Maths in science audit

This resource accompanies the article **Work together for better results** in *Education in Chemistry* which can be viewed at: [rsc.li/3O2O7sW](https://rsc.li/3O2O7sW)

Use the table to audit your confidence in teaching all the components of the mathematical requirements for 11–16 science. Can you identify where in the curriculum you explicitly teach this knowledge? Find ideas on how to use this information and work with colleagues in the maths department in the article.

|  |  |  |
| --- | --- | --- |
|  | **Mathematical skill** | **RAG rating** |
| 1 | **Arithmetic and numerical computation** |  |
|  | Recognise and use expressions in decimal form |  |
|  | Recognise and use expressions in standard form |  |
|  | Use ratios, fractions and percentages |  |
|  | Make estimates of the results of simple calculations |  |
| 2 | **Handling data** |  |
|  | Use an appropriate number of significant figures |  |
|  | Find arithmetic means |  |
|  | Construct and interpret frequency tables and diagrams, bar charts and histograms |  |
|  | Understand the principles of sampling as applied to scientific data |  |
|  | Understand the terms mean, mode and median |  |
|  | Use a scatter diagram to identify a correlation between two variables |  |
|  | Make order of magnitude calculations |  |
| 3 | **Algebra** |  |
|  | Understand and use the symbols: =, <, <<, >>, >, ∝,～ |  |
|  | Change the subject of an equation |  |
|  | Substitute numerical values into algebraic equations using appropriate units for physical quantities |  |
|  | Solve simple algebraic equations |  |
| 4 | **Graphs** |  |
|  | Translate information between graphical and numeric form |  |
|  | Understand that y=mx+c represents a linear relationship |  |
|  | Plot two variables from experimental or other data |  |
|  | Determine the slope and intercept of a linear graph |  |
|  | Draw and use the slope of a tangent to a curve as a measure of rate of change |  |
|  | Understand the physical significance of area between a curve and the x-axis and measure it by counting squares as appropriate |  |
| 5 | **Geometry and trigonometry** |  |
|  | Use angular measures in degrees |  |
|  | Visualise and represent 2D and 3D forms including two dimensional representations of 3D objects |  |
|  | Calculate areas of triangles and rectangles, surface areas and volumes of cubes |  |