 Year 11 Mathematics Standard (Rhombus)

Unit title: MS-F1 Money Matters

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Duration: Term 1, 6 weeks

Rationale

Everyone requires money transactions of some form, whether by earning or spending or managing it. The skills required to handle money is key to financial security. Financial literacy is imperative for all members of the society. Students develop an ability to justify various types of financial decisions which will affect their life now and into the future. As all of us have the capacity to earn and spend money, we are all consumers. As consumers, we need to calculate our earnings, so that we can budget and determine what we can afford to buy.

Topic focus

The principal focus of this subtopic is to calculate and graph simple interest, manage earnings, wages and taxation, and develop an appropriate budget for a given situation.

Students develop an ability to justify various types of financial decisions which will affect their life now and into the future.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

Prior knowledge required

MA4-5NA Fractions, Decimals and Percentages, MA4-6NA Financial Mathematics, MA5.1-4NA Financial Mathematics, MA5.2-4 Financial Mathematics ♢

Language considerations

rates

periods

PAYG

GST

depreciation

compound interest

percentage increase

percentage decrease

asset

simple interest

straight line graphs

salary

wages

commission

allowances

penalty rates

overtime

piecework

royalties

leave loading

deductions

taxation

superannuation

taxable income

on-road costs

insurance

Outcomes

A student:

* represents information in symbolic, graphical and tabular form MS11-2
* models relevant financial situations using appropriate tools MS11-5
* makes predictions about everyday situations based on simple mathematical models MS11-6
* uses appropriate technology to investigate, organise and interpret information in a range of contexts MS11-9
* justifies a response to a given problem using appropriate mathematical terminology and/or calculations MS11-10

Assessment (including formative and summative)

Formative assessment:

* Begin unit based on diagnostic assessment - Mathematics Stage 4 Diagnostic Tasks (Fractions Decimals & Percentages pp 5-8, Financial Mathematics pp9-10) - http://numeracyskills.com.au/images/pdfs/Mathematics\_Stage\_4\_Diagnostic\_Tasks.pdf
* Students working in small groups to brainstorm what they know about Financial Mathematics.
* Teacher observes student engagement during in-class problem-solving tasks
* Teacher monitors the completion of homework tasks including the Spreadsheet Workbook
* Teacher collects samples of student work to informally assess individual progress
* Students are provided with to contribute to class discussion and/or group work
* Teacher poses key questions when working in one-to-one situations with students
* Exit slips using a variety of strategies eg. Google forms, Two stars and a wish (two things that were interesting, one thing that I want to know about).

Summative Assessment:

* MS-F1 Money Matters – Rhombus – Assessment Task

F1.1 Interest and depreciation

| Content | Teaching and learning strategies and evidence of learning | Resources |
| --- | --- | --- |
| Review: converting fractions and percentages to decimals | Investigate with students where percentages appear in real life.Brainstorm and get students to create a mind map using Percentages as the main idea.Changing fractions and percentages to decimals, makes it easier to substitute into financial mathematics scenarios for example; formulae, percentage increase and decrease.Explore Calculator skills - converting fractions to decimals using the user guides (basic calculations section in contents) to practice inputting various fractions, decimals and percentages.Explain to students the importance of being able to convert fractions, decimals and percentages mentally as well as using a calculator.In groups, students to apply their knowledge to complete the Fractions to Decimals puzzles. | * [Everyday Uses of Percentages](http://www.staff.vu.edu.au/mcaonline/units/percent/pereve.html): http://www.staff.vu.edu.au/mcaonline/units/percent/pereve.html
* [Percentages in the Real World Examples](https://www.shmoop.com/ratios-percentages/real-world-examples.html): https://www.shmoop.com/ratios-percentages/real-world-examples.html
* [Changing improper fractions](https://www.youtube.com/watch?v=kppGcUGrmy8) (Casio): https://www.youtube.com/watch?v=kppGcUGrmy8
* [9 ways with percentages](https://docs.google.com/document/d/1RaHGdQKbSyF6WZT9PG6NYJNxOXfKxZ6ogI9vRPpxBFY/edit?pli=1): https://docs.google.com/document/d/1RaHGdQKbSyF6WZT9PG6NYJNxOXfKxZ6ogI9vRPpxBFY/edit?pli=1
* [Converting percents to decimals & fractions example (Khan Academy):](https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction) https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction
* [Percentages Card Matching Activity:](https://docs.google.com/document/d/1RaHGdQKbSyF6WZT9PG6NYJNxOXfKxZ6ogI9vRPpxBFY/edit?pli=1) https://docs.google.com/document/d/1RaHGdQKbSyF6WZT9PG6NYJNxOXfKxZ6ogI9vRPpxBFY/edit?pli=1
* [Fractions, Decimals and Percentages Jigsaw](http://www.mathswithgraham.org.uk/jigsaw/fractionsdecimalspercentagesfinal.pdf): http://www.mathswithgraham.org.uk/jigsaw/fractionsdecimalspercentagesfinal.pdf
 |
| * calculate simple interest for different rates and periods (ACMEM064) ◊  Information and communication technology capability icon
	+ apply percentage increase or decrease in various contexts, for example calculating the goods and services tax (GST) payable on a range of goods and services, and calculating profit or loss in absolute and percentage terms Personal and social capability icon Work and enterprise
 | Language: Interest, profit, increase, decrease, loss, percentage, absolute percentageStudents to continually update their ‘Big Green Sheet’ to build on their metalanguage and understanding of the language in this unit.Teachers may find the notes contained in the Consumer Arithmetic unit from the TIMES project helpful in introducing the percentage increase or decrease in various contexts, for example calculating the goods and services tax (GST) payable on a range of goods and services, and calculating profit or loss in absolute and percentage terms.Allow students to explore the different ways percentages are used today.Brainstorm with students where percentages (increase and decrease) appear in the real world.Students complete a gallery walk activity around the key questions – Is the Price Right? What are the things we consider when we spend money? Students work in groups of 2-3 to write their responses on an A3 sheet of paper. These sheets of paper are displayed around the classroom and other students provide feedback on the responses using post-it notes.Use the Australian Taxation Office (ATO) website to facilitate class discussion about GST in Australia.* What is the GST?
* How is it calculated on goods and services?
* What items do not attract GST? Why?
 | * [Tackling the Terminology of Financial Mathematics](https://docs.google.com/document/d/1R_4a57PeqRmqm9HrxUb-zvrO5whA6P-P-4faLfzKzns/edit?pli=1): https://docs.google.com/document/d/1R\_4a57PeqRmqm9HrxUb-zvrO5whA6P-P-4faLfzKzns/edit?pli=1
	+ (Print this on A3 GREEN Paper, double sided) An easy way for students to create their own glossary, in their own words.
* [Consumer Arithmetic (TIMES](http://amsi.org.au/teacher_modules/consumer_arithmetic.html)): http://amsi.org.au/teacher\_modules/consumer\_arithmetic.html
* [GST (ATO):](https://www.ato.gov.au/Business/GST/) https://www.ato.gov.au/Business/GST/
* [GST Calculator](https://www.moneysmart.gov.au/tools-and-resources/calculators-and-apps/gst-calculator): https://www.moneysmart.gov.au/tools-and-resources/calculators-and-apps/gst-calculator
* [Worksheet on Discounts](http://www.math-only-math.com/worksheet-on-discounts.html): http://www.math-only-math.com/worksheet-on-discounts.html
* [Percentage Increase and Decrease: Worksheets with Answers](http://mrbartonmaths.com/topics/fractions-decimals-percentages/percentage-increase-and-decrease/worksheets.html): http://mrbartonmaths.com/topics/fractions-decimals-percentages/percentage-increase-and-decrease/worksheets.html
* [Unitary Method Percentages](https://www.youtube.com/watch?v=vDge9l41ceA): https://www.youtube.com/watch?v=vDge9l41ceA
 |
| * calculate simple interest for different rates and periods (ACMEM064) ◊  Information and communication technology capability icon
	+ apply percentage increase or decrease in various contexts, for example calculating the goods and services tax (GST) payable on a range of goods and services, and calculating profit or loss in absolute and percentage terms (ACMGM006)
 | Interest is the amount paid for borrowing money or the amount earned for lending money. There are different ways of calculating interest. Simple interest (or flat interest) is a fixed percentage of the amount invested or borrowed and is calculated on the original amount. For example, if we invest $100 in a bank account that pays interest at the rate of 5% per annum (per year) we would receive $5 each year. That is,This amount of interest would be paid each year. Simple interest is always calculated on the initial amount, or the principal.Simple interest* I = Prn
* I – Interest (simple or flat) earned for the use of money
* P – Principal is the initial amount of money borrowed
* r – Rate of simple interest per period expressed as a decimal
* n – Number of time periods

Remember to write all relevant information that is to be substituted into the formulae and convert the percentage rate to a decimal. This will allow an easier substitution into the simple interest formula.The simple interest can be calculated using different rates and periods.Remember: when changing the percentage rate always make it a decimal (by dividing by 100).Investigate with students the key information and get them to underline it. They can then use the key information of Principal, Rate and Time in the Simple Interest Formula.Students will need to explore what happens when either the interest rate is not per annum (pa) OR the time is not in years. | * [Simple Interest in 2 minutes:](https://www.youtube.com/watch?v=f75-wzS8Sos) https://www.youtube.com/watch?v=f75-wzS8Sos
* [Simple Interest Worksheet:](http://www.mathworksheetsland.com/topics/consumer/simpleinterest1.pdf) http://www.mathworksheetsland.com/topics/consumer/simpleinterest1.pdf
 |
| * + use technology or otherwise to compare simple interest graphs for different rates and periods  Information and communication technology capability icon
 | Investigate, using Excel, the graphs that are created when changes are applied to simple interest (different rates and periods).Use the formula to calculate interest in cell D5, then fill down the column (by grabbing the bottom right hand corner of the D5 cell and dragging to the end of the column) to complete the remaining interest amounts. Then complete the amount column using the formula =A5+D5 in cell E5 and using the dragging tool to fill the remainder of the values. Students can then use the data in the spreadsheet to construct graphs and compare for different rates and periods.the image is a screen shot of the excel spreadsheet to calculate simple interest | * [How to calculate Simple Interest in Excel:](https://www.youtube.com/watch?v=UE_CNiAgIDE) https://www.youtube.com/watch?v=UE\_CNiAgIDE
 |
| * calculate the depreciation of an asset using the straight-line method as an application of the simple interest formula **AAM** ◊
	+ use $S=V\_{0}-Dn$, where $S$ is the salvage value of the asset after $n$ periods, $V\_{0}$ is the initial value of the asset, $D$ is the amount of depreciation per period, and $n$ is the number of periods
 | In a straight-line method of depreciation, the value of the depreciating asset decreases by the same amount during each time period.The simple interest formula I = Prn gives an amount which is added to the principal (P) after each time period. Straight-line depreciation is an amount which is always subtracted after each time period.It is important to realise that there is a limit to the number of times that an asset can depreciate using the straight-line method. Once the value of an asset reaches $0, the straight-line depreciation method is no longer applicable as future time periods would result in a negative value of an asset.Straight line depreciation can be modelled using Excel:the image is a screen shot of an excel spreadsheet showing straight-line depreciationThe formula for cell B3 is shown above. It is the value of the cell above (B2) minus the value of depreciation ($E$4). This can then be copied down to the other cells in column B and shown as a straight line graph with a negative gradient.the image is a screen shot of an excel chart showing straight-line depreciation | * [Straight Line Depreciation Questions:](https://drive.google.com/file/d/0BwaMIFwXzq3sTVRERE9VQWc1VUk/view?pli=1) https://drive.google.com/file/d/0BwaMIFwXzq3sTVRERE9VQWc1VUk/view?pli=1
 |
| * use a spreadsheet to calculate and graph compound interest as a recurrence relation involving repeated applications of simple interest AAM ◊  Information and communication technology capability icon
 | Interest rates and periods must be in the same time units (for example; years, months)Below is an example of a compound interest calculation using repeated applications of simple interest over 5 years. The rate has been set to 6% p.a. and the principal is $5000. The first table shows the calculations required for the first two rows. Cells C3, D3 and E3 can then be highlighted and dragged down to fill in the missing values.the image is a screenshot of an excel spreadsheet showing compound interestthe image is a screenshot of an excel spreadsheet showing compound interestEach row uses the simple interest formula I = Prn to calculate the new amount at the end of each time period. n is equal to 1 for each calculation as it gives the amount for the next 1 time period. Each value in column E becomes the principal for the next row.First time period: I = Prn* =$5000×0.06×1
* =$300

This amount is added to the starting amount (principal) and becomes the new starting amount in the next time period.That is; $5000+$300=$5300Second time period: I = Prn* =$5300×0.06×1
* =$318

The new amount after two time periods is $5300+$318=$5618The process then continues for the required number of time periods. | * [Compound Interest Spreadsheet](https://www.youtube.com/watch?v=LQFXkQRW9QM): https://www.youtube.com/watch?v=LQFXkQRW9QM
* [Compound Interest questions using Excel Spreadsheet:](https://drive.google.com/file/u/1/d/0BwaMIFwXzq3sTVpMZnRBS1JTcFk/view?pli=1) https://drive.google.com/file/d/0BwaMIFwXzq3sTVpMZnRBS1JTcFk/view?pli=1
 |

F1.2: Earning and Managing Money

| Outcomes and Content | Teaching and learning strategies and evidence of learning | Resources |
| --- | --- | --- |
| * calculate monthly, fortnightly, weekly, daily or hourly pay rates from a given salary, wages involving hourly rates and penalty rates, including situations involving overtime and other special allowances, and earnings based on commission (including commission based on a sliding scale), piecework or royalties ◊  Information and communication technology capability icon Personal and social capability icon Civics and citizenship icon Work and enterprise icon
 | Key Idea: Understand that there are different forms of earning money. Earnings can be calculated monthly, fortnightly, weekly, daily, or hourly rates from a given salary, wages, involving hourly rates and penalty rates, including situations involving overtime and other special allowances.Language: monthly, fortnightly, weekly, daily, salary, wage, piecework, commission, royalties, overtime, penalty rates, allowances, deductions, taxable income, gross income, PAYG tax, Medicare levy, annual leave loading, pensionHow much should I be paid? How are special allowances related to earning money? Examine the various situations involving overtime and other special allowances, and earnings based on commission.Students to continue to update their ‘Big Green Sheet’ to build on their metalanguage and understanding of the language in this unit. | * [First Job (ASIC’s Money Smart):](https://www.moneysmart.gov.au/life-events-and-you/under-25s/first-job) https://www.moneysmart.gov.au/life-events-and-you/under-25s/first-job
* Employment websites:
	+ [Seek](https://www.seek.com.au) https://www.seek.com.au
	+ [Adzuna](https://www.adzuna.com.au) https://www.adzuna.com.au
	+ [Job search](https://jobsearch.gov.au/job) https://jobsearch.gov.au/job
	+ [Career one](https://www.careerone.com.au) https://www.careerone.com.au
	+ [Indeed](https://au.indeed.com) https://au.indeed.com
* [Salary Data and Career Research Centre (Pay Scale):](https://www.payscale.com/research/AU/Country%3DAustralia/Salary) https://www.payscale.com/research/AU/Country=Australia/Salary
* [Wages (NSW Justice – Law Access):](http://www.lawaccess.nsw.gov.au/Pages/representing/lawassist_employmentrights/wages_and_entitlements/what_am_i_entitled_to/unpaid_wages/unpaid_wages.aspx) http://www.lawaccess.nsw.gov.au/Pages/representing/lawassist\_employmentrights/wages\_and\_entitlements/what\_am\_i\_entitled\_to/unpaid\_wages/unpaid\_wages.aspx
* [Income – Wages and Salaries:](https://www.youtube.com/watch?v=eRq09mcQaV4) https://www.youtube.com/watch?v=eRq09mcQaV4
 |
| * + calculate annual leave loading
 | What is annual leave loading and who is eligible?Calculate the annual leave loading (17.5%) for a variety of incomesTotal holiday pay should also be included.Create a spreadsheet that compares 5 incomes and their calculated annual leave loading, these incomes can come from newspapers, online employment websites. | * [Annual leave and leave loading (NSW Justice – Law Access):](http://www.lawaccess.nsw.gov.au/Pages/representing/lawassist_employmentrights/wages_and_entitlements/what_am_i_entitled_to/unpaid_leave/annual_leave_and_leave_loading.aspx) http://www.lawaccess.nsw.gov.au/Pages/representing/lawassist\_employmentrights/wages\_and\_entitlements/what\_am\_i\_entitled\_to/unpaid\_leave/annual\_leave\_and\_leave\_loading.aspx
* Employment websites:
	+ [Seek](https://www.seek.com.au) https://www.seek.com.au
	+ [Adzuna](https://www.adzuna.com.au) https://www.adzuna.com.au
	+ [Job search](https://jobsearch.gov.au/job) https://jobsearch.gov.au/job
	+ [Career one](https://www.careerone.com.au) https://www.careerone.com.au
	+ [Indeed](https://au.indeed.com) https://au.indeed.com
 |
| * + calculate payments based on government allowances and pensions (ACMGM003)
 | Explore government websites, including Centrelink, to research and calculate special allowances for a variety of people, (for example; Youth Allowance, Austudy, Age Pension and so on.)Investigate the eligibility of these government allowances and pensions.Create a table using the Department of Human Services website information about government allowances and pensionsCalculate income and affordability, based on these allowances | * [A guide to Australian Government payments](https://www.humanservices.gov.au/organisations/about-us/publications-and-resources/guide-australian-government-payments): https://www.humanservices.gov.au/organisations/about-us/publications-and-resources/guide-australian-government-payments
 |
| * calculate income tax ◊
	+ identify allowable tax deductions Ethical understanding icon Personal and social capability icon Civics and citizenship icon Work and enterprise icon
 | Explore The 'Tax, super and you' website. It is designed for use by students in years 10 to 12 and their teachers. It includes four modules: Tax 101 is a general introduction, Your tax focuses on individuals, Business tax focuses on companies and the final module, Super, explores the concept of superannuation.Brainstorm the items that you can claim as deductions, using a variety of jobs and their incomes. Compare these items and discuss similarities and differences.Investigate the webpage Study and training support loans from the ATO. * What types of study loans are there?
* When do you have to repay the loan? What are the compulsory and voluntary repayments?
* What is my obligation if I am overseas?
 | * [Tax, Super + You:](https://www.taxsuperandyou.gov.au/) https://www.taxsuperandyou.gov.au/
	+ Note: to access the full module you will need to complete a registration form. This resource provides a strong start to income tax.
* [Deductions you can claim (ATO):](https://www.ato.gov.au/Individuals/Income-and-deductions/Deductions-you-can-claim/) https://www.ato.gov.au/Individuals/Income-and-deductions/Deductions-you-can-claim/
* [Study and training support loans (ATO):](https://www.ato.gov.au/Individuals/Study-and-training-support-loans/) https://www.ato.gov.au/Individuals/Study-and-training-support-loans/
	+ A comprehensive resource detailing government financial assistance to people undertaking higher education in the form of loans. Links available
 |
| * + calculate taxable income after allowable tax deductions are taken from gross pay Work and enterprise icon
	+ calculate the Medicare levy (basic levy only)
	+ calculate net pay following deductions from income
	+ calculate the amount of Pay As You Go (PAYG) tax payable per fortnight or week using current tax scales, and use this to determine if more tax is payable or if a refund is owing after completing a tax return Work and enterprise icon
 | Calculate taxable income as Gross Pay minus all deductions.Investigate how taxable income is calculated. Is it consistent and equitable for all Australians? Justify using calculations to support.Investigate who pays the Medicare Levy. Brainstorm.What is the role of the Medicare Levy? Use allowable deductions to calculate the taxable income and Medicare Levy due (based on current tax rates)Calculate the net pay defined as gross pay minus all deductions (including tax)Using current tax brackets, calculate PAYG tax, relating to various income rates. Students complete a tax return for an individual using the Financial Wizard’s Apprentice application. | * [Income tax calculator (ASIC’s Money Smart):](https://www.moneysmart.gov.au/tools-and-resources/calculators-and-apps/income-tax-calculator) https://www.moneysmart.gov.au/tools-and-resources/calculators-and-apps/income-tax-calculator
* [Medicare Levy (ATO):](https://www.ato.gov.au/Individuals/Medicare-levy/) https://www.ato.gov.au/Individuals/Medicare-levy/. Use this website to work through the subheadings to understand the full picture of Medicare
* [Individual income tax rates (ATO):](https://www.ato.gov.au/rates/individual-income-tax-rates/) https://www.ato.gov.au/rates/individual-income-tax-rates/
* [Taxation (Financial Wizard’s Apprentice):](http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/financial_wizard/units/fm3_tax.html) http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/financial\_wizard/units/fm3\_tax.html
 |
| * use technology to perform financial computations, for example calculating percentage change, calculating tax payable and preparing a wage-sheet ◊  Information and communication technology capability icon Work and enterprise icon
 | Choose a job that you may be interested in when you leave school.Explore tax calculations, using a range of online tools as well as Excel. | N/A |

F1.3 Budgeting and household expenses

| Outcomes and Content | Teaching and learning strategies and evidence of learning | Resources |
| --- | --- | --- |
| * interpret and use information about a household’s electricity, water or gas usage and related charges and costs from household bills AAM ◊ Sustainability icon Civics and citizenship icon
 | This section can have links to Measurement and Data in relation to electricity, water or gas usage, and to Financial Mathematics in relation to charges and costs.Students create a mindmap using energy as the topic (groups of 3 for this activity).Investigate household energy consumption in Australia, identify highest areas as well as renewable and non-renewable sources. Energy ConsumptionEnergy exists in numerous forms, such as heat and light, and is measured in Joules (J). Heat energy in the home is usually measured in megajoules (MJ).Power is the rate that energy is generated or consumed. One joule per second is known as a watt (W).Electrical energy is thought of in terms of the power drawn by an electrical device and the length of time the device is in use.For example;* a 100W light bulb in use for 1 hour uses 100 watt-hours (Wh) of energy.
* a 50W light bulb in use for 2 hours also uses 100 Wh of energy.

A kilowatt-hour (kWh) represents the electrical energy used when a 1000W power load is drawn for 1 hour.* 1W = 1J per second
* 1000W = 1000J per second
* 1kW = 1000J per second
* 1kWh = 3 600 000J
* 1kWh = 3.6MJ

Energy rating labels provide the energy consumption that an appliance typically uses in a year. The running cost of an appliance is calculated by multiplying the energy consumption figure by the electricity price rate.the image shows an energy rating sticker. The sticker had 3.5 stars and an energy consumptions of 380kWh per yearWater Availability and UsageWater is an essential resource for life. Predictions can be made on the future of the world's water resources by interpreting information, making comparisons and performing calculations in relation to water availability and usage. Water restrictions are sometimes imposed in areas to help conserve water supplies in times of drought.Questions could involve situations with volume and capacity of cylindrical water tanks, and data breakdowns of water usage in a home. Examples could include:* A water tank is in the shape of a closed cylinder with a radius of 2m and a height of 4m.
* What is the maximum volume of the water tank, to 2 decimal places?
* What is the capacity of the tank, to the nearest litre?
 | * [Household Energy Consumption Survey, Australia (ABS):](http://search.abs.gov.au/s/search.html?query=energy+consumption&collection=abs&form=simple&profile=_default) http://search.abs.gov.au/s/search.html?query=energy+consumption&collection=abs&form=simple&profile=\_default

Examples:* How much do these appliances cost to run if electricity rates are $0.17 per kWh?
1. A dishwasher with an energy consumption of 670 kWh per year.
2. A 2.4 kW fan heater in use for 5 hours.
3. A 20W LED light bulb constantly in use over a year.
* [Energy and Sustainability questions:](https://drive.google.com/file/d/0BwaMIFwXzq3scmMtSEhxVjB4dXM/view?pli=1) https://drive.google.com/file/d/0BwaMIFwXzq3scmMtSEhxVjB4dXM/view?pli=1
 |
| * plan for the purchase of a car **AAM** ◊ Critical and creative thinking icon Personal and social capability icon
	+ investigate on-road costs for new and used vehicles, including sale price (or loan repayments), registration, insurance and stamp duty at current rates Literacy icon Civics and citizenship icon
	+ consider sustainability when choosing a vehicle to purchase, for example fuel consumption rates Sustainability icon
	+ calculate and compare the cost of purchasing different vehicles using a spreadsheet Critical and creative thinking icon  Information and communication technology capability icon
* plan for the running and maintenance of a car **AAM** ◊ Critical and creative thinking icon Personal and social capability icon
	+ describe the different types of insurance available, including compulsory and non-compulsory third-party insurance, and comprehensive insurance Literacy icon Personal and social capability icon
	+ investigate other running costs associated with ownership of a vehicle, for example cost of servicing, repairs and tyres Literacy icon Personal and social capability icon
	+ calculate and compare the cost of running different vehicles using a spreadsheet Critical and creative thinking icon  Information and communication technology capability icon
 | Research the various types of car insurance including: compulsory and non-compulsory third party insurance as well as comprehensive insurance. Discuss the benefits of each type.Investigate the cost involved in owning a vehicle including maintenance and on-road costs. Make comparisons between different car models and service providers (for example; Sedans V 4WD, insurance companies, stamp duty, and so on.)Create various spreadsheets to compare the cost of purchasing different vehicles, insurance prices, running costs, and so on. | * [Guide to different types of car insurance (InfoChoice):](http://www.infochoice.com.au/compare-car-insurance-quotes/guide-to-different-types-of-car-insurance/) http://www.infochoice.com.au/compare-car-insurance-quotes/guide-to-different-types-of-car-insurance/
* [The costs of owning a car (CommBank):](https://www.commbank.com.au/guidance/consumer-finance/the-costs-of-owning-a-car-201606.html) https://www.commbank.com.au/guidance/consumer-finance/the-costs-of-owning-a-car-201606.html
* [Car finance tips and advice (NRMA):](https://www.mynrma.com.au/cars-and-driving/buying-a-car/car-loans/resources) https://www.mynrma.com.au/cars-and-driving/buying-a-car/car-loans/resources
* [Ongoing car costs (ASIC’s Money Smart):](https://www.moneysmart.gov.au/life-events-and-you/under-25s/getting-a-car/ongoing-car-costs) https://www.moneysmart.gov.au/life-events-and-you/under-25s/getting-a-car/ongoing-car-costs
 |
| * prepare a personal budget for a given income, taking into account fixed and discretionary spending (ACMGM004) **AAM** ◊
 | A budget is a plan for the use of future income.When creating a budget:1. Determine expected income and expenses
2. Minimise non-essential expenses
3. Determine savings by comparing income and expenses

Budgets could include amounts listed as income compared to amounts listed as fixed and discretionary expenses.Budgets could be expressed as a certain percentage of total income.Budgets could be set out in a table using Excel or online budget planners.Totals and savings can be adjusted by adding, removing or changing the amounts. | * [Budgets (Financial Wizard’s Apprentice):](http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/financial_wizard/units/fm1_budget.html) http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/financial\_wizard/units/fm1\_budget.html
* Examples of online budget planners:
	+ [Budget Planner (CommBank):](https://www.commbank.com.au/digital/calculators/budget-planner-calculator) https://www.commbank.com.au/digital/calculators/budget-planner-calculator
	+ [Budget Planner (NAB):](https://www.nab.com.au/personal/loans/personal-loans/personal-loan-calculators/budget-planner) https://www.nab.com.au/personal/loans/personal-loans/personal-loan-calculators/budget-planner
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Reflection and evaluation: