

Coin Templates



Money Money Money



An introduction to banking
and money concepts in New Zealand.
For ages 10+



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Teachers' Notes

This book contains a selection of activities that explore the concept of money. It provides an introduction to New Zealand currency (notes and coins) and provides real life examples of how money is used in society.

Background notes for some topics have been provided in the Answers section of this book. More information can be found at the Reserve Bank of New Zealand web site at www.rbnz.govt.nz

Internet References

The Internet is undoubtedly one of the most useful current sources for obtaining up to the minute information. Information such as currency rates and stock exchange tables usually appear on the Internet before newspapers and television and can be updated very quickly.

Web sites have been included both in the Online References section on page 4 and incidentally throughout the book. Students do not need to access the web site to complete the activity page, but it is recommended that they visit the sites to enhance their knowledge of the particular topic.

It also helps to develop students' research skills as they retrieve information about various aspects of money. At the time of publishing, the web site addresses included in this book were accessible. Students can easily reach the nominated sites via the Ready-Ed web site by visiting the address below. Any future changes will also be posted on our web site as they occur at:

www.readyed.com.au/urls/moneyNZ.htm

Page 28 - Currency Converter

Answers will vary.

Page 29 - Using the Stock Exchange

a. \$900; b. i) \$1.87; ii) \$3740; iii) \$340. c. i) 800; ii) \$486.

Page 30 - Taxation 1: Income Tax

Bill	\$204.00	\$34.53	\$169.47	
Rangi	\$210.00	\$35.86	\$174.14	
Freda	\$203.00	\$34.30	\$168.70	
Wally	\$198.00	\$33.19	\$164.81	
Huia	\$195.75	\$32.74	\$163.01	
Sam	\$214.50	\$36.98	\$177.52	
Jenny	\$195.00	\$32.52	\$162.48	
Mick	\$202.50	\$34.30	\$168.20	
Sally	\$204.00	\$34.53	\$169.47	(\$96 @ normal time; \$108 @ time and a half)
Jack	\$206.25	\$35.19	\$171.06	(\$105 @ normal time; \$101.25 @ time and a half)

Page 31 - Taxation 2: The GST

1. Basketball - \$28.15; tennis racquet - \$39.40; Book - \$18; radio - \$96.20; CD - \$27.60; cap - \$19.15; software - \$22.40; school bag - \$25.90; hamburger - \$2.95; comics - \$3.95; dress - \$28.15; bike helmet - \$20.85; sandals - \$23.65; ball-point pen - \$2.70; t-shirt - \$21.95; milk shake - \$1.95; marker - \$13.85; birthday card - \$5.10; scarf - \$16.80; sunglasses - \$32.55; surfboard - \$590.65; television - \$354.40; skateboard - \$163.15; computer - \$984.40.
 Challenge: \$170.

Page 17 - Money in the Bank 2

1. 15; 2. \$257.40; 3. \$250; 4. 9; 5. \$90.05; 6. \$200; 7. \$3.20; 8. \$79.70.

Challenge: Answers will vary.

Page 18 - Calculating Interest 1

1.8% - \$16; 11% - \$22; 7% - \$14; 9% - \$18; 12% - \$24; 15% - \$30; 4.5% - \$9; 6.5% - \$13; 7.5% - \$15.

An Interesting Calculation: It will take 8 years to increase the balance to \$925.00

Year	Balance	Interest	New balance
1	\$500	0.08 x 500 = \$40	\$540
2	\$540	0.08 x 540 = \$43.20	\$583.20
3	\$583.20	0.08 x 583.20 = \$46.67	\$629.86
4	\$629.86	0.08 x 629.86 = \$50.39	\$680.25
5	\$680.25	0.08 x 680.25 = \$54.42	\$734.67
6	\$734.67	0.08 x 734.67 = \$58.77	\$793.44
7	\$793.44	0.08 x 793.44 = \$63.48	\$856.92
8	\$856.92	0.08 x 856.92 = \$68.55	\$925.47

Page 19 - Calculating Interest 2

A. 1. \$9; 2. \$4.05; 3. \$27; 4. \$33.75; 5. \$61.20; 6. \$135. B. 1. \$784; 2. \$50.40; 3. \$408.80; 4. \$3360; 5. \$670.80; 6.

\$2296. C. \$475; \$227.50; \$46.20; \$117.60; \$89.91.

Mixed Problems : 1. 8%; 2. 2 years; 3. 10%; 4. 15%, *Challenge:* a. \$1050; b. 10%.

Page 20 - Using EFTPOS

1. Supermarkets, shopping centres (all kinds of shops), petrol stations, restaurants, hotels, holiday resorts, mechanics, hairdressers, doctor's surgery, chemist, etc.; 2. A PIN is a Personal Identification Number. It is usually a four digit code which you need to memorise; 3. The use of a PIN means that only you can access the money. That means if someone else has access to your card they cannot use it unless they know your PIN. It is wise not to write down your PIN anywhere near your card.

4. Swipe your card in the computer terminal or EFTPOS machine.
 Enter your PIN. Select the account you will be using (cheque, saving, credit).
 Decide if you want extra cash out.
 Get the receipt and/or any extra cash.

EFTPOS Number Problems

1. \$36.15; 2. \$64.95. 3. a. \$15; b. \$45; 4. \$11.

Page 21 - Using ATMs

1. Automatic Teller machine; 2 - 4. Answers will vary.

5. ATMs allow customers to check their account balance, deposit money (cash or cheque), transfer money from one account to another, withdraw money on credit cards, look up the most recent transactions on an account and so on.

An ATM Maths problem: \$5.

Ask Your bank: Students may be able to check online for answers.

Page 22 - Using a Credit Card

Answers will vary.

Page 23 - Cheque It Out 1

Check answers on page.

Page 24 - Cheque It Out 2

Final balance of account = \$38.93

Page 25 - Building a Nest Egg

Daniel turned 15.

1. A) This option will see a return of \$24 273.62 B). The option will return \$23, 840.43

C). If the shares stay the same there will be a return of \$23 355.39.

2. 12c: \$720, 5c: \$300, 19c: \$1140, 45c: \$2700.

3. Daniel will have \$20 355.39 plus \$6900 from the shares making a total of \$27 255.39.

Page 26 - Borrowing Money 1

	1.	2.	3.	4.	5.	6
Interest	\$4080	\$3240	\$5460	\$1320	\$9500	\$6900
Repayments	\$335	\$255	\$540.55	\$305	\$718.75	456.25

Page 27 - Borrowing Money 2

1. a. \$6500; b. \$325. 2. a. \$21750; b. \$6750. 3. a \$5800; b. \$1450. 4. a. \$15 600; b. \$162.50. 5. a. \$63.47. 6. a. \$3588;

b. \$14.5%. *Challenge:* The \$5000 car loan to be paid off in 4 years at 10 % p.a.

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Online References

How New Zealand's Currency Notes Are Made

www.rbnz.govt.nz/currency/index.htm

Counterfeit Detection Guide (See Page 11 of this document)

http://www.rbnz.govt.nz/currency/money/explaining_currency.pdf

Coins and Currency

www.rbnz.govt.nz/currency/index.htm

History of New Zealand Currency

www.rbnz.govt.nz/pamphlet/money1.htm

Universal Currency Converter

www.xe.net/ucc/

New Zealand Bank Notes

www.rbnz.govt.nz/currency/index.htm

The Royal Australian Mint

www.ramint.gov.au/

The British Royal Mint

www.royalmint.com

Australian Notes in Circulation

www.australia-online.com/money.html

World Bank Notes

www.tlwolf.com/

Anatomy of a Bank Note

members.aol.com/GGS1/index.html

New Zealand Inland Revenue - Links to various aspects of taxation

www.ird.govt.nz/menu.htm

New Zealand Stock Exchange

www.nzse.co.nz/

Glossary of Bank Terms

www.stgeorge.com.au/accounts/youth-student-banking/banking-terms-for-kids.asp

Page 9 - The New Zealand \$5 Note

1. Sir Edmund Hillary; 2. Sir Edmund was the conqueror of Mt Everest. 3. Mt Cook. 4. A Massey Ferguson tractor which was the type of tractor used by Hillary in the South Pole. 5. The southernmost of NZ's outlying islands, situated 600 km south-east from Stewart Island. 6. The bird is a yellow eyed penguin. This is one of the world's rarest penguins which can be distinguished by its yellow iris and yellow band of feathers across the back of its head.

Challenge: Sir Edmund Hillary is recognised as NZ's most accomplished explorer. With Tensing he was the first to scale Mt Everest in 1953 and then in 1958 became the first man to drive overland to the South Pole. In recent years he has worked in Tibet to help improve the lives of the people of that country.

Page 10 - The New Zealand \$10 Note

Kate Sheppard (1848 - 1934) is depicted on the front of the NZ \$10 note. She was a prominent campaigner for the vote for women (universal suffrage) at the end of the 19th century. Her efforts were important in New Zealand becoming the first nation in the world to extend voting rights to women in 1893.

The **blue duck** is the bird shown on the reverse of the \$10 note. This endangered species is found in fast flowing river habitats in the river areas of the main mountain ranges of both the North and South Islands.

The **\$10 millennium bank note** is blue in colour. The obverse represents NZ's entry into the digital age and depicts NZ superimposed over the world globe with a canoe as the centrepiece of the note. The reverse shows typical NZ recreational activities such as surfing, skiing, kayaking and skydiving.

Page 11 - The New Zealand \$20 Note

Fact File: The portrait on the front of the note is that of Queen Elizabeth II, Queen of New Zealand. The portrait was taken at Government House, Wellington in 1986 and is the only portrait of the Queen taken outside England that has been approved for reproduction. The medal the Queen is wearing is the Sovereign's badge of the Queen's Service Order which is an order unique to New Zealand. The same picture of the Queen is in the watermark of all New Zealand notes.

The buildings shown are the original Parliament House which was completed in 1922 after construction began in 1912 and the 'Beehive' extension which was begun in 1969 and completed in 1981.

Challenge: Answers will vary.

Page 12 - The New Zealand \$50 Note

Sir Apirana Ngata

Sir Apirana Ngata (1874-1950) was a significant figure in the revival of Maori people and culture in the initial years of the 20th century. He was an outstanding scholar and a leader in the Young Maori Party and was a main driving force behind the resurrection of his own tribal group, Ngati Porou. He was elected to parliament in 1905 and remained there until 1934.

The Porourangi meeting house and Tukutuku pattern shown on the front of the \$50 note were both designed by Sir Apirana Ngata.

The bird depicted on the reverse of the \$50 note is the kokako (blue wattled crow).

Challenge: The largest note is \$100 which measures 155mm x 74mm. The smallest is the \$5 which is 135mm x 66mm.

The advantage of having different sized notes is that partially sighted and blind people are more easily able to distinguish the notes.

Page 13 - The New Zealand \$100 Note

Answers will vary.

Challenge: The Nobel Prize is an international prize for outstanding contributions to chemistry, physics, physiology, medicine, literature, peace and economics which may be awarded annually. Ernest Rutherford, known as the 'father of nuclear physics', was awarded the Nobel Prize for chemistry in 1908.

Page 14 - New Zealand Coins

\$2 - The kotuku (white heron) flying right; \$1 - The kiwi, thus the term Kiwi dollar; 50c - Captain Cook's ship the Endeavour, with Mt Taranaki (Egmont) in the distance; 20c - some older coins show the kiwi, although this has now been replaced by the representation of a Maori carving belonging to the Arawa people; 10c - A Maori carved head or koruru; 5c - A tuatara curled on a coastal rock.

The Royal Canadian Mint

1. Ottawa; 2. January 2, 1908.

Page 15 - Special Edition Coins

Answers will vary.

Page 16 - Money in the Bank 1

Answers will vary. Check glossary at www.qtcu.asn.au/junior.savers/ask.the.teacher/glossary/index.html

Answers

Page 5 - New Zealand Currency History

1. Decimal Currency was introduced, replacing the pounds, shillings and pence of the 'imperial system'. 2. 1c, 2c, 5c, 10, 20c and 50c; 3. \$1, \$2, \$5, \$10, \$20, \$100; 4. They were replaced with coins in 1990 and are no longer in circulation; 5. Amounts are rounded up or down to the nearest 10 cents - e.g. \$2.63 would be rounded down to \$2.60; 6. Answers will vary.

Challenge: July 10, 1967; Mr. Dollar and Miss Cent.

Page 6 - New Notes

Answers will vary.

Outline of sequence of events: *(This information is taken from the Reserve Bank of Australia web site. The information is also available at the Reserve Bank of New Zealand site.)*

1. The Reserve Bank is responsible for the issue of currency notes, and this includes their design. The Bank is assisted by a panel of consultants, as well as suggestions from the public, as to the New Zealand men and women to be portrayed on notes.
2. A design brief is prepared.
3. The designer takes security measures into consideration.
4. The design is completed and shown to the printers to make sure it can be used.
5. Skilled artists and designers begin the process of developing a design around the theme selected and converting it into a currency note.
6. When the note design is complete, printing plates are made.
7. The Notes are printed using polymer substrate and ink. Both sides of the notes are printed at the same time, at speeds of up to 8 000 sheets per hour. The resulting raised print is one of the security features of currency notes.
8. Serial "numbers" are then added to the notes using a letterpress printing process.
9. In a final print run, the notes are given two coats of a protective overcoating ink to protect the printing and help keep the notes clean.
10. The completed sheets of notes are examined for faults.
11. The finished notes are then packaged and stored before being sent to Reserve Bank branches around the country for distribution.

Page 7 - Features of Notes

1. The fern should match with another on the opposite side when the note is held to the light.
2. Security features: Answers will vary - available from web site or see below.

Challenge: Brunei, Kuwait, Papua New Guinea, Thailand, Australia.

Page 8 - Counterfeit Notes

This information is taken from the Reserve Bank of New Zealand web site. (www.rbnz.govt.nz)

1. Each polymer note has two transparent windows. One of the transparent windows is oval-shaped and sloping and has the denomination numerals embossed in it. The other clear window is in the shape of a fern.
 2. There is a fern immediately above the clear fern-shaped window. When you hold the note to the light, the fern should match perfectly with another fern on the other side.
 3. You should easily be able to see a shadow image of Queen Elizabeth II when you hold the note to the light.
 4. Each note has an individual serial number printed horizontally and vertically.
 5. Polymer notes have raised printing, which stands up on the surface and can be felt when you run your fingers over it.
 6. Tiny micro-printed letters "RBNZ" should be visible with a magnifying glass.
 7. Under an ultraviolet light the polymer note appears dull. Most commercial papers used in forgeries will glow under an ultraviolet light. However, polymer notes contain special links, which make particular features glow under an ultraviolet light. For example, the front of each genuine note has a fluorescent patch showing the denomination numerals, which can only be seen under an ultraviolet light.
 8. All images on notes should appear sharp and well-defined, not fuzzy and washed out.
- If a note is suspicious, handle the note as little as possible to preserve other fingerprints. Place it in a protective cover, such as an envelope, and contact the Federal or State police or the Reserve Bank. If you can provide information which ultimately leads to the arrest and conviction of someone engaged in counterfeiting, you may receive a reward.

Spot the real thing:

1. Governor's signature is missing.
2. "Reserve" is spelled "Reverse".
3. The last two digits are missing in the serial number.

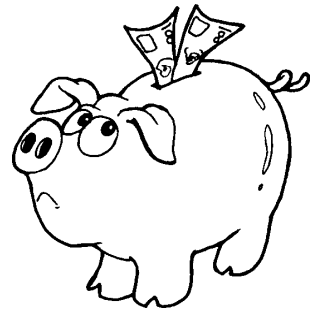
New Zealand Currency History

Before the arrival of the first Europeans in New Zealand the Maori used a system of trading involving items of value such as food and greenstone (pounamu). This practice continued to be used by both Maori and Pakeha until coins became established around the middle of the 19th century. Mostly coins were used, while notes were rare and usually issued by individual banks and usable only when dealing with those banks. While various laws were passed making coins and notes legal, a variety of sizes and designs continued to be used until 1924 when the main banks coordinated size and colour. 1934 saw a central bank established - the Reserve Bank of New Zealand - which was given sole authority to issue bank notes.

Until 1967, pounds, shillings and pence were used as currency. This currency had been in circulation since 1934 when the first series of Reserve Bank of New Zealand notes was issued, based on the old 'imperial' system of twelve pence to a shilling and twenty shillings to a pound.

Research the history of New Zealand currency using your library and the web sites at the bottom of this page.

1. What happened to New Zealand's currency in 1967?
2. What coins were introduced in 1967?
3. What value notes were introduced?
4. What eventually happened to the \$1 and \$2 notes?
5. In 1990, 1 and 2 cent coins were removed from circulation, followed by the 5 cent coin in 2006. A process called 'rounding' occurs when the amount required is not a multiple of 10, e.g. \$2.63? How does this work?



In 1999, paper notes started to be replaced with new notes made from **polymer plastic**. These notes are able to be recycled and last much longer than the previous paper notes.

6. Describe some special features of these notes.

Challenge: Use the Internet or any other available resources to find information on the introduction of the decimal system in 1967. What was the actual date of the changeover to decimal currency?

Two cartoon characters were used to advertise this great change in New Zealand's currency. Who were they?

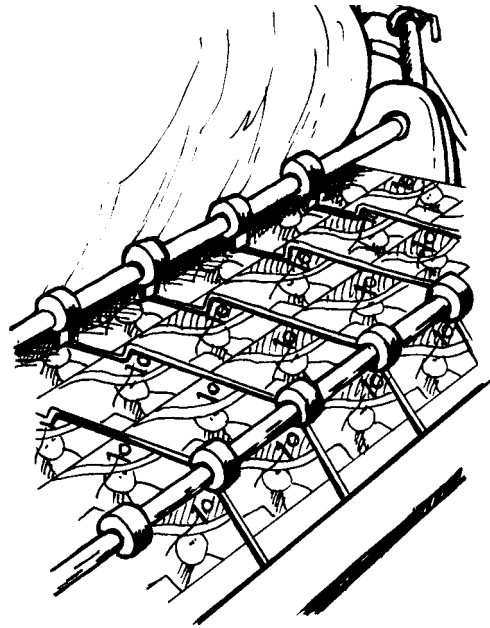
Visit these sites to help you with your research:
www.rbnz.govt.nz/currency/money/0094089.html
www.rbnz.govt.nz/currency/Money/index.html

New Notes

The Reserve Bank of New Zealand is responsible for the issue and design of New Zealand's currency notes. The decisions about the design and theme of the notes, are made by a panel of consultants as well as suggestions from members of the public. Included in the theme are images of New Zealanders who have made an important contribution to our country. Along with their image, other design elements are included that relate to that person's particular achievements.

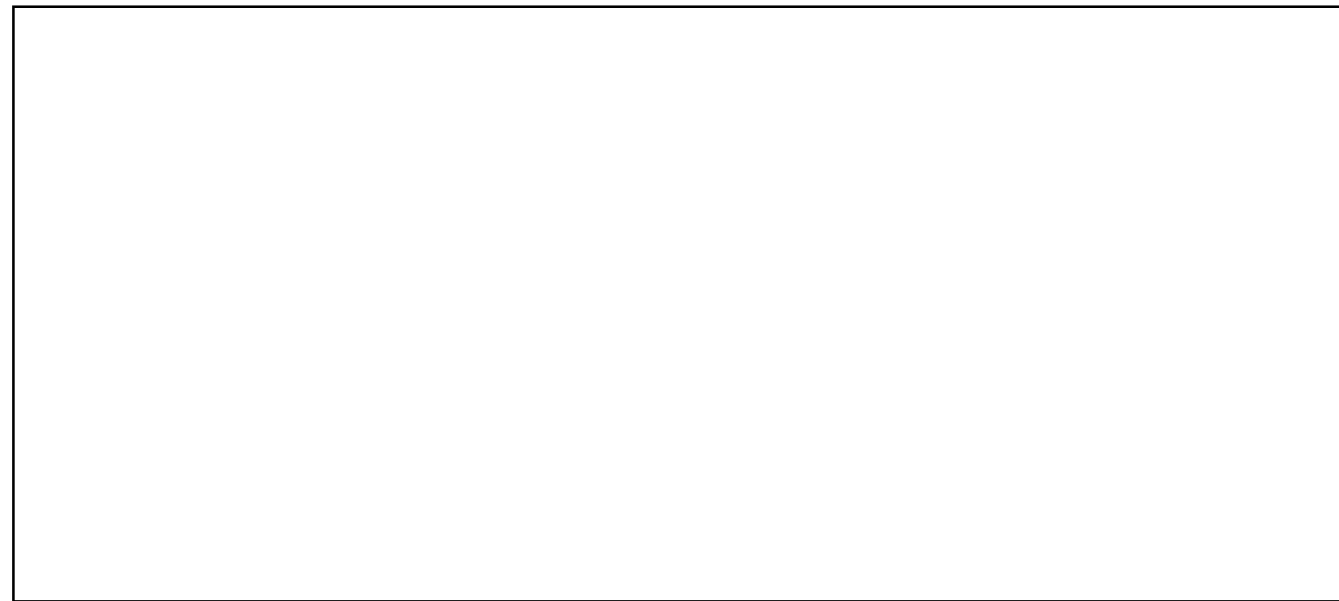
List the sequence of events that lead to the issuing of a new note. Research the process by using materials in your library and relevant web sites.

1.
2.
3.
4.
5.
6.



Note Design

Draw and colour your design of a \$10 bank note in this space. In the space below, describe the theme behind your design and why you have chosen the significant person.

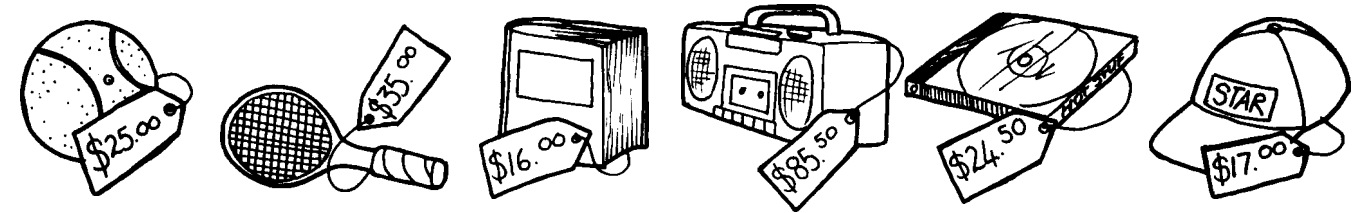


.....

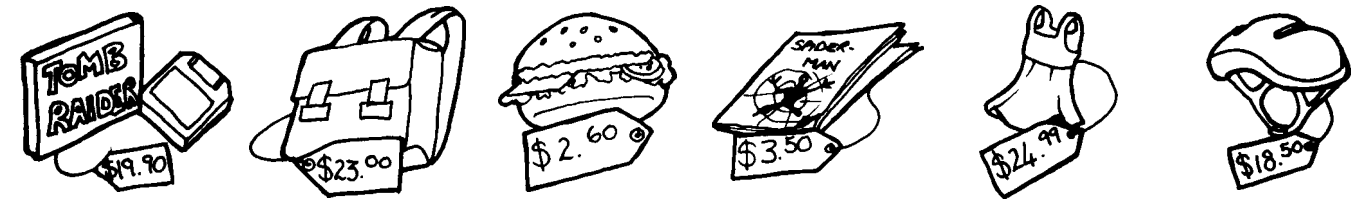
Taxation 2: The GST

The **Goods and Services Tax** is a tax of 12.5% on most goods and services that you buy. The GST, which commenced in 1986, is included in the price you pay.

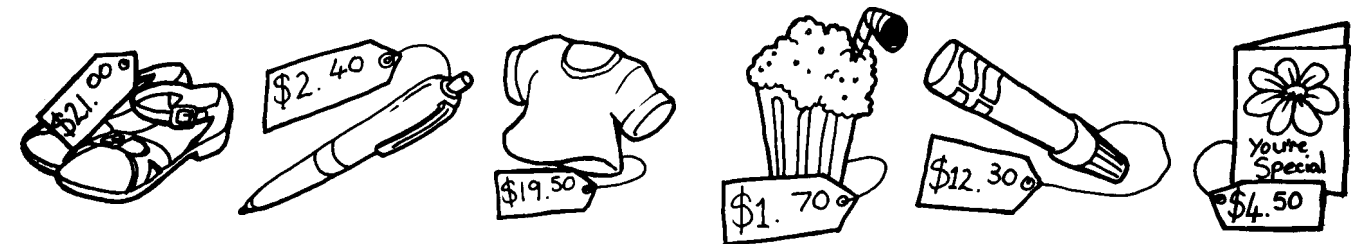
You are a shopkeeper and need to change the wholesale price tags below to include the GST. Write the new price below each item. Round each amount up to the nearest whole 5 cents.



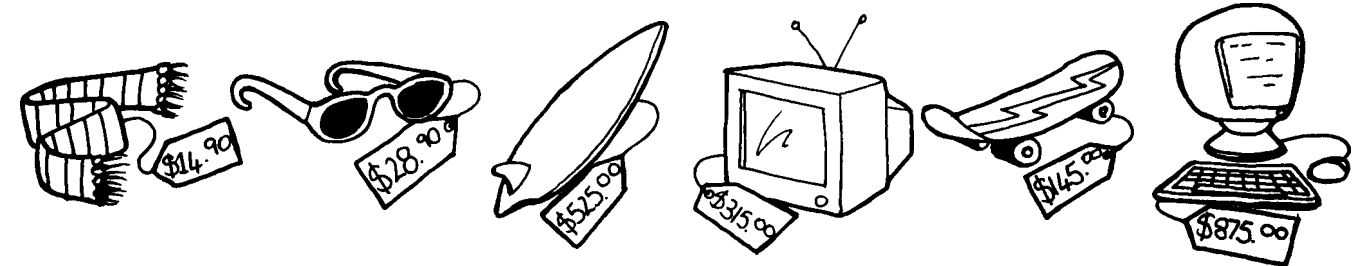
New price is \$28.15



.....



.....



.....

Challenge: The cost of getting the shopping catalogue printed is \$1530.

What amount was included as GST for this service?

Taxation 1: Income Tax

Income tax is a tax paid by all salary and wage earners to the government. Income tax is the government's main way of collecting money to run the country.

The Inland Revenue Department is the government body responsible for administration and collection of taxes. Most wage and salary earners pay income tax on a PAYE (Pay As You Earn) basis - employers deduct tax each pay period and send this on to Inland Revenue each month.

Below is a copy of part of the weekly PAYE Deduction Tables that employers use to work out tax to be paid. The first column shows dollars earned while the second column shows tax to be paid by the worker (taken from the M code column - M = Main source of income).

Earnings \$	Code M	Earnings \$	Code M	Earnings \$	Code M	Earnings \$	Code M
194.00	32.30	200.00	33.63	206.00	34.97	212.00	36.31
195.00	32.52	201.00	33.86	207.00	35.19	213.00	36.53
196.00	32.74	202.00	34.08	208.00	35.42	214.00	36.76
197.00	32.96	203.00	34.30	209.00	35.64	215.00	36.98
198.00	33.19	204.00	34.53	210.00	35.86	216.00	37.20
199.00	33.41	205.00	34.75	211.00	36.09	217.00	37.42

Use the table to work out how much each worker at Beefy's Burgers would earn each week. Calculate the 'gross' (before tax) amount the worker earns, the tax to be paid and then the 'take home' pay. If you have access to the Internet you can do this activity on a payroll calculator by going to www.ird.govt.nz/calculators/keyword/payee/

Worker	Hourly Rate	Hours Worked	Gross Amount	PAYE	Nett After Tax
Bill	\$8.50	24	.....	.....	.....
Rangi	\$7.50	28	.....	.....	.....
Freda	\$7.25	28	.....	.....	.....
Wally	\$8.25	24	.....	.....	.....
Huia	\$7.25	27*	.....	.....	.....
Sam	\$8.25	26*	.....	.....	.....
Jenny	\$7.50	26	.....	.....	.....
Mick	\$8.10	25*	.....	.....	.....

(* Round off dollar and cent amounts to the next dollar for working out tax.)

Some of Beefy's other workers sometimes get paid extra because they work at night. The extra is calculated at the rate of 'time and a half' (1½ times their normal rate). How much would these workers get if they worked these ordinary hours and time and a half hours (shown as 12/6)?

Sally	\$8.00	12/9	.....	.....	.....
Jack	\$7.50	14/9	.....	.....	.....

Features of Notes

Since March, 2000 all New Zealand's bank notes are being made out of **polymer** plastic. Their distinct colours are brighter than the paper notes and the text is more modern and distinct. The polymer notes last four times as long as the paper notes and are also able to be recycled.

Label these features on the note below. You might need to have a look at a real note using a magnifying glass to see the microprinting.

Clear window, serial number, value, portrait, raised printing, microprinting.



The **obverse** side of the note is the front side. It bears the signature of the Governor of the Reserve Bank of New Zealand and also displays the serial number of the note.

The other side of the note is known as the **reverse** side.

Which side of the note is shown here?

.....

Security features

Find out more about the security features of bank notes. Visit this site:

http://members.aol.com/GGS1/Index/Page_1x.html

1. How is a 'fern' used for security of New Zealand polymer notes?

.....

2. Name and describe some other security features:

.....

.....

.....

Challenge: List some other countries that have started using polymer notes.

.....

Counterfeit Notes

Counterfeiting is the act of deliberately reproducing money with the intent of using it in place of real money. It is an offence for a person to be in possession of counterfeit money (knowing it to be counterfeit).

There are several ways to tell if a bank note is counterfeit. Two examples are given. List some other ways below.

◆ - New notes should be printed on **polymer** plastic with a clear window. Counterfeit notes may be thicker or thinner than the polymer note.

◆ - The **microprinting** of the letters "RBNZ" is visible with a magnifying glass.

- ◆ -
- ◆ -
- ◆ -
- ◆ -
- ◆ -
- ◆ -
- ◆ -

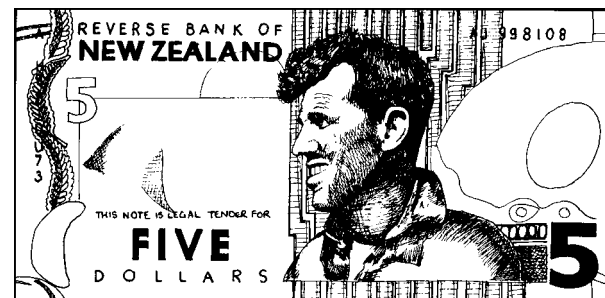
What should you do if you suspect a note is counterfeit?

-
-
-
-
-



Spot the Real Thing

How good is your eye for detail? One of the notes below is missing three key elements. What are they?



For help with your research visit the Counterfeit Detection site shown on page 4.

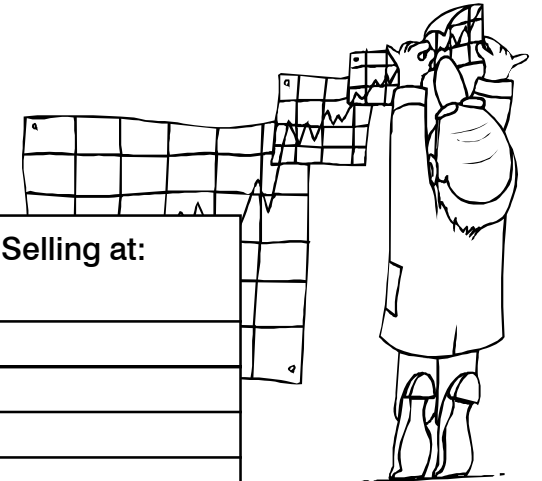
Using the Stock Exchange

Choose a company that is listed in the share market section of the newspaper. Follow the progress of the shares over a two week period. Use the Internet or the newspaper to find out the latest figures.

Record the progress of the shares below.

Name of shares.....

Day	Date	Buying at:	Selling at:
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			



- If you had bought 100 of these shares on the first day what would the value be after the two weeks?
- Would you have made a profit or loss?
- What percentage profit/loss would you have made?

Share Market Problems

- Benjamin bought 300 shares at \$1.25 a share. He later sold them for \$4.25 each. How much money did he make?.....
- Irene bought 2000 shares at \$1.70c each. The shares rose 10%.
 - What were they now worth?
 - If she sold them at this price how much would she receive?.....
 - How much profit would she make?
- Jeremy bought \$360 worth of gold shares when they were worth 45c.
 - How many shares did he have?.....
 - They rose in price by 35%. How much were they now worth?.....

Play the Schools Share Market Game at:
<http://www.asx.com.au/investor/education/games/index.htm>

Currency Converter

Use the newspaper or the Internet to find out the current exchange rates and then calculate how much the following amounts will be?

Try this site: <http://www.xe.com/ucc/> or use your daily newspaper's financial pages.

What is the current value of \$NZ1 in these currencies?

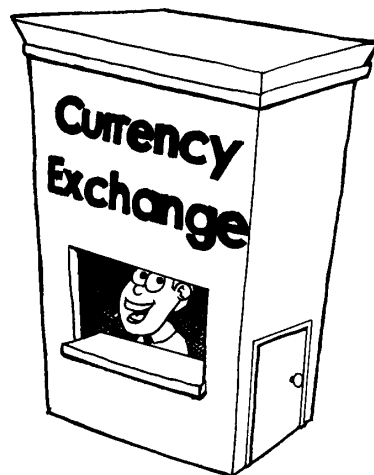
- Canadian Dollars Thai Baht United States Dollars
- Italian Lire Japanese Yen Australian Dollars
- The Euro Indian Rupee Great British Pounds
- French Francs Hong Kong Dollars German Deutsche Marks
- Indonesian Rupiah Spanish Pesetas Singapore Dollars
- Chinese Renmindi Austrian Schillings Danish Croner

Check the newspaper or Internet for the rate of the New Zealand dollar over the next five days. How much of the currencies below would \$100 dollars buy for each day?

	Monday	Tuesday	Wednesday	Thursday	Friday
\$US
£UK
\$AU

What would the \$NZ value be on each of the amounts below according to today's exchange rate.

- 10 000 Indonesian Rupiah? -
- 9000 Euro? -
- 795 US Dollars? -
- 27 000 Italian Lire? -
- 650 Canadian Dollars? -
- \$125 Hong Kong Dollars? -



There are several online currency converters that will help you with your calculations. Check the online references at the front of this book.

The New Zealand \$5 Note

New Zealand converted to decimal currency in 1967 with notes of \$1, \$2, \$5, \$10, \$20 and \$100 denominations to replace the 'imperial' pounds, shillings and pence. The \$5 note is the lowest denomination note now, as \$1 and \$2 notes are represented by coins.



Find answers to these.

1. Which prominent person features on the obverse side of this note?
2. Why was this person chosen to be represented on the \$5 note?
3. What mountain features on this side of the note?
4. What piece of machinery is shown on this side?

Draw the objects named in 3. and 4. in the correct space on the note above.

The reverse side of this note features a scene of Campbell Island.

5. Whereabouts is this island located?
 6. What type of bird is shown in the scene on the reverse of the \$5 note?
- Write some information about this bird

Name the sea plant that is shown on the reverse side of the note

Challenge: The person shown on the obverse (front) of the \$5 note is perhaps the most distinguished New Zealander of his generation. Describe some of his other achievements.

.....

.....

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.....

The New Zealand \$10 Note

The New Zealand \$10 dollar note was released as a polymer plastic version in October, 1999. A special commemorative \$10 millennium bank note was created for the year 2000.



Fact File

There is a prominent New Zealand woman featured on the current \$10 note.

Write notes on the contributions and achievements of this person.

Name:

.....

.....

.....

.....

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Write notes on the bird found on the reverse of the \$10 note.

Name:

.....

.....

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.....

Challenge: Describe the special \$10 millennium bank note mentioned above?

.....

.....

.....

Borrowing Money 2

Use a calculator to help you solve the following problems.

- Natasha bought a second hand car for \$8000. She had a \$1500 deposit and needed to borrow the rest. She wanted to pay the loan off in 2 years.
 - How much did she need to borrow?
 - If the interest rate was 10% how much would the monthly repayments be?
- Huia paid \$15 000 for a new car. Her repayments are \$362.50 per month over 5 years.
 - How much will she repay in total?
 - How much interest will she be paying?
- Damian loaned \$5000 to Steve and he paid the loan back with an interest rate of 8% p.a. over 2 years.
 - What was the total amount repaid to Damian?
 - Steve paid the money back in 4 equal payments. How much was each payment?
- Amelia and Nicola borrowed \$10 000 from the bank to travel around the world. They paid the money back over 4 years at a rate of 14%.
 - What is the total amount they have to repay?
 - What will each girl have to pay each month?
- Irene took out a personal loan of \$3000 to renovate her house. She paid the loan off in one year. The interest rate was set at 10%.

What were her *approximate weekly* repayments?
- Adam bought a new computer and has to pay \$23 a week in repayments over 3 years. The computer cost \$2500.
 - How much does he have to repay in total?
 - How much was the rate of interest for this loan?

Challenge: Which loan involves the most amount of money being borrowed?

A \$5000 car loan to be paid off in 4 years at 10% p.a. or a \$5000 car loan to be paid off in 3 years at 13% p.a.

Borrowing Money 1

Hire Purchase is a form of credit under which a person pays a deposit and makes instalment payments over a certain period of time for a particular item. The buyer is able to take the item immediately, but does not own it until the final instalment has been paid. Interest rates on Hire Purchase agreements are often quite high.

To calculate loan repayments you need to know three things: the interest rate, the duration of time over which the loan will be taken out and the amount of money to be borrowed.

Follow these steps to calculate loan repayments for a \$10 000 loan at 10% p.a. over 3 years:

1. Calculate the interest: $\Rightarrow \text{Amount of loan} \times \text{interest rate} \times \text{number of years}$
 $\Rightarrow \$10\,000 \times 0.10 \times 3 = \3000
2. Add the interest to the amount:
 $\Rightarrow \$10\,000 + \$3000 = \$13\,000$
3. Divide this sum by the number of repayments, e.g. 3 years = 36 monthly repayments
 $\Rightarrow \$13\,000 \div 36 = \361.12

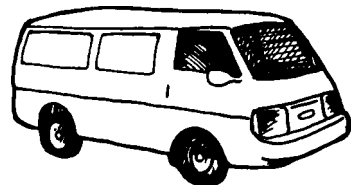
Calculate the loan repayments for the vehicles below using the steps above.



1. \$12 000
at 8.5% interest
over 4 years

Interest:

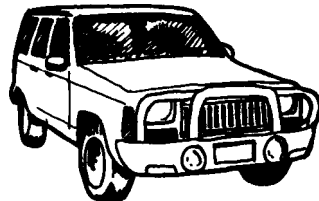
Repayments:



2. \$9000
at 9% interest
over 4 years

Interest:

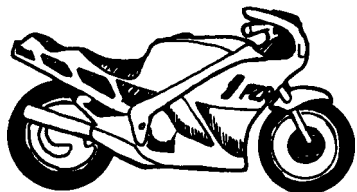
Repayments:



3. \$14 000
at 13% interest
over 3 years

Interest:

Repayments:

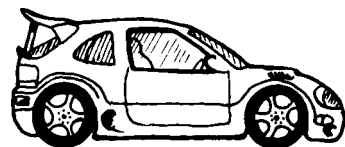


4. \$6000

at 11% interest
over 2 years

Interest:

Repayments:

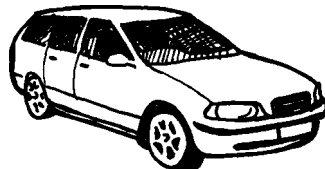


5. \$25 000

at 9.5% interest
over 4 years

Interest:

Repayments:



6. \$15 000

at 11.5% interest
over 4 years

Interest:

Repayments:

The New Zealand \$20 Note

The New Zealand \$20 note was the first to be released in polymer plastic in 1999.



Fact File

There is a portrait of New Zealand's head of state on the front of this note.

Write notes on the portrait and what medal the person is wearing.

Name:

.....

.....

.....

.....

.....

Also on the front of this note is a picture of New Zealand's Parliament House. Write some notes on the history and appearance of this building.

.....

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.....

Challenge: List the four objects that appear on the reverse side of the \$20 note.

- 1 -
- 2 -
- 3 -
- 4 -

The New Zealand \$50 Note

The New Zealand \$50 note was the last note produced in polymer, being released into circulation in March, 2000.



Fact File

Find out the name of the person featured on the obverse side of the \$50 note.

Write notes on the contributions and achievements of this person.

Name:

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The Porourangi meeting house and Tukatuku pattern on the front of the \$50 note have something in common with the person shown on the note. What is this?

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What is the name of the bird depicted on the reverse of this note?

Challenge: What are the largest and smallest (in area) of our notes? Calculate your answers in mm².

Largest is Its size is

Smallest is Its size is

What is the advantage of having notes different sizes?

.....

Building a Nest Egg

On Daniel's first birthday he was given \$1 by his grandparents. For his second birthday they gave him \$2 and every year after they doubled the amount that they had given him the year before. One year on his birthday, he received \$16 384 from his grandparents.



What birthday did he celebrate?.....

Daniel's grandparents stopped the birthday gifts at this age and he decided to choose the best investment for his money so that when he was 18 he would have a solid nest egg. He had three options to choose from:

- A) Invest the money in a 3 year term deposit at 14% interest.
- B) Invest the money for one year at 16% interest and then in a two year fixed deposit at 12% interest.
- C) Spend \$3000 on shares and place the rest in a three year fixed deposit with 15% interest. The shares may increase their value but will not decrease.

1. Work out how much money each option would make if the shares stayed at the same rate. Remember Daniel is investing \$16 384.

To calculate interest for one year on \$200 at 15% p.a.

$\frac{200 \times 15}{100}$	=	\$30
New Total	=	\$230

- A.)
- B.)
- C.)

2. Suppose Daniel decided to invest according to **Option C**. He bought 6000 shares at 50c each. How much would he make on his shares if the value of the shares rose by:

- 12c?
- 5c?
- 19c?
- 45c?

3. If the shares rose by 65c, how much money would Daniel have had altogether on his 18th birthday?

.....

Cheque It Out 2

3. A cheque to a friend for \$15 for a birthday gift. Also \$150 has been deposited into your account. What is the new balance?
.....

No. 0281246 _____/_____/20	BANK OF THE WORLD Highgate Branch	_____/_____/20
To:		
For:	PAY _____ or bearer	
Balance:	THE SUM OF _____ \$ _____	
This Cheque:		
Deposit:		
New Balance: .....	||0281246*083*453 1841932***	

4. A cash cheque for \$53.37 which you intend to cash at the nearest bank.

No. 0281247 _____/_____/20	BANK OF THE WORLD Highgate Branch	_____/_____/20
To:		
For:	PAY _____ or bearer	
Balance:	THE SUM OF _____ \$ _____	
This Cheque:		
Deposit:		
New Balance: .....	||0281247*083*453 1841932***	

5. A cheque for \$9.20 for stamps bought at New Zealand Post.

No. 0281248 _____/_____/20	BANK OF THE WORLD Highgate Branch	_____/_____/20
To:		
For:	PAY _____ or bearer	
Balance:	THE SUM OF _____ \$ _____	
This Cheque:		
Deposit:		
New Balance: .....	||0281248*083*453 1841932***	

6. A cheque to 'The All-Sports Sport Store' for \$19.50 for a new basketball.

No. 0281249 _____/_____/20	BANK OF THE WORLD Highgate Branch	_____/_____/20
To:		
For:	PAY _____ or bearer	
Balance:	THE SUM OF _____ \$ _____	
This Cheque:		
Deposit:		
New Balance: .....	||0281249*083*453 1841932***	

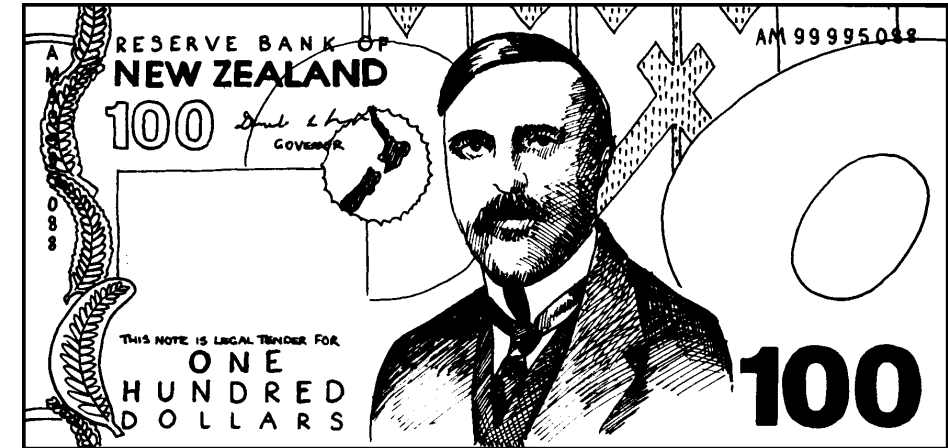
7. A cheque to Mason's Mechanics for bicycle repairs costing \$69.

What is the balance of your cheque account?
.....

No. 0281250 _____/_____/20	BANK OF THE WORLD Highgate Branch	_____/_____/20
To:		
For:	PAY _____ or bearer	
Balance:	THE SUM OF _____ \$ _____	
This Cheque:		
Deposit:		
New Balance: .....	||0281250*083*453 1841932***	

The New Zealand \$100 Note

The \$100 note is the largest denomination note and has been in circulation since 1967, with the polymer version released in July, 1999.



Biography

Look up information about the famous New Zealander shown on the \$100 note and complete the following.

Name:

Date of Birth: Date of Death:

Born at:

Lived at:

Achievements and significant events:

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Challenge: The person on the \$100 note won the Nobel Prize for his efforts. What is this and why did this person receive it?

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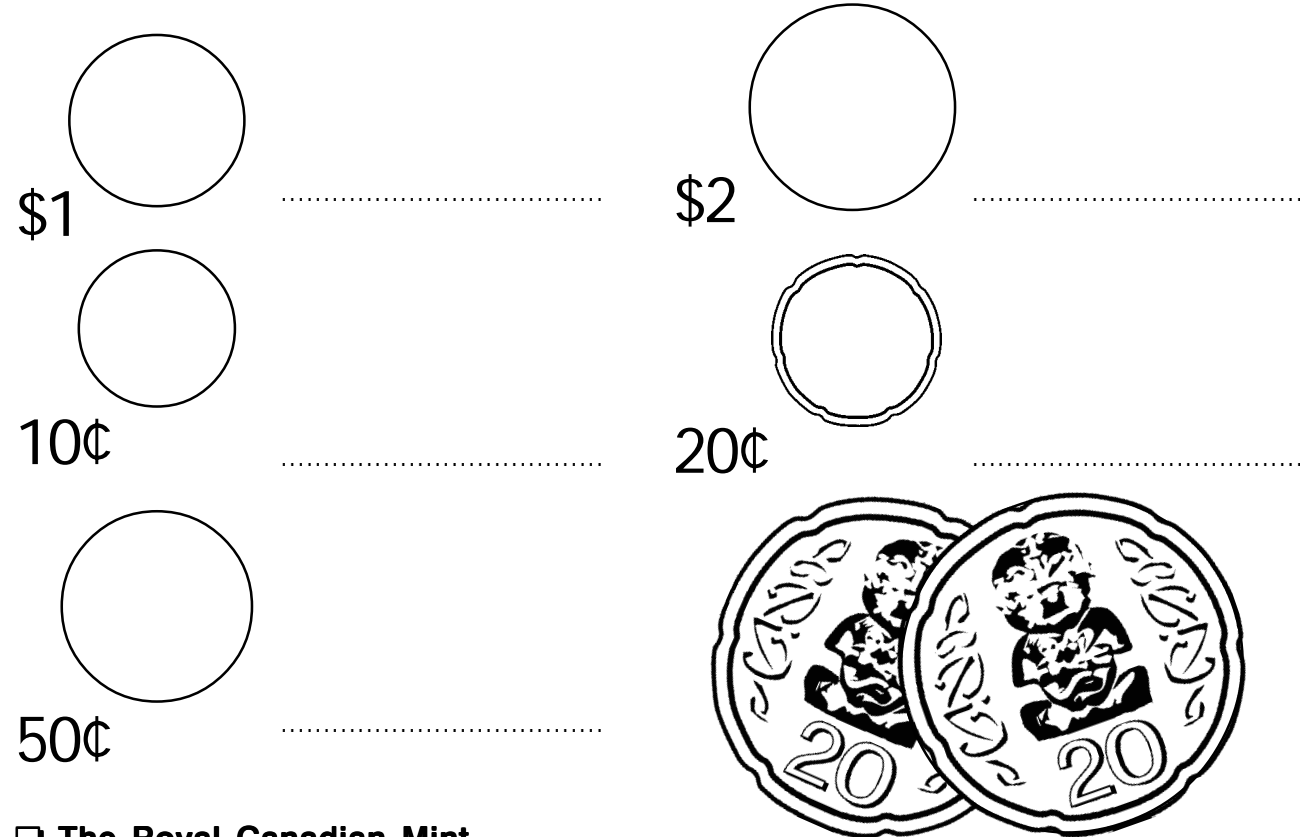
.....

.....

New Zealand Coins

The *obverse* side of all New Zealand decimal coins features the image of Queen Elizabeth II. It also states the year that the coin was minted. In 1967, the first decimal currency coins were minted and they changed little until 2006 when major changes were made. The 5 cent coin was removed from circulation and the existing 50, 20 and 10 cent coins were made smaller. The gold-coloured Kiwi dollar and \$2 coin were introduced in 1991 and replaced the \$1 and \$2 notes.

- What is depicted on the *reverse* side of each of the coins below?
Make a rubbing of each coin in its correct shape.



The Royal Canadian Mint

New Zealand's coins are presently made at the Royal Canadian Mint although the Royal Mint in England has been used to produce our coins at various times. Look at this website for information about the Royal Canadian Mint:

http://en.wikipedia.org/wiki/Royal_Canadian_Mint

- Where is the Royal Canadian Mint located?
- When was the mint officially opened?

The Royal Australian Mint

This mint also produces coins and has, at times, minted the New Zealand coins. Visit this website to find out how coins are made:

www.ramint.gov.au/making_coins/

On a separate piece of paper (or the back of this sheet) describe what these terms mean when applied to the manufacture of coins: (Use the website above to help you.)

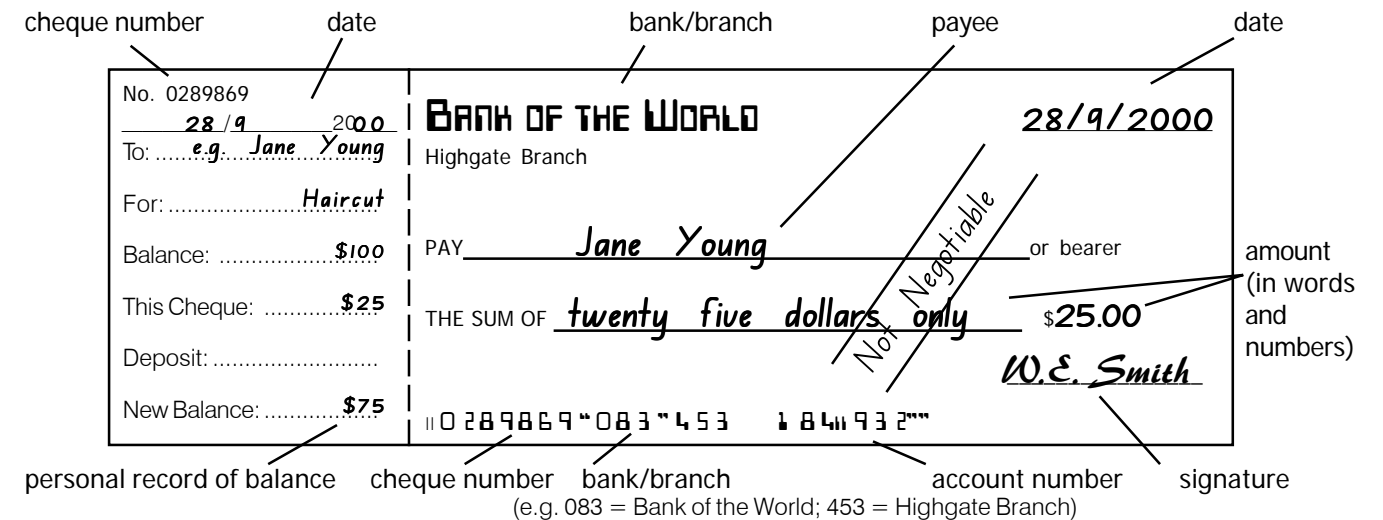
- dies
- blanks
- rimming
- annealing
- coining
- bagging
- burnishing

Cheque It Out 1

Sometimes it is not convenient to use dollars and notes for money. For example, it is not wise to send money through the post. Instead a cheque can be used.

People can write a cheque and send it through the post. It is basically an instruction for their bank to pay the person or business whose name appears on the cheque. Cheques can be used in most places instead of cash. A cheque book is usually supplied by the bank.

These items appear on most cheques:



Usually **Not Negotiable** is written across the cheque which means that it must be deposited in a bank account and only the person whose name is on the cheque (the payee) is able to cash it.

An **open** cheque (one that is not crossed Not Negotiable) can be cashed by anyone presenting the cheque.

- Complete these cheques and cheque butts using the details given. Your current balance is \$250.

1. A cheque for \$127 for school books at Book World Limited.

No. 0281244	BANK OF THE WORLD	____/____/20____
____/____/20____	Highgate Branch	
To:		
For:	PAY _____	or bearer
Balance: \$250.00	THE SUM OF _____	\$ _____
This Cheque:		
Deposit:		
New Balance: .....	|| 0 28 1 244 * 083 * 453 1 841 93 2***	

2. A cheque for \$68 for a computer game at Computers 'R' Us.

No. 0281245	BANK OF THE WORLD	____/____/20____
____/____/20____	Highgate Branch	
To:		
For:	PAY _____	or bearer
Balance:	THE SUM OF _____	\$ _____
This Cheque:		
Deposit:		
New Balance: .....	|| 0 28 1 245 * 083 * 453 1 841 93 2***	

Using a Credit Card

Most banks and credit unions offer *credit cards*, which are cards used to access funds which your bank has loaned to you, with a promise that you will pay them back.

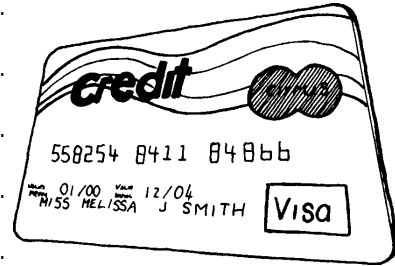
Examples of credit cards include Master Card, Visa and American Express. They have a credit limit on them so that you can only draw as much money as they will allow. Credit limits vary depending on the type of card and how often you are able to pay the money back. Most cards need a monthly repayment to be paid into the account.

1. List some places where you would be able to use a credit card?

.....
.....
.....

2. How is a credit card used to make a purchase?

.....
.....
.....



3. What could happen if a credit card is stolen or lost?

.....
.....

4. What precautions can you take to make sure no one uses your credit card if this happens?

.....
.....



Research

Is it safe to send your credit card number over the Internet?

Why/Why not?

.....
.....

How is this different from giving out your credit card number on the telephone?

.....
.....

Special Edition Coins

The Reserve Bank of New Zealand provides a service to coin collectors by issuing a variety of coins and note products for use by collectors and dealers. All of this currency is legal tender.

Use the website www.rbnz.govt.nz/currency or information from the Reserve Bank to explain one of these recent special edition sets:

2000 Millennium Set; Wellington City issue; Morepork range; Pride in New Zealand range; 1998 Benz Motor Car issue; 1999 City of Dunedin issue.

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Be the Designer

Design your own special edition coins in the box below. Create your own outlines and include a set of six coins. Discuss the theme of your design and the purpose of the special set.

Name of series:

This set of coins will be released to celebrate

The theme/design:

.....
.....

Money in the Bank 1

If you have a savings account, your bank or credit union will send you a statement in the mail. A statement is a list of all of the deposits, withdrawals and transfers that have taken place over that month on your account, whether they are savings or loans accounts.

You can check to see if your receipts that you receive from ATMs and EFTPOS add up to the balance on your statement.

Find out what these bank terms mean. You may like to use the site below to help you.

www.stgeorge.com.au/accounts/youth-student-banking/banking-terms-for-kids.asp

(If you don't have access to the Internet a dictionary will be a useful aid.)

account balance:

savings:

card:

interest:

credit:

funds:

transaction:

withdrawal:

loan:

deposit:

transfer:

teller:

cheque:

clearance:

Which Account?

Describe some different types of accounts that are available at most banks.

.....
.....
.....
.....
.....
.....
.....

Using ATMs

ATMs are found everywhere and you can even use your card in ATMs overseas. Like EFTPOS machines, they allow you to take money out without having to go inside a bank.

Answer these questions.

1. What does ATM stand for?

2. From your house, where is the nearest ATM that you can use?

3. Where are ATMs usually located?

4. What do you need to do to access your savings at an ATM?

.....

5. ATMs do more than just dispense cash. Describe some other actions you can do using an ATM.

.....
.....
.....
.....
.....
.....
.....
.....



An ATM Maths Problem

At 9.00 am Ruby went to an ATM and made a withdrawal from her savings account for \$20. She then went shopping and spent this \$20 as well as going to another ATM to withdraw another \$20. She used EFTPOS to buy some clothes for \$45 in another shop, and then on the way home she transferred \$80 from her loan account to her savings account at an ATM.

What was the difference between the balance of the savings account at 9.00 am and the final balance at the end of the day?.....

Ask Your Bank

Some banks charge a fee for using ATMs and generally it is cheaper to use EFTPOS to access your savings rather than an ATM.

How much does your bank charge for an ATM transaction?

What does an EFTPOS transaction cost?

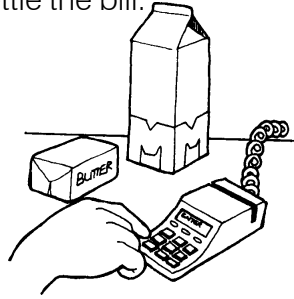
Are there any transactions that you can make free of charge?

Is there a fee for using an ATM from another bank rather than the one that your account is with?

For detailed information on how ATM machines work, check out this site:
www.howstuffworks.com/atm.htm

Using EFTPOS

EFT is a method of transferring funds automatically from one account to another by electronic means. EFTPOS (**electronic funds transfer at point of sale**) allows the automatic transfer of money from the customer to the shopkeeper at the time of sale. For example, a customer inserts a plastic card into a point-of-sale computer terminal in a supermarket, and telephone lines are used to make an automatic debit from the customer's bank account to settle the bill.



1. List the range of places where you can use EFTPOS.

2. What is a PIN?

3. Why is a PIN necessary to make a transaction?

4. Write the steps involved in using EFTPOS in a shop.

.....

.....

.....

.....

EFTPOS Number Problems

1. Kelli has bought some items in the supermarket. Her bill comes to \$13.85. She also needs some extra cash out. She asks the shop assistant to take the bill from \$50. How much cash will Kelli receive after the bill has been deducted?
.....

2. Rangi wanted to buy a CD at a record shop. The price of the CD is \$24.95. He also needed an extra \$40 cash out. What will the total amount be that needs to be transferred using his key card?
.....

3. Max spent \$10 on petrol and used his card to pay for the account. He also asked for \$20 cash out. He then went to a clothing shop and bought a shirt for \$35. He needed to use his card to pay the extra amount he needed for the shirt.

a. How much extra cash did he need to transfer using EFTPOS?

b. What was the total amount that Max spent at the petrol station and clothing shop?

4. Katherine's bank allows her to make ten free EFTPOS transactions in a month. After that each transaction costs 50c. For the month of September, she works out that she made nine transactions in the first week, seven transactions in the second week and eight transactions in the following weeks. How much will the bank charge her for that month?
.....

For more on EFTPOS visit this site:
www.stgeorge.com.au/accounts/youth-student-banking/banking-terms-for-kids.asp

Money in the Bank 2

Study the bank statement below. It shows all the transactions made in the month of April. Use the information provided in the statement to answer the questions below.

Date	Transaction	Credit	Debit	Balance
April 1	EFTPOS purchase: Newsagent		\$10.50	\$80.00
April 2	ATM withdrawal		\$20.00	\$60.00
April 5	ATM deposit	\$50		\$110.00
April 10	EFTPOS purchase: Petrol		\$15.00	\$95.00
April 12	EFTPOS purchase: Supermarket		\$12.00	\$83.00
April 12	EFTPOS purchase: Clothing		\$25.00	\$58.00
April 17	ATM withdrawal		\$20.00	\$38.00
April 19	EFTPOS purchase: CD store		\$18.05	\$19.95
April 21	ATM Deposit	\$50		\$69.95
April 22	EFTPOS purchase: Adventure World		\$15.00	\$54.95
April 24	EFTPOS purchase: Restaurant		\$50.00	\$4.95
April 25	ATM Cheque deposit	\$150		\$154.95
April 27	EFTPOS purchase: Supermarket		\$24.55	\$130.40
April 26	EFTPOS purchase: Clothing		\$27.50	\$102.90
April 29	ATM withdrawal		\$20.00	\$82.90
April 30	Transaction Fee		.....	.....

1. What was the total number of transactions that were made?

2. What was the total amount **debited** from the account?

3. What was the total amount **credited** to the account?

4. How many EFTPOS transactions were made?

5. How much money was withdrawn between April 4th and April 20th?

6. How much money was deposited between April 19th and April 27th?

7. You have found that the bank allows eight free transactions per month. After that each EFTPOS transaction costs 35 cents and each ATM transaction costs 60 cents.

Calculate how much the bank will charge in transaction fees for this month.

8. What is the new account balance?

Challenge:
Find out what other fees and charges are added to your account. Describe them below:
.....
.....

Calculating Interest 1

Interest is the amount paid for the use of funds in your account.

In terms of savings, interest helps you earn more money over a period of time. In terms of loans and money you owe, it helps other people, such as banks with whom you might have a loan, earn more money.

Interest is paid as a percentage of the amount of savings you have in your account.

E.g. A savings account might pay 10% interest per annum (yearly). This means if you have \$100 in the account, the interest you will receive will be 10% of \$100. Therefore your interest will be \$10 which will increase the balance of your account to \$110.

Another way of working out the interest is to change it to a decimal.

10% = 0.1, so 0.1 x 100 = 10.

Use a calculator to find the interest on \$200 if the rate is:

- | | | |
|----------------|----------------|----------------|
| 8% p.a. | 11% p.a. | 7% p.a. |
| 9% p.a. | 12% p.a. | 15% p.a. |
| 4.5% p.a. | 6.5% p.a. | 7.5% p.a. |

An Interesting Calculation

Joshua has \$500 in the bank and wants to increase it to \$900 without depositing any money. The interest is calculated yearly at a rate of 8% p.a. Use a calculator and the table below to work out how many years this will take. *Hint - round your calculations to the nearest cent.*

Year	Balance	Interest (8%)	New balance
1	\$500	0.08 x 500 = \$40	\$540
2	\$540	0.08 x 540 = \$43.20	

Calculating Interest 2

Use a calculator to help you with these.

A. Calculate the interest made on these amounts if the interest rate is 9% p.a.

- | | | | | | |
|----------|---------|----------|----------|----------|-----------|
| 1. \$100 | 2. \$45 | 3. \$300 | 6. \$375 | 5. \$680 | 6. \$1500 |
| | | | | | |

B. What will the total amount be if 12% interest is paid to the following amounts?

- | | | | | | |
|----------|---------|----------|-----------|----------|-----------|
| 1. \$700 | 2. \$45 | 3. \$365 | 4. \$3000 | 5. \$599 | 6. \$2050 |
| | | | | | |

C. Calculate the interest made on these amounts after one year.

- \$5000 at 9.5% p.a.
- \$3500 at 6.5% p.a.
- \$420 at 11% p.a.
- \$735 at 16% p.a.
- \$999 at 9% p.a.



Mixed Problems

- Heather put \$500 into a fixed term deposit. After one year the interest had brought the total up to \$540. What was the interest rate set at?
.....
- Hika has \$3000 saved in the bank. He wants to bring this total to \$3250 so that he can buy a computer. The interest rate on his account is 4.5% p.a. How long will it be before he has enough money?
.....
- Rebecca was paid \$200 interest on her deposit of \$2000. What must be the interest rate for this account?
.....
- Ruia borrowed \$4000 from a bank. At the end of 12 months she had repaid \$4600. What was the percentage rate of interest over the 12 months?
.....

Challenge: Simon took out a car loan for \$3500 and paid back 36 monthly repayments adding up to a total of \$4550. He wanted to know:

- How much in interest did he pay?.....
- What was the interest rate set at?.....

Hint: Remember interest is calculated yearly.

