- | --- |
| **Time (min)** | **Number of bacteria** | **Log of the number of bacteria** |
| 0 | 10 |  |
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**2.** To represent the following animals on a bar chart and their densities in a woodland, you would need to take the log of the number of animals in each category.

Complete the table for the following:

|  |  |  |
| --- | --- | --- |
| **Animal** | **Number of animals in 100 m2** | **Log of the number of animals** |
| Earthworm | 50,000 |  |
| Beetle | 2,000 |  |
| Mouse | 750 |  |
| Fox | 12 |  |
| Deer | 3 |  |

### Produced in collaboration with the University of East Anglia