

Te whai hua - kia ora

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in schools

Financial mathematics

Dollars and Sense

Teacher support materials

Year 9

Overview

Title	Year 9 financial mathematics: Dollars and Sense
Purpose of this resource	To support students to understand key financial concepts from the financial mathematics sub-strand of the curriculum.
How to use this resource	<p>This resource has been designed to be woven into your teaching programme. The topics and curriculum sub-strand covered will naturally overlap with other parts of the mathematics and statistics learning area.</p> <p>The sections can be taught in any order to supplement other units, see below for more suggestions on this.</p> <p>If you prefer, the resource can be used as a standalone resource for financial mathematics.</p>



What will be covered?

Curriculum Links

Strand: Number

Sub-strand: financial mathematics

Year: 9

Knowledge

Percentages, ratios, rates, and proportions are often applied in financial situations.

Practices

- Apply percentage mark-ups and discounts.
 - Calculate simple interest and GST on dollar amounts (eg finding 15% GST on \$432).
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Other connections to the wider mathematics and statistics learning area

• Number structures and operations:

Knowledge	Practices
<ul style="list-style-type: none">• Percentages are a way of expressing a fraction of 100.	<ul style="list-style-type: none">• Identifying, reading, writing, representing, comparing, ordering, and converting between fractions, decimals, and percentages.• Finding a fraction or percentage of a number.• Finding the whole amount, given a fraction or percentage (e.g. 20% of an amount is 30. What is the original amount?)• Expressing a number as a fraction or percentage of another number.

What's in the student workbook?

Section Layout

Each topic in the main body of the lesson is laid out in the same way:

1. **The learning** – the recapped knowledge and practices relevant to this particular section.
2. **What I need to know** – this is the core vocabulary, explanations and examples needed by the students to attempt the activities, with the teacher demonstrating the particular formula that should be used by learners. Examples are given in the individual sections below.
3. **Giving it a go** – this is where the knowledge and practices will be applied.
4. **Extension** – each section will have an extension task. This task provides a chance to apply the knowledge again, or support for those that need extra extension.

Examples and explanations

Examples are provided and explained in an introduction to each topic and have been designed to help prepare students complete the activities provided.

You may choose to adapt the examples to make them more relatable for your class and can also copy and paste them into another format, eg. PowerPoint, Word doc or Google doc to share with your class.

Please provide the appropriate formula for your students based on their knowledge level and your approach as a teacher. We have not provided specific formulae in the Student Workbook to ensure this does not clash with your own approach, or prior learning undertaken by your students.




Activities

The activities have been:

- Designed to practice maths skills in everyday financial contexts.
- Help students to meet the curriculum knowledge and practice statements for financial mathematics.
- Support learning statements from other sections of the mathematics and statistics learning area.

For each section, an extension activity is provided for those students wanting to learn more and give you extra time for students who may need support.

Run through

Section	Specific teaching notes
1. Getting set-up	Spend some time going through the curriculum statements and get students to think about why this information might be important in every-day life. Students will have an opportunity to reflect on this more if you use the self-assessment tool.
2. Goods, services and tax	<p>It is important that this section comes first so that students can understand the concept of goods and services which is required for other sections.</p> <p> Spend some time brainstorming goods and services in students' everyday lives to consolidate this knowledge.</p> <p>Tax is briefly discussed in this section. If you want to expand on this topic further, there are additional content notes and supplementary learning provided below.</p>
3. Markups and discounts	<p>The two places this knowledge becomes relevant for young people is purchasing and selling.</p> <p> Spend some time getting students to think about how they decide on a price when they sell something. How do they know their efforts are worth it? Are they calculating their time in their costs, or just what they purchased the goods for? This concept connects to the idea of the costs of goods and services learnt in the previous section.</p>
4. Simple interest	<p>It is important for students to understand that they will pay interest on borrowing and earn interest on savings.</p> <p> This can be a good opportunity to talk about money decisions - how to decide when to borrow money, and when it's better to save up for something. You can also explore the different options for borrowing and saving money. These discussions may lead to conversations about interest rates and the reasons why they fluctuate.</p> <p>The simple interest topic prepares students to learn about compound interest in Year 10.</p>
5. Wrapping it up	This is an opportunity to think about how this learning applies to a real-life business. It brings the learning together from each topic and encourages students to reflect on how this could apply to them if they were to start their own business in the future. This activity may challenge their thinking, so some students might need extra support.

Vocabulary

Key concepts have been explained (e.g. markups, discounts) with other essential vocabulary provided.

We recommend spending some time checking the students' knowledge of the key vocabulary before you start each section.


Additional activities have been provided to support the acquisition of the language needed to understand the concepts. Suggestions for vocabulary specific activities are listed below.

Class or group discussions also give students an opportunity reinforce their understanding of key words. A vocabulary list has been provided at the end of this booklet to support this learning.

Suggested activities for familiarising your learners with this vocabulary prior to starting the learning:

1. Get students to create '**word squares**' for some of the more difficult terms. Provide your students with a blank template. Here is an example of a completed word square:

WORD	
Definition (students' own words)	Opposite/antonym
Picture representation	Use the word or a version of the word in a sentence (e.g. School, schools, schooling, schooled).

DEBT	
Money that you owe to someone, to a bank or another lender.	Credit
	Simon worked hard at paying down the debt on his credit card

2. Quizlet

Create a list on *Quizlet* with the key vocabulary provided in this booklet. This can be used for learning or revision in class or at home.

Supplementary resources

Self-assessment

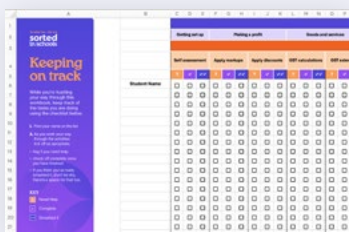


The self-assessment is designed to be used at both the beginning and end of the learning, allowing students to see their progress and document their understanding.

These statements and steps can also be used as a way to:

- Assign learners into diverse learning groups with a range of confidence levels and abilities.
- Utilise as a bus-stop activity or a challenge to complete tasks eg. a station for each step in the self-assessment tool. This could be done individually or in teams.
- Collect evidence as students work their way around the stations completing tasks.

Keeping on track



This document allows students to track their learning as they go and can be used as an excel document or converted to a google sheet.

The teacher can use the tracker to see who requires extra support, who may be able to offer it, and how the class is tracking in general. Columns can be removed or added to customise the learning plan to your class.

Encourage students to categorising themselves as 'smashing it' to support others struggling with a particular task.

Challenge slides



This presentation is intended to be used at the end of the learning or to revisit the learning later.

On each slide is a challenge which is designed to be completed in pairs or teams and can be adapted to suit your individual environment and learners.

Getting to know the content

Age and stage

When teaching young people about money, it is important to consider their age, developmental stage and lived experiences. Ensure there is safety around money conversations and that no assumptions are made, this encourages students to engage in this real-world context for learning.

Below are the six best practices for financial education (with detail) and how they apply to the learning in this financial mathematics unit for Year 9 students.

Is relevant to the lives of students

At this age students may have had experience earning or purchasing. Finding opportunities for them to apply the calculations in this workbook to their own experiences is useful.

Provides the building blocks towards financial wellbeing

Utilising online tools, such as the Sorted tool used in Part 2 of the workbook, provides learners with the opportunity to access tools that are safe and trusted, and return to this information at a later date. Providing opportunities in class to investigate current interest rates for borrowing and savings, ensures that the figures are up to date and that students understand how do this in the future.

Offers practical and varied learning opportunities

The activities in this workbook are set out in a way that repeats similar calculations and problems. Encouraging engagement in the wrapping up activity will allow students to apply this knowledge elsewhere.

Is developed and refined based on research, evidence and evaluation

By using the self-assessment tool, as well as the prior assessment of the mathematics skills required to access this learning, you can target further support or extension. The tracker will also help to support you to manage differing ability levels and speeds of learning in the class.

Prioritises support for educators

The information contained in this section is intended to support you in the safe and effective delivery of mathematics in a financial context. The links to the Sorted guides and tools provide you with up to date and impartial information on topics which may be covered through the course of this learning.

Leverages partnerships for greater impact

Partnering this learning with other learning that is happening in your school or across your mathematics programme will further enhance its effectiveness by boosting its relevance to learners.

These best practices were developed by us Te Ara Ahunga Ora Retirement Commission, and supported by the Ministry of Education and Financial Education Provider Advisory group as part of the Implementing Financial Education – A guide for schools in Aotearoa New Zealand set to be released in 2026

Sorted guides



The following Sorted guides offer relevant, up-to date information on topics which are covered or may be discussed during the learning undertaken in this workbook.

Savings: The learning in this resource covers simple interest with compound interest covered in Year 10. For more information see the following:

How to save your money » Sorted

Invest in term deposits » Sorted

Borrowing: Talking to young people about borrowing can bring up emotions and personal experiences with debt. **Sorted.org.nz** has a large amount of information on different types of debt and borrowing that may be relevant to the lives of your learners. It's important to avoid talking about 'good' and 'bad' debt and instead focus on decision making and the impact of interest.

Help with reducing debt - advice, guides & free tools » Sorted

Having conversations about a side hustle, spending and saving may bring up the idea of earning money from your first job. There is a great Sorted guide with information on these topics:

Your first job » Sorted

Supplementary learning

GST is included in the topic of tax. For more resources related to tax see the following:
Taxation resources | Sorted in Schools

Other financial education resources for Year 9

Sorted in Schools offers a wide suite of financial education resources. Below is a snapshot of some of the activities and resources that may connect to your mahi in class.

Bite-size learning activities:

Bite size learning activities | Sorted in Schools

Starter pack: **Starter Pack for Students - Interactive Activities | Sorted in Schools**

Party planner:

Party Planner - Interactive Activities | Sorted in Schools

Extra bits

Glossary

Account – A place where you keep your money at a bank or online.

Annual – Annual means something that happens every year.

Borrow – To take money from someone for a while and promise to give it back later.

Credit card – A bank card that lets you borrow money from a bank to buy things now and pay for them later.

Debt – Money you need to pay back because you borrowed it or bought something with money you don't have.

Demand – how much people want something and how many people want it.

Deposit – Putting money into your bank account.

Earn – To get money by working or getting interest on savings from the bank

Fortnight – Two weeks (14 days).

Goods – Things you can buy, like food, clothes, or toys.

GST – Goods and services tax.

Interest – Extra money you pay when you borrow money, or extra money you get when you save money in a bank.

Interest rate – The percentage of money you pay extra when you borrow, or earn extra when you save.

Lend – To give someone money for a while and expect them to pay it back.

Purchase – To buy.

Repayment – The minimum amount you have to pay back on money you borrowed.

Risk – The chance that you might not reach your goal.

Saving – Money you keep instead of spending, usually in a bank.

Services – Things people do for you that you pay for, like getting a haircut or fixing your car.

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