NATIONAL 5 LIFESKILLS MATHS

Pupil Information Sheet

By the end of the course you should be able to:

Financial skills	NS	OT	VG
Determine a financial position, given budget information			
• Budget and plan for personal use or plan an event			
• Balance incomings and outgoings from a range of sources			
• Understand financial terms e.g. income, expenditure, surplus, deficit, inflation			
• Understand APR and be able to calculate APR given the monthly interest rate			
• Calculate costs using inflation rates and make and justify decisions			
• Consider different mortgage deals			
Investigate factors effecting income			
• Understand the terms basic pay, gross pay and net pay.			
• Calculate overtime using a fraction of hourly rate e.g. time and a half.			
• Understand incentive pay e.g bonuses, commission			
• Understand deductions e.g. NI, tax, superannuation, pensions			
• Calculate commission as a percentage of sales.			
• Calculate NI contributions			
• Calculate income tax given information about allowances and bands			
Determine the best deal given two pieces of information			
• Determine the best deal, given 3 pieces of information			
Convert between currencies			
• Convert between several currencies in either direction (at least 3 in a multi task stage)			
Investigate the impact of interest rate on saving and borrowing			
• Use repayment tables to find the cost of a loan.			
• Calculate simple interest for a year or part year.			
• Calculate compound interest for several years			
• Know that APR stands for Annual Percentage Rate and use a quoted rate to calculate annual interest.			
• Investigate the effect of compounding using repeated calculations			
Statistical Skills			
Use statistics to investigate risk			
• Understand and calculate simple probability			
• Understand and calculate expected frequency			
• Calculate probability for multiple events (tree diagram/table)			
Use and present statistical information in diagrams			
• Stem and leaf diagrams (back to back)			
• Bar charts and histograms			
• Line graphs			
• Pie charts			

Use statistics to analyse and compare data sets			
• Understand and calculate mean, median, mode and range			
• Understand and calculate quartiles, interquartile and semi interquartile range			
• Construct, interpret and compare boxplots			
• Calculate and interpret standard deviation			
Construct a scattergraph			
• Draw a best fitting line on a scattergraph			
• Plot points from given data on a scattergraph and draw a line of best fit			
• Determine any correlation as positive, negative, strong, weak			
• Find the equation of a line of best fit using y = mx + c			
Measurement Skills			
Solve problems in time management			
• Plan tasks involving simultaneous and sequential events			
Calculate a quantity based on a related measurement			
• Solve problems involving direct proportion			
• Solve problems involving inverse proportion			
• Solve problems involving joint proportion			
Construct a scale drawing with a given scale			
• Enlarge or reduce a shape given the scale factor			
• Construct a scale drawing where the scale is given as a ratio			
• Choose a suitable scale for a scale drawing			
• Draw / interpret a navigation course using 3 figure bearings			
Carry out container packing using a first-fit algorithm			
• Minimise the amount of containers used by considering orientation of boxes			
Understand tolerance in a measurement			
• Given the tolerance, calculate the limits			
Geometry Skills			
Find the gradient of a slope and equation of a line			
• Know how to calculate gradient of a slope or a line			
• Understand zero, positive, negative and undefined gradients			
• Use gradient and y intercept to find the equation of a line			
• Use the equation of a line to find gradient and y intercept			
• Compare situations using linear modelling			
Find Perimeter, Area and Volume and use it in calculations			
• Calculate the perimeter of shapes including circumference			
• Calculate the area of quadrilaterals and circles			
• Calculate the volume of prisms and cylinders			
• Solve problems involving a composite solid which includes part of a circle			
• Solve problems involving the volume of a composite solid			
Solve a problem using Pythagoras' theorem			
• Use Pythagoras' theorem to calculate a side in a RAT			
• Use Pythagoras' theorem repeatedly to solve a problem in 2D			
• Use Pythagoras' theorem to solve a problem in 3D			

Numeracy Skills			
Select and use appropriate notation and units			
• *Use numerical notation including: =, +, -, x, ÷, /, <, >, ( ) (BODMAS)*			
• *Use appropriate units for time, length, weight, volume and temperature*			
• *Exchange units of time, distance , speed eg mph to m/s*			
Select and carryout appropriate calculations			
• *Add and subtract numbers given two decimal places*			
• *Multiply or divide a number given two decimal places by a single digit whole number*			
• *Round up to 3 decimal places*			
• *Round to 1 and 2 significant figures*			
• *Multiply/divide a number to 2 decimal places by multiples of 10, 100 and 1000*			
• *Calculate speed, distance and time*			
• *Calculate volume (cylinder, triangular prism), area (triangles and composite shapes) and perimeter (circumference)*			
• *Calculate ratio including dimensions from scale drawings*			
• *Calculate direct and indirect proportion*			
• *Find simple percentages and fractions of shapes and quantities, eg 50%, 10%, 20%, ½, ¼ etc*			
• *Convert equivalences between common fractions, decimal fractions and percentages.*			
• *Use percentages including reverse percentages*			
• *Calculate percentage increase and decrease*			
• *Calculate VAT*			
• *Calculate Hire Purchase cost*			
• *Calculate compound percentage increase and decrease*			
• *Find fractions of shapes and quantities*			
• *Recognise and use mixed fractions eg 3½, 1/3 , 4¼*			
• *Add and subtract simple fractions eg ½ + ¼*			
• *Find the number of fractional parts in a mixed number eg 2½ = 5 halves*			
• *Solve problems in time management involving working across time zones*			
Record measurements to the nearest division • *Record measurements using a scale or instrument to the nearest marked, minor unnumbered division on an instrument for length, weight, volume and temperature*			
Interpret measurements and calculations, and make decisions			
Explain decisions and give reasons based on measurements or calculations			
Extract and interpret data from graphs and charts			
Make and explain decisions based on data			
Make and explain decisions based on probability			