



VCE VOCATIONAL MAJOR -  
NUMERACY

UNIT 1

# FINANCES AND GAMBLING

**BE AHEAD  
OF THE  
GAME**



Victorian  
Responsible  
Gambling  
Foundation



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# BE AHEAD OF THE GAME

## Introduction

### What is Be Ahead of the Game?

Be Ahead of the Game is a school education program about the risks of gambling. Drawing on the latest research, the program's free, curriculum-aligned resources support the whole school community to help students navigate the rapidly evolving gambling landscape and avoid harm from gambling.

Be Ahead of the Game resources are co-developed by the Victorian Responsible Gambling Foundation and Victorian teachers and education professionals. It's one of the ways the Foundation works towards reducing harm from gambling in our communities. The Be Ahead of the Game program offers:

- face-to-face information sessions for teachers, parents and students about the risks of gambling and gaming
- curriculum-aligned teaching resources covering a variety of subject areas
- tools for parents, teachers and schools to develop a gambling harm prevention strategy.

To find out more, visit [beaheadofthegame.vic.gov.au](http://beaheadofthegame.vic.gov.au).

### What's the issue?

Gambling has never been more heavily promoted and accessible to young people. Saturation levels of advertising during sport makes it feel like a normal part of the game, while online games and apps put gambling and simulated gambling within easy reach of all age groups. Be Ahead of the Game helps young people cut through the myths and the marketing to be able to think critically about gambling and gaming.

If you are concerned that gambling is affecting a student or someone they know, you can refer them to our free and confidential Gambler's Help Youthline support service on 1800 262 376 or visit [gamblershelp.com.au/youthline](http://gamblershelp.com.au/youthline)

Educators and parents can also contact this service for advice or visit [gamblershelp.com.au](http://gamblershelp.com.au) for more information.

# Be Ahead of the Game resources for VCE Vocational Major

The Victorian Responsible Gambling Foundation (VRGF) provides resources to support the delivery of the Victorian Certificate of Education Vocational Major (VCE VM) subjects. VCE VM is accredited at two levels: Year 11 Units 1 and 2, and Year 12 Units 3 and 4. The qualification levels cater for a range of students with different abilities and interests, and support development of personal, workplace and subject-specific skills, knowledge, and attributes. They are designed to help students make informed choices about employment and education pathways.

The Foundation's VCE VM resources support the achievement of outcomes in:

- Literacy
- Numeracy
- Personal development skills.

The following table lists the resources, curriculum areas, units and outcomes that are supported. Detailed curriculum alignment can be found in each resource.

	Literacy							
	Unit 1		Unit 2		Unit 3		Unit 4	
Outcome	1	2	1	2	1	2	1	2
Love the game	●	●						
Potential influences					●	●		

	Personal development skills											
	Unit 1			Unit 2			Unit 3			Unit 4		
Outcome	1	2	3	1	2	3	1	2	3	1	2	3
Knowing the score					●	●						
Knowing when it's a concern										●	●	●

	Numeracy											
	Unit 1			Unit 2			Unit 3			Unit 4		
Outcome	1	2	3	1	2	3	1	2	3	1	2	3
Finances and gambling	●	●	●									
What are the chances?				●	●	●						
Earnings, expenditure, and gambling							●	●	●			
Odds and probability										●	●	●

Note: Not all learning outcomes from a VCE VM unit are covered in each resource.

# Resource overview of this unit

## Resource focus

*Finances and gambling (Numeracy - Unit 1)* covers a range of topics related to understanding finances, budgeting and expenditure on gambling. One activity looks at budgeting and aims to give students a better understanding of personal budgets, especially in relation to living in a household. The second section supports students to be able to read, understand and interpret common household utility bills. Finally, the materials and worksheets introduce to students some of the startling data and information that the VRGF and other bodies collect about the financial impact of gambling in Victoria.

*Be Ahead of the Game* offers four numeracy resources:

- Finances and gambling
- What are the chances?
- Earnings, expenditure, and gambling
- Odds and probability.

By using the activities and worksheets in each of these four resources, students will develop awareness and understanding of the mathematics associated with a range of topics related to finances and gambling. This includes budgeting, paying household bills, earning and income and related expenses and an understanding about probability and chance. This is all tied in with the issue of gambling, where students will learn about how odds work and about a range of data that is collected on how Victorians gamble.

Students will use and apply their mathematical knowledge and skills throughout to learn about and to understand the responsibilities of earning a living, personal budgeting, paying bills and taxation, the probability and risks related to different gambling activities and develop an understanding of the extent and impacts of spending money on gambling.

Students may work individually, in groups, or as a class to complete the activities. Educators are encouraged to use these worksheets in a manner that both suits student needs and meets the requirements of the VCE Vocational Major curriculum.

The resources model the approach as outlined in the VCE Vocational Major Numeracy Study Design. Further information about the design is available at the Victorian Curriculum and Assessment Authority (VCAA) [website](#).

For assessment guidelines and practices, refer to the **VCE Vocational Major Numeracy section** of the website.

## Resource elements

This resource consists of:

- information for teachers on how to deliver the supplied activities
- worksheets, templates, and resources for students.

There are three separate activities and 10 associated worksheets in this resource.

- Activity 1 – Budgeting
  - Worksheet 1A - Background and planning
  - Worksheet 1B - Expenses
  - Worksheet 1C - Income
  - Worksheet 1D - Creating a budget
  - Worksheet 1E - Reviewing and reporting about budgets
- Activity 2 – Household bills
  - Worksheet 2A - Understanding household bills
  - Worksheet 2B - Interpreting household bills
- Activity 3 – Impacts of gambling
  - Worksheet 3A - Gambling money away
  - Worksheet 3B - The spread of gambling
  - Worksheet 3C - Your reflections on gambling.

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## Resource requirements

For the learning activities described in this resource, teachers will need to ensure that students have access to:

- an internet-connected device
- a calculator or a device with calculation software
- software for creating spreadsheets
- software for creating a report or presentation such as PowerPoint, Prezi or Canva.

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## Assessment

Student competence in the Numeracy Skills Unit 1 learning outcomes can be assessed by:

- class discussions
- worksheets and related documents
- results of spreadsheet tasks
- research findings
- observations of students' participation in individual activities and team collaborations
- reports and presentations
- feedback on activities.

# Meeting VCE Vocational Major Numeracy requirements

*Finances and gambling (Numeracy - Unit 1)* addresses the learning outcomes from VCE Vocational Major Numeracy Unit 1.

The VCE Vocational Major Numeracy units support students to develop numerical and mathematical skills for use in everyday life. This resource requires the student to understand and interpret a range of common numerical data by applying relevant calculation skills. Financial literacy skills are also addressed.

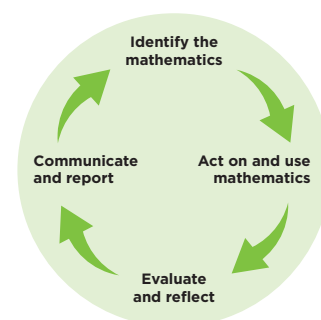
The structure of the VCE Vocational Major - Numeracy includes four components:

**Outcome 1.** Six different numeracy contexts:

- personal numeracy
- civic numeracy
- financial numeracy
- health numeracy
- vocational numeracy
- recreational numeracy.

**Outcome 2.** The four-stage problem-solving cycle required to solve a real-world mathematical problem:

- identify the maths
- act on and use the maths
- evaluate and reflect
- communicate and report.



Problem-solving cycle

**Outcome 3.** The development and use of a mathematical toolkit as students undertake numeracy activities and tasks.

**Areas of Study.** These cover a range of mathematical skills to be applied across the three outcomes. The areas are:

1. number
2. shape
3. quantity and measures
4. relationships
5. dimension and direction
6. data
7. uncertainty
8. systematics.

This resource is available at  
[beaheadofthegame.vic.gov.au](http://beaheadofthegame.vic.gov.au)

## Curriculum links

The activities in this resource support the development of all three learning outcomes and one main area of study from Unit 1.

Unit	Outcome 1	Outcome 2	Outcome 3	Main Area of Study
1	<ul style="list-style-type: none"> <li>Personal</li> <li>Civic</li> <li>Financial</li> </ul>	●	●	Number

### Outcome 1

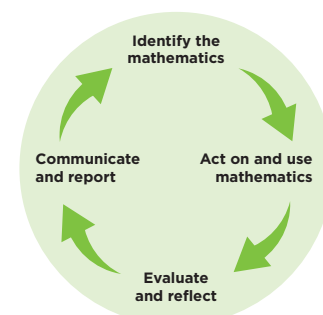
The content of this resource may be used in relation to three numeracy contexts from Unit 1: personal, civic or financial.

- **Personal numeracy** relates to the mathematical requirements for personal organisational matters involving numbers, data, money, time, and travel.
- **Civic numeracy** relates to participating in civic life by understanding government, political and social information through interpretation of quantitative and statistical information.
- **Financial numeracy** relates to understanding and undertaking financial transactions and making informed judgments and decisions regarding the use and management of money.

### Outcome 2

All four stages of the problem-solving cycle can be covered by this resource, which details the following four stages and activities:

- identifying the mathematics to be used
- acting on and using mathematics to solve the problem
- evaluating and reflecting on the results
- communicating and reporting the outcomes.



Problem-solving cycle

### Outcome 3

This resource requires students to use various tools and applications from their mathematical toolkit to undertake activities and calculations. These tools or applications could include:

- online access to a range of data sources
- calculators
- spreadsheet software
- report or presentation software.

### Areas of study covered

The focus of the resource is **number**. Students are to develop 'number sense' through applying numeracy practices to a range of contexts where whole numbers, fractions, decimals, and percentages are used. They will select the appropriate method and communicate their ideas, as well as perform calculations both manually and with software tools.

Although area of study 6 (Data) is referred to in this resource, it is not extensively covered until Unit 2 of the curriculum. However, elements of the Number resource may be included in the Data area of study if preferred.

## Resource overview for this unit

### Key knowledge

In this resource, students will need to understand:

- whole numbers and decimals up to two places
- place value and reading numbers expressed in digits or words
- multiplication
- factors and multiples
- rounding whole numbers and decimals up to two places
- order of operations
- common fractions, percentages, and their per cent equivalents
- simple proportions.

### Key skills

Students will need to:

- demonstrate understanding of place value and decimal place value, including rounding to two decimal places
- use the order of operations to solve a range of practical calculations with whole numbers, common decimals, and fractions
- solve problems involving common fractions and decimals
- calculate common percentages of numbers
- increase and decrease numbers by common percentages
- use simple proportions and divide quantities by a simple ratio.

Additional information on activities and learning outcomes are detailed in the following section. However, the activities are broad and can be undertaken in different ways. The alignment shows what is possible. It is up to teachers to check the students work against the curriculum.

# Outline of activities

The tables below detail each of the activities and worksheets and how they meet the VCE Vocational Major Study design.

## Overview of Activity 1. Budgeting

- Worksheet 1A - Background and planning
- Worksheet 1B - Expenses
- Worksheet 1C - Income
- Worksheet 1D - Creating a budget
- Worksheet 1E - Reviewing and reporting about budgets

**This activity provides students with a better understanding of personal and household budgets.**

**Worksheet 1A - Background and planning** covers stage 1 of the problem-solving cycle of Outcome 2: identifying the mathematics to be used. It provides background to the issue being investigated and assists students in preparing for the next steps and what maths they might need to use. The worksheet can be used to introduce and explain important financial literacy terminology provided in the supplied *Glossary*.

Start the activity with a class discussion about the unit's purpose and what is required of the students. Use the worksheet to help students understand the key terms in relation to personal budgeting and advise of the maths knowledge required for both the activity and the overall unit. The discussion may also be used to refresh students' knowledge and calculation skills.

**Worksheet 1B - Expenses** continues through stage 1 and into stage 2 of the problem-solving cycle of Outcome 2: identifying the mathematics to be used and acting on and using mathematics to solve the problem. This worksheet and the following worksheets require students to apply their mathematical skills to different expenses-related scenarios, and make estimates and calculations based on these scenarios.

**Worksheet 1C - Income** requires students to apply their mathematical skill in relation to income. They consider the priorities in making a budget, as well as the importance of budget items in relation to balancing income and expenses. The worksheet progresses the student to stage 3 of the problem-solving cycle, requiring them to review and reflect their findings.

**Worksheet 1D - Creating a budget** draws upon the activities of the preceding worksheets by tasking students with preparing personal budgets based on three scenarios. This covers Stages 2 and 3 of the problem-solving cycle of Outcome 1.

**Worksheet 1E - Reviewing and reporting about budgets** continues the work of stage 3 and introduces stage 4 of the problem-solving cycle: communicating and reporting the outcomes. Students develop their own reports or presentations based on the learning outcomes of the activity.

Outcome 1	Outcome 2	Outcome 3	Area of study: Number
<ul style="list-style-type: none"> <li>• Personal</li> <li>• Civic</li> <li>• Financial.</li> </ul>	<ul style="list-style-type: none"> <li>• identify the mathematics to be used.</li> <li>• acting on and using the mathematics</li> <li>• evaluate and reflect</li> <li>• communicate and report</li> </ul>	<ul style="list-style-type: none"> <li>• online access to a range of data sources</li> <li>• calculator</li> <li>• spreadsheet software (optional).</li> <li>• report or presentation software.</li> </ul>	<ul style="list-style-type: none"> <li>• whole numbers and decimals up to two places</li> <li>• place value and reading numbers expressed in digits or words</li> <li>• multiplication facts and knowledge of factors and multiples</li> <li>• rounding whole numbers and decimals up to two places.</li> <li>• order of operations</li> <li>• common fractions and percentages, and their per cent equivalents</li> <li>• simple proportions.</li> </ul>

## Outline of activities

### Overview of Activity 2 - Household bills

- Worksheet 2A - Understanding household bills
- Worksheet 2B - Interpreting household bills

### Activity 2 - Household bills help students with interpreting common household utility bills using various mathematical and calculating skills.

**Worksheet 2A - Understanding household bills** introduces students to the structure of utility bills and assesses their understanding of how charges are costed and calculated. The exercise assists students in identifying, naming, and explaining the different mathematical operations required when interpreting a bill, in accordance with stage 1 of the problem-solving cycle: identifying the mathematics to be used.

The first task is a class brainstorming session and discussion about utility bills. Educators are to ensure students are aware of how bills are structured, the meaning of fixed and variable charges, and how costs are calculated. It also presents an opportunity to ascertain from students their idea of what costs will be incurred, connecting to the previous budgeting activity.

The second follow-up task enables students to learn more about bill structures using an example bill. The third task requires students to find examples on the bill which demand different mathematical skills and give explanations for their use.

This worksheet addresses the requirements of stage 1 of Outcome 1, therefore it is critical to use the responses of students to ensure they are able to apply the different number concepts described in the Number Area of Study. Additional advice and practice may be required for any students having trouble with these tasks, before moving on to Worksheet 2B.

**Worksheet 2B - Interpreting household bills** requires student to interpret a water bill and gas bill using their mathematical skills before conducting a review and reflection and creating a brief report. This component covers the requirements of stages 1 through to 4 of Outcome 2.

Outcome 1	Outcome 2	Outcome 3	Area of Study: Number key knowledge
<ul style="list-style-type: none"> <li>• Personal</li> <li>• Civic</li> <li>• Financial</li> </ul>	<ul style="list-style-type: none"> <li>• identify the mathematics to be used</li> <li>• acting on and using the mathematics</li> <li>• evaluate and reflect</li> <li>• communicate and report</li> </ul>	<ul style="list-style-type: none"> <li>• online access to a range of data sources</li> <li>• calculator</li> <li>• spreadsheet software (optional)</li> <li>• report or presentation software.</li> </ul>	<ul style="list-style-type: none"> <li>• whole numbers and decimals up to two places</li> <li>• place value and reading numbers expressed in digits or words</li> <li>• multiplication facts and knowledge of factors and multiples</li> <li>• rounding whole numbers and decimals up to two places</li> <li>• order of operations</li> <li>• common fractions and percentages, and their equivalents</li> <li>• simple proportions.</li> </ul>

## Outline of activities

### Overview of Activity 3 - Impacts of gambling

- Worksheet 3A - Gambling money away
- Worksheet 3B - The spread of gambling
- Worksheet 3C - Your reflections on gambling

The aim of Activity 3 is to introduce students to some of the startling data and information that the Victorian Responsible Gambling Foundation (VRGF) and other bodies collect about the financial impact of gambling in Victoria. It consists of three separate worksheets. Across the three worksheets, the three VCE VM - Numeracy outcomes are covered.

In **Worksheet 3A – Gambling money away**, students are asked to use their maths skills and knowledge to read and interpret data from the VRGF website ([responsiblegambling.vic.gov.au](http://responsiblegambling.vic.gov.au)) about how Victorian's gamble and how much money can be spent, and lost, on pokies machine use. This is followed by a mix-and-match activity looking at a range of numbers from small to extremely large related to gambling in the Victorian community. Students will need to make some calculations either individually or in a group to complete the activity.

**Worksheet 3B - The spread of gambling** asks students to go to the VRGF website (**Pokies across Victoria**) and use an interactive map to search for and find specific pokies gambling data based on councils or local government areas (LGAs). Students need to use spreadsheet software to create a spreadsheet of the data obtained. They then need to answer a series of questions about the data they have selected. It is recommended that students submit their work electronically for this activity, so you will need to arrange for this to be collected.

**Worksheet 3C - Your reflections on gambling** is the final worksheet on gambling expenditure in Victoria. It asks student to reflect on the data and information they have looked at in this activity, and then to document their work and reflections.

Outcome 1	Outcome 2	Outcome 3	Area of Study: Number key knowledge
<ul style="list-style-type: none"> <li>• Personal</li> <li>• Civic</li> <li>• Financial</li> </ul>	<ul style="list-style-type: none"> <li>• identify the mathematics to be used</li> <li>• acting on and using the mathematics</li> <li>• evaluate and reflect</li> <li>• communicate and report.</li> </ul>	<ul style="list-style-type: none"> <li>• online access to a range of data sources</li> <li>• calculator</li> <li>• spreadsheet software (optional)</li> <li>• report or presentation software.</li> </ul>	<ul style="list-style-type: none"> <li>• whole numbers and decimals up to two places</li> <li>• place value and reading numbers expressed in digits or words</li> <li>• multiplication facts and knowledge of factors and multiples</li> <li>• rounding whole numbers and decimals up to two places</li> <li>• order of operations</li> <li>• common fractions and percentages, and their equivalents</li> <li>• simple proportions.</li> </ul>

## ACTIVITY 1. BUDGETING

# Worksheet 1A – Background and planning

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## Aims and overview

This worksheet introduces you to budgets, what budgeting means, and why it is a critical skill.

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## Background information

Young people face considerable pressures to buy and consume products and services, which are often expensive and can lead to considerable debt. For example, many teenagers have their own mobile phone and are therefore at risk of financial difficulty and debt from phone bills and expenses.

Your ability to understand the concepts and mathematical processes involved in looking after your money, what you buy and what you spend, and learning how to create a personal budget is a critical skill.

## Further information

The government website **MoneySmart** ([moneysmart.gov.au/](http://moneysmart.gov.au/)) contains useful information about budget planning, including a **budget planner spreadsheet** which details some common expenses you may encounter when budgeting.

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## Tasks and questions

Work in pairs or small groups through the following questions. You can use the MoneySmart website to assist you in providing answers. **Note:** Key words and terms in bold are explained in the glossary at the end of the unit.

1. What do the following terms mean in relation to your finances and spending:

a) **Budgeting**

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b) **Debt**

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c) **Expenses**

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d) **Gross income**

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e) **Net income**

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2. What do you think are your **essential**, or **non-discretionary** expenses? Why?

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3. What do you think are your **non-essential**, or **discretionary**, but still important expenses? Why?

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**ACTIVITY 1. BUDGETING | Worksheet 1A – Background and planning**

4. What do you think are your other less important and **non-essential expenses**? Why?

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5. What are common sources of **income** for young people in years 11 and 12?

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6. When you think about budgeting and looking after your personal finances, what types of maths and calculations do you think you might need to use? Tick each one of the following maths skills that you think you might need to use and give an example.

Maths skill you might need to use in doing your budgeting and finances	Will you need to use this?	Example of where you might use this
Read and compare different numbers – whole numbers and decimals	✓	Checking your phone bills
Understand money		
Read and understand common fractions		
Round off numbers		
Read and understand common percentages (per cent)		
Undertake calculations such as +, ×, ÷ and -		

**ACTIVITY 1. BUDGETING | Worksheet 1A – Background and planning**

Maths skill you might need to use in doing your budgeting and finances	Will you need to use this?	Example of where you might use this
Undertake practical calculations with fractions and percentages		
Work out proportions of one value compared to another, and express as a fraction or percentage		
Use algebra and formula		
Use spreadsheets to assist with your calculations or budgets		
Undertake a calculation that combines at least two different operations		
Any other maths skills: _____ _____		

NOTE: You will need to use and apply these methods throughout the activities in this worksheet. Ask your teacher for assistance if required.

- When doing your budgeting and personal finances, what types of technology and tools do you think you might need to use?

Technology and tools

# Worksheet 1B – Expenses

## Aims and overview

This worksheet covers personal budgets and requires you to consider what you may need to spend money on over a weekly, monthly, and yearly basis.

## Tasks and questions

Working in pairs or small groups, consider the following scenario:

### Scenario

Azami is an 18-year-old who has left school and is now living out of home. She is sharing a small two-bedroom unit in an outer suburb of Melbourne with an old schoolmate, Samira.

They rent the apartment from a family friend of Samira's, and the rent per week is \$300.00.

They do not need to pay for their water usage as this is covered by their rent.

Azami and Samira cook together frequently and share the costs of the food.

1. Create an estimate of the expenses that Azami and Samira might need to pay for each week. This includes their common shared essential expenses (such as rent and electricity) alongside their own individual personal costs such as phone, car, travel, and entertainment.

What do you think these expenses might be? Remember to consider both essential and non-essential expenses, as well as shared versus personal expenses.

- a) Shared essential expenses per week: \$ \_\_\_\_\_
- b) Individual personal expenses per week: \$ \_\_\_\_\_
- c) Estimated total expenses per person per week: \$ \_\_\_\_\_
- d) It is highly likely that rental will be the biggest single expense. What proportion or fraction of the total expense might this be?

\_\_\_\_\_





**ACTIVITY 1. BUDGETING | Worksheet 1B – Expenses**

4. Now consider other expenses that are not common or shared between the two roommates. Some are listed below but add in other expenses that Azami and Samira might spend money on individually. If some of these expenses are paid monthly or yearly, consider how you could calculate the weekly cost. Consider what you might spend money on in their situation. Remember that you can use the MoneySmart website or a spreadsheet to assist you.

Note: Round the answers to your calculations to the nearest whole dollar.

Individual personal expense	Cost estimate per week for one person (\$)	× 52 for approximate yearly cost (\$)	÷ 12 for approximate monthly cost (\$)
Phone			
Eating out/ takeaways			
Petrol			
Car registration			
Car maintenance			
Study fees and costs			
Streaming service fee			
Music subscription			
<b>Totals</b>			

**ACTIVITY 1. BUDGETING | Worksheet 1B – Expenses**

5. Now combine all the expenses to get the overall costs for one person by adding your totals. Remember, as this exercise involves two people, you will need to divide the shared expenses accordingly.

Expense	Weekly	Monthly	Yearly
Shared essential expenses per person	\$	\$	\$
Individual, personal expenses	\$	\$	\$
<b>Totals</b>	\$	\$	\$

6. Are you surprised by how much these expenses are? Was it close to your original estimates you made in question 1? How different were your original rough guesses from your final calculated estimates? Reflect on and review what you have learnt from developing these estimates and write a few sentences about what you learnt.

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7. What proportion or fraction of the total expense was the rental cost approximately? Show your calculations for coming to this conclusion. Did you overestimate or underestimate?

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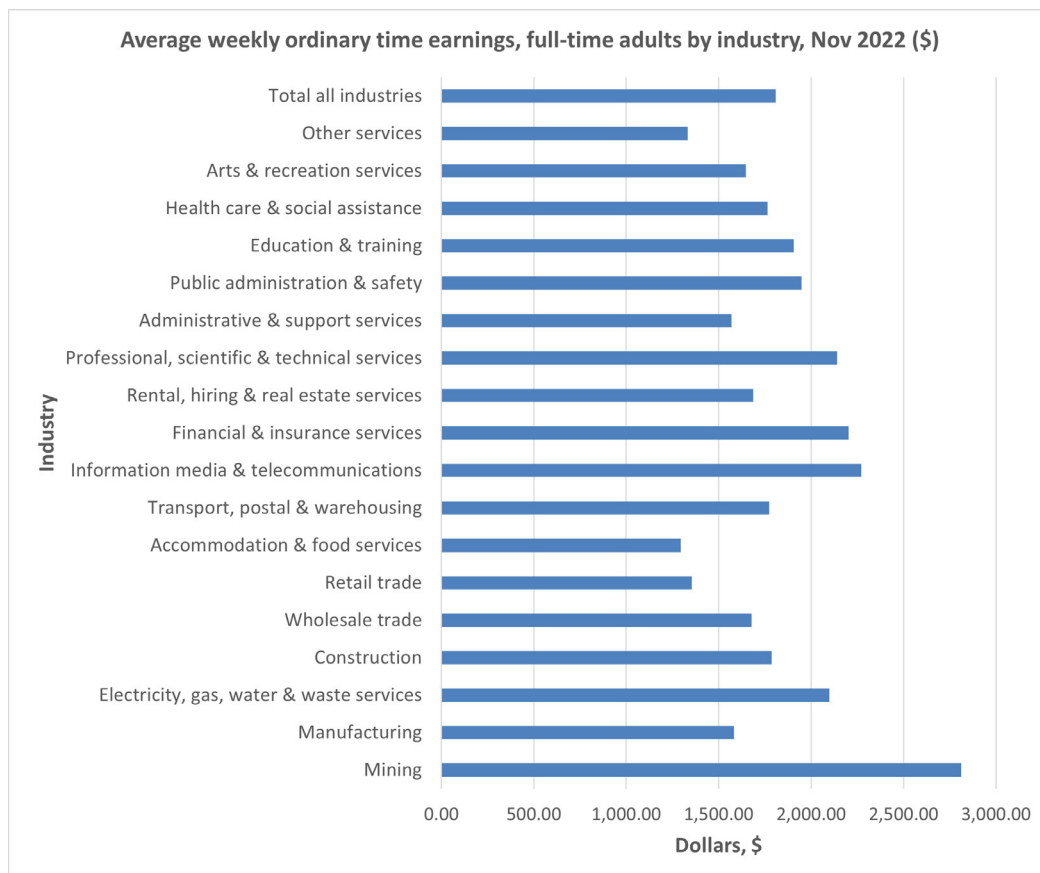
# Worksheet 1C – Income

## Aims and overview

This worksheet continues to consider personal budgets. You will look at a selection of estimated incomes, and then compare those incomes with expenses.

## Tasks and questions

1. Consider the following chart from the Australian Bureau of Statistics (ABS). The chart shows the average weekly wage before tax (gross income) by industries. You may also wish to consider more recent statistics provided on the ABS website.



Source ABS: <https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/average-weekly-earnings-australia/latest-release>

**ACTIVITY 1. BUDGETING | Worksheet 1C – Income**

Choose an industry from the chart and answer the following questions.

Industry chosen: \_\_\_\_\_

What is the approximate average weekly wage?	\$
Approximate monthly wage?	\$
Approximate yearly wage?	\$

2. What is the difference between the average wage you chose, and the estimated costs of essential services (plus other individual expenses) for Azami and Samira that you estimated in Worksheet 1C?

	Weekly	Monthly	Yearly
Average wage	\$	\$	\$
Total expenses (essential expenses plus personal expenses)	\$	\$	\$
Difference	\$	\$	\$

3. What does your analysis and comparison of the income and expenses show? Discuss your findings.

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4. Review the budgeting expenses that you listed earlier in Worksheet 1C. Are there any changes you would make to those expenses based on the wage you selected?

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**ACTIVITY 1. BUDGETING | Worksheet 1C - Income**

5. What is **discretionary** spending? How much do you think should be budgeted for discretionary spending each week and month? Discuss your answers and give reasons for your choices.

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# Worksheet 1D – Creating a budget

## Aims and overview

This worksheet asks you to apply your maths skills to prepare some personal budgets.

## Tasks and questions

Consider the following scenarios about personal budgets:

### Scenario

Three friends have just finished school and need to create weekly budgets to plan and monitor their spending.

- Kala is a full-time first-year apprentice mechanic who is earning \$480 a week after tax (net income). On average, each week Kala pays rent of \$160, food costs of \$120, a phone bill of \$20, car costs of \$110, utilities (electricity, water and gas) costs of \$40 and clothing costs of \$40.
- Malik is working full-time as a builder's labourer and is earning \$782 a week net income. On average, each week Malik pays \$250 board (rent) to their parents for living at home, including food, car costs of \$150, a phone bill of \$30 and clothing costs of \$50.
- Talia is working 10 hours a week and is also completing a diploma in aged care. She gets a weekly Youth Allowance payment of \$194.70 plus \$226.70 after tax from a part-time job at an aged care facility. On average, each week Talia pays \$200 board, public transport costs of \$23, a phone bill of \$20 and clothing costs of \$45.

1. Work with your group to complete the following tables. Kala's budget has been completed as an example.

Kala's budget items	Weekly income	Weekly expenses
Wage	\$480.00	
Rent		\$160.00
Food		\$120.00
Phone		\$20.00
Car		\$110.00
Utilities		\$40.00
Clothing		\$40.00
<b>Totals</b>	<b>\$480.00</b>	<b>\$490.00</b>

**ACTIVITY 1. BUDGETING | Worksheet 1D - Creating a budget**

Malik's budget items	Weekly income	Weekly expenses
Wage		
Board		
Phone		
Car		
Clothing		
<b>Totals</b>		

Talia's budget items	Weekly income	Weekly expenses
Youth Allowance		
Part-time wage		
Board		
Myki		
Phone		
Clothing		
<b>Totals</b>		

2. Using the information provided, calculate the weekly spending money for Malik and Talia.

Spending money	a) Kala	b) Malik	c) Talia
$\text{Spending money} = \text{Income} - \text{expenses}$	$= \text{Income} - \text{expenses}$ $= \$480.00 - \$490.00$ $= -\$10$ <p>Kala has no spending money.</p>		

# Worksheet 1E – Reviewing and reporting about budgets

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## Aims and overview

This worksheet asks you to review what you have discovered about personal budgeting, to reflect on what you think might be the priorities when creating personal budgets, and report on what you have learnt.

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## Tasks and questions

1. If you were now creating your own personal budget, prioritise all the expenses you might need to consider, from most to least important.

Expenses in order of importance from most to least important
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.

**ACTIVITY 1. BUDGETING** | **Worksheet 1E** – Reviewing and reporting about budgets

2. When budgeting, you have to prioritise your spending. What were your top five spending priorities, and why?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

3. Was 'entertainment' in your top five? Why/why not?

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4. Gambling could be considered an expense under 'entertainment'. What advice would you give to a friend who was spending part of their budget on gambling?

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5. Consider this statement: 'More money spent on gambling means less money available for other things.' What other things might people miss out on if they spend too much money on gambling?

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## Your report

Create and present a summary of what you have learnt from this activity and the four previous worksheets about budgeting. It could be a brief one-page report, a poster, or short presentation that shows your findings.

You should include:

- the key information and knowledge about budgeting, income, and expenses that you have learned
- a summary highlighting what mathematics and calculations you needed to complete your tasks
- the technology and tools you used
- any surprising and interesting new information you encountered during the activities.

## ACTIVITY 2. HOUSEHOLD BILLS

# Worksheet 2A – Understanding household bills

## Aims and overview

This worksheet familiarises you with the format of utility and service bills, and the meaning and importance of specific sections of bills.

## Tasks and questions

This worksheet begins with a class brainstorm about utility bills. The second part looks at an example of a bill so that you can learn about how bills are structured.

### Task 1: Brainstorming

Share and discuss what you know about different utility bills. Some of the questions and issues you might encounter include:

- the different types of utility bills that you are aware of
- bills you are responsible for paying
- consequences of not paying or misunderstanding bills
- how much different utility bills might cost over different periods of time
- key information on a bill
- what types of calculations might be used to work out costs and charges.

**NOTE:** You will need to use and apply various calculation methods throughout the activities in this worksheet. Ask your teacher for assistance if required.

### Task 2: Reading bills

On the following pages is an example of an electricity bill for a family of four – two adults and two young children, living in an outer suburb of Melbourne.

Answer each of the following questions:

1. What is the name of the company? \_\_\_\_\_
2. What is the name on the bill? \_\_\_\_\_
3. What is the account number? \_\_\_\_\_
4. How much has to be paid? \_\_\_\_\_

**ACTIVITY 2. HOUSEHOLD BILLS | Worksheet 2A - Understanding household bills**

5. How much is the GST on the bill? \_\_\_\_\_
6. Is anything owing from the previous bill? \_\_\_\_\_
7. When was the bill issued? \_\_\_\_\_
8. When was the amount due? \_\_\_\_\_
9. Where and how could you pay this bill? \_\_\_\_\_
10. Is there a discount available for this bill? If yes, what is it? \_\_\_\_\_
11. How long is the time period required to pay the bill (from the date of issue to the due date)? \_\_\_\_\_
12. What period does this amount pay for? \_\_\_\_\_
13. When will the next meter reading occur? \_\_\_\_\_
14. How does this bill amount compare with the previous bill amount? What is the difference? \_\_\_\_\_
15. What does kWh stand for and measure? \_\_\_\_\_
16. Are there fixed and variable usage charges? What are they?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
17. Does the bill show daily usage figures? Where?  
\_\_\_\_\_
18. Do you think this a reasonable amount to pay? How could you check?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


19. Who could you talk to if there are:
- a. problems regarding paying this bill on time.

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- b. concerns that the amount being charged is not correct.

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**Tax Invoice - Your Electricity Account**  
 Diamond Energy Retail Pty Ltd  
 ABN 22 145 381 915



Jani Citizen  
 123 LOCAL STREET  
 ELTHAM NORTH VIC 3095

Thank you for your ongoing support. Your electricity spend enables us to continue supporting the growth and development of new renewable generation in Australia.

Account Summary	
Opening Balance	\$544.55
Payment Received	\$544.55
Current Balance	\$0.00
Energy	\$345.15
Metering & Other	\$108.50
<b>Total Invoice (Excl. GST)</b>	<b>\$412.41</b>
GST	\$41.24
<b>Invoice Total (Incl. GST)</b>	<b>\$453.65</b>
<b>Total Amount Payable:</b>	<b>\$453.65</b>

**Statement Summary**

Account Number: 123456789

**Amount Payable: \$453.65**

Issue Date: 02/11/2022  
 Due Date: 16/11/2022  
 Invoice Number: 533837

**To Contact Us**

Customer Service **1300 838 009**  
 Email [customerservice@diamond-energy.com](mailto:customerservice@diamond-energy.com)

Power Failures & Faults **13 17 99**  
 Distributor **AusNet Services**

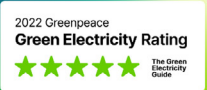
By paying on time with direct debit, you are continuing to receive our lowest cost energy plan which is below the VDO reference price. You can visit Victorian Energy Compare (<https://compare.energy.vic.gov.au>) to compare generally available offers in your area.

The Victorian Default Offer is a reasonably priced electricity offer set by Victoria's independent regulator. Contact us on 1300 838 009 to discuss the suitability of this plan for you.

**Direct Debit Information (please do not pay this account)** - The total amount payable of **\$453.65** above will be automatically debited from your nominated bank account on **16/11/2022** unless we hear from you at least 5 working days prior to this date.

**Please note: The amount to be debited includes the Concession amount if you are eligible for a State Government Concession.**

We are excited to be awarded 5 stars and 10/10 in  
 2022 Greenpeace Green Electricity Guide



**THANK YOU**  
 for all your support

**ACTIVITY 2. HOUSEHOLD BILLS | Worksheet 2A - Understanding household bills**

NMI 63052419695  
 Period 01/08/2022 to 31/10/2022  
 Supply Address 123 LOCAL STREET, ELTHAM NORTH, VIC, 3095  
 Bill Days 92

Usage and Average Cost	
Total Usage (This Account) - kWh	1,183.08
Total Usage (Same Time Last Year) - kWh	n/a
Avg. Daily Usage (This Account) - kWh	12.86
Avg. Daily Usage (Same Time Last Year) - kWh	0.00
Avg. Cost per Day (incl. GST) (This Account)	\$4.93
Est. Greenhouse Gas Emissions - t CO2-e	1.25

**Energy Usage** - When no current meter reading is available we may estimate your energy usage using historical usage data. We then adjust your bill the next time your meters are read. In this way you will not be charged for more than you actually use. You can find the date of your Next Meter Read above.

For **Billing** or **Payment Enquiries** or information about **Special Payment Plans** - call us on 1300 838 009.

**GST Amount** - calculated based on all components, except Feed-in Tariff. Your Feed-in Tariff Amount includes GST.

**Concessions** - customers with concession cards may be eligible for Government Electricity Rebates. For concession information and eligibility refer to our website: [www.diamondenergy.com.au](http://www.diamondenergy.com.au)

**Greenhouse Gas Emissions** - estimated based on your energy usage for the period (Vic only).

**Complaints/Feedback** - we are pleased to help you if you have a concern about our electricity services - call us on 1300 838 009.

**Interpreter Services** - phone 131 450  
 Italiano - Español - العربية - Hrvatski - Tiếng Việt - Ελληνικά

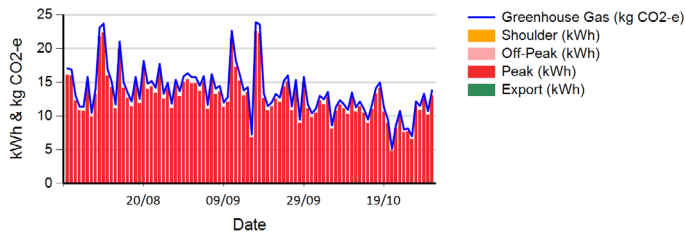
**Written Enquiries**  
 101 Greville Street  
 Prahran VIC 3181  
 Fax: (03) 9006 9031  
 Email: [customerservice@diamond-energy.com](mailto:customerservice@diamond-energy.com)

**Moving House?** - visit [www.diamondenergy.com.au](http://www.diamondenergy.com.au) or call us on 1300 838 009 to arrange electricity at your new address and final meter readings for your existing Diamond Energy account. Please allow us 5 business days' notice.

**Meter Access** - so that we are able to provide you with accurate accounts based on actual reads, please ensure that locked gates, dogs, or other obstructions do not prevent access to your meter.

**Meter** - if your meter is read remotely and you do not pay your electricity account after Diamond Energy has made several attempts to notify you about your bill in arrears by telephone, mail and possibly a visit, your meter may be disconnected remotely.

Invoice Period Daily Electricity Usage Consumption Profile



Electricity Tariff Breakdown			
Charge	Quantity	Rate (incl. GST)	Amount (incl. GST)
<b>Energy</b>			
Peak 1 Rate (first 340 kWh/mth)	1,020.000 kWh	28.9300 c/kWh	\$295.09
Peak 2 Rate (balance kWh/mth)	163.075 kWh	30.7010 c/kWh	\$50.06
<b>Metering &amp; Other</b>			
Service to property charge	92 Days	129.943 c/day	\$119.55
Pay on Time Discount		2.0 %	-\$11.04
<b>Total includes GST of</b>			\$41.24
<b>TOTAL</b>			<b>\$453.65</b>

Payment Slip For Jani Citizen Customer Reference # 123456789 Invoice Number 533837 Due Date 16/11/2022 Total Due \$453.65

**by electronic funds transfer**

Customer Reference #: 123456789  
 Account Name: Diamond Energy Retail  
 BSB: 083-170  
 Account Number: 188075505

**by mail**  
 Detach this section and mail your cheque to:  
 Diamond Energy Retail  
 101 Greville Street  
 Prahran VIC 3181

**by Direct Debit**  
 Direct Debit is an easy option to pay your bills on time. To set up, contact us on: 1300 838 009.

**Bill code: 102467**  
**Cust Ref #: 20220684599**

**Telephone & Internet Banking – Bpay®**  
 Contact your bank or financial institution to make this payment from your cheque, savings, debit, or transaction account. More info: [www.bpay.com.au](http://www.bpay.com.au)

**Online**  
 You can pay online via Credit Card [www.diamondenergy.com.au](http://www.diamondenergy.com.au)  
 Customer Reference #: 123456789

**in person at any NAB Branch**

Customer Reference #: 123456789  
 Account Name: Diamond Energy Retail  
 BSB: 083-170  
 Account Number: 188075505

### Task 3: Calculations

Use the electricity bill to answer each of the following questions. You will need to find examples in the bill where different calculations have been undertaken.

For each maths skill, find an example and show the working behind the required calculation. Examples have been provided.

Maths skill	Example with your working
a) Reading and understanding money	On page 1, there are numerous monetary amounts: Opening balance of \$545.55 and Total amount payable of \$453.65
b) Reading and understanding numbers, including decimals	
c) Rounding off numbers	
d) Reading and understanding fractions	
e) Reading and understanding percentages (per cent)	
f) Undertake an addition calculation (+)	On page 1, you need to add the different charges to get the total amount payable of \$453.65: \$345.15 + \$108.50 = \$453.65
g) Undertake a subtraction calculation (-)	
h) Undertake a multiplication calculation (×)	
i) Undertake a division calculation (÷)	
j) Undertake a calculation with percentages (per cent)	
k) Undertake a calculation that combines at least two different operations	
l) Any other maths skills you can see: _____	

# Worksheet 2B – Interpreting household bills

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## Aims and overview

A key part of budgeting is planning for and paying household bills. Understanding how bills work and paying them on time can help you save money. In this activity you will look at a water bill and a gas bill and find out about some key features and costs related to such bills.

---

## Tasks and questions

This activity consists of two tasks, one relating to interpreting a water bill, and the second one about a gas bill.

### Task 1. Understanding a water bill

On the following pages is a copy of a water bill for a family of four – two adults and two young children, living in an outer suburb of Melbourne. The house has a large garden. Answer the following questions based on the bill.

#### On page 1:

1. What are the **variable** usage charges and what are the **fixed** usage charges? Show with calculations how the total charge of \$324.24 has been reached.

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2. Approximately what proportion were the total usage (variable) charges of the total bill? Show your working and give your answer as both a fraction and a percentage.

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3. How much is the GST on this bill?

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**ACTIVITY 2. HOUSEHOLD BILLS** | **Worksheet 2B – Interpreting household bills**

4. Is there an error on this bill? Check to see if you can work out how they calculated the daily spend figure of \$3.22 per day that is on page 1. Can you find three possible answers: \$3.22 or \$3.26 or \$3.56? Which one is correct, do you think?

**Hint:** Read the (very) fine print about how they calculate it, and remember rounding off issues too.

5. In Victoria, recommended average daily water use per person is 155L per day.
- a) How many litres are in 1 kilolitre (kL)? \_\_\_\_\_
  - b) How many litres are in the 48 kL this family used? \_\_\_\_\_
  - c) The chart on page 1 shows that this family used 527 litres per day. Show what calculations you need to do to work this out, including your rounding off.

- d) Counting this family as equivalent to three adults, how many litres under or over the target of 155 litres per person per day did this family use? Show your calculations.

# Your quarterly bill



Emailed to:  
**JANI CITIZEN**  
 123 LOCAL STREET  
 ELTHAM NORTH VIC 3095

**Enquiries** 1300 304 688  
**Faults (24/7)** 13 27 62

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**Account number** 12 3456 7890  
**Invoice number** 2515 5638 86955  
**Issue date** 19 Dec 2022

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**Property address** 123 LOCAL STREET  
**Property reference** ELTHAM NORTH  
 1360053, LOT 3

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Tax Invoice Yarra Valley Water ABN 93 066 902 501

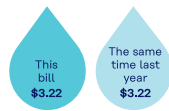
## Summary

<b>Previous bill</b>	<b>\$387.06</b>
Payment received thank you	-\$387.06
<b>Balance carried forward</b>	<b>\$0.00</b>
<b>This bill</b>	
<b>Usage charges</b>	
Water usage	\$123.09
Sewage disposal	\$39.91
<b>Service charges</b>	
Water supply system	\$19.90
Sewerage system	\$113.69
<b>Other authority charges</b>	
Waterways and drainage	\$27.65
<b>Total this bill (GST does not apply)</b>	<b>\$324.24</b>
<b>Total balance</b>	<b>\$324.24</b>



- Usage charges
- Service charges
- Other authority charges

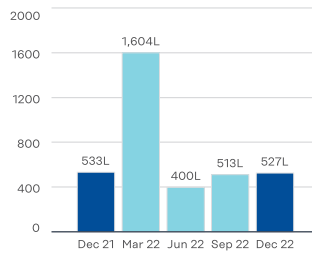
## Your daily spend



Excludes other authority charges.

## Your household's daily water use

Target 155L of water use per person, per day.



Average use in litres per day.

⚠ Estimated reading



## How to pay



\*3042 251556388695 5

**Direct Debit**  
 Sign up for Direct Debit at [yvwm.com.au/directdebit](http://yvwm.com.au/directdebit) or call 1300 304 688.

**Centrepay**  
 Arrange regular deductions from your Centrelink payments. Visit [yvwm.com.au/paying](http://yvwm.com.au/paying) CRN reference: 555 054 118T

**EFT**  
 Transfer direct from your bank account to ours by Electronic Funds Transfer (EFT).  
 Account name: **Yarra Valley Water**  
 BSB: 033-885  
 Account number: 251471392

**Credit card**  
 Online: [yvwm.com.au/paying](http://yvwm.com.au/paying)  
 Phone: 1300 362 332

**Post Billpay**  
 Pay in person at any post office, by phone on 13 18 16 or at [postbillpay.com.au](http://postbillpay.com.au)  
 Biller code: 3042  
 Ref: 2515 5638 86955

**BPAY**  
 Biller code: 344366  
 Ref: 251 4237 9045

<b>JANI CITIZEN</b>	
<b>Account number</b>	<b>12 3456 7890</b>
<b>Invoice number</b>	2515 5638 86955
<b>Total due</b>	<b>\$324.24</b>
<b>Due date</b>	9 Jan 2023
<b>Amount paid</b>	\$

### Your usage details

From 15 Sep 2022 - 15 Dec 2022 (91 days)

Water usage			
		1kL = 1,000 litres	
Meter number	Current reading	Previous reading	Usage
MAF052377	4,826kL	4,778kL	= 48kL
Water usage charge			
	Usage	Price \$/kL	Amount
<b>15 Sep 2022 - 30 Sep 2022</b>			
Step 1 (0-440 litres per day)	6,600kL x	\$2.4851 =	\$16.40
Step 2 (441-880 litres per day)	1,312kL x	\$3.1653 =	\$4.15
<b>1 Oct 2022 - 15 Dec 2022</b>			
Step 1 (0-440 litres per day)	33,440kL x	\$2.4451 =	\$81.76
Step 2 (441-880 litres per day)	6,648kL x	\$3.1253 =	\$20.78
<b>Total</b>	<b>48,000kL</b>		<b>\$123.09</b>
Sewage disposal			
Sewage disposal charge	Sewage volume	Price \$/kL	Amount
	34,583kL x	\$1.1540 =	\$39.91
<b>Total usage charges</b>			<b>\$163.00</b>

You'll notice water usage prices on your bill are slightly lower, as a result of the remaining 2022-23 desalination water order for Melbourne ceasing. For more information, visit [yvwm.com.au/prices](http://yvwm.com.au/prices).

### Your charges explained

- **Water usage charge**  
The cost for water used at your property, including treatment and delivery. The cost of water increases with the amount used (STEP tariffs).
- **Sewage disposal charge**  
The cost of removing and treating sewage. This is based on your indoor water usage. We deduct a percentage of water estimated to be used outside.
- **Water supply system charge**  
**1 October 2022 - 31 December 2022**  
A fixed cost for maintaining and repairing pipes and other infrastructure that store, treat and deliver water to your property.
- **Sewerage system charge**  
**1 October 2022 - 31 December 2022**  
A fixed cost for running, maintaining, and repairing the sewerage system.
- **Other authority charges**  
**Waterways and drainage charge**  
**1 October 2022 - 31 December 2022**  
Collected on behalf of Melbourne Water and used to manage and improve waterways, drainage, and flood protection. For more information visit [melbournewater.com.au/wwdc](http://melbournewater.com.au/wwdc)

### Financial assistance

Are you facing financial difficulty? For more time to pay, payment plans and government assistance, we can find a solution that works for you. Please call us on **1800 994 789** or visit [yvwm.com.au/financialhelp](http://yvwm.com.au/financialhelp). Registering your concession can also reduce the amount you need to pay. Please call us on **1800 680 824** or visit [yvwm.com.au/concession](http://yvwm.com.au/concession).

### Contact us

📞 <b>Enquiries</b> 1300 304 688	<b>For language assistance</b>
<b>Faults and Emergencies</b> 13 27 62 (24hr)	العربية 1300 914 361
✉ <a href="mailto:enquiry@yvwm.com.au">enquiry@yvwm.com.au</a>	廣東話 1300 921 362
🌐 <a href="http://yvwm.com.au">yvwm.com.au</a>	Ελληνικά 1300 931 364
☎ <b>TTY Voice Calls</b> 133 677	普通话 1300 927 363
🗣 <b>Speak and Listen</b> 1300 555 727	For all other languages call our translation service on <b>03 9046 4173</b>



**Next meter reading: Between 20-27 Mar 2023**

### Are your details up to date?

We want to reach you with important information and updates about your water supply.

To update your email and mobile number to receive notifications:

➔ Visit [yvwm.com.au/manage-account](http://yvwm.com.au/manage-account)

📞 Call us on **1300 304 688**, Monday to Friday, 8am-6pm.

## Thank you for sharing your feedback

Your ideas have helped us plan for the future.

A Citizens' Jury told us what matters to customers, making 12 recommendations, which are the foundation for our 2023-28 price submission to the Essential Services Commission.

The Essential Services Commission will seek feedback on our proposal as part of their review.

### Find out more:

➔ [yvwm.com.au/pricesubmission](http://yvwm.com.au/pricesubmission)

**On page 2:**

6. What time period does this bill cover for water usage and sewerage?

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7. What is the most expensive rate that is charged for calculating cost of water usage? The rate is measured in \$/kL. Why do you think there are different rates charged for different water usage?

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8. Show how the sewerage disposal charge of \$39.91 was calculated, including rounding.


## Task 2. Understanding a gas bill

On the following pages is an example of a gas bill for a family of two adults, living in a small home in an inner suburb of Melbourne. The house has gas heating and cooktop. Answer the following questions based on the bill.



EnergyAustralia

### Gas account

  
023/4294967197  
 JOHN SMITH  
 123 LOCAL STREET  
 YARRAVILLE VIC 3013


Customer number	6697 333 000
Account number	1234 567 89
Service address	123 Local Street, YARRAVILLE, VIC 3013
<b>Tax Invoice</b>	Issue date 07 Dec 2022

**Gas account summary** 12 Oct 2022 to 06 Dec 2022

	Balance Plan (Home)
Opening balance	\$349.88
Payment received thank you 27 Oct 2022 BPay	\$349.88Cr
<b>Balance carried forward</b>	<b>\$0.00</b>
Current charges (see over for details)	\$197.40
<b>Total amount due (incl. GST)</b>	<b>\$197.40</b>


An \* means that the amount shown includes GST.

Discounts - Your total Gas rewards and discounts received since December, 2014 are \$1357.66 Cr.

 Enquiries **133 466**

Gas Supply Faults  
AusNet Gas Services **132 083**

Emergencies (24 Hrs)  
AusNet Gas Services **136 707**

 Internet **energyaustralia.com.au**

**Due date**  
**28 Dec 2022**

**Total amount due**  
**\$197.40**

Great choice


Based on your usage, Balance Plan (Home) is the best plan for you.^^

If this changes, we'll let you know.

Or go to Victorian Energy Compare at [compare.energy.vic.gov.au](http://compare.energy.vic.gov.au).

Your account and personal information security is our priority

Read our updated tips for keeping your information safe online at [energyaustralia.com.au/onlinesecurity](http://energyaustralia.com.au/onlinesecurity)



EnergyAustralia  
LIGHT THE WAY

4294967198/R1.406/20.01.1P/dft

EnergyAustralia Pty Ltd ABN 99 086 014 968.



**Your gas usage and service calculation**

Account number 1234 567 89 Billing period 12 Oct 2022 to 06 Dec 2022  
 MIRN 53301678466 Service address 123 Local Street, Yarraville, Vic 3013

Tariff	Meter number	Bill days	Current reading	Previous reading	Base usage	Heating value	Pressure factor	Total MJ &/or Lt	Charge/Rate	\$
Balance Plan (Home)	5720XJ	56	12802	12642	160	x 38.6800	x 1.0109	= 6256.26 MJ		

**Details**

12/10/2022 - 06/12/2022 - 56 Days  
**Energy Charges**  
 12/10/2022 - 06/12/2022 - 56 Days

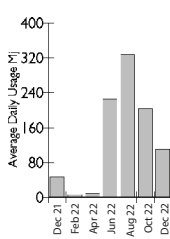
* Balance Plan (Home) Peak Consumption - Block 1 ( 100.00000 MJ/day)^	5,600.000 MJ	\$0.0253000 per MJ	\$141.68
* Balance Plan (Home) Peak Consumption - Block 2 ( 11.71893 MJ/day)^	656.260 MJ	\$0.0239800 per MJ	\$15.74
* Balance Plan (Home) Supply Charge	56 days	\$1.149500 per day	\$64.37
* Additional Balance Plan (Home) Discount - 11%			\$24.40Cr
<b>Total Current Charges (incl. GST of \$17.95)</b>			<b>\$197.40</b>

An \* means that the amount shown includes GST.  
 ^ This figure is your usage shown as an average per day over the number of days that apply to this rate.

**Next meter read**

Your next meter reading is planned to occur during 10 - 20 Feb 2023.  
 Please ensure safe and clear access to the meter. If your meter is not accessible an estimate is taken.

**Gas usage**



Average daily use (Mj)  
 This account: **111.72**  
 Same time last year: **48.42**  
 Average cost per day (incl. GST): **\$3.53**

**131% increase in usage since the same time last year**

You can go to Victorian Energy Compare to compare other energy plans at [compare.energy.vic.gov.au](http://compare.energy.vic.gov.au)

^^Estimated savings or best plan confirmation shown on the front of your bill are based on your past 12 months usage, or your available usage data (if less than 12 months) and our current in market plans at the time this bill was issued. We update our plans from time to time. If you switch plans, the amount you may save will depend on the plan you choose and the amount of energy you use. Go to [energyaustralia.com.au/vic-changes](http://energyaustralia.com.au/vic-changes) to find out more.

E-99 S-98 14294967199

**Contact information**

**Contact Hours**  
 For all your enquiries, our customer service hours are:  
 Monday to Friday: 8:00am – 7:00pm AEST  
**Calling from overseas? Phone +61 3 9422 2968.**  
**Payment Assistance 133 466**  
 Please contact us to discuss how we can help you pay your energy account including:  
 State Government Concession  
 Extended Time to Pay  
 Utility Relief Grant Scheme  
 Regular Pay Instalment Plan  
 Help with Hardship or Payment Difficulty  
 If you do not wish to receive information about EnergyAustralia's other products and services please call us on 1800 624 426.

**Interpreter Service 1300 622 718**  
 Servizio Interpreti Υπηρεσία Διασύνδεσης  
 Служба на Преведувачи на 傳譯員服務  
**Hearing Impaired Service**  
 Telephone Typing (TTY) service is available for the cost of local call.  
 General Enquiries 133 677. Network Faults 1300 305 043.

**Moving? 133 466**  
 Contact us at least 3 business days before moving so we can finalise your account and organise electricity and gas supply to your new address. Please have your new meter numbers handy, these are located on the front of your meter. You'll be glad we moved with you. Just call 133 466.  
**Written Enquiries**  
 Please direct all correspondence to: EnergyAustralia  
 Locked Bag 14060, Melbourne City Mail Centre, 8001  
 or fax to 1300 363 398

**Gas payment options**

If your bill has been delayed, you are entitled to an extended amount of time to pay.

**Direct Debit**  
 Call 133 466

**POST billpay**  
 Billpay Code: 3248  
 Ref: 1234 567 8900 00

Pay in person at any post office, phone 13 18 16 or go to [postbillpay.com.au](http://postbillpay.com.au)

**Mail**  
 Please post this payslip with your cheque payable to: EnergyAustralia, GPO BOX 4491, Melbourne, Victoria 3001

**PAY**  
 Biller Code: 97410  
 Ref: 1234 567 8900 00

**Phone**  
 Call 1300 559 873 to pay by MasterCard, Visa or American Express for payment amounts up to \$10,000.

**BPAY\*** - Make this payment via Internet or phone banking.  
**BPAY View\*** - Receive, view and pay this bill using Internet banking.  
**BPAY View Registration No** - 2994851000  
 \* Registered to BPAY Pty Ltd, ABN 69 079 137 518

\*A merchant service fee may apply to credit card payments: MasterCard or Visa - 0.36%; American Express - 1.5%.  
 Fee is calculated on the total payment amount.  
 Any fees applied will be shown on your next bill and are GST inclusive. Some exemptions apply.



\*3248 10029948510000

**Due date 28 Dec 2022**

**Total amount due \$197.40 (incl. GST)**

Office use only  
 Trancode 831 User code 067024 Payment reference 1234 567 8900 00

<0000019740> <067024> <010029948510000> >

**ACTIVITY 2. HOUSEHOLD BILLS** | **Worksheet 2B - Interpreting household bills**

9. What was the difference in the amounts due between this gas bill and the previous bill?

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10. How was the last bill paid? \_\_\_\_\_

11. What does the unit 'MJ' mean? \_\_\_\_\_

12. What is the total volume or consumption of gas in MJ used in this billing period?

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13. How much is the total of the different energy charges, prior to any discounts?

a) Energy/consumption charges \_\_\_\_\_

b) Supply charge \_\_\_\_\_

c) Total charges \_\_\_\_\_

14. There is a credit of \$24.40 on page 2. Explain how this is worked out, naming the different mathematical calculations you needed to use.

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15. Suggest reasons why this gas bill may be smaller than the previous bill.

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16. How much would the total be without GST?

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17. On page 2 next to the chart, '131 per cent increase in usage since the same time last year' is stated. Explain what this percentage increase means, and what fractional increase is this approximately equal to.

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## Reflecting on household bills

Working in pairs or in groups, discuss and reflect on what you have learnt from analysing these different household utility bills.

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## Your report

Create and present a summary of what you have learnt from this activity and the four previous worksheets about household utility bills. It could be a brief one-page report, a poster, or short presentation that shows your findings.

You should include:

- the key information and knowledge about bills and associated charges that you have learned
- a summary highlighting what mathematics and calculations you needed in order to complete your tasks
- the technology and tools you used
- any surprising and interesting new information you encountered during the activities.

## ACTIVITY 3. IMPACTS OF GAMBLING

# Worksheet 3A – Gambling money away

## Aims and overview

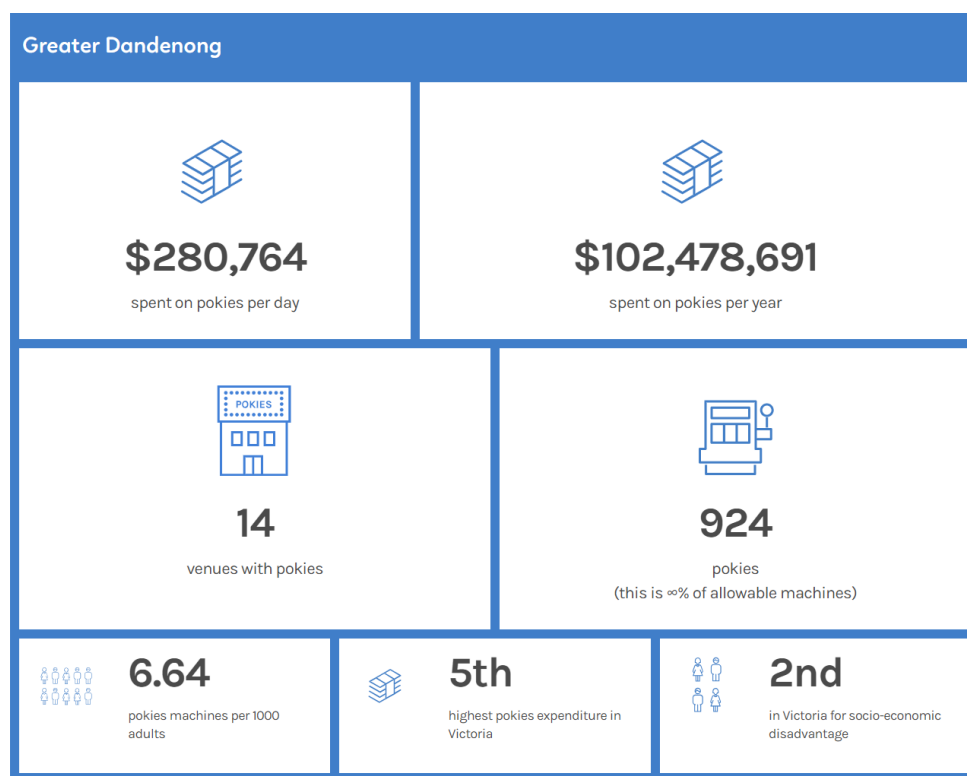
In this activity, you will look at data and information related to gambling across Victoria.

## Tasks and questions

In this worksheet, you will use your maths skills and knowledge to read and interpret data from the Victorian Responsible Gambling Foundation (VRGF) **website**. This data provides information on how Victorians gamble, and how much money can be spent and lost, on different gambling activities.

## Gambling data

Below is information provided by the VRGF on the Victorian Local Government Area of Greater Dandenong ([responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/greater-dandenong/](https://responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/greater-dandenong/)). It is based on Victorian **pokie machine (pokies)** data from 2021-22, and the ranking of socio-economic disadvantage from the 2016 Census.



Sources: **Victorian Gambling and Casino Control Commission** (pokies data 2021-2022); **Australian Bureau of Statistics – Socio-economic indexes for areas** (ranking of socio-economic disadvantage, 2016 Census)

**ACTIVITY 3. IMPACTS OF GAMBLING | Worksheet 3A - Gambling money away**

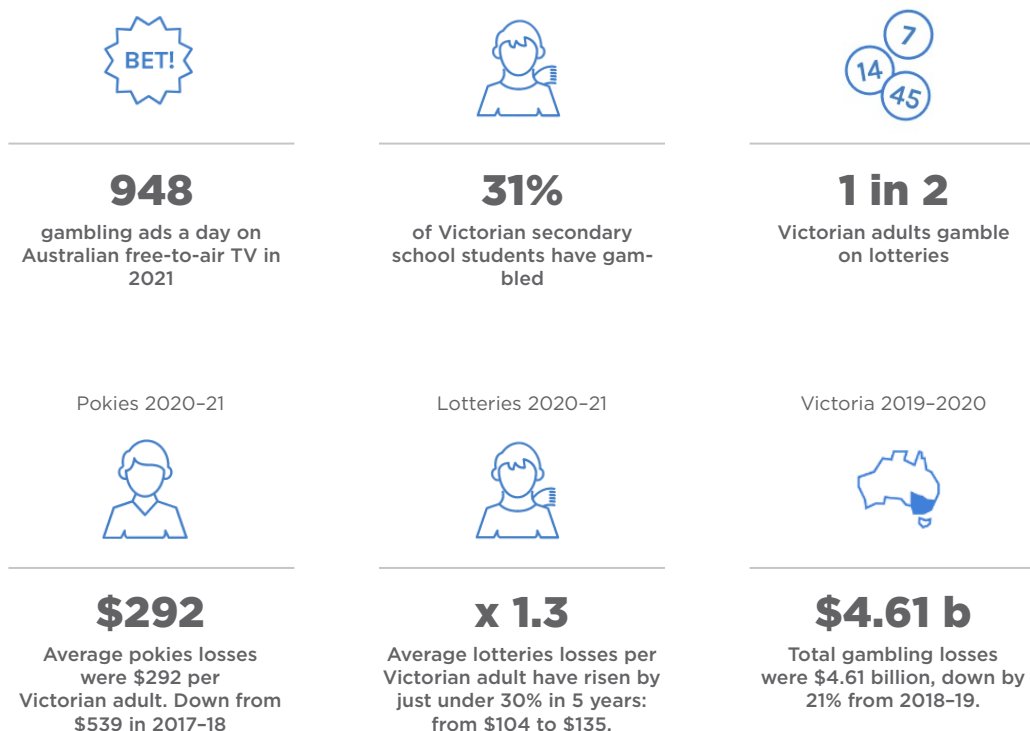
1. Were there any parts of this data that surprised you? Why?

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Here is some more information about Victorian gambling statistics and habits.



Sources:

Queensland Government Statistician's Office, Queensland Treasury, Australian Gambling Statistics, 37th edition, 1994-95 to 2019-20. Victorian Responsible Gambling Foundation website - gambling advertising.

2. Were there any parts of this information that surprised you? Why?

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**ACTIVITY 3. IMPACTS OF GAMBLING | Worksheet 3A - Gambling money away**

Based on the data provided, answer the following questions.

- 3. On average, how much was spent on each poker machine in Greater Dandenong in 2021-22? Show your calculations. How would this compare to the value that was spent per poker machine in 2017-18: higher, lower or about the same? Explain your reasoning.

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- 4. Is it a truthful claim that almost one-third of Victorian secondary school students gamble? Explain your reasoning.

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- 5. The data shows a drop in the average pokies loss per Victorian adult from \$539 in 2017-18 to \$292 in 2020-21. What percentage and proportion decrease is this?

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- 6. The data also shows an increase in the average lottery losses per Victorian adult, from \$104 in 2017-18 to \$135 in 2020-21. Explain how the graphic claims this is an increase of x 1.3.

Explain why you think this increase may have occurred, especially compared to the reduction in pokies losses over the same period (hint - consider the impact of lockdowns during the Covid-19 pandemic).

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## Matching pairs activity

First, review with your teacher the different ways you can write out a thousand, a hundred thousand, a million, a billion, and so on.

In the following activity, each shaded card reflects a cost related to gambling. The unshaded cards represent other kinds of spending.

Each shaded card matches one of the unshaded cards in terms of the dollar value indicated.

1. Cut out the cards. Then, working in pairs, match the cards.



\$280,764 spent on pokies per day in the Victorian LGA of Greater Dandenong in 2021-22	\$102,478,691 spent on pokies each year in the Victorian LGA of Greater Dandenong in 2021-22	\$7.41 billion total gambling losses in Victoria in 2022-23
\$24 billion gambling losses in Australia in 2020-21	\$292 average loss to pokies per Victorian adult in 2020-21	\$74 average loss per adult in Victorian casinos in 2020-21
12 Buckingham Palaces at just over \$2 billion each	A good portable Bluetooth speaker	Apartment worth \$280,000
Two new hoodies at \$37 each	16 Airbus ACJ350 private jets at \$460 million each	34 commercial wind turbines at \$3 million each

Sources:

Queensland Government Statistician's Office, Queensland Treasury, Australian Gambling Statistics, 37th edition, 1994-95 to 2019-20.

Victorian Responsible Gambling Foundation website - gambling advertising.

# Worksheet 3B – The spread of gambling

## Aims and overview

In this activity, you will analyse some of the available data and information collected by the Victorian Responsible Gambling Foundation (VRGF) related to gambling across the Victorian community. You will need to use spreadsheet software to review the data.

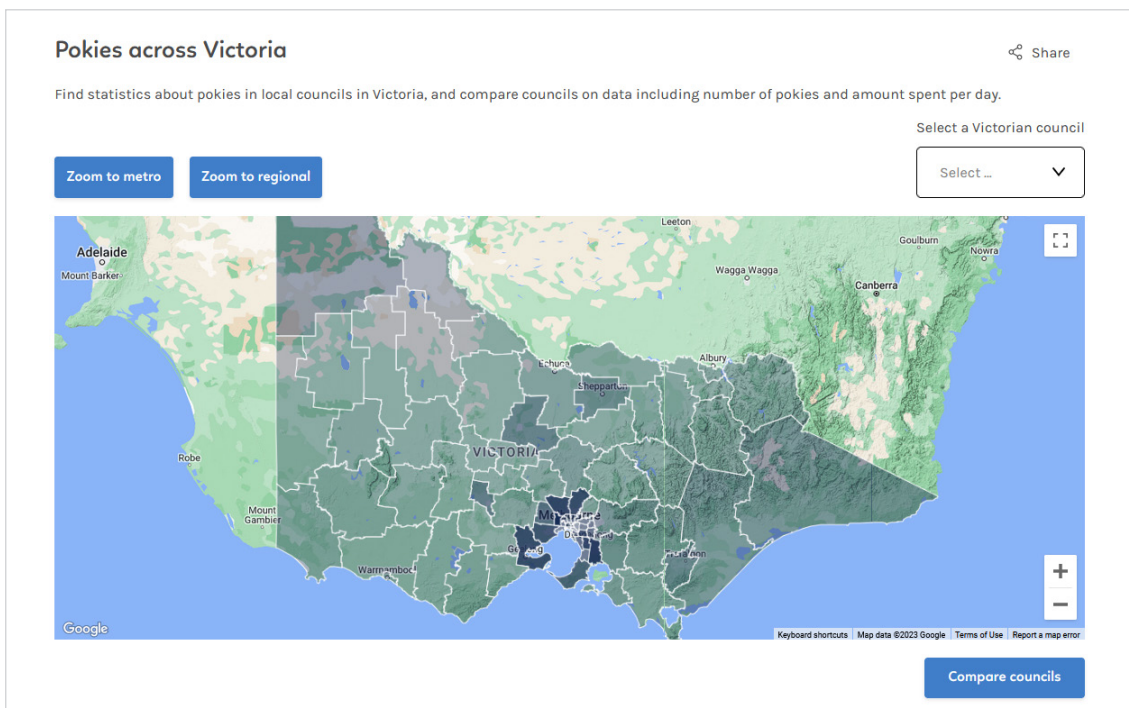
## Tasks and questions

The VRGF collects data about pokie machines (pokies) in local councils in Victoria. These statistics include the number of pokies machines, and the amount spent on pokies per day in different council areas.

You will need to find relevant data and answer a series of questions about the data you select.

## Data on pokies in Victoria

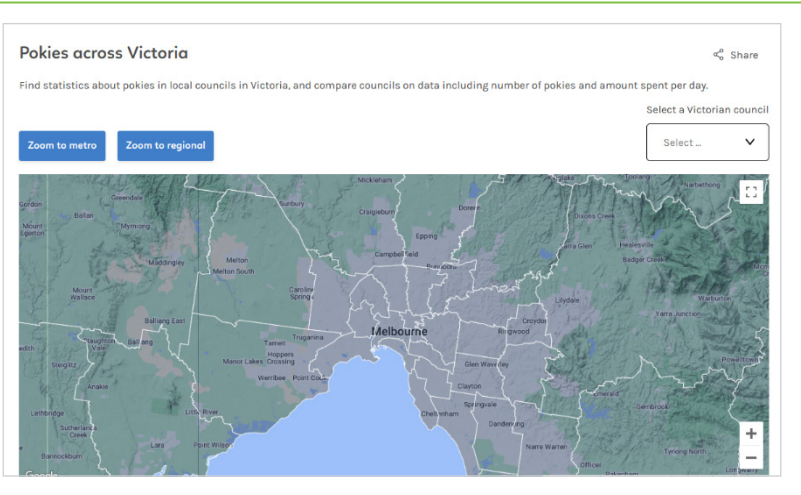
Go to the VRGF website ([responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/](https://responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/)) and view the below page:



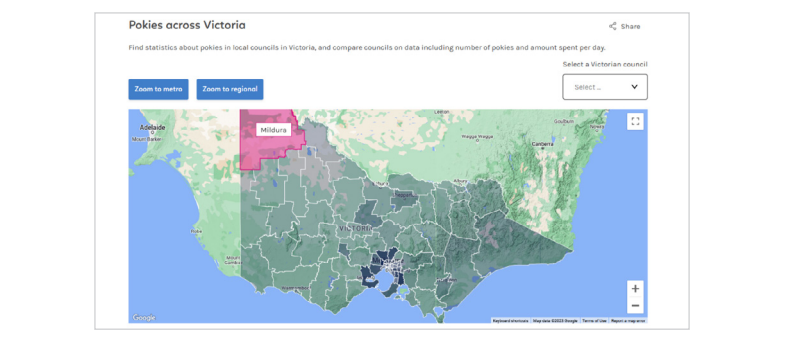
**ACTIVITY 3. IMPACTS OF GAMBLING | Worksheet 3B – The spread of gambling**

Your task is to select five different councils or Local Government Areas (LGAs) from the map or pull-down list to access the summary data on seven key factors relating to gambling. Some information and suggestions for finding the data include the following:

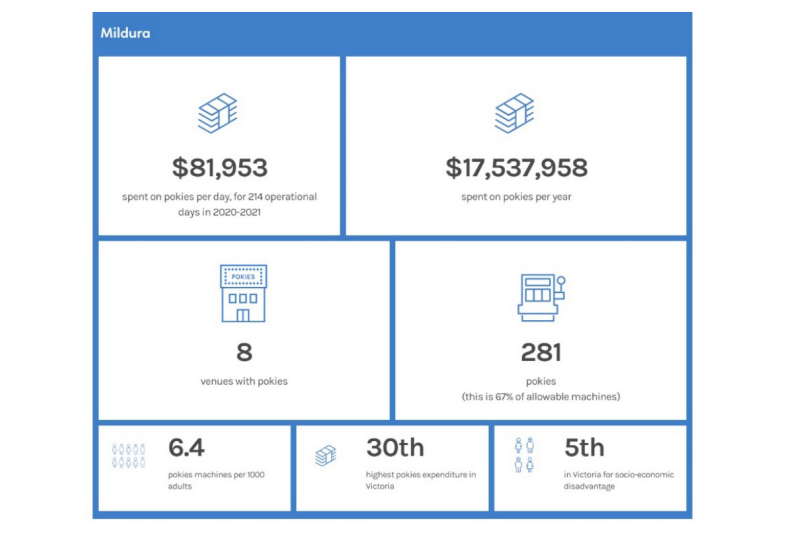
You can click the Zoom buttons to see the regional areas and metropolitan LGAs.



By moving your mouse over the map, you can see the names of each council or LGA.



You can click to see the summary data on pokies for the selected council or LGA. This example is the information provided for Mildura in early 2023, based on 2020-2021 data. Be sure to check the current summary for any updated data.



The data provided in the summary graphic for each council or LGA includes seven different pieces of information:

- the amount spent on pokies per operating day
- the amount spent on pokies a year
- number of venues with pokies
- number of pokies
- pokies per 1,000 adults
- ranking by pokies expenditure
- ranking of the Council or LGA by socio-economic disadvantage (2016 census).

Note: ‘operating day’ refers to the number of days in the year that the pokie venues were fully open and operating.

## Discussion

Either in groups or as a whole class, discuss each of the seven different pieces of information listed above, and why it might be collected by the VRGF.

## Tasks and questions to answer

In deciding on which council or LGAs to select, you could consider the following:

- choosing areas around where you live or go to school
- a region in Victoria you are familiar with
- a range of different councils or LGAs to provide a cross-section of data across Victoria or metropolitan Melbourne.

For each council or LGA, you need to add their data into a spreadsheet before you interpret and analyse your results. Follow these steps:

1. Open spreadsheet software and create a new file. Label the columns to match the seven different pieces of information that are provided. The labels for each row will be the name of the council or LGA you select. This is an example for Mildura that uses the information provided earlier.

	A	B	C	D	E	F	G	H
1	<b>Council</b>	<b>\$ spent on pokies per operating day</b>	<b>\$ spent on pokies a year</b>	<b>Number of venues with pokies</b>	<b>Number of pokies</b>	<b>Pokies per 1000 adults</b>	<b>Ranking by pokies expenditure</b>	<b>Ranking by socio-economic disadvantage</b>
2	Mildura Rural City	\$81,953.08	\$17,537,958.22	8	281	6.4	29	5
3								
4								
5								
6								

**ACTIVITY 3. IMPACTS OF GAMBLING | Worksheet 3B - The spread of gambling**

2. Find each of the pieces of data for your selected five councils or LGAs from the website and enter it into your spreadsheet. Using your spreadsheet and the data, answer the following questions.

3. Which of the LGAs had the greatest amount spent on pokies in total? Name at least one factor that you think might have helped contribute to this.

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4. What is the difference between the highest and lowest amount spent on pokies per operating day for your chosen LGAs?

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5. Approximately what proportion is the lowest total spending council or LGA amount compared to the highest spending council or LGA's amount? Give your answer as an approximate fraction and as a percentage.

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6. Which of your five councils or LGAs has the most pokies for the population size? Provide evidence for your answer.

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**ACTIVITY 3. IMPACTS OF GAMBLING | Worksheet 3B - The spread of gambling**

7. Use the data from your spreadsheet or the VRGF Pokies across Victoria website ([responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/](https://responsiblegambling.vic.gov.au/resources/gambling-victoria/pokies-across-victoria/)) to identify another feature or pattern of gambling with pokies across your five councils or LGAs. Provide evidence for your answer.

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8. Are there other pieces of information that would help you to analyse your data?

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9. Are there more pokies in metropolitan areas than in country areas? Use the **VRGF website** to investigate and provide examples.

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## Unit 3: Earnings, expenditure, and gambling

In the follow-up resource for Unit 3 of VCE Vocational Major - Numeracy, Earnings, expenditure, and gambling, you will continue your investigation into gambling in Victoria.

In addition to poker machines, the VRGF also collects data about other gambling activities in Victoria. These include:

- wagering (sports and race betting)
- casino
- lotteries.

Compared to what you have learnt about money spent on pokies, what do you think the order of money spent across Victoria for the four main areas of gambling would be?

Type of gambling	Poker machines	Sports and race betting	Casino	Lotteries
Order from 1 (least dollars spent) to 4 (most spent)				

## Your report

Create and present a summary of what you have learnt from this activity and the four previous worksheets about gambling and poker machine use across Victoria. It could be a brief one-page report, a poster, or short presentation that shows your findings.

You should include:

- the key information and knowledge about gambling and poker machine use across Victoria that you have learned
- a summary highlighting what mathematics and calculations you needed to complete your tasks
- the technology and tools you used
- any surprising and interesting new information you encountered during the activities.

# Glossary

Term	Meaning
<b>Budget</b>	A budget is a way to balance income, expenses and financial goals and better monitor your money. It is a summary of income and expenses, and can be for an individual, household, business, or country.
<b>Debt</b>	Debt is money you owe. Your debt includes money you have borrowed, and can be a personal loan, home loan, credit card, or money borrowed from family or friends.
<b>Discretionary expenses</b>	Spending that you can choose to do but is not necessary. Take-away food, meals at cafes/restaurants and entertainment costs are examples of discretionary expenses. Also called non-essential spending.
<b>Essential expenses</b>	Essential expenses are expenses that must be paid. This may include utility bills such as water, power, gas, food, house repayments, board or rent, and car payments. Also called <b>non-discretionary spending</b> .
<b>Expenses</b>	Expenses are amounts of money that you spend while doing something. Work-related expenses are costs that need to be paid for by an individual worker during their employment. See also <b>Discretionary expenses</b> and <b>non-discretionary expenses</b> .
<b>Fixed charge</b>	Fixed charges (or costs) are based on a fixed period of time, such as monthly, two-monthly, quarterly, or annually. Fixed charges do not change with the amount or volume of usage. See also <b>variable charge</b> .
<b>Gross income (or pay)</b>	The amount of money earned before any taxes and payroll-related deductions are subtracted.
<b>Income</b>	Income is any 'incoming money' you receive. This can include salary, wages, or government financial assistance such as Austudy, pensions or other payments. It can also include money received on investments, savings and rent received from an investment property. <b>Gross income</b> is the amount of money earned before any tax or deductions are subtracted. <b>Net income</b> (or ' <b>take-home pay</b> ') is the amount remaining after all taxes and deductions have been subtracted.
<b>Local Government Area (LGA)</b>	A local government area (LGA) is a smaller metropolitan or regional administrative division of a country that a local government is responsible for.
<b>Non-discretionary expenses</b>	See <b>Essential expenses</b> .
<b>Non-essential expenses</b>	See <b>Discretionary expenses</b> .
<b>Pokie machines/pokies</b>	Poker machines or 'pokies', are electronic gaming machines. They contain a computer program providing a video display of rotating reels. When the 'spin' button is pressed, a number is chosen from each virtual reel to make up a set called the 'pokie line'. To win, the line needs to match one of the pre-set winning combinations.

## Glossary

Term	Meaning
<b>Salary</b>	A salary is a fixed regular payment for a worker that is not related to the number of hours it takes to do the work. A salary is usually paid weekly, fortnightly, monthly or annually, and agreed upon in an employment contract or award.
<b>Take-home pay</b>	The amount of money you receive for your work after all taxes and deductions have been made. Also called <b>net income</b> .
<b>Variable charge</b>	Variable charges are based on the volume or amounts of a product used, such as water, gas, or electricity. See also <b>Fixed charge</b> .
<b>Wage</b>	A wage is a rate of pay affixed to the number of hours worked, usually calculated per hour or per day.

# Answers

## Activity 1. Budgeting

Q#	Worksheet 1A - Background and planning
1	No single correct answer(s). Check with your teacher. See Glossary for explanation of terms. Refer to websites such as <b>MoneySmart</b> for additional resources and information.
2	No single correct answer(s). Check with teacher. See Glossary for explanation of terms. Essential expenses cover utilities such as water, power, gas, food and rent.
3	Non-essential expenses include entertainment, buying take-away food or going to restaurants. Refer to the MoneySmart <b>budget planner</b> for ideas and example costs.
4	As above
5	As above, but generally most young people earn their income from work.
6	All these skills are required in relation to budgeting, and there are many different ways you can use them. Check with your teacher if you are unsure where and how you might need to use them.
7	Mainly calculators, including online applications. Spreadsheet can also be a useful tool for finances and budgeting.
Q#	Worksheet 1B - Expenses
1 to 8	No single correct answer(s). Check with your teacher.
Q#	Worksheet 1C - Income
1 - 5	No single correct answer(s). Check with your teacher.
Q#	Worksheet 1D - Creating a budget
1 - 5	No single correct answer(s). Check with your teacher.
Q#	Worksheet 1E - Reviewing and reporting your budget
1 - 5	No single correct answer(s). Check with your teacher.

## Activity 2. Household bills

Q#	Worksheet 2A - Understanding household bills
1	Diamond Energy
2	Jani Citizen
3	1234056789
4	\$453.65
5	\$41.24
6	No
7	02/11/2022
8	16/11/2022
9	<ul style="list-style-type: none"> <li>• Electronic Funds Transfer (EFT)</li> <li>• Mail</li> <li>• Direct debit</li> <li>• BPay</li> <li>• Online</li> <li>• In person at an NAB branch</li> </ul>
10	Yes - it is \$11.04
11	14 days
12	1/08/2022 to 31/10/2022
13	1/11/2022
14	This bill was \$90.90 less. $\$544.55 - \$453.65 = \$90.90$
15	Kilowatt hour
16	No. The amount of electricity used is a variable charge based on the kWh used and the Service charge is also variable as it is based on a rate per day (see page 2 under Metering & Other).
17	Yes. It is in two places. In the table up on the top, left hand side of page 2. It is an average of 12.86 kWh per day. And the daily usage figures are also shown in the graph next to that table.
18	It is hard to know as there is little comparative information provided. On some other utility bills (such as in the water and gas bills), there are the usage or costs shown for other billing periods. This means you can see if the bill is as expected or not. You would need to see if you can find out what the average electricity bills are for similar-sized families and make a comparison.
19a	Difficult to find - in the small print on page 2. You can ring 1800 838 009
19b	As above. Difficult to find - in the small print on page 2. You can ring 1800 838 009
<b>Task 3</b>	
a)	<i>Sample answer:</i> On page 1, there are numerous monetary amounts: Opening balance of \$544.55 and Total amount payable of \$453.65
b)	<i>Sample answer:</i> On page 2 especially, there are numerous numbers and decimal amounts. The usage amounts such as 1,183.08 and 12.86 are examples.

## Answers

c)	<i>Sample answer:</i> One example is the Service charge calculation in the table on page 2, where you need to multiply 92 Days at 129.943 c/day = $92 \times 119.55 = 11954.756$ cents. When this is changed to dollars and rounded off to the nearest cent, it becomes \$119.55
d)	<i>Sample answer:</i> No explicit examples of fractions are used. Most numbers are whole numbers, decimals with some percentages.
e)	<i>Sample answer:</i> The only percentage used is on page 2: Pay on Time Discount of 2.0 per cent.
f)	<i>Sample answer:</i> On page 1, you need to add the different charges to get the total amount payable of \$453.65: $\$345.15 + \$108.50 = \$453.65$
g)	<i>Sample answer:</i> In calculating the Pay on Time Discount on page 2 of \$11.04, this is taken off the total bill owing of
h)	<i>Sample answer:</i> Each of the calculations in the Charges section on page 2 involve multiplication. An example is as above, where you need to multiply 92 Days at 129.943 c/day = $92 \times 119.55 = 11,954.756$ cents. When this is changed to dollars and rounded off to the nearest cent, it becomes \$119.55
i)	<i>Sample answer:</i> Division is used to work out any of the daily charge or costs. In the table on the top left-hand side of page 2. For example, the total usage of 1,183.08 is divided by the 92 days in the billing period to get an answer of 12.8595652173913 which is rounded to 12.86 kWh.
j)	<i>Sample answer:</i> The only percentage used is on page 2: Pay on Time Discount of 2.0 per cent. This is calculated on the total price of the previous bill (that was presumably paid on time). This would be 2 per cent $\times \$545.55 = \$10.91$ , which does not match the amount stated of \$11.04. It probably means that the 2 per cent discount is take off the full value of the previous bill prior to the discount being subtracted.
k)	<i>Sample answer:</i> One example is the calculation of the amount payable in the table on page 2. To get the total payable if you paid the last bill on time, you need to add and subtract. Add the three charges of $\$295.09 + \$50.06 + \$119.55$ then subtract the discount of \$11.04 to get the final amount owing of \$453.65. Peak 1 rate is 340 kWh per month – because it’s for 3 months this is multiplied by 3 to get 1,020 kWh. This is then subtracted from the total electricity usage for the period of 1,183.08 kWh to get the amount used for Rate 2: 163.08 kWh. – Each of these is then multiplied to get the amount owing. 1,020 kWh is multiplied by 28.9300 c/kWh to get the \$295.09. 163.08 kWh is then multiplied by 30.7010 c/kWh to get \$50.06.
<b>Q#</b>	<b>Worksheet 2B - Interpreting household bills</b>
<b>1</b>	The usage or variable charges which depend on the amounts used (see table on page 2) consist of: <ul style="list-style-type: none"> <li>• Water usage \$123.09</li> <li>• Sewage disposal \$39.91</li> <li>• Water supply system \$19.90</li> <li>• Sewerage system \$113.69</li> </ul> The fixed charge is the other authority charges on page 1: <ul style="list-style-type: none"> <li>• Waterways and drainage \$27.65</li> </ul> The total of the bill is found by adding all of the above: $\$123.09 + \$39.91 + \$19.90 + \$113.69 + \$27.65 = \$324.24$
<b>2</b>	The proportion is \$27.65 out of \$324.24. This is smaller than 10 per cent or 1/10th – as a decimal fraction this would be 0.08527. Converting this to a percentage (multiply by 100) would give you 8.5 per cent as a percentage.

## Answers

<b>3</b>	\$0 – GST is not payable on water usage. See summary on page 1.
<b>4</b>	<p>This an interesting set of calculations to consider. The three possible calculations are set out below.</p> <ol style="list-style-type: none"> <li>The most obvious calculation for the average daily spend would be to divide the total charge of \$324.24 by the number of days in the billing period (which is 91 days according to the top of page 2). This gives you <math>\\$324.24 \div 91 = \\$3.56</math> spent per day.</li> <li>However, the fine print on page 1 under the drop that gives you the daily spend states “Excludes other authority charges”. This means we should exclude or take away the charge of \$27.65 from \$324.24 before working out the spend per day. This gives us <math>\\$324.24 - \\$27.65 = \\$296.59</math>. Now we divide this by 91: <math>\\$296.59 \div 91 = \\$3.26</math>.</li> <li>But this amount of \$3.26 does not match the value of \$3.22 given on page 1!! How did they get \$3.22?? As the value of \$3.26 is just a bit high, we could guess and see what happens if we divide by 92 days and not 91 days. If you do this, you get <math>\\$296.59 \div 92 = \\$3.22</math> which matches their value stated in the droplet on page 1!</li> </ol> <p>Which ones were you able to find?</p>
<b>5</b>	<ol style="list-style-type: none"> <li>1000 litres</li> <li><math>48 \times 1000 = 48\,000</math> litres</li> <li><math>48,000 \text{ litres} \div 91 \text{ days} = 527.472527</math> litres which when rounded off would be 527 litres per day.</li> <li>The target is <math>155 \text{ litres} \times 3 \text{ people} \times 91 \text{ days} = 42,315</math> litres. This family used 48,000 litres. So, they are overusing their water in this period by <math>48,000 - 42,315 = 5,685</math> litres. Per day this equals <math>5,685 \text{ litres} \div 91 = 62.47</math> or about 62 litres per day more than the recommended target of 155 litres per day.</li> </ol>
<b>6</b>	From 15 Sep 2022 - 15 Dec 2022 (91 days)
<b>7</b>	<p>The most expensive rate is for Step 2 (for using between 441-880 litres per day) is \$3.1653 per kL.</p> <p>The reason they may do this is to encourage people to use less water, so they do not pay such a high rate.</p>
<b>8</b>	The sewage disposal charge is calculated by multiplying the sewage volume used by the charge of \$1.1540 per kilolitre (kL). This is $34.583\text{kL} \times \$1.1540 = \$39.91$
<b>9</b>	$\$349.88 - \$197.40 = \$152.48$
<b>10</b>	BPay
<b>11</b>	MJ is the abbreviation for megajoule (MJ) which is a measure of energy. One MJ is 1,000,000 Joules.
<b>12</b>	6,256.26 MJ
<b>13</b>	<p>The energy/consumption charges: <math>\\$141.68 + \\$15.74 = \\$157.42</math></p> <p>The supply charge: \$64.37</p> <p>The total charge: \$221.79</p>
<b>14</b>	<p>There is a discount of 11 per cent per cent offered on page 2. This is calculated on the total usage charge worked out in Answer 13:</p> <ul style="list-style-type: none"> <li><math>\\$141.68 + \\$15.74 + \\$64.37 = \\$221.79</math></li> <li>Working out 11 per cent discount of this we can change 11 per cent to a decimal fraction of 0.11 and multiply by this: <math>0.11 \times \\$221.79 = \\$24.3969 = \\$24.40</math> rounded to the nearest cent.</li> </ul>
<b>15</b>	Sample answer: As the household uses gas for their heating, they may not have used their heating as much during warmer months (October through to December).
<b>16</b>	$\$197.40 - \text{GST of } \$17.95 = \$179.45$ .

<b>17</b>	<p>Sample answer: The increase of 131 per cent means that the amount has increased from the same time in the previous year. If it stayed the same, the percentage value that it changed would be 100 per cent - because 100 per cent is the same value as 1.0. If it was less than 100 per cent, then the amount would have gone down.</p> <p>So, the increase of 131 per cent means it has gone up by 31 per cent more.</p> <p>33.3 per cent is about the same as <math>\frac{1}{3}</math> (<math>\frac{1}{3}</math> of 100 is 33.333), so 31 per cent is less than <math>\frac{1}{3}</math>. Therefore, usage has gone up by almost <math>\frac{1}{3}</math> compared to the same time the previous year.</p>
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## Activity 3. Impacts of gambling

Q#	Worksheet 3A - Gambling money away
<b>1</b>	No single correct answer(s). Check with your teacher.
<b>2</b>	No single correct answer(s). Check with your teacher.
<b>3</b>	<p>This would be \$280,764 spent per day divided by the number of pokies (924).  <math>\\$280,764 \div 924 = \\$303.86</math> spent on each poker machine each day.</p> <p>Sample response for the second part: In the statistics information provided, it is noted that the losses or money spent on pokies had decreased since 2017-18. This would therefore be most likely the same regarding the amount spent on each poker machine each day. As the COVID pandemic lockdowns began in 2020, this meant people could not attend organisations and clubs that housed poker machines.</p>
<b>4</b>	This is a true claim. A percentage of 31 per cent is less than $\frac{1}{3}$ rd. 33.33 per cent is the same as $\frac{1}{3}$ ( $\frac{1}{3}$ of 100 is 33.333), so 31 per cent is less than $\frac{1}{3}$ . It is therefore just under $\frac{1}{3}$ of Victorian secondary school students that gamble.
<b>5</b>	<p>The drop from \$539 in 2017-18 to \$292 in 2020-21 is equal to: <math>\\$539 - \\$292 = \\$427</math>.</p> <p>As a percentage drop, this is <math>\\$427 \div \\$539</math> then multiplied by 100 to make it a percentage.  <math>427 \div 539 \times 100 = 79.220779</math> per cent which is 79 per cent when rounded off.</p> <p>As a proportion, 79 per cent is almost 80 per cent, and 80 per cent is the same as <math>\frac{4}{5}</math>. So as a fraction, the proportion is almost <math>\frac{4}{5}</math> of the original average pokies loss per Victorian adult.</p>
<b>6</b>	<p>The increase from \$104 to \$135 is \$31.</p> <p>If the original value of \$104 is multiplied by 1.3, the answer is <math>104 \times 1.3 = 135.2</math>. As dollars, this is 20cents difference from the \$135 claimed. As with question 3, due to the COVID pandemic, people could not attend pokies venues during the lockdowns which occurred on and off between March 2020 and October 2021. Because of this, people may have decided to gamble on lotteries or other forms of gambling which could be accessed online.</p>
<b>7</b>	See next page for the matching pairs.
Q#	Worksheet 3B - The spread of gambling
<b>1</b>	Check with your teacher.
<b>2</b>	Check with your teacher.
<b>3 - 9</b>	Depends on which LGAs you selected to investigate. Check with your teacher.
Q#	Worksheet 3C - Your reflections on gambling
<b>All</b>	Check with your teacher.

## Worksheet 3A – Gambling money away solution.

\$280,764 spent on pokies per day in the Victorian LGA of Greater Dandenong (2021-22)	Apartment worth \$280,000
\$24 billion gambling losses in Australia in 2020-21	12 Buckingham Palaces at just over \$2 billion each
\$102,478,691 spent on pokies each year in the Victorian LGA of Greater Dandenong (2021-22)	34 commercial wind turbines at \$3 million each
\$292 average loss to pokies per Victorian adult in 2020-21	A good portable Bluetooth speaker
\$7.41 billion total gambling losses in Victoria in 2022-23	16 Airbus ACJ350 private jets at \$460 million each
\$74 average loss per adult in Victorian casinos in 2020-21	Two new hoodies at \$37 each

VCE VOCATIONAL MAJOR -  
**NUMERACY**

**UNIT 1**

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