Knowledge-Engaged Curriculum

Knowledge and Skills Progression from Y1-11

Subject: Maths Year: 11

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| Term | Knowledge | Skills |
| 1  Pearson Functional Skills Level 1/2 | To understand percentage change in relation to money  To understand the conversions between metric and imperial measurements  To understand compound measures  To understand the perimeter and area of 2D and composite shapes  To understand formulae to find volumes and surface areas of 3D shapes | To confidently calculate with money.  To accurately use money notation to 2dp.  To calculate compound interest using a specific formula.  To calculate percentage increase and decrease in a variety of monetary contexts.  To convert between units of length, mass and capacity in metric and imperial systems.  To calculate using metric and imperial measurements to 3dp.  To read conversion graphs  To accurately use conversion factors.  To recall and calculate using speed/density formulae.  To explain the conversion between of units of distance, time, mass, volume and money.  To apply knowledge of direct and inverse proportion to set formulaic equations.  To calculate the perimeter of simple and composite shapes.  To calculate the area of simple and composite shapes.  To explain the required formulae for perimeter and area.  Calculate the volume of 3D shapes, using formulae provided.  Calculate the surface area of 3D shapes, using formulae provided.  To explain the required formulae for volume |
| 2  Pearson Functional Skills Level 1/2 | To understand the construction of scale drawings and diagrams | To calculate actual dimensions from scale drawings.  To create scale diagram given actual measurements. |
| 3 | To understand co-ordinates in the four quadrants  To understand common 2D representation of 3D objects and their properties  To understand how to calculate values of angles within 2/3-D shapes  To understand how to calculate averages of discrete data | To accurately identify co-ordinates.  To accurately plot a set of points.  To interpret front elevations and plans of 3D shapes.  To interpret working nets of a cube, cuboid, cylinder, pyramid and prism.  To draw elevations and plans of simple 3D shapes and identify lines of symmetry.  To calculate angles using knowledge of common shape characteristics (e.g. sim of internal angles, angles at a point, angles on a straight line and vertical opposite angles.)  To analyse information presented in different ways using statistics.  To calculate the median of a set of quantities  To calculate the mode of a set of quantities.  To estimate the mean of a grouped frequency distribution from discrete data. |
| 4 | To understand how to compare the average of two sets of data  To understand how to present probability using different formats  To understand how to calculate the probability of combined events  To understand how to draw and interpret diagrams showing correlations | To use the mean, median, mode and range to compare two sets of data, including discrete grouped data.  To understand probability on a scale from 0 (impossible) to 1 (certain)  To express probability as a fraction, decimal or percentage equivalent.  To construct diagrams and tables to present the probability of combined events.  To extract and interpret information from a scatter diagram.  To accurately plot points on a scatter diagram.  To draw a line of best fit on a scatter diagram.  To describe the correlation of the data plotted on a scatter diagram.  To construct a scatter diagram that includes accurate plotting, labels and selection of an appropriate scale.  To represent discrete data on a scatter diagram.  Revision in preparation for Functional Skills level 1&2 exams. |
| 5 |  | Revision in preparation for Functional Skills level 1&2 exams.  Sit Functional Skills level 1&2 exams.  Revise and resit where necessary/appropriate. |
| 6 |  | Sit Functional Skills level 1&2 exams.  Revise and resit where necessary/appropriate. |