S4 National 4 Applications of Mathematics : August - September

Topic	Content	Websites
Analysing raw data	Mean, range (extension: mode, median) Using mean to compare datasets and draw conclusions Using range to discuss consistency	https://www.bbc.com/bitesize/guides/z264jxs/revision/4 https://www.bbc.com/bitesize/guides/z264jxs/revision/8
Frequency Tables	Arranging raw data into a frequency table	https://www.bbc.com/bitesize/guides/z264jxs/revision/1
Displaying Data in Graphs	Bar Charts (from frequency table) Line Graphs (from a table) (extension – pie charts, stem & leaf) Labelling graphs appropriately Choosing which graph would be most appropriate for the data (ie. Bar = unrelated categories, discrete, Line = time related, continuous)	https://www.bbc.com/bitesize/guides/z7xcwmn/revision/2 https://www.bbc.com/bitesize/guides/z7xcwmn/revision/4 https://www.bbc.com/bitesize/guides/z7xcwmn/revision/5
Interpreting Graphs	Identifying most/least popular Use graph to advise or predict Using statistics to investigate risk or bias	https://www.bbc.com/bitesize/guides/z7xcwmn/revision/7 https://www.bbc.com/bitesize/guides/z7xcwmn/revision/8 https://www.bbc.com/bitesize/guides/z7xcwmn/revision/9
Scatter Graphs & Line of Best Fit	Constructing a scatter graph (choosing own scale, labelling each axis) Drawing a Line of Best Fit (linear, strong positive or negative correlation) Using the Line of Best Fit to estimate or predict.	https://www.bbc.com/bitesize/guides/zmt9q6f/revision/1 https://www.bbc.com/bitesize/guides/zmt9q6f/revision/3
Assessment	**Statistics Assessment by end of September**	

S4 National 4 Applications of Mathematics: September - October

Topic	Content	Websites
Personal Pay	Salary (annual, monthly, weekly) Overtime (double & time and a half) Payslips (gross/net pay, commission & bonus, benefits, national insurance, income tax).	https://www.bbc.com/bitesize/guides/zdq39j6/revision/1 https://www.bbc.com/bitesize/guides/zdq39j6/revision/4 https://www.bbc.com/bitesize/guides/zdq39j6/revision/3 https://www.bbc.com/bitesize/guides/zdq39j6/revision/2
Personal Finance	Interest Rates (APR, incl decimal places) Loan Repayment (monthly, weekly) Savings Rates (EAR) – simple interest Determining the best deal Budgeting (income & expenditure) Bank accounts & credit agreements.	https://www.bbc.com/bitesize/guides/zqmrd2p/revision/5 https://www.bbc.com/bitesize/guides/zqmrd2p/revision/1 https://www.bbc.com/bitesize/guides/zw7bkqt/revision/2 https://www.bbc.com/bitesize/guides/z8jv4wx/revision/1 https://www.bbc.com/bitesize/guides/z8jv4wx/revision/2
Pricing Package Holidays	Adult costs, child costs Percentage discounts (whole number) All-inclusive Determining the best deal	https://www.bbc.com/bitesize/guides/zw7bkqt/revision/3
Managing Foreign Currency	*Exchange rates* *Converting £ to $, €* *Converting back to £* Include charge for conversion (in %)	https://www.bbc.com/bitesize/guides/zj2g87h/revision/1 https://www.bbc.com/bitesize/guides/zj2g87h/revision/2 https://www.bbc.com/bitesize/guides/zj2g87h/revision/3
Assessment	**Managing Finance Assessment by October Break**	

S4 National 4 Applications of Mathematics: October - December

Topic	Content	Websites
Time management	*Adding and subtracting time in both 12hr & 24hr time* *Finding time intervals (incl over midnight)*	Powerpoint lessons and Practice Questions for the topics listed below can be found at http://mathsrevision.com/index_files/N4_Applications.htm
Scale drawing	Measuring & drawing bearings Constructing a scale drawing (scale given in ratio, eqn or scale line) with labels Planning a navigation course Using scale drawing to find distance or bearing towards home.	(See above)
Container Packing	Container packing (storage) problems (DVD's in shelves, tins in a box) First-Fit Algorithm (Ext: First-Fit Decreasing Algorithm)	(See above)
Tolerance in a measurement (accuracy to 2dp)	Understand the use of ± Finding the maximum and minimum limits Converting from limits to ± Quality control decisions: accept/decline whether inside/outside tolerance.	(See above)
Quantities reliant on measurement	Substituting into a formula or relationship and evaluating	(See above)
Assessment	**Measures Assessment by Christmas Break**	

S4 National 4 Applications of Mathematics: January - February

Topic	Content	Websites
Gradient of a slope	Using the formula m=vertical/horizontal Positive & negative gradients	https://www.bbc.com/bitesize/guides/znyqtfr/revision/1 https://www.bbc.com/bitesize/guides/znyqtfr/revision/2
Perimeter	*Rectilinear (square, rectangle)*, circular and composite *Finding missing lengths with knowledge of parallel length*	https://www.bbc.com/bitesize/guides/ztndmp3/revision/1 https://www.bbc.com/bitesize/guides/ztndmp3/revision/8
Area	Square, rectangle, triangle, kite, rhombus, parallelogram, circle, composite Surface Area of cube and cuboid	https://www.bbc.com/bitesize/guides/ztndmp3/revision/2 https://www.bbc.com/bitesize/guides/ztndmp3/revision/3 https://www.bbc.com/bitesize/guides/ztndmp3/revision/4 https://www.bbc.com/bitesize/guides/ztndmp3/revision/5 https://www.bbc.com/bitesize/guides/ztndmp3/revision/6 https://www.bbc.com/bitesize/guides/ztndmp3/revision/10
Volume	Cube, cuboid, (extension = cylinder) Converting cm^3 = ml (extension into Litres)	https://www.bbc.com/bitesize/guides/zhswxnb/revision/2 https://www.bbc.com/bitesize/guides/zhswxnb/revision/3 https://www.bbc.com/bitesize/guides/zhswxnb/revision/5
Pythagoras Theorem	Finding hypotenuse or smaller side In context	https://www.bbc.com/bitesize/guides/zpfj6sg/revision/3 https://www.bbc.com/bitesize/guides/zpfj6sg/revision/4 https://www.bbc.com/bitesize/guides/zpfj6sg/revision/5
Scale Factor (on the dimensions of a shape)	Investigating the result of doubling, halving, trebling length, area or volume	https://www.bbc.com/bitesize/guides/zw38qty/revision/1 https://www.bbc.com/bitesize/guides/zw38qty/revision/2
Assessment	**Geometry Assessment by February break**	

S4 National 4 Applications of Mathematics: February - April		
Topic	**Content**	**Websites**
Non-calculator Practice	Fractions: of an Amount Statistics: Scatter Graphs, Line of Best Fit, Pie Charts, Line Graphs, Mean & Range Tolerance: in context Time: Finding Intervals Addition, Subtraction in context Rounding: to required decimal place (in context) Money: everyday Purchases Percentages: of an Amount (3%, 10%), Reverse percentages	https://www.bbc.com/bitesize/subjects/zgm2pv4
Calculator Practice	Money: Wages, Payslips, Profit & Loss, Currency Conversion Area & Perimeter in context Statistics: Interpreting Bar, Line, Pie Charts	
Assessment	**Added Value Unit by Easter break**	