

Calculating Finances Work Scheme

This FSMQ requires a total of 60 guided learning hours that could be timetabled in a variety of ways eg 2 hours per week for 30 weeks, 4 hours per week for 15 weeks, 5 hours per week for 12 weeks. A suggested work scheme showing topics and methods to be covered is given below. There is plenty of scope for varying the order and time allocation as many of the mathematical techniques can be introduced/revised in several different topic areas. Some techniques should be introduced as soon as possible and used throughout the course:

- selecting information from text and tables
- using tables to record results
- writing out calculations clearly and logically, making use of appropriate mathematical methods and rounding to the most appropriate value (eg nearest pence, £, £100 etc.)
- checking calculations using estimates, inverse operations and different methods
- using appropriate statistical methods of displaying results
- using spreadsheets to carry out calculations and display results in tables and statistical charts and graphs
- writing brief comments about what the calculations tell you.

Although the topics are listed separately below, students will probably find it more motivating if a thematic approach is used. For example one theme might be to follow the financial implications of being a student, or the management of predicted finances during a first year of work. At key points the thematic work could be supplemented with practice exercises when necessary. Similarly students might satisfy all the coursework portfolio requirements whilst working within one or two contexts eg investigating financial aspects of running a home, business or club, investigating different ways of purchasing an expensive item such as a house or car.

Topic Area	Content	Nuffield Resource	Coursework Portfolio Requirements
Salary Deductions (6 hours)	Use terms related to earnings – wage, salary, overtime, commission, income tax, PAYE (Pay As You Earn), national insurance, gross pay, net pay. Find percentages of quantities. Carry out complex calculations that include fixed and variable rates (by hand and using spreadsheet formulae). Draw pie charts and bar charts (by hand and using spreadsheets) to illustrate results.	Payslips (starter) Data sheets including three simulated pay slips and related worksheet. Teacher Notes included.	Requirement 1 (2 ½ hours) Report illustrating how deductions (eg income tax, national insurance) are calculated for at least 3 different salaries.
		Income Tax (skills activity) Notes, examples and exercises based on rates for the current tax year.	
		National Insurance (skills activity) Notes, examples and exercise based on rates for the current tax year.	
Price Calculations (6 hours)	Use fractions and percentages: <ul style="list-style-type: none"> • find VAT and final price • calculate ‘mark-ups’ and discounts Carry out reverse calculations: <ul style="list-style-type: none"> • find initial value when given a fraction of this value • find original price when given cost inclusive of VAT. Use spreadsheet formulae as well as calculations done by hand. Include use of relative and absolute cell referencing as well as the ‘fill down’ facility.		



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Loans (8 hours)	Use terms related to borrowing – interest rates, compound interest, handling charges, commission, APR (Annual Percentage Rate). Use interpolation to estimate values not given in tables (eg repayments for loan over 28 months, given the information for 24 and 36 months). Use percentage rates (including APR) to find interest on loans compounded over a number of periods. Draw line graphs (by hand and using spreadsheets) to illustrate results.	Credit Cards (skills activity) Notes and example including spreadsheet formulae.	Requirement 2 (2 1/2 hours) Two reports illustrating how repayments vary if you borrow money <ul style="list-style-type: none"> over a short period using 2 different methods (eg credit card, loan) over a long period (eg mortgage, student loan).
		Short Term Personal Loans (skills activity) Notes, examples and exercise. Requires information from building society or bank leaflets.	
		Long Term Personal Loans (skills activity) Notes, examples and exercise.	
		Mortgages (skills activity) Notes, examples and exercise.	
Insurance (4 hours)	Estimate probabilities from real data. Relative frequency Understand numerical values of probabilities and use ideas of basic probability to help make decisions.	Insurance Rates (skills activity) Students investigate the link between crime figures and the cost of vehicle and home insurance.	
Savings (8 hours)	Use terms related to saving – interest rates, compound interest, AER (Annual Equivalent Rate), short term saving (eg instant access account), medium term saving (eg fixed rate bond), long term saving (eg pension). Use formula for simple interest. Use percentage rates (including AER) to find interest on savings compounded over a number of years. Draw line graphs (by hand and using spreadsheets) to illustrate results.	Interest on Savings (skills activity) Notes, examples and exercises involving simple and compound interest. Comparison of different types of savings.	Requirement 3 (2 1/2 hours) Report that compares and contrasts short, medium and long term saving.
		Simple & Compound Interest (skills activity) Spreadsheet giving examples and practice. Separate spreadsheet gives answers.	
		Saving (+ separate Teacher Notes) (assignment) Leaflet giving interest rates on three instant access savings accounts, exercise and sample examination questions based on the leaflet and an assignment. Exercise uses Excel spreadsheet.	
Account (10 hours)	Record financial transactions, using columns to record credits, debits and running totals. Include use of negative numbers to represent debits, negative credit. Use line graph to illustrate results. Use fractions, percentages, ratios, bar charts and pie charts to make comparisons.	Keeping an Account (skills activity) Notes, example and exercise.	Requirement 4 (2 1/2 hours) Record and analysis of an account that shows, over time, income and expenditure. Include sheets for 2 or more periods including carrying forward information from one to the other.
		Ratio Bingo & Matching Cards (skills activity) Activities that give learners practice in simplifying ratios.	
Revision (8 hours)			

