 Year 11 Mathematics Standard

| MS-F1 Money Matters | Unit duration |
| --- | --- |
| Financial Mathematics involves the application of knowledge, skills and understanding of numbers to earning, spending, investing, saving and borrowing money.Knowledge of financial mathematics enables students to analyse different financial situations, to calculate the best options for given circumstances, and to solve financial problems.Study of financial mathematics is important in developing students’ ability to make informed financial decisions, to be aware of the consequences of such decisions, and to manage personal financial resources effectively. | 5 weeks |

| Subtopic focus | Outcomes |
| --- | --- |
| 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. | 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

**Related life skills outcomes:** MALS6-2, MALS6-5, MALS6-6, MALS6-7, MALS6-8, MALS6-13, MALS6-14 |

| Prerequisite knowledge | Assessment strategies |
| --- | --- |
| Student should build on the content from the Number and Algebra Strand of the K-10 Mathematics syllabus, including the Stage 5.1 and 5.2 sub-strands of Financial Mathematics and Linear Relationships. | Students could investigate tax systems in other parts of the world and then design their own tax system, comparing it to our current system and demonstrating the effect it would have on different individuals, couples and families. |

All outcomes referred to in this unit come from [Mathematics Standard Stage 6](https://syllabus.nesa.nsw.edu.au/mathematics-standard-stage6/) Syllabus
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Glossary of terms

| Term | Description |
| --- | --- |
| allowable tax deductions | Allowable tax deductions are expenses incurred that are related to your job and profession and can be deducted from your salary to obtain your taxable income. These form part of an individual’s or company’s tax return. |
| depreciation | Depreciation is a decrease in the value of an asset over time. |
| fuel consumption rate | The fuel consumption rate of a vehicle measures how much fuel it uses and is usually measured in litres per 100 kilometres (L/100 km). |
| future value | The future value of an investment or annuity is the total value of the investment at the end of the term of the investment, including all contributions and interest earned. |
| gross pay | Gross pay is the total income per pay period (weekly, fortnightly, monthly as appropriate). |
| GST | GST is an abbreviation for the Goods and Services Tax which, in Australia, is a flat percentage of tax levied on most goods and services. |
| income tax | Income tax is a government tax levied on taxable income. |
| net pay | Net pay is the remaining amount of gross pay after tax and other deductions have been made. |
| Pay As You Go (PAYG) tax | Pay As You Go tax is a system for making regular tax instalments which are removed from gross pay towards the expected income tax liability for that financial year. |
| recurrence relation | A recurrence relation occurs when each successive application uses the resultant value of the previous application to generate the next value. Examples include compound interest and annuities. |
| straight-line method of depreciation | In straight-line method of depreciation, the value of the depreciating asset decreases by the same amount during each time period.Also known as the ‘Prime Cost method’. |
| tax return | A tax return is an annual statement of all income, allowable deductions, PAYG tax paid and other personal financial information so as to allow the Australian Taxation Office to calculate the amount of income tax an individual should pay for the financial year. |
| taxable income | Taxable income is the amount of yearly income that is used to calculate an individual’s payable income tax equal to gross income less allowable tax deductions. |

| Lesson sequence | Content | Suggested teaching strategies and resources  | Date and initial | Comments, feedback, additional resources used |
| --- | --- | --- | --- | --- |
| Calculating percentage change(1 lesson) | F1.1 Interest and Depreciation* apply percentage increase or decrease in various contexts, eg 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
 | Percentage increase and decrease* Think, pair, share: Students brainstorm jobs that will use percentage increase and decrease.
* Teacher leads students to conclude that most businesses will utilise one or both of these including with price mark-ups, sales, goods and services tax (GST), superannuation payments and income based on commission.
* Students examine an application in more detail.
* Example: students examine mark-ups using the video [Do shops charge too much?](http://splash.abc.net.au/home#!/media/29682/) or articles published by [Choice](https://www.choice.com.au/search?q=markups&cp=2&pp=1#results).
* Teacher to model calculation in a variety of contexts:
* GST calculations should include finding the GST amount, final cost and finding the original cost of goods before GST was added.
* Calculating the profit or loss on an item in absolute ($) and percentage terms.
* Student activity: Students complete calculations by hand and/or using technology. Sample MS Excel template for students to use: **Resource:** resource-2-percentage-change-spreadsheet.XLSX

NESA exemplar questions:* The school uniform shop is having a back-to-school sale and is offering a discount on all its goods.
* What is the percentage discount on a shirt reduced from $52.50 to $42.00?

Assuming the percentage discount is the same on all items in the uniform shop, find:* the discount amount on a pair of pants whose original price was $36.00
* the sale price of a bag which originally cost $39.95.
* if the sale price of a blazer is $129.50, what was its original price and the discount?
* If the pre-GST price for a fridge is $900, what is the sale price inclusive of GST?
* If a computer was purchased for $2500, what was the amount of GST paid on this item and its pre-GST price?

**Resource:** ms-f1-nesa-exemplar-question-solutions.DOCX |  |  |
| Reviewing simple interest (1 or 2 lessons) | * calculate simple interest for different rates and periods (ACMEM064) ◊  Information and communication technology capability icon
* use technology or otherwise to compare simple interest graphs for different rates and periods  Information and communication technology capability icon
 | Introducing interest* Teacher defines interest. They may wish to examine this using the video [Bank Business](http://www.abc.net.au/btn/story/s3349497.htm).

Reviewing simple interest* Teacher to review the simple interest formula and define associated terminology.
* Simple Interest is the amount of money paid or earned for the use of money.
* Principal is the amount of money borrowed or invested.
* $I=Prt$

$I$ is the interest$P$ is the principal$r$ is the interest rate per time period (expressed as a fraction or decimal)$t$ is the number of time periods* Teacher to model calculating the amount of simple interest and future value. Calculations include:
* interest rates expressed other than as per annum.
* time periods other than years
* rearranging equations or formulas so students can determine the unknown variable such as $P,$ $r$ or $t$ in the context of simple interest.

Graphing simple interest* Students use technology such as graphing software or a spreadsheet to graph equations of the form $I=Prt$.
* Students change $t$ or $r$, one at a time, to examine their influence on the graph.
* Students examine the gradient of the graph and determine what it represents.
* Students use the graph to interpolate and extrapolate values.

If using Desmos or Geogebra, Graph $I=P\*r\*t$ and add a slider for $p$ and r. This will graph interest against time.Resource**:** resource1-simple-interest-spreadsheet.XLSX |  |  |
| Understanding compound interest(1 lesson) | * 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
 | Graphing compound interest* The teacher defines a recurrence relation and relates it to the context of compound interest.
* A recurrence relation occurs when each successive application uses the resultant value of the previous application to generate the next value. An example is compound interest.
* The interest earned and value at the end of the period is calculated on the value at the end of the previous period.
* Interest for each period can be calculated using the simple interest formula.
* Teachers can introduce future value (FV) and present value (PV) in the context of repeated applications of the simple interest formula.
* Student activity: Students use a spreadsheet to calculate and graph compound interest as a recurrence relation involving repeated applications of simple interest.

Note: Students should be able to use tables of relevant data or graphs to interpret financial situations and make decisions.Resource: resource3-recurrence-relation-spreadsheet.XLSX* Activity: Explore and model the relationship of compound interest to simple interest. Software such as a spreadsheet can be used for calculations and graphing. For example, students could create and explore the following spreadsheet:

Note: This is examined in depth in MS-F2 and MS-F4.NESA exemplar questions:* If the interest rate is quoted as 6% pa, what amount needs to be invested in order for the investment to be worth $850 at year’s end?
* A principal of $1000 is to be invested for three years. Use a spreadsheet to determine which of the following is the best investment option:
* 6% pa simple interest
* 5.9% pa compounded annually
* 5.85% pa compounded half-yearly.

**Resource:** ms-f1-nesa-exemplar-question-solutions.DOCX |  |  |
| Applying depreciation(1 lesson) | * 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
 | **Introducing depreciation*** Teacher introduces the concept of depreciation by showing the [what is depreciation](https://www.youtube.com/watch?v=OrBNusmnDxQ) video
* Teacher leads a discussion on what items commonly depreciates and why.
* Teacher introduces two methods of depreciation, straight line and declining balance.
* Using a basic straight line example such as a car depreciating from $30000 to $20000 over 5 years, the teacher defines:
* depreciation
* depreciated value / salvage value
* amount of depreciation
* amount of depreciation per period.
* Student activity: By plotting the initial value and depreciated value on a Cartesian plane, students determine the equation for the straight-line method and conclude:

$$S=V\_{0}-Dn$$$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$n $is the number of periods* Students relate the y-intercept to initial value and gradient to the depreciation per period.

Calculating straight-line depreciation* Teacher models calculations involving straight line depreciation. Calculations include:
* Predicted or depreciated value of an assets.
* Calculating$ V\_{0}, D or n$. For example, the number of years for the salvage value to fall below a threshold.

Student activities* Students use [Redbook](https://www.redbook.com.au/) to choose a car, noting its initial value, current expected value and age. Students apply the straight-line depreciation formula to
* Determine the approximate depreciation per period. Note: This could be determine algebraically or graphically.
* When the value of the car will fall below a threshold such as 30% of the original value
* Compare the depreciation rate for similar vehicles or different types of vehicles. Sedan v Hatch v AWD v Ute.
* Students construct a depreciation schedule using a spreadsheet to calculate the then graph the salvage value of an asset over time.
* Students Use the ATO website to look up the [effective life of an asset](https://www.ato.gov.au/law/view/document?LocID=%22TXR%2FTR20195%2FNAT%2FATO%2FatTABLEB%22&PiT=99991231235958#TABLEB), for example, see M for motor vehicles.
* Students choose an asset and determine the annual amount of depreciation.
* Students make predictions regarding the assets salvage value.

NESA exemplar questions:* It is predicted that a particular asset will depreciate at a rate of $80 per annum. Calculate its predicted value in ten years if it was purchased for $8000.

**Resource:** ms-f1-nesa-exemplar-question-solutions.DOCX |  |  |
| Calculating income (2 lessons) | **F1.2 Earning and managing money*** 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
 | Exploring income* Think, pair, share: Students brainstorm the different ways of earning an income including wage, salary, commission, piecework.
* Students may want to access a job advertisement website to assist them.
* Students can create a graphic organiser to summarise their findings:

the image shows an example of the table required for the exercise.  It has 3 columns with the headings "term", "definition" and "example"  There are 7 rows below the headings. Under "term" are the following terms "wage", "salary", "penalty rates", "overtime", "commission", "piecework" and "royalties".  The remaining rows under the headings "definition" and "example" are left blank.Further exploration* Students explore workplace conditions such as penalty rates and allowances for a range of jobs using [the Fair work ombudsman’s website](https://www.fairwork.gov.au/pay).
* Explore commission payments, based on varying percentages, as well as sliding scales and retainer payments.
* Explore the effect of modern technology on royalty payment rates and discuss piracy and copyright laws.
* Compare wage rates for different careers in other countries.

Calculating income* Students calculate monthly, fortnightly, weekly, daily or hourly pay rates from
* a given salary
* a wage involving an hourly rates, including overtime payments and allowances
* earnings based on commission including sliding scales and retainers
* earnings based on piecework
* earnings based on royalties
* Students use timesheets and payslips to calculate earning.

**Resource:** Money Smart’s [First job](https://s3-ap-southeast-2.amazonaws.com/mst-resources/first-job/index.htm) activityNESA exemplar questions:* A programmer is paid an annual salary of $56 230. Calculate the equivalent hourly rate if an average week is 42 hours of work.
* A salesperson, earns a monthly commission of 5% of sales on the first $1000 of sales, 4% on the next $2000 and 3.5% thereafter (ie the commission is based on a sliding scale). Calculate the pay for a month in which total sales were $4800.

**Resource:** ms-f1-nesa-exemplar-question-solutions.DOCX |  |  |
| Calculating annual leave loading (1 lesson) | * 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
* calculate annual leave loading
 | Introducing annual leave* Students examine annual leave entitlements including annual leave loading use the [Law Access NSW website](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).
* Teacher and students summarise their findings.

Calculating annual leave loading* Students choose a range of professions and calculate:
* the annual leave loading
* total holiday pay
* weekly holiday pay
 |  |  |
| Investigating other income payments (1 lesson) | * 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
* calculate payments based on government allowances and pensions (ACMGM003)
 | **Investigate government allowances and payments*** Students explore government websites, including [The Department of Human Services](https://www.humanservices.gov.au/individuals/services/centrelink), to research and calculate special allowances for a variety of people. Examples include Youth Allowance, Austudy, Age Pension and Newstart.
* Students use Centrelink’s [payment and service finder](https://www.centrelink.gov.au/custsite_pfe/pymtfinderest/paymentFinderEstimatorPage.jsf?wec-appid=pymtfinderest&wec-locale=en_US) website to compare and contrast payments available to people in two different situations.
 |  |  |
| Calculating income tax (2 lessons) | * calculate income tax ◊
* identify allowable tax deductions Ethical understanding icon Personal and social capability icon Civics and citizenship icon Work and enterprise icon
* calculate taxable income after allowable tax deductions are taken from gross pay Work and enterprise
* calculate the Medicare levy (basic levy only)
* 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
 | **Introducing taxation*** Students to complete activities from the Tax, Super and You website which allows them to investigate what tax is, who pays and why.
* Pre-test: [How much do I know about tax?](https://www.taxsuperandyou.gov.au/course/439/pre-test-how-much-do-i-know-about-tax)
* Tax: [Who, What, How and Why](https://www.taxsuperandyou.gov.au/course/433/tax-who-what-how-and-why)
* [Income and Income Tax](https://www.taxsuperandyou.gov.au/course/442/income-and-income-tax)
* [Working and Paying Tax](https://www.taxsuperandyou.gov.au/course/443/working-and-paying-tax)
* Teacher defines gross pay, taxable income, allowable tax deductions, income tax, tax refunds and liabilities.

**Investigating allowable deductions*** Students work in small groups to investigate a type of deduction using the [ATO website](https://www.ato.gov.au/Individuals/Income-and-deductions/Deductions-you-can-claim/):
* Vehicle and travel expenses
* Clothing, laundry and dry-cleaning expenses
* Gifts and donations
* Home office expenses
* Interest, dividend and other investment income deductions
* Self-education expenses
* Tools, equipment and other equipment
* Students present the key points of their findings
* Students record their understanding of each deduction using a graphic organiser.

Calculating income tax* Students use the Tax, Super and You website to investigate the processing for completing a tax return and calculating how much tax you have to pay.

**Resources:** [Completing your tax return](https://www.taxsuperandyou.gov.au/course/444/completing-your-tax-return), [Calculating tax due](https://www.taxsuperandyou.gov.au/course/445/calculating-tax-due)* Teacher models the calculation of:
* taxable income using a range of income sources and allowable deductions.
* income tax payable using current [ATO tax rates.](https://www.ato.gov.au/Rates/Individual-income-tax-rates/)

Resource: [Simple tax calculator](https://www.ato.gov.au/Calculators-and-tools/Host/?anchor=STC&anchor=STC#STC/questions)* The [Medicare levy](https://www.ato.gov.au/Individuals/Medicare-levy/) (basic only) Resource: [Medicare levy calculator](https://www.ato.gov.au/Calculators-and-tools/Host/?anchor=MedicareLevy&anchor=MedicareLevy&anchor=MedicareLevy/questions#MedicareLevy/questions)
* A tax refund or tax liability

**Student activities*** Students calculate taxable income, income tax, Medicare levy payable and use this information to determine if they are entitled to a tax refund or liability for a range of scenarios.
* Students 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. See [PAYG tax tables](https://www.ato.gov.au/Rates/Tax-tables/). Note: Select a frequency under the heading regular payments, then the PDF withholding amount file under see also.
* Students investigate the effects of changing the structure of income tax. Resource: [The financial wizard's apprentice: taxation](https://schoolsequella.det.nsw.edu.au/file/44828baf-e540-4c79-9f2c-4ce180432ad9/1/financial_wizard.zip/financial_wizard/units/fm3_tax.html)

**NESA sample activities*** Students calculate the tax refund (or amount payable) based on a sample Payment Summary, taking into account gross income, tax deductions, taxable income, tax payable on taxable income, the Medicare levy, and tax already paid as per the Payment Summary.
* Students complete a tax return form (as included in the Tax Pack) using a typical PAYG employee’s earnings and deductions. The aim is to calculate the refund from or amount owed to the ATO.
 |  |  |
| Calculating net Income (1 lesson) | * calculate net pay following deductions from income ◊
* 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
 | Calculating **net income*** Teacher introduces and defines net pay.

$$Net pay=Gross pay-deductions$$* Teacher models the calculation of net pay.
* Students calculate net pay for the scenarios examined in the previous lesson.

**Further investigations**Using a spreadsheet, students:* model the calculation of tax refunds or liabilities.
* prepare a wage-sheet for a number of employees.
* calculate percentage change in terms of pay rises
* graph income tax payable using a spreadsheet and discuss the resultant graph as a piecewise linear function.
* model annual leave payments

**Resource:** resource5-wage-sheet-spreadsheet.XLSX and resource4-tax-payable-spreadsheet.XLSX |  |  |
| Calculating budgeting and household expenses(1 lesson) | **F1.3: Budgeting and household expenses*** 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
 | **Introducing budgeting*** Student activity: Students watch the videos on screens 2 and 3 of the [Saving, budgeting and spending](https://static.moneysmart.gov.au/teaching/resources/asicsbemoneysmart/module1/index_standalone.htm) interactive.
* They then complete the “What is your financial personality” quiz and “What are your strengths and weaknesses” activity, from the student handbook (available to download from screen one of the link above)

Teacher poses further questions to allow students to further explore:* What happens if you can’t afford to pay a bill?
* How can you plan for or ensure you have enough money to pay household bills?

**Setting goals*** Student activity: Students watch the videos on screen 4 of the [Saving, budgeting and spending](https://static.moneysmart.gov.au/teaching/resources/asicsbemoneysmart/module1/index_standalone.htm) interactive.
* They then complete the “What are your goals?” activity from the student handbook (available to download from screen one of the link above)

**Interpreting household bills*** Students read and interpret household bills, explore the various fees charged by organisations and determine ways to minimise costs.

**Resources:** Energy Australia, [Find your way around your bill](https://www.energyaustralia.com.au/home/bills-and-accounts/pay-your-bill/understand-your-bill/bill-guides), Sydney Water: [About your bill](http://www.sydneywater.com.au/SW/accounts-billing/understanding-your-bill/about-your-bill/index.htm), Origin Energy: [How to read my bill](https://www.originenergy.com.au/for-home/my-account/usage/how-to-read-my-bill.html)**Preparing a budget (Part 1)*** Student activity: Students research typically household bill costs including electricity, water, gas as well as mortgage and rates or rent. Example: [Canstar blue average electricity cost](https://www.canstarblue.com.au/electricity/average-electricity-bills/).
* Students use the [ASIC’s Money Smart online budgeting tool](https://www.moneysmart.gov.au/tools-and-resources/calculators-and-apps/budget-planner) or downloadable MS Excel spreadsheet to start their budget.
* Students record their findings under the heading Home and utilities and select the appropriate frequency.
* Alternatively, students design their own budgeting spreadsheet.
 |  |  |
| Purchasing and owning a car(3 lessons) | * 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, eg 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, eg 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
 | **Introducing vehicle costs*** Students discuss and list features they would want a car to have or not have. Examples:
* Legislations and licence limitations surrounding young drivers (high performance vehicles and P plate drivers)
* Sustainability such as fuel consumption
* Condition of a used car, [Car safety check before buying](http://www.scootle.edu.au/ec/viewing/L1366/index.html)
* Think, pair, share: Brainstorm the costs associated with buying, maintaining and running a car?
* Students may want to refer to the ASIC’s [First car](https://static.moneysmart.gov.au/teaching/resources/first-car/index.htm) or [Ongoing car costs](https://www.moneysmart.gov.au/life-events-and-you/under-25s/getting-a-car/ongoing-car-costs)
* Teacher defines terminology students are unfamiliar with. Example: Stamp duty is levied by the Office of State Revenue when a vehicle is registered to a new owner. Stamp duty is paid on the market value of the vehicle or the price actually paid, whichever is greater. (source: NESA Topic Guidance)
* Label each expense as an on-road costs or running / maintenance costs.

**Investigating on-road costs*** Compare financial options when purchasing a car (cash, finance, bank loan etc.) and determine the extra charges involved with each option.
* Compare and calculate [stamp duty](https://www.service.nsw.gov.au/transaction/check-motor-vehicle-stamp-duty) payable on a range of car purchases.
* Compare the costs of [motor vehicle registration](https://rms.nsw.gov.au/roads/registration/fees/registration-costs.html) for a range of vehicle types and tare weight.
* Compare the types of insurance options using [Ongoing car costs - insurance](https://www.moneysmart.gov.au/life-events-and-you/under-25s/getting-a-car/ongoing-car-costs)
* Compare the costs of CTP Green slip insurance for a range of vehicle types and tare weight.

**Comparing running and maintenance costs*** 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. Compare the cost of insurance for:
* different makes of cars of the same size
* for the same make of car with different-aged drivers
* for the same make of car garaged at different addresses / locations. Theft statistics could also be gathered and a comparison made between the cost of insurance and relevant theft statistics.
* for the same make of car with different insurers
* Students research the cost of different car types and features including fuel economy, tare weight and engine size, registration, and maintenance (example: servicing, repairs and tyres).

**Resource:** [NRMA car operating costs](http://www.mynrma.com.au/motoring-services/buy-sell/buying-advice/car-operating-costs.htm) * Evaluate the environmental impact of a variety of cars, such as fuel consumption rates
* Student activity: Calculate the yearly fuel consumption cost of a fuel efficient car versus an inefficient car given a fuel consumption rate in litres per 100 km.
* Student activity: use the information gathered to select multiple vehicles and investigate, record and compare the on-road, running and maintenance costs for the vehicles. **Resource:** resource6-cost-of-purchasing-car-spreadsheet.XLSX

**Preparing a budget (Part 2)*** Student activity: Students select their vehicle and enter its associated costs under the headings Insurance & financial and Transport & auto.
 |  |  |
| Budgeting (1 lesson) | * prepare a personal budget for a given income, taking into account fixed and discretionary spending (ACMGM004) **AAM** ◊ Critical and creative thinking icon  Information and communication technology capability icon Civics and citizenship icon
 | **Types of spending*** The teacher defines fixed and discretionary spending.

**Preparing a budget (Part 3)*** Student activity: Students finalise their budget by considering income and other fixed and discretionary spending.
 |  |  |

Reflection and evaluation

Please include feedback about the engagement of the students and the difficulty of the content included in this section. You may also refer to the sequencing of the lessons and the placement of the topic within the scope and sequence. All ICT, literacy, numeracy and group activities should be recorded in the ‘Comments, feedback, additional resources used’ section.