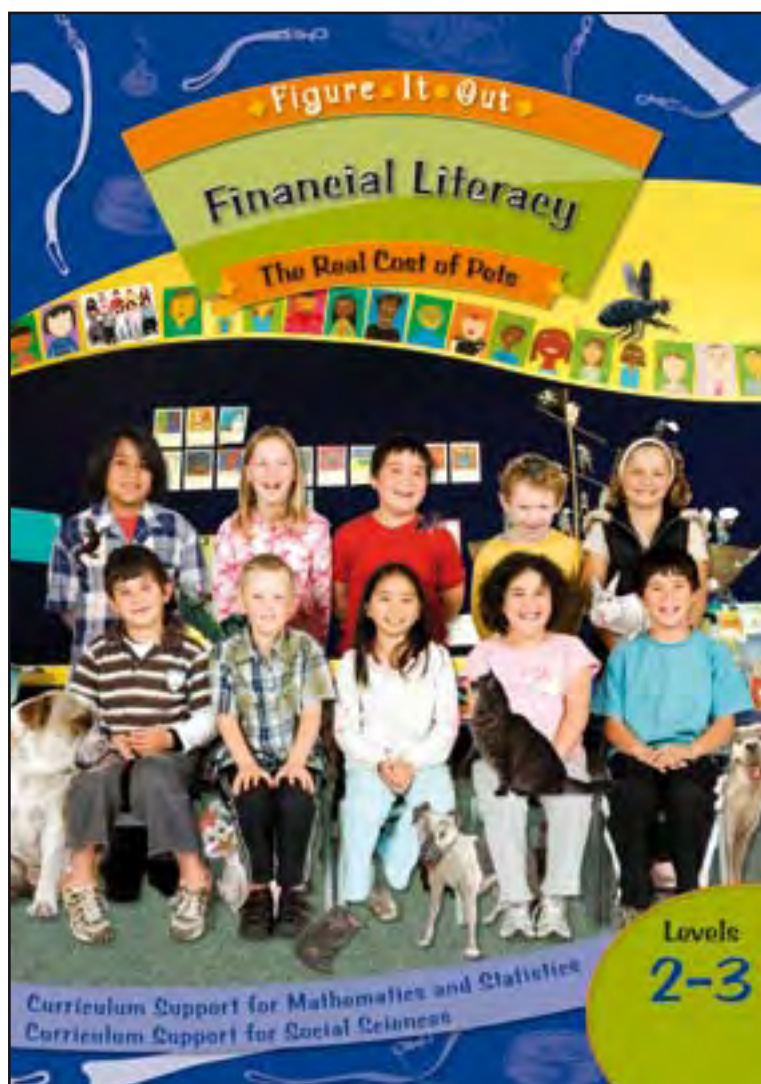


Answers and Teachers' Notes



Contents

Introduction to Financial Literacy	2
Answers	5
Teachers' Notes	11
Copymasters	35

Introduction to Financial Literacy

The Figure It Out *Financial Literacy* books provide teachers with valuable classroom resources that will support and enhance the delivery of the New Zealand Curriculum (2007).

The books introduce students to real-life scenarios that require financial understanding. The main characters, their peers, and their families face a range of choices involving money, and they model financial competency in their approach to setting goals and making decisions. The characters have some great ideas, and they apply enterprising thinking and processes when making their ideas happen. During the activities, students will see enterprising attributes in action and, while doing so, will gain understandings of economic and financial ideas that will support their evaluations of, or recommendations for, the decisions that the characters need to make. Students will learn that making good financial decisions is trickier than it may at first seem.

Many of the activities in the books are cross-curricular, using mathematics and statistics concepts alongside those of social sciences and other learning areas such as English, technology, and health and physical education. The activities provide opportunities for students to exercise skills, such as those involved in statistical literacy, and learn about the processes and understandings covered in the curriculum. The characters, in thinking about and applying enterprising skills and attributes to their situation, also demonstrate the range of key competencies outlined on pages 12–13 of *The New Zealand Curriculum*.

Learning areas

The New Zealand Curriculum identifies learning areas that describe what the students will come to know and do.

Future-focused issues are a rich source of learning opportunities. They encourage the making of connections across the learning areas, values, and key competencies, and they are relevant to students' futures. Issues embedded in the Figure It Out *Financial Literacy* books include:

- sustainability – exploring the long-term impact of social, cultural, scientific, technological, economic, or political practices on society and the environment;
- citizenship – exploring what it means to be a citizen and to contribute to the development and well-being of society;
- enterprise – exploring what it is to be innovative and entrepreneurial.

Learning areas also offer opportunities to:

- develop students' knowledge and understandings in relation to economic shifts of the day;
- develop students' financial capability, positioning them to make well-informed financial decisions throughout their lives.

See *The New Zealand Curriculum*, page 39

Enterprising attributes

The Ministry of Education has devised fifteen enterprising attributes that link to the key competencies for its Education for Enterprise initiative. They engage students in processes that are important for personal and business success. In the Figure It Out *Financial Literacy* books, students can see these attributes in action. The attributes are:

Thinking:

- generating, identifying, and assessing opportunities
- identifying, assessing, and managing risks
- generating and using creative ideas and processes
- identifying, solving, and preventing problems
- monitoring and evaluating

Managing self:

- matching personal goals and capabilities to an undertaking
- using initiative and drive

Relating to others:

- working with others and in teams
- negotiating and influencing
- being fair and responsible

Participating and contributing:

- identifying, recruiting, and managing resources
- being flexible and dealing with change
- planning and organising

Using language, symbols, and text:

- collecting, organising, and analysing information
- communicating and receiving ideas and information.

These attributes represent many of the competencies that the business community is now expecting from new employees, and they are characteristics that students need to practise to be successful in their own lives. As your students work through the Figure It Out financial literacy activities, you could challenge them to find examples of where these enterprising attributes have been applied by the characters. They could also consider how the application of these could benefit themselves, their family, and their community.

The Figure It Out *Financial Literacy* books will inspire students to look for their own opportunities, challenging them to apply the same enterprising attributes that the characters in the series demonstrate. The Ministry of Education's set of enterprising attributes for its Education for Enterprise initiative can be found at www.tki.org.nz/r/education_for_enterprise/index_e.php

Financial understanding

From an early age, students begin to understand some of the characteristics of money, which include:

- it can be used to buy what we might want or need
- we can save it for use at a later date (financial goals are important)
- we never seem to have enough of it to get what we want!
- parents often expect their children to earn their pocket money by doing chores around the house or in the neighbourhood.

These and other characteristics of money are all important financial mindsets for young people to acquire while still at school. The activities in the Figure It Out *Financial Literacy* books expose students to many of these mindsets.

Many students like to role-model the actions of parents, caregivers, or others in their community, and in doing so, they learn about how our households and communities are organised and run. One of the aims of the Figure It Out *Financial Literacy* books is to inspire students to become enterprising in their own lives and to help them to plan wisely, earn income, and manage the financial side of their lives.

Key financial messages for students

- We need to be financially responsible.
- Our personal goals influence how financially successful we are.
- Our financial decisions determine how “well off” we are now and in the future.
- We may make different financial decisions from those made by someone else because we have different preferences or circumstances.

- Financial planning is important for personal and business financial success.
- We need to consider risk before we make a financial decision.
- We can spend now, save and spend later, or invest our savings.
- The law guides us to make legitimate financial decisions.
- There is a consequence for each financial decision we make; a good financial decision brings benefits.

Number Framework stages (Numeracy Development Projects [NDP])

The Number Framework Links section for the activities in this book refers to the stages of the Number Framework that are appropriate for the activity.

The relevant stages are:

Stages 2–3: Counting from one

Stage 4: Advanced counting

Stage 5: Early additive

Stage 6: Advanced additive–early multiplicative.

NDP material

Many of the NDP resource books include activities and teaching material for the skills that students need for this Figure It Out book. The books referred to in these notes are:

Book 5: Teaching Addition, Subtraction, and Place Value

Book 6: Teaching Multiplication and Division: Revised Edition 2007: Draft

FIO pages	NDP book	NDP pages	Content/Activity name
6–7	5	38, 42, 43, 46	Tidy numbers, including easy combinations with large numbers: Equal Additions, Three or More at a Time, A Standard Written Form for Addition, Mental or Written?
8	5	42, 43, 46	Related advanced additive activities: Three or More at a Time, A Standard Written Form for Addition, Mental or Written?
9–11	6	52	Help for students at stage 6 on selecting wisely from available strategies: Multiplication Smorgasbord
12–13	6	30, 38, 54, 57, 63, 67	Multiplying Tens; dividing/sharing by using multiplication: Goesintas; division concepts: Proportional Packets; changing division problems to make them easier: The Royal Cooking Lessons; learning the algorithmic form for multiplication and division: Paper Power; learning to multiply multi-digit numbers: Cross-Products
20–21	6	30	For stages 5–6 support: Multiplying Tens
	5	36, 42, 43, 46	For stage 6 support, adding tens, then ones: Problems like $37 + \square = 79$; finding easy combinations: Three or More at a Time, A Standard Written Form for Addition, Mental or Written?
22–23	5	33, 34, 42, 43	For stages 5–6 support: Jumping the Number Line; Don't Subtract – Add! For stage 6 support, finding easy combinations: Three or More at a Time, A Standard Written Form for Addition
24–25	6	21, 34, 32	For stages 4–5 support, multiplying in twos: Twos, Fives, and Tens For stages 5–6 support, rearranging the order of numbers to solve problems more easily: Turn Abouts; using compensation: A Little Bit More/A Little Bit Less
26–28	5	36	For stage 6 support, adding tens, then ones: Problems like $37 + \square = 79$

Figure It Out

Financial Literacy

Levels 2-3

The Real Cost of Pets

Answers

Pages 1-5: Can You Afford a Pet?

Setting the Scene: Class discussion

Discussion will vary. For example:

- You may realise that it costs animal shelters a lot of money to look after abandoned animals and to find homes for them.
- Small puppies don't eat much, but they grow very fast and are always hungry.
- Some people abandon kittens because they don't want the hassle of looking after them or finding new homes for them and they don't want to (or can't afford to) pay the costs involved in feeding them as they grow.
- Rabbits need a hutch, food, and looking after.

Activity One

1. a. Practical activity. The words and their definitions are:

Needs	Items you must have
Decision	Selecting a choice
Income	Money you earn from work or other sources
Consequences	What happens because of a decision you make
Wants	What you'd like to have but don't really need
Trade-off	What you are prepared to give up to get what you want (opportunity cost)
Budget	A plan showing where your income will come from and where you think it will go
Choices	Options you have before making a decision

Debt	What you owe other people or organisations
Savings	Money you put away (for example, in the bank) for use at a later time
Profit	The money you make after you have paid for all your costs
Spending	Paying for goods or services
Costs	Expenses involved in setting up or running a business or an enterprise
Goals	What you want to achieve
Loan	Money that you borrow and have to pay back
Affordability	Having enough money to pay for the goods or services you decide to buy

- b. Discussion will vary.

2. Practical activity. See the chart for question 1a.

Activity Two

- Discussion will vary.
- Choices may vary. (It's a good idea to check your choices against those of other classmates to see if you are on the right track because you will need to use items under these headings later. Some choices may fit under more than one colour.)

Activity Three

- Discussion will vary. Possible answers include:
 - Wants, budget, costs, spending, decision, goals
 - Trade-off, income, affordability
 - Income, costs, budget, spending, decision, consequences
 - Decision, choices, consequences, wants, affordability, trade-off

2. Discussion will vary.

Investigation One

Answers will vary.

Investigation Two

Discussion and outcomes will vary.

Reflective questions

- Discussion will vary. Some people don't want to have pets because of the money it costs, their lifestyle (if they go away a lot), or health reasons (allergies). Some people really love animals and want as many pets as they can afford. This usually means making decisions about other things they may have to go without.
- Discussion will vary. If the family hasn't budgeted any money for vet visits and treatment, they may find they haven't got enough money to pay other bills or to do to something else they had planned, such as having a family outing to the movies.

will need cleaning tools for cleaning the tank and filter.

5. a. Choices and reasons will vary.
- b. Answers will vary. If you spend a lot of money on setting up for a creature that doesn't live long, you will need to have spare money to replace that creature. Or if you choose a pet, such as a turtle, that lives for a long time, you may not still want it when you are older.

Investigation

Discussion will vary. The cheapest one may need replacing frequently and may not do as good a job. On the other hand, the cheapest one may be just as effective as the more expensive ones but may not look as flash.

Reflective question

Answers will vary. With second-hand equipment, you might have money left over for ongoing costs or for buying extra fish. Second-hand equipment is usually cheaper than new equipment, although you should look around for special offers too. The second-hand equipment may last just as long as more expensive new equipment. However, the disadvantages are that second-hand equipment may have flaws that you can't see or it may be near the end of its usefulness, and in either case, you are not covered by a warranty for repairs or replacement.

Pages 6–7: Fishy Friends

Activity

1. a. None
- b. With \$90, and using the tank from David's mum, Tufulasi could buy a goldfish, with a \$24 filter, food, plants, water conditioner, stress coat, sand, and \$8 worth of ornaments. If he wants a frog or a tropical fish, he will need extra money for light and heating.
2. Answers will vary. Fake rocks and ornaments aren't essential, plants (unless they are plastic) do help to provide oxygen, and food is a must.
3. a. Answers will vary, depending, for example, on whether you go for lower or higher tank and filter prices. A turtle may be the most expensive, followed by an axolotl.
- b. Axolotl food costs \$2 less than turtle food, but it also depends on how much each type of pet eats at a time.
4. Answers will vary. Tufulasi will need money for ongoing food and possibly replacement of equipment at some stage. Power to run the filter will add to the family's power bill, and he

Page 8: Comparing Costs

Activity

1. a. \$668 (plus the cost of buying the dog and other costs such as registration, microchipping, vaccinations, and so on)
- b. As indicated in the question, all the answers below are based on lowest costs on the pet-care costs sheet.
- Cat: \$221 (plus the cost of buying the cat, neutering, vaccinations, and so on)
- Rabbit or guinea pig: \$180 (plus the cost of buying the animal)
- Mouse or rat: \$192 (plus the cost of buying the creature)
- Fish: \$127–\$190 (depending on the type of fish and the food required by that fish)
- Frog: \$186

Turtle: \$227

2.
 - a. Discussion will vary. For example, it's unfair to a dog or cat if you don't use flea treatment and worming pills; a bean bag for a dog is a luxury!
 - b. Discussion will vary. For example, dogs are quite happy sleeping on an old blanket; you don't have to have special feeding bowls as long as you keep the dish just for the dog or cat; you can make toys for animals to play with (for example, cats like playing with a piece of paper attached to a string; you can train dogs to chew only old shoes that you give them and to leave your new ones alone); some people treat their pets for fleas and worms using inexpensive herbs in the pet's bedding and diet.

Reflective question

Answers will vary. Some of the questions you might ask yourself include:

- Can you afford to buy the animal and the necessary items (even using cheaper options where possible)?
- Will you be able to afford the ongoing costs?
- Will you have the time to care for the animal properly?
- Do you really want the animal, and will you want and/or be able to look after it for its whole life? (There's no point spending money on an animal that you don't really want and will lose interest in.)
- Can you afford unexpected expenses, such as vet bills or the replacement of items (such as slippers that have been chewed by your dog)?

Pages 9–11: Raising Money

Activity One

1. Answers will vary. For example, an animal shelter will also have to pay for food, power, phone, heating, equipment, cages, and transport costs if picking up animals.
2. Answers will vary, for example, the enjoyment of being with animals and looking after them, talking with other animal lovers, and the satisfaction of seeing animals going to good homes.

Activity Two

1. Answers will vary. There are no costs in Tomuri's idea, which would earn \$85 if everyone gave a \$1 coin and more (up to \$170) if some gave \$2. Alice's idea could also earn them a good profit (for example, \$100 from 50 entry fees, plus any profit on drinks and food) if the venue is free and they are not paying for music. Deepak's idea could earn \$90 or more.
2. The food and drink in Alice's idea would have a cost and so would the kitchen packs in Deepak's idea.

Activity Three

- 1.–3. Ideas and answers will vary.

Reflective question

Answers will vary. For example, the animal shelters wouldn't be able to look after as many animals, and they would have to charge a lot more to re-home them; they might have to say to people who bring animals to them that they can't take them in; a lot more animals might be abandoned on roadsides or in parks or in deserted places.

Pages 12–13: Fresh Eggs for Sale!

Activity

1.
 - a. \$144. ($\$40 + \$60 + \$24 + \20)
 - b.
 - i. \$24. ($\$144 \div 6$)
 - ii. \$6. ($\$24 \div 4$ or $\$144 \div 24$ weeks)
2.
 - a.
 - i. \$21. ($\$3 + [3 \times \$6]$)
 - ii. \$15. ($\$21 - \6)
 - iii. Answers may vary. Ethan will be eating some of the eggs, and his parents have paid for all the set-up costs and food for the first 6 months.
 - b. Answers will vary. Hens lay fewer eggs in winter, so Ethan won't be able to sell as many over that time. Hens can get sick or die. His customers may not always want to buy eggs every week. Ethan will need to trade off his free time to look after the hens and collect and deliver the eggs.

3. Based on 4 weeks per month = 24 weeks, Ethan could earn approximately \$312. From 4 dozen eggs a week (including the dozen to his mother), he will earn \$504 ($\21×24 weeks). His costs will be \$192 ($\6 per week $\times 24$ weeks for running costs = \$144 plus \$8 a month towards replacing the hens, $\$8 \times 6 = \48 .
 $\$504 - \$192 = \$312$

Reflective question

Answers will vary. You may think about what you are good at, for example, baking, fixing things, breeding pets, and what other people need or want and would be prepared to pay a price for. If there is a match and the costs are less than the income, then a talent, hobby, or interest could be used to set up a business and make a profit. Costs include set-up and materials used. The risks are that it may cost you more to set up, make the product, or run the business than you get from sales or as payment. You also need to take into account the time spent trying to make money instead of enjoying free time, such as after school or school holidays.

Pages 14-15: Leads and Bones

Game

A game showing that owning a pet is often more expensive than it first seems and that you can't always predict all your costs

Reflective question

Answers will vary but should include the need to find out about set-up and ongoing costs and whether your friend can actually afford those costs after they have paid for the puppy. You might want to remind them that cute puppies can grow to be big dogs!

Pages 16-17: Money-making Mice

Game

A game based on recording transactions to manage the risk of having enough to spend on our needs

Reflective questions

Answers will vary. For example, people who put money aside "for a rainy day" (that is, in case something unplanned and expensive happens) usually like the reassurance of having that money saved and the protection it gives to their lifestyle. If financial disaster strikes, people's standard of living can change drastically, they may need to borrow money that they cannot afford to pay back, or they may even lose their house or possessions if they cannot afford to pay the mortgage/monthly payments.

Pages 18-19: Buy or Make?

Activity One

- \$160.28
 - No. The hutch from the shop was \$150.00.
 - Answers will vary. Grandad may still possibly be pleased because he enjoyed making the hutch and spending time with his granddaughter; he may have produced a better product than the manufactured ones. Alternatively, he may wish he'd thought about the time versus costs more carefully and used the time for something else.
- Answers will vary. The company will be making a lot of hutches, so they would get the materials much cheaper by buying in bulk, even though they have to pay for labour. There would also be a lot less wastage. For example, nails can come in boxes of 100; the company would use them all, whereas Grandad might never need to use the leftover nails.

Activity Two

- Answers will vary. They may not have the skills needed to make the product or to make it as well, they may not have the time needed, or they may not be interested in making it.
- Discussion will vary.

Reflective question

Answers may vary. The main cost is time, for drawing the design, going to the hardware store

and sorting out the materials needed, and making the hutch. (However, for some people, time is not an issue, and they enjoy spending that time and the result.)

Pages 20–21: Doggone Expensive!

Activity

1. a. Desexing (\$165–\$230) and microchipping (\$35)
 - b. Approximately \$197. (Annual check-up and vaccinations, worming, flea treatment, \$55 + \$32 + \$110)
2. a. i. \$21 per week and \$90 ($30 \times \$3 = \90) per month
 - ii. \$7 per week and \$30 ($30 \times \$1 = \30) per month
- b. Answers will vary depending on the size of the dog. For a Labrador, this might be approximately \$14,235 ($\$3 \times 365 \text{ days} \times 13 \text{ years}$) and for a fox terrier, approximately \$4,745 ($\$1 \times 365 \text{ days} \times 13 \text{ years}$).
3. Answers may vary, for example, \$585, based on the dog living for 13 years and the price staying at \$45.
4. a. Answers will vary, depending on operations and other vet bills (for example, pills) and how the dog is fed. (For example, vet costs from page 20: $[\$55 \times 13] + [\$32 \times 13] + [\$110 \times 13] + \230 [female dog desexing] + $\$800 + 5 \text{ visits at } \$40 + \$35 = \$3,826$; \$585 registration; \$14,235 food: a total of \$18,646)
 - b. Answers will vary. There will be set-up costs, possibly kennel costs if the family goes on holiday, and non-money costs such as the time needed for exercising the dog.

Reflective question

Answers will vary. Helping needn't be just a case of money. You might offer to do an extra chore as a way of saying thank you.

Pages 22–23: A Cat from the Animal Shelter

Activity

1. a. \$205.20 ($\$90 + \$53 + \$2.20 + \$24 + \36) plus hidden costs such as power, phone, other running expenses
 - b. \$135.20. ($\$205.20 - \70)
2. Approximately \$305.20. ($\$100 + \$90 + \$53 + \$2.20 + \$36 + \24)
3. Answers will vary. For example:
 - a. It will cost Courtney less than buying a cat from a pet shop and then going to a vet for desexing; vaccinations and other treatment have already been done.
 - b. They want to find good homes for as many animals as possible, so they try to make it affordable.
 - c. Hidden costs would include power, phone, heating, equipment, cages, any wages, transport cost if picking up animals, advertising, and treatment costs for sick animals.
 - d. Answers will vary. They might apply for grants from businesses, receive donations, or do fund-raising.

Reflective question

Answers will vary. It means they don't have to keep spending money on that animal for food and housing and they get some of the money back that they have spent. They'll be pleased to have found a good home for one of their animals.

Pages 24–25: Christmas Bonus

Activity

1. \$128. ($\$56 + \$28 + \$20 + \24)
2. a. \$80. ($10 \times \8)
 - b. \$28. ($\2×14)
3. \$28. (12 days at 7 eggs a day is 7 dozen, and $7 \text{ dozen} \times \$4 = \28 .)
4. Yes, with \$16 left over. ($\$128 + \$28 = \156)

5. Answers will vary. As the families are neighbours, Aaron doesn't have to go far and it doesn't cost him any money to earn the money. However, it does mean that he has to be available every day, and for some animals, perhaps twice a day, and he has to put aside the time to play with the cats and pat the

rabbits, and possibly, to talk to the budgie. (Presumably, Aaron's family were not planning on going on holiday at that time.)

Reflective question

Ideas and pros and cons will vary.

Pages 26-28: Penfriend Pets

Activity

1.

Penfriend	Pet	Buy/set-up	Food per week	Total for first year
Sa'ili	Mouse/rat	\$83-\$107	\$2-\$3	\$187-\$263
Grace	Dog	\$750-\$900	\$7-\$30	\$1,114-\$2,460
Jack	Parrot	\$180	\$3	\$336
Matt*	Goldfish/turtle	\$194-\$700	\$0.20-\$10	\$204.40-\$1,220
Jessie	Guinea pig	\$220	\$4	\$428

* Note that Matt's parents have offered to pay the set-up costs, so his actual costs are:

Matt	Goldfish/turtle	\$7-\$100	\$0.20-\$10	\$17.40-\$620
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2. a.-b. Answers will vary.

- c. Answers will vary. You would need to make sure unexpected costs can be covered. If there is no extra money to spare, then there is no money to save for these possible costs. Also, if all your money goes on your pet, you may grow to resent this.
- d. Answers will vary. You will have to come to terms with not getting the pet you'd really like to get and either get a different pet that you can afford or possibly look for ways to earn the extra income needed. You might look for ways of helping people who do have the pets you like (this may or may not be paid time).

Reflective questions

- Answers will vary. You need to be aware that pets can suffer in this situation, and if this involves them not getting enough food or time spent on them, this can be very bad for their health or well-being. There are times when the SPCA takes away people's pets because the pets have been badly neglected.
- You might have to give away your pet; it is not

fair to expect your parents or other adults to take over the responsibility for your pets if you get bored.

Final Class Discussion

- 1. Discussion will vary. People choose to spend their money on pets because they are interested in watching them grow, they like watching them play, they enjoy interacting with them, they value the love, affection, friendship, and company they may get from the animal, and it's also a way of meeting and talking to other animal lovers. Remember, too, that most hobbies cost money and many of them have no return other than pleasure.
- 2. Discussion will vary. It may have given you a better understanding of the costs involved in playing sport, for example, especially at representative level, or in developing another interest or hobby. It may make you spend your money more wisely when buying equipment; you might look at earning some income from your hobby, or you might decide that the enjoyment and challenges you get are worth the money you spend.

Figure It Out

Financial Literacy

The Real Cost of Pets

Teachers' Notes

Overview: Levels 2-3

Title	Key financial ideas	Page in students' book	Page in teachers' book
Can You Afford a Pet?	<ul style="list-style-type: none"> • How you spend your money now will affect you in the future (financial consequences). • Budgets can help you live within your income and make better spending and saving decisions. • The decisions you make depend on your goals, needs, and wants and on your budget. 	1-5	15
Fishy Friends	<ul style="list-style-type: none"> • Deciding on the best choices can be hard. You may have to consider what are needs and what are wants. You can't always afford what you want! • How much you spend depends on the decisions you make. 	6-7	17
Comparing Costs	<ul style="list-style-type: none"> • It's important to find out all the possible costs before you make a decision to buy. • You can't always afford what you want! • Time can be an important "cost" to consider. 	8	19
Raising Money	<ul style="list-style-type: none"> • Many people support community organisations by working for free or making donations. • Budgets allow for hidden costs and tell the financial story of what we expect to happen. 	9-11	20
Fresh Eggs for Sale!	<ul style="list-style-type: none"> • Businesses earn income by selling goods or services, but businesses also have costs. • Businesses need to cover their costs and make a profit. • Businesses have risks, which can affect costs, income, and profit. 	12-13	22
Leads and Bones	<ul style="list-style-type: none"> • Unexpected risks and rewards can affect costs and income. • There are ongoing costs when you own something; some of these costs will be for needs. 	14-15	24
Money-making Mice	<ul style="list-style-type: none"> • We all need to manage our money so that we can at least cover our costs. • It's possible to earn some income from hobbies and interests. 	16-17	25
Buy or Make?	<ul style="list-style-type: none"> • Researching costs is an important part of making good financial decisions. • Time can be a cost. 	18-19	26

Overview: Levels 2–3 continued

Title	Key financial ideas	Page in students' book	Page in teachers' book
Doggone Expensive!	<ul style="list-style-type: none">• Before making a decision to buy something, consider all the costs.	20–21	28
A Cat from the Animal Shelter	<ul style="list-style-type: none">• “Free” gifts or special offers (financial incentives) can influence our decisions.	22–23	29
Christmas Bonus	<ul style="list-style-type: none">• Someone has to earn the money you use to buy goods.• Earning money (income) gives you more choices.	24–25	31
Penfriend Pets	<ul style="list-style-type: none">• If you have different goals, needs, or wants from someone else's, you will make different financial decisions.• People make better decisions when they have all the information.• It's sensible to find out all the costs (short- and long-term) before you buy.	26–28	33

Introduction to *The Real Cost of Pets*

Use of headings

The notes that follow for the various activities, games, and investigations in the level 2–3 Figure It Out *Financial Literacy* book have headings and sub-headings such as Financial Language, Financial Understanding, and Mathematics and Statistics. These are designed to help you focus on the parts of the notes that are most useful to you as you help your students work through the students' book. Where appropriate, extra investigations and tasks are suggested.

Context for financial understanding in *The Real Cost of Pets*

Many New Zealand households have at least one pet. Most of these households love and care for their pets. Unfortunately, a few don't. One reason why pets are not cared for properly may be the cost they incur to the household; some people find that they simply can't afford to purchase all the care that their pet needs, especially when the pet becomes sick.

The characters in this level 2–3 book demonstrate sound financial thinking as they explore the cost of having pets. The students using the book are also challenged about financial thinking. Creating budgets to record expected costs is a skill that students will practise a number of times as they work through the book.

The characters also demonstrate enterprising attributes that support their decision making. Collecting, organising, and analysing information in the process of making a decision is one attribute that students will see in action many times through this book. Students will also experience the integration of mathematics, social sciences, English, and other learning areas as they work through the book.

The mathematics and statistics in *The Real Cost of Pets*

The mathematics and statistics in this book target levels 2–3. However, the topic of the book lends itself to an inquiry learning approach, so these teachers' notes include suggestions on how to engage the students in your class who are above and below levels 2–3.

Numeracy links are provided for students at stage 5 and stage 6 on the Number Framework. All the students in your class should be involved in the financial literacy, social sciences, and other learning area discussions and tasks. Students who are at stages 2–3 may be able to do some of the activities if the numbers are modified and materials used where appropriate or, for some of the harder mathematics activities, you could have these students work on another task, for example, designing or making something related to the activity on the page. Students at stage 4 may be able, with your guidance and the use of materials and/or a calculator, to complete the mathematical questions that would normally be beyond their stage level.

If you have any stage 7 students in your groups, expect them to move quickly on to the additional investigations and tasks provided in these notes.

The financial literacy focus of these activities means that your involvement as the teacher is essential, particularly before you set any of the tasks to be completed independently. Prior teaching and discussion will enable your students to complete the work with understanding.

As in all numeracy work, students benefit greatly from sharing and discussing their ideas. This discussion is important in supporting their conceptual understanding.

Mixed-achievement grouping and a “groups of four” approach offer a context for this to happen. Many of the thinking tools currently used in schools would enrich the inquiry learning in this book, particularly decision-making and creative-thinking tools.

Use of the big book version of *The Real Cost of Pets*

The big book version of *The Real Cost of Pets* is best used in class to support a whole-class study. This is the first time a Figure It Out big book has been produced. Your feedback is welcome.

Suggestions for use:

- Students could use the smaller student book and have the big book as a group reference.
- You could use the big book with the class to discuss the activities before the students go off and use the smaller student books independently or in small groups.
- You could use the big book with groups of students who are unable to work on the mathematics independently, while the other students in the class use the student books individually, in pairs, or in small groups.
- You could put a blank A3 sheet of paper through the laminator, clip it (with a paper clip) onto the page of the big book you are discussing, and write on it with a whiteboard pen so that the book is not damaged in any way and the laminated sheet can then be wiped clean and re-used. This is useful when you are talking about what to do with the activities on each page. For example, you could ask *What numbers are we going to use to answer question 1?*, circle the number with a red whiteboard pen, then send the students off to use their student book, with the big book left up for reference.
- Some of the activities would be well worth making into A2-sized posters that would be good to put on the wall, with students' ideas and thoughts beside them. Suitable activities include those on pages **3, 8, 9, 18, and 19**.

Possible extensions using the big book:

- Links to numeracy/mathematics/statistics
Students could look through the book, note the animals on each page, and present this information graphically, for example, how many are aquatic, how many are mammals, and which species is most commonly found in New Zealand.

- Links to literacy

You could develop a transactional writing unit and use this book as the main example of this. You could also develop a unit on writing instructions and look at various different Figure It Out books as the reference material for the students to base their writing on. This big book could be the one they reflect on as a whole class.

Many teachers have their students design new covers in reading time for *School Journals*; they could also look at designing a new cover for this Figure It Out book. Before doing this, the students would have to look critically at the current cover to see what it contains and why the information has been placed in the positions it has. They could then design covers for other Figure It Out books.

The students could critically reflect on the layout of each page of this book. As part of a writing unit, they could design another page to go into this book and set it out in a similar format. They could then refer to other Figure It Out books and compare and contrast the setting out, particularly if they went to the books published earlier in the series. What has changed and why? What has remained constant and why? An extension to this activity would be for the students to design their page on the computer, using a drawing tool to set it up. This would reinforce the “layered” format of computer graphics.

Other curriculum links using the big book:

- Computer skills / ICT / Visual Language / Graphics

The students could look at an activity (for example, those on pages 8 and 9) and discuss the use of the various fonts and the ways used to highlight words. Why have the designers used the fonts they have chosen? Why have they used more than one font? Why are some words different colours, different sizes, in boxes, or highlighted? Have the students look at various books from the library and see which books use more than one font and discuss why this is the case. *School Journals* and other Figure It Out books would also be worth comparing in this activity. The students could present a page of work using the ideas discussed, for example, an invitation, an advertisement, or a menu, and justify why they used the fonts and effects they did.

- Visual Art

The students could look at the style of illustration in this book and compare it to other big books. Why is this one quite “realistic” when compared to some other big books? The students could look at Figure It Out books from other levels and compare the art styles used in them. Do they differ? In what ways do they differ? Why is this the case?

- Technology

There would be potential for a board-game unit in technology. This big book would enable the class to hold a good discussion critiquing the layout of the games in this book. They could then compare and contrast them to games in other Figure It Out books and then Figure It Out games with other games they know. What do they notice about the amount of instructions and equipment required? What do they notice about the layout of the games in the different formats?

Pages 1–5: Can You Afford a Pet?

Mathematics and Statistics Achievement Objectives

These introductory pages focus on the language of financial literacy, the costs of feeding animals owned by class members, and the possibility of having a classroom pet. There are no specific mathematics and statistics achievement objectives for these pages.

Financial Language

(See the full glossary at the end of these teachers' notes.)

The terms on the financial words wall on page 3, and also ATM (automated teller machine), goods, services, ongoing costs, hidden costs, set-up costs

Setting the Scene

Brainstorm with your students what pets they have or would like to have and what their concept of money is. You could revisit this second aspect after the students have worked through the activities and financial concepts in *The Real Cost of Pets* to see if their concept of money has been expanded and clarified.

As a statistics link, the students could collect data and display it using a tally chart, bar graph, or pie graph.

The introductory activities on pages 1–4 involve a lot of talking. If you spread these discussions over more than one session, the students will be able to acquire the financial language as a part of their oral vocabulary before encountering the terms in the text. Whole-class discussion or a think, pair, share approach would be useful for these pages. The big book version of these (and other) pages would be ideal for shared reading.

Activity One

Financial understanding

This activity is crucial to the development of the students' financial literacy. The more thoroughly it is done, the more the rest of the pages in the book will make sense.

In this activity, Rawinia learns from her mother that families have many things to spend their income on and that there are many considerations to think about before making spending decisions. This helps her to understand about being financially responsible.

The students' understanding of financial terms could be developed using a "hot-seat" discussion, a word wall (see copymaster), a "group, label, explain" activity, bingo (see the extra-game copymaster), "I have ... Who has ...?" games (see copymaster), or the game of Loopy (see Numeracy Project material master 6–3).

Another vocabulary game that would work very well for this activity with the whole class is Definition Bingo (see copymaster), especially in mixed-ability groups of four students. For this game, have the students, in their groups, cut out and reassemble the words and their meanings. (Note: The words and meanings are not matched up in the copymaster; see the answers for question 1a for the terms and their correct definitions.) This game is very useful because everyone can play at the same time and you can walk around and challenge the students' thinking. They will probably do a lot of talking as they justify and question definitions. A stronger member of a group may "think aloud" with weaker members who, through that process, pick up comprehension strategies that they can use to work out which term goes with which definition. In this way, the students will make much stronger conceptual links. They can also get immediate feedback when they compare their finished work with the answers for question 1a.

Encourage your students to use the target vocabulary in everyday discussion. Many *School Journal* articles and stories that involve animals offer examples of some of these terms, such as "hidden costs". These stories reinforce vocabulary and help students make links between these terms and their own life experiences.

Activity Two

Financial understanding

In this activity, in which they look at a range of pet-care choices, the students learn about "needs" and "wants". The viability of the choices they have depends on whether a particular choice is a need or a want, how much they can afford, and the kind of pet they'd like to own. The students learn that people's decisions differ because they have different preferences and different amounts of income.

Mathematics and statistics

In this activity, the students collect, organise, and analyse information about pet-care costs (using the pet-care costs sheet [see copymaster]). Good decision making comes from gathering the right information and organising it in a meaningful way. As suggested in the Answers section, the students will benefit from checking and comparing their choices with those made by classmates. This may prevent a few problems later in the book when they use these headings and the pet-care costs sheet in other activities, for example, that on page 8.

Activity Three

Financial understanding

In this activity, Rawinia's class share their experiences. The questions for this activity give your students the opportunity to revisit the financial language they learned earlier and to apply it to their own situations. This knowledge will help them to be aware of what being financially responsible involves.

The students communicate and receive ideas and information when they share their experiences about pets (or other interests), using financial vocabulary.

The reflective questions after **Investigation Two** focus on the issue of affordability and the impact of unbudgeted expenses.

Investigation One

Financial understanding

This section tells students what direction the rest of the book takes. They are only asked to do the first investigation question ("Your task"). This will give them the opportunity, on a personal level, to start the process of exploring the costs associated with owning an animal in order to learn about establishing a budget and planning for financial well-being.

Mathematics and statistics

The students begin the process of collecting, organising, and analysing information by investigating the cost of feeding their own family's (or a neighbour's) pets.

Investigation Two

Financial understanding

In this investigation, the students learn about the need to explore the trade-offs between alternative decisions (opportunity costs) and the risks involved with taking on a classroom pet without good decision making. During this inquiry, they will learn that there is often more to making a decision than just financial considerations.

This investigation engages students in generating, identifying, and assessing opportunities for a classroom pet. This enterprising attribute involves thinking strategies and is important for making successful decisions.

Further investigations and tasks

The students could:

- explore the question "What is a pet?"
- explore cross-cultural differences in regard to what is considered a pet.
- in pairs, survey the neighbourhood to find out what pets are common to the area (and afterwards, discuss why other pets aren't). As a further link to statistics, they could use a graph to present the information and discuss what it means for the neighbourhood (for example, the need for "doggie poo" containers in public areas such as parks).
- survey students in other classes about what pets they have, or what pets they would like to have, and graph the results.
- investigate the cost of a family pet over the past year (including hidden costs).
- talk to people who work with animals/pets.
- demonstrate the meaning of a financial term, using visual language or visual arts skills.

Social Sciences Links

Achievement objective:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
Have the students discuss, in pairs or small groups, what needs and wants they or their families have.
- Understand how people make decisions about access to and use of resources (Social Studies, level 3)
Discuss with the students what choices the children and their families in **Activity Three** are making about access to resources and why they need to be able to “afford things” before they can have or use a resource.

Other Cross-curricular Links

English achievement objectives:

- Purposes and audiences: Show some understanding of how to shape texts for different purposes and audiences (Speaking, Writing, and Presenting, level 2)
- Ideas: Select, form, and communicate ideas on a range of topics (Speaking, Writing, and Presenting, level 2)

The students could:

- compose faxes or emails to find out facts or to share information
- use web quests to explore needs of pets
- write a persuasive letter to a variety of audiences
- use a flow chart to show the process of choosing a pet.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)
The students could design an “enrichment toy” for a caged animal.

Pages 6-7: Fishy Friends

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)

Number Framework Links

Students at stage 5 could work independently (after initial teacher interaction), using a calculator or other materials such as money. Students at stage 6 should be able to use more advanced numeracy strategies to solve the mathematical problems in this activity independently. (See the table of NDP material on page 4.)

Financial Language

Choices, needs, wants, costs, set-up costs, afford

Activity

Financial understanding

This activity emphasises that you can't always afford what you want. Tufulasi has already accepted that he can't have a cat or a dog, but he is now learning how to distinguish between the items that are essential for his possible pet and those he would like to have. This activity will help students understand that people's preferences or priorities impact on their financial decisions.

Tufulasi shows that he is able to be flexible and deal with change, which is the enterprising attribute shown by people who are able to relate well to each other. The students are generating, identifying, and assessing opportunities as they investigate the affordability of buying a water creature.

You may need to discuss with the students what is meant by set-up costs and lifespan.

For question **3a**, the students could investigate how they could go about finding the equipment to set up an aquarium for free or very cheaply.

Mathematics and statistics

For question **5b**, you need to take care that the lifespans are “friendly” numbers for students at stage 5, such as times 2, 5, or 10. You could develop this concept using materials, for example, sharing money between groups to represent the number of years the animal could be expected to live. The students could also do this with strips of paper, by having the total money costs listed on a strip and then folding the strip to represent the number of years.

Investigation

Financial understanding

This investigation raises the issue of the relative merits of buying or using cheaper equipment compared with more expensive equipment. Encourage the students to share any experiences they or their families may have had (but take care that value judgments do not become dominant). Discuss why there are times when people decide on cheaper options even though they know that the equipment may not last very long or be as cost-effective. This discussion may also bring up issues around branding (for example, paying more for a known or popular brand or buying New Zealand-made items).

Further investigations: mathematics and statistics; social sciences

The students could:

- undertake a statistical investigation by comparing the lifespan of water creatures, using a mobile, pictograph, timeline, and so on. (Have the students include tadpoles and turtles to demonstrate how vast the difference is.)
- research and suggest items that could be recycled or reused to set up an aquarium.
- research materials that can't be used (for example, copper will poison water creatures).
- research the costs and the health and safety aspects of making an outdoor goldfish pond.
- research which water creatures have to be kept apart from others, for example, carnivorous fish, and the financial impact of this for someone who wants to keep a variety of water creatures.
- research how long water creatures have been kept as pets and what has contributed to this length of time (for example, electricity needs being seen in earlier days as luxury items).
- research what the purpose is of large public aquariums that people visit. The research could be presented in a range of tables and graphs, and the students could make statements or decisions based on the statistical information gathered.

Social Sciences Links

Achievement objective:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
Discuss with the students what questions and information Tufulasi needs in order to make choices about what sort of pet he will buy.

Other Cross-curricular Links

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)

The students could:

- design a fish tank and all the things to go inside
- research and design a filtering system for a tank.

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Statistical literacy: Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others (Statistics, level 2)

Number Framework Links

Students at stages 5 and 6 should be able to use various strategies to solve the problems in this activity independently. (See the table of NDP material on page 4.)

Financial Language

Costs, afford, set-up costs, needs, wants

Activity

Financial understanding

In this activity, Teigan investigates the set-up costs for a dog. A person who does this, for any pet or interest, is more likely to be financially able to cope with ongoing costs. The discussion questions focus on the difference between items that are essential and those that are not, the fact that people can't always afford what they want, and that there are ways to meet needs and then wants without spending too much money.

To do this activity, the students need to have some understanding of animals' requirements and be able to distinguish between "wants" and "needs".

The students apply thinking skills while collecting, organising, and analysing information using their pet-care costs sheets. They communicate their findings by using what they have recorded.

For question **2b**, the students could discuss ways of reducing the costs of the items on the pet-care costs sheet. However, they need to look at other costs that might occur with their ideas. For example, if they go to the river to get stones, they need to consider the extra cost of time and travel. They could also discuss with elderly relations or neighbours what items their childhood pets had and what has changed over time.

Students doing the extension activities suggested below could use a computer for graphing and could communicate via Internet, fax, or email.

Further investigations: mathematics and statistics; social sciences

The students could extend their work by doing one or more of the following:

- Research the life expectancy of various animals and then compare the costs of owning the animals over these lengths of time and the effect on the overall cost of each animal. This could be graphed and compared, for example, in a pie graph, using set-up costs, ongoing costs, and needs for each animal.
- Research items we now buy that used to be home-made or not used at all, for example, soap, toothpaste, butter, clothes, toys. The students could also discuss this with elderly relations or neighbours. This could also extend to a study of other countries' consumerism or lack of consumerism.
- Research sustainable ways of owning pets. In what ways could the costs of pets be reduced, taking the environmental impact into account? For example, is using a plastic litter box for kittens better for the environment than reusing cardboard boxes? Questions such as this would make good debate topics.

Social Sciences Links

Achievement objective:

- Understand how cultural practices reflect and express peoples' customs, traditions, and values (Social Studies, level 2)

The students could conduct a social inquiry in their class, school, and wider community and then share what they have learned.

Other Cross-curricular Links

Science achievement objective:

- Life processes: Recognise that all living things have certain requirements so they can stay alive (Living World, level 2)

The students could research what different animals need in order to stay healthy, for example, dietary, exercise, shelter, or entertainment requirements.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)

The students could:

- design and make a mouse tunnel or a toy for a dog or cat
- design and make something for their pet that uses recycled or reusable materials.

Pages 9–11: Raising Money

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)

Number Framework Links

Students at stages 5 and 6 should be able to use numeracy strategies to solve the problems in these activities independently. (See the table of NDP material on page 4.)

Financial Language

Budget, hidden costs, income, expenditure, costs, rates, wages, bills, money, trade-offs, fund-raising, profit, expenses, balance

Activity One

Financial understanding

For the activities in Raising Money, the students need to clearly understand the financial definitions involved. You may need to explain what “rates” are in this context and why we pay them. The students may also need to revisit the terms and definitions introduced on pages 2–4 or via the wall poster (see copymaster).

This activity focuses on the fact that many community organisations rely on volunteers and donations to achieve their goals. The volunteers believe their “cause” is important, so they make a decision to work for no pay as part of their service to the community. They feel good about their contribution and are prepared to give up a financial return for their time – a trade-off – even though it may mean sacrificing some wants. People’s financial decisions vary because of their different preferences.

Activity Two

Financial understanding

This activity teaches students that there are consequences from each financial decision they make and that successful fund-raising efforts bring a financial benefit to the organisation that is being supported. One consequence of carefully planned fund-raising that takes account of all costs is a higher profit to give away. Some fund-raising efforts could be a lot of work for minimal return, especially if hidden costs such as time and personal petrol costs are not taken into account in the planning stage.

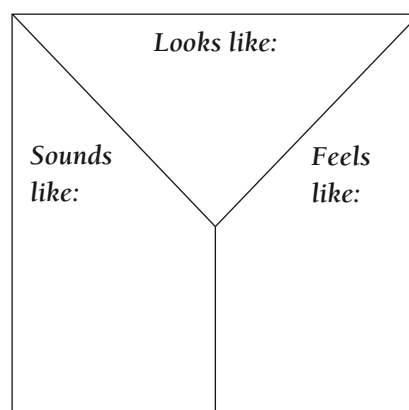
You will need to elaborate on the teacher’s speech bubble comments about social entrepreneurship, especially if it is a term the students have never heard before. Ask:

What is normally meant by an entrepreneur? What might a “social entrepreneur” do? What is the difference? (One is for profit, the other is for community benefit, but both have to demonstrate the same enterprising attributes if they want to be successful.)

Have you heard of any entrepreneurs who have also become social entrepreneurs?

Who do you know who demonstrates social entrepreneurship? What enterprising attributes are they showing?

This could also be done as a Y chart. (Divide a page into a big Y, and have the students fill in the sections.)



Mathematics and statistics

Tomuri’s suggestion doesn’t involve any financial outlay, but both Alice’s and Deepak’s do. Ensure the students take into account the costs of these two fund-raisers, for example, for Deepak’s, to subtract the \$8 from the \$11 before calculating the profit on a single pack.

Activity Three

Financial understanding; mathematics and statistics

This activity links back to the investigation on page 5 into the feasibility of having a classroom pet. Here, the students learn that financial planning is important for personal and business financial success. This includes successfully managing the finances involved in having a classroom pet.

In this activity, the students learn that budgets and records of income and expenses are important documents that help tell the financial story of the plan and the transactions. Setting up budgets and records is an important part of planning for financial success. This is a good opportunity to encourage the use of spreadsheets for budgeting, including using formulas for accurately updating balances.

Students engage in generating, identifying, and assessing opportunities when they come up with different suggestions for fund-raising ideas. They are identifying, recruiting, and managing resources when they create a project income and expenditure (budget) cash book for their fund-raising ideas. Ensure that your students understand the terms in the cash book. As an extension, they could use a spreadsheet to manage the cash book.

Further investigations and tasks

The students could:

- research ways they could assist animal shelters apart from raising money, for example, giving their time to care for and exercise the animals or providing materials such as blankets or food.
- find a need within the community and collaborate on ways to meet this need. This could be social or financial. For example, a local beach needs to have rubbish cleared regularly, elderly people in the community need rubbish bins wheeled out and in each week, or, helping within the school, bigger buddies help junior students at lunchtime.
- research what other unpaid work is done in the class, school, or community, who organises this and who does it, why it is unpaid, and why it is necessary. They might consider periodic detention here.
- use their thinking from these activities to develop fund-raising ideas for school camps or other non-profit-making organisations, for example, Canteen.
- discuss with family members and members of the community what community service they provide or have provided in the past that is unpaid/voluntary. This could include assisting within the family/whānau.

Social Sciences Links

Achievement objective:

- Understand how people make significant contributions to New Zealand’s society (Social Studies, level 2)
The students could follow the social inquiry suggested on page 19 into social action and implement what they have started.

In line with the research task above, the students could undertake a study of unpaid work within the school, community, town, or organisations, including asking: How does this benefit people, both the workers and the community? How and why has this changed over time?

Other Cross-curricular Links

English achievement objectives:

- Purposes and audiences: Show some understanding of how to shape texts for different purposes and audiences (Speaking, Writing, and Presenting, level 2)
The students could make a poster or a brochure for animal shelters.
- Language features: Show a developing understanding of how language features are used for effect within and across texts (Listening, Reading, and Viewing, level 3)
The students could create a mini-documentary or movie on a day in the life of a community worker.

Pages 12–13: Fresh Eggs for Sale!

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)

Number Framework Links

Students at stage 5 could work independently using a calculator or other materials like numeracy money after the problems in this activity have been explained. Students at stage 6 should be able to use various numeracy strategies to solve the problems in this activity independently. (See the table of NDP material on page 4.)

Financial Language

Income, goods, services, costs, profit, risks, saving, goals

Activity

Financial understanding

In this activity, Ethan learns that there are lots of aspects to consider when starting up a small business and that even though he can sell his products to help meet his goal (saving enough money to buy a mountain bike), there are expenses to cover as well as risks to think about. Risks need to be considered before making a financial decision.

Ethan matches his capabilities with setting up a business that involves something he enjoys doing, and he identifies, assesses, and manages risks associated with the business. With this approach, Ethan is more likely to be successful and meet his goals.

Ensure that the students know the meaning of terms such as costs, income, and profit as well as the numerical value of a dozen, the meaning of @, and how many days/weeks are in a month.

As an introduction, the class could share their knowledge of the different types of eggs available, for example, barn/battery/free range, and discuss why people pay higher or lower amounts depending on their choice of egg type and why the eggs are priced differently. (An Internet search engine using “eggs + price” or “eggs + cost” may provide some interesting points for debate.)

Mathematics and statistics

This activity involves a fair amount of calculating, quite apart from the financial literacy discussion. If you are using this activity with your whole class, the students at stages 2 and 3 will need teacher support, materials, and calculators to complete mathematical aspects and may also need the numbers modified for the mathematics to be meaningful. The students at stage 4 will also need teacher assistance, materials, and the use of calculators to complete the mathematical tasks.

The students could use numeracy money for question **1a**, but a more efficient strategy would be to use doubles.

The students may require materials to complete question **1b**; money would be helpful, as would paper strips with money amounts written on them. The students could also use diagrams to show how they are working it out, although stage 6 students could be using working form.

Question 3 is a multi-step problem; you may need to elaborate on these steps before the students attempt to solve it. As an extension, able students could work out how much difference there is in the totals if they use the number of weeks there actually are in 6 months as opposed to the 4 weeks in a month given as a guide in the question.

Reflective question

Financial understanding

The reflective question should prompt some lively discussion. It's important for the students to understand that not all pets, hobbies, and interests can or should make money for their owners. Many people choose to spend some of their earnings on pets, hobbies, and interests without expecting or wanting to earn money from them. Others may earn some money, for example, selling plants from their garden or fish from their tanks, but they usually spend that money on more stock, equipment, or improvements and are not involved just for profit or to make money to pay other living expenses. People who win prizes through amateur sports, such as horse shows or golf, have usually spent more than the prize value in entry fees, travel, and accommodation.

Further investigations and tasks

The students could:

- research who can have hens and who cannot. Why? What about roosters? Who makes these rules? How can they be changed? Why are people who work with poultry not allowed to keep poultry at home?
- research what they could do/make from home that could make income for them, for example, set up a lemonade stall, grow plants, make bird tables, organise games, make compost, and so on. If they were to earn money doing something that they were interested in, what might they do with that money?
- discuss with grandparents or elderly neighbours whether they and/or their parents had poultry or produced fruit and vegetables when they were growing up.
- discuss ways for Ethan to replace his hens after 3–4 years. What would be the best way for him to plan for this event? Would it be better for him to buy in pullets or to get some fertile eggs and hatch them? (You could use a plus, minus, interesting [PMI] evaluation for these options.) What could Ethan do if he were allowed to have a rooster?

Social Sciences Links

Achievement objective:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
The students could discuss what impact Ethan's "want" or goal has on his choices. They could also discuss what the hens' needs and wants are.

Other Cross-curricular Links

Technology achievement objective:

- Brief development: Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available (Technological Practice, level 2)

The students could:

- design and make a container for Ethan's eggs
- suggest ways to recycle or reuse egg cartons. You could use different coloured plastic pots to make this fun: the students' suggestions go into one pot (for example, a purple pot) and are then pulled out and categorised, using other coloured pots, as good, bad, problematic, and so on.

Science achievement objective:

- Life processes: Recognise that all living things have certain requirements so they can stay alive (Living World, level 2)

The students could investigate:

- what hens require in order to be happy, healthy creatures
- the nutritional value of eggs.

Health and Physical Education achievement objective:

- Safety management: Identify risk and use safe practices in a range of contexts (Personal Health and Physical Development, level 2)

The students could investigate what diseases can be passed from humans to poultry and vice versa and how to protect both species from the spread of disease.

Pages 14–15: Leads and Bones

Mathematics and Statistics Achievement Objective

- Probability: Investigate simple situations that involve elements of chance, recognising equal and different likelihoods and acknowledging uncertainty (Statistics, level 2)

Financial Language

Risks, rewards, costs, income

Game

Financial understanding

All students can participate in this game, regardless of numerical ability. Playing this game helps students to understand that there are unexpected risks and rewards in having a dog and that these affect the cost of owning a dog and the way the income in the household is used.

As the students play this game, encourage them to be fair and responsible. This enterprising attribute will help them to work with and successfully relate to other people in other endeavours. You could go through this game as a class, then send the students off in small groups of three to four to play, followed by a class or group discussion about what they have learnt about the key financial ideas and about their responses to the reflective question.

Later, as a class or in groups, the students could evaluate the Leads and Bones game in terms of fairness, chance of winning, how the game would change if the numbers on the dice were altered, and whether there are the same number of “ups” and “downs”. Ask: *Does the number of players change the enjoyment factor of the game? How could you alter the game to make it quicker to finish or harder to complete?*

The students could, in pairs, design and make their own game with some financial aspect.

Social Sciences Links

Achievement objectives:

- Understand how time and change affect people’s lives (Social Studies, level 2)
- Understand how people make choices to meet their needs and wants (Social Studies, level 2)

The students could research the needs of children within the school and design a game to meet their particular needs, for example, in the junior school or in the ESOL and second-language learning environment.

Other Cross-curricular Links

English achievement objective:

- Purposes and audiences: Show a developing understanding of how texts are shaped for different purposes and audiences (Listening, Reading, and Reviewing, level 3)

The students could make different rules for an existing board game.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)

The students could design and make another risks and rewards board game, taking into account robustness of materials, clarity of instructions, and visual attractiveness.

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Probability: Investigate simple situations that involve elements of chance, recognising equal and different likelihoods and acknowledging uncertainty (Statistics, level 2)

Number Framework Links

Students at stages 2–3 and some at stage 4 would need a buddy or teacher support to keep the accounting in their cash books accurate. These students may benefit from access to a calculator, an abacus, a hundreds board, or paper money.

Financial Language

Cash-book record, money, costs, income, bank balance, consequences, saving

Game

Financial understanding

Playing this game will help students to understand that there are many costs associated with running a business and that it's important for people in business to manage their money well to cover these expenses. Playing the game will also show students that the financial decisions that people make determine how “well off” they are now and in the future.

The students need to monitor and evaluate their cash-book records, especially at the end of the game when they reflect on the consequences of some of the “decisions” they had to make during the game.

Before they start playing, make sure that the students understand what a bank balance is and that they are able to count in tens.

The game needs to be played with the winner being the first person to reach exactly \$200 because this makes their decisions about the cheese segments crucial.

Use of the cash-book record sheet in this game is a way to teach students the beginnings of accounting and money management. This skill is required in the other Figure It Out *Financial Literacy* books.

After the game

Encourage the students to discuss why they chose the cheese segments they did at various stages of the game and to comment on the strategic decisions they employed.

As a class or in groups, the students could evaluate the Money-making Mice game in terms of fairness, chance of winning, how the game would change if the numbers on the dice were altered, and whether there are the same amounts of positive and negative squares. Ask: *Does the number of players change the enjoyment factor of the game? How could you alter the game to make it quicker to finish or harder to complete? What else could you put in the cheese segment?*

After a class discussion, encourage the students to discuss the reflective questions that follow the game with their families.

Social Sciences Links

Achievement objectives:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
- Understand how people make decisions about access to and use of resources (Social Studies, level 3)

The students could discuss as a class: What needs and wants do we have for our room? How do we decide who gets to use our resources, for example, the computers or mathematics equipment?

The students could research the needs of children within the school and design a game to meet their particular needs, for example, in the junior school or in the ESOL and second-language learning environment.

Other Cross-curricular Links

English achievement objective:

- Purposes and audiences: Show a developing understanding of how to shape texts for different purposes and audiences (Speaking, Writing, and Presenting, level 3)
The students could make different rules for an existing board game.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)
The students could design and make another risks and rewards board game, taking into account the robustness of materials, clarity of instructions, and visual attractiveness.

Science achievement objective:

- Ecology: Recognise that living things are suited to their particular habitat (Living World, level 2)
The students could discuss what a “pet” is and whether animals like mice should be kept in cages in homes or pet shops (or other animals in bigger cages at zoos).

Health and Physical Education achievement objective:

- Safety management: Identify risks and their causes and describe safe practices to manage these (Personal Health and Physical Development, level 3)
The students could discuss: Is it healthy to keep mice as pets? Most people consider wild mice as pests and “unclean”, so why do people keep mice in cages as pets?

Pages 18–19: Buy or Make?

Mathematics and Statistics Achievement Objectives

- Number strategies: Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages (Number and Algebra, level 3)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Statistical literacy: Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others (Statistics, level 2)

Number Framework Links

Students at stage 5 could use a calculator to assist them but will need teacher support to understand the numbers being used. Alternatively, the prices could be altered to whole numbers, and the students could then work relatively independently and make more sense of the answers.

Students at stage 6 should be able to use some numeracy strategies, including written form, to solve the problems in these activities.

Financial Language

Costs, decisions, money, profit

Activity One

Financial understanding

In this activity, the students learn the importance of researching all the costs of a project before they decide whether to make a product themselves or buy it from a retailer. This activity emphasises that there is a consequence for each financial decision we make; a good financial decision brings benefits.

Maia and Grandad are collecting, organising, and analysing information when they investigate the cost of all the materials needed to build a rabbit hutch.

One way to introduce this activity would be to brainstorm whether it is better to buy or make things. For example, you could open with a discussion about school lunches: *Is it better/cheaper to make your own or to buy? Is this always the case?*

Mathematics and statistics

To do this activity, the students will need to understand the measurement units required. For students at stages 2–3, a more valuable exercise may be to have them design a rabbit hutch that is different in shape and size from the one shown and to discuss the differences with each other.

All the students could join in a discussion of question **1b ii**. You might choose to link this discussion to **Activity Two**, question 1.

Activity Two

Financial understanding

The students generate and use creative ideas and processes when they think of cheaper ways to obtain items on the pet-care costs sheet.

From the discussion in this activity, the students will learn that the amount of time and energy put into a project is also a cost. Even though that cost may not necessarily be financial, it may affect how well off the people involved are now and in the future. The trade-off (opportunity cost) for Grandad, in terms of enjoyment and challenge, probably means that this is not an issue for him, but there are times when it is. For example, a company needs to consider the relative merits of:

- having an employee spend half an hour hand-delivering a package that could have been couriered for very little cost
- a person on a very high salary doing tasks such as photocopying or filing that could be done by someone on a much lower salary.

Ask: *Is that a good use of that person's time at work? What could they be doing instead?*

The students could discuss at home what decisions are made with the “cost of time” taken into account and what decisions are made without considering time. For example, do they buy biscuits or make them? Why or why not? What other examples can they find?

Social Sciences Links

Achievement objectives:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
- Understand how cultural practices reflect and express people's customs, traditions, and values (Social Studies, level 2)
- Understand how people make decisions about access to and use of resources (Social Studies, level 3)

The students could discuss what has caused the change over time from people being almost self-sufficient into a society where most businesses specialise in the products they make and sell:

- Why did most of our grandparents sew, knit, or make their own clothes whereas now most people buy everything? (Economies of scale and the economic return from specialisation)
- Why might some people still choose to sew, knit, or do other handicrafts?

Other Cross-curricular Links

Health and Physical Education achievement objective:

- Safety management: Identify risks and their causes and describe safe practices to manage these (Personal Health and Physical Development, level 3)

The students could discuss what they would need to be careful of if they were to help Grandad make the hutch.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)

To extend the students, you could have them do one or more of the following tasks:

- Design their own hutch for a rabbit or similar pet and then evaluate their designs in terms of whether they are affordable, realistic, and practical.
- Complete other design briefs, for example, for other animals, different numbers of animals in a cage, and so on.
- Measure and draw a scale design of an existing pet cage.

- Research the cost of producing a cage for sale and whether this could be done for a profit.
- Design a bird table. The challenge could be to do this as cheaply as possible or it could be to make one for the school grounds or at home.

Science achievement objective:

- Life processes: Recognise that all living things have certain requirements so they can stay alive (Living World, level 2)

The students could discuss: What would you need to consider for the health and safety of the animals in the cage? How often would you need to clean the cage, and how easily could you clean it?

The students could research different animals and find out what their requirements for housing would be. This could also be extended into what animals each child could have at home, depending on their situation.

Pages 20–21: Doggone Expensive!

Mathematics and Statistics Achievement Objectives

- Number strategies: Use simple additive strategies with whole numbers and fractions (Number and Algebra, level 2)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Statistical literacy: Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others (Statistics, level 2)

Number Framework Links

Students at stage 5 may need to use a calculator to do this work independently. Students at stage 6 should be able to use numeracy strategies to solve the problems in this activity, including written forms. (See the table of NDP material on page 4.)

Financial Language

Decisions, costs

Activity

Financial understanding

In this activity, Tom and Perry realise that they need to consider all the costs involved before they decide whether to take up their uncle's offer of a puppy. They identify, assess, and investigate ways to manage the risks associated with owning a pet for 13 years. By doing this, they are being financially responsible in the decision they make – regardless of whether it is for or against taking on the puppy.

Mathematics and statistics

For this activity, students need to know the number of days/weeks in a month and weeks/months in a year. You could introduce the activity by having a class discussion on giving animals as gifts. Ask *What animals might be given as gifts?* If you have a suitable experience, share it, for example, *My grandfather offered to buy me a pony when I was your age, but Mum and Dad said no. Why would they say that?* Find out if anyone in the class has been given a pet and whether this caused any problems at home.

For question 2, students at stage 5 will need assistance to break down the numbers to be workable for them, using numeracy strategies. For example, $\$3 \times 30$ could be worked out as $\$3$ multiplied by three lots of 10 ($\$3 \times 3 \times 10$) or three lots of $\$3 \times 10$.

Further investigations: mathematics and statistics; social sciences

The students could:

- discuss whether it is cheaper to buy dog food in bulk or in smaller amounts. This gives stage 7 and 8 students an opportunity to begin ratio comparisons.

- compare supermarket-brand dog food with vet-quality food. Why do people choose to spend more on vet products, and how is this beneficial?
- discuss why in the past many pet cats and dogs were not fed bought food. How did they survive? Why has this changed?
- investigate how much it costs a zoo to keep an animal for a year. What costs would they have or not have compared to owners of pets living in homes?
- research which pets are more costly to look after in the holidays. Which ones can a neighbour care for, which ones need to go into care, which ones can you take with you?
- investigate the costs of kennels or catteries and why some people pay more than others for the care of their pets. What might they get in return for paying more?

Social Sciences Links

Achievement objectives:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
- Understand how people make decisions about access to and use of resources (Social Studies, level 3)

The students could discuss what similar choices are investigated in their classroom and school about the full cost of an item or an activity before a decision is made. They could conduct a social inquiry within the school or the wider community about a resourcing issue, such as new sports equipment.

Other Cross-curricular Links

English achievement objective:

- Purposes and audiences: Show a developing understanding of how texts are shaped for different purposes and audiences (Listening, Reading, and Viewing, level 3)

The students could design an interview for a vet (but only carry out the interview if the vet is able and willing to spend the time involved). This could be expanded into a movie if there was a willing vet (or an adult prepared to act as the vet – the students would need to research the information needed). The movie could be produced as a documentary on what people need to do to care for a cat/dog and whether people should give or get a pet as a present.

Technology achievement objective:

- Brief development: Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome (Technological Practice, level 3)

The students could design a dog-exercising machine or a cat enclosure for a cattery.

Pages 22–23: A Cat from the Animal Shelter

Mathematics and Statistics Achievement Objectives

- Number strategies: Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages (Number and Algebra, level 3)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)

Number Framework Links

Students at stage 5 could independently use a calculator to assist them but will need teacher support for understanding the numbers being used. Alternatively, you could alter the prices to whole numbers, and the students could then work relatively independently and would make more sense of the answers. Students at stage 6 should be able to use numeracy strategies to solve problems. (See the table of NDP material on page 4.)

Financial Language

Special offers (financial incentives), decisions, costs, hidden costs

Activity

Financial understanding

Behind this activity is the notion that discounted prices (sales, “free” gifts, and so on) are often used as an incentive to get people to buy a particular product or service. These often influence people’s decisions as to whether to buy or not. These decisions determine how well off those people are now and may affect how well off they will be in the future. (The students could discuss at home the “buy one, get one free” type of advertising and collect examples to share in class.)

Successful financial decisions are based on collecting, organising, and analysing information, which also needs to be communicated. Courtney demonstrates this when she investigates the costs of getting a cat from the animal shelter.

Mathematics and statistics

For this activity, the students need to know how many days/weeks there are in a month/year and understand what the term “average” means. You may need also to discuss what is meant by “financial incentives”.

You could begin this activity by having the students survey or discuss where their pets came from (adopted from the SPCA or another animal shelter, bought from a pet shop, given to them, born at home, and so on). This would then lead naturally into the activity. The students could display the information on a chart or graph.

Discuss why male cats are so much cheaper to desex. (Some students may not be able to cope with this!) With questions 2 and 3, you may need to emphasise that the focus here is financial advantages, not emotional or social ones.

If you were using this activity with your whole class, students at stages 2–3 could design a label or a brochure for a flea treatment, for example, rather than work on the mathematical aspects of this activity.

Further tasks

The students could extend their work by doing one or more of the following:

- Debate whether it is actually kind or fair to give a pet to someone.
- Conduct a plus, minus, interesting (PMI) evaluation on whether to adopt or buy a pet.
- Discuss why we have to have collars on dogs but not on cats; why we have to register dogs but not cats; why dogs have to be kept in fenced areas or on leads at certain times or in certain places; why dogs get put into pounds if they are wandering or stray but cats don’t.

Social Sciences Links

Achievement objectives:

- Understand how people make significant contributions to New Zealand’s society (Social Studies, level 2)
- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
- Understand how people make decisions about access to and use of resources (Social Studies, level 3)

The students could research the contribution of voluntary organisations to New Zealand’s society. Are there organisations that do the same work for profit? What do the people in the voluntary organisations get from being involved? What trade-offs (opportunity costs) might they be making?

Other Cross-curricular Links

The Arts achievement objective:

- Developing ideas: Develop and sustain ideas in drama, based on personal experience and imagination (Drama, level 2)

Your students could visit a junior class and educate them, through a drama or dance performance, on what needs to be done to care for their pets.

English achievement objectives:

- Language features: Show some understanding of how language features are used for effect within and across texts (Listening, Reading, and Viewing, level 2)
- Purposes and audiences: Show a developing understanding of how to shape texts for different purposes and audiences (Speaking, Writing, and Presenting, level 3)

The students could create an advertisement from the perspective of a pet seeking new owners (consider radio, TV advertisement, written notice, newspaper, and so on).

Science achievement objective:

- Life processes: Recognise that all living things have certain requirements so they can stay alive (Living World, level 2)

Health and Physical Education achievement objective:

- Personal growth and development: Describe their stages of growth and their development needs and demonstrate increasing responsibility for self-care (Personal Health and Physical Development, level 2)
You could focus on neglect or mistreatment of animals and extend this into a “keeping ourselves safe” type of session focusing on what we need in order to be well cared for.

Pages 24–25: Christmas Bonus

Mathematics and Statistics Achievement Objectives

- Number strategies: Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages (Number and Algebra, level 3)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Statistical literacy: Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others (Statistics, level 2)

Number Framework Links

Students at stage 5 and stage 6 should be able to use numeracy strategies to solve the problems. (See the table of NDP material on page 4.)

Financial Language

Earn, money, goals, goods, income, savings

Activity

Financial understanding

In this activity, Aaron uses his holiday time to earn money to meet his goal of buying a digital music player. In this case, he is financially successful in meeting his goal, but it is worth discussing with your students that personal goals sometimes contribute to financial problems (for example, if a person doesn't realise that their personal goal is unattainable at a particular point in time).

Aaron matches personal goals and capabilities to an undertaking when he looks after his neighbours' animals over the holiday period. By doing this, he demonstrates the first steps of taking responsibility for managing himself.

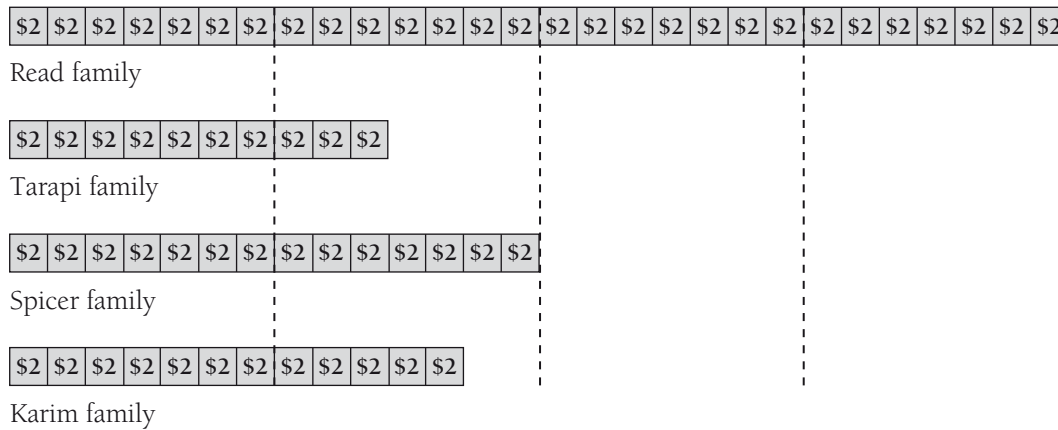
You could introduce this activity by brainstorming where your students go on holiday, how long they are away for, and what they do with their pets while they are away. You could discuss with those who don't go away what they do with their time, and if they earn money during this period, how and for what purpose.

Mathematics and statistics

For this activity, the students need to know the number of days in a week and how many eggs in a dozen.

Students who are at stages 2–3 may find acting out the problem makes the mathematics clearer. Students at stage 4 could probably solve the mathematical problems with your guidance (including using the visual representation suggested over the page), or they may be able to solve them independently using a calculator.

This visual representation of the problem in questions 2a and 2b may clarify when each family is away:



Ask: What is 10 lots of 2? How much does it cost for each family for 10 days? How many families are there? What do you need to do now to work out how much money Aaron makes over the 10 days when all the families are away?

The students will use various ways to solve question 3. Discuss their strategies as a class and encourage the students to look for the most efficient strategies to solve problems like this. The students may require some scaffolding to be able to visualise how others solved the problem. This may include modelling, using symbols on the board or materials like a modified tens frame or egg carton, an array (12×7 or $10 \times 7 + 2 \times 7$), or a happy hundreds board to demonstrate the multiplicative properties.

Discussion topics

- How would your holidays be different if you were earning money or working as a volunteer? Is it better to spend your holidays working to earn money or as an unpaid volunteer or is it better to have time to yourself?
- How else could you earn money during the holidays? (For example, students interested in animals might go to a nearby cattery or kennels to help during the business's busy periods.)
- How else could you care for your neighbours' properties over the holidays? (For example, going in and opening windows, putting out washing to make it appear that there's someone home to reduce the possibility of burglary, clearing letterboxes of mail and junk mail, mowing lawns, turning lights on and off [with parent help, as it would be night-time])

Social Sciences Links

Achievement objectives:

- Understand how people have social, cultural, and economic roles, rights, and responsibilities (Social Studies, level 2)
The students could discuss what Aaron's roles, rights, and responsibilities are as an animal minder.
The students could research projects like Neighbourhood Watch, why it is there, what purpose it serves.
- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
The students could discuss what choices Aaron is making to fulfil his wants.

Other Cross-curricular Links

Health and Physical Education achievement objective:

- Safety management: Identify risks and their causes and describe safe practices to manage these (Personal Health and Physical Development, level 3)
The students could look at health and safety concerns about looking after other people's pets. For example, if the neighbour's dog is not always friendly to a child, how can they keep themselves safe when feeding it? Should they accept that particular job?

Mathematics and Statistics Achievement Objectives

- Number strategies: Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages (Number and Algebra, level 3)
- Equations and expressions: Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality (Number and Algebra, level 3)
- Statistical literacy: Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others (Statistics, level 2)

Number Framework Links

Students at stage 5 could work independently, using a calculator or other materials like money, after teacher explanation. Students at stage 6 should be able to use numeracy strategies to solve the problems independently. (See the table of NDP material on page 4.)

Financial Language

Goals, needs, wants, decisions, costs, pocket money, spending, set-up costs, save, afford

Activity

Financial understanding

This activity emphasises that people's decisions differ because people have different preferences. Ana's penfriends have different family situations, so they have different needs and wants, and no one pet is going to suit everybody.

The students are collecting, organising, and analysing information when they match the personal goals of Ana's penfriends to the pet that would suit them best.

You may need to check that the students know what a penfriend is and the fact that they can be different ages and live in different cities or countries.

As this activity is at the end of the book, you could ask if anyone has recently got a new pet or if anyone has changed their mind, as a result of these inquiry learning activities, as to what kind of pet they would like to have if they could. Discuss the reasons why the students may not be able to have, short or long term, the pets they would like to have (cost, allergies, limitations of the home environment, time to care for them properly, and so on). Have the students find photographs of people and discuss what pet the people in the story or photo might have and what their limitations might be in terms of being able to care for that pet. There are plenty of stories and articles available in the *School Journal* to support this approach. Webquests that involve matching pets to people and environments are also available, for example, the students could search under "choosing a pet" or "choosing a pet + environment".

Mathematics and statistics

For the activity itself, you need to ensure that the students are able to relate the information given by each penfriend to the table and that they can justify their choices of suitable pets. They also need to be clear on which parts of the information given they need to use to complete the "Total for first year" column.

Further tasks

The students could:

- write about the requirements of characters from a book study and have other students match an appropriate pet to that character
- contact the students in a school or class different from their own in terms of decile, location, size, or geographics and survey what pets those students own, how the pets are different, and why that would be the case
- investigate funding a child overseas or an organisation that supports needy children or adults (that is, people who not only cannot afford pets but who need help themselves to survive).

Social Sciences Links

Achievement objectives:

- Understand how people make choices to meet their needs and wants (Social Studies, level 2)
- Understand how cultural practices reflect and express peoples' customs, traditions, and values (Social Studies, level 2)

The students could investigate what sort of pets people from other communities have or cannot have. They could then discuss what this might say about those communities, their customs, traditions, and values.

Other Cross-curricular Links

English achievement objective:

Purposes and Audiences: Show a developing understanding of how to shape texts for different purposes and audiences (Speaking, Writing, and Presenting, level 3)

The students could choose one of the characters described and write about what happens when they get their pet. This could also be done as a series of letters between themselves and Ana.

The students could write to or email a relation who doesn't live nearby and ask them what pet they would like to own if they could, or if the relation is older, what pet they always wanted or enjoyed most when they were growing up.

Activity One

Financial Words Wall

needs	wants
decision	trade-off
income	budget
consequences	choices
debt	costs
savings	goals
profit	loan
spending	affordability

Words and meanings sheet

	What you'd like to have but don't really need
	Expenses involved in setting up or running a business or an enterprise
	Options you have before making a decision
	Selecting a choice
	Money that you borrow and have to pay back
	What you want to achieve
	Money you put away (for example, in the bank) for use at a later time
	Having enough money to pay for the goods or services you decide to buy
	Items you must have
	The money you make after you have paid for all your costs
	What you are prepared to give up to get what you want (opportunity cost)
	A plan showing where your income will come from and where you think it will go
	What you owe other people or organisations
	Money you earn from work or other sources
	Paying for goods or services
	What happens because of a decision you make

Copymaster: Can You Afford a Pet?

Extra game: Bingo cards



needs	trade-off	loan
spending	income	debt

debt	budget	goals
savings	profit	loan

affordability	spending	consequences
income	decision	choices

wants	budget	debt
savings	affordability	income

needs	choices	costs
profit	spending	decision

decision	needs	goals
loan	consequences	choices

wants	budget	costs
profit	consequences	trade-off

trade-off	costs	goals
savings	affordability	wants

Copymaster: Can You Afford a Pet?

Extra game: "I have ... Who has ...?"



<p>I have: Savings</p> <p>Who has: What you'd like to have but don't really need</p>	<p>I have: Income</p> <p>Who has: Options you have before making a decision</p>
<p>I have: Budget</p> <p>Who has: Paying for goods or services</p>	<p>I have: Debt</p> <p>Who has: Items you must have</p>
<p>I have: Wants</p> <p>Who has: What you owe other people or organisations</p>	<p>I have: Decision</p> <p>Who has: Having enough money to pay for the goods or services you decide to buy</p>
<p>I have: Consequences</p> <p>Who has: Money that you borrow and have to pay back</p>	<p>I have: Trade-off</p> <p>Who has: Selecting a choice</p>

<p>I have: Profit</p> <p>Who has:</p> <p>What you want to achieve</p>	<p>I have: Choices</p> <p>Who has:</p> <p>Money you earn from work or other sources</p>
<p>I have: Loan</p> <p>Who has:</p> <p>The money you make after you have paid for all your costs</p>	<p>I have: Spending</p> <p>Who has:</p> <p>What you are prepared to give up to get what you want (opportunity cost)</p>
<p>I have: Goals</p> <p>Who has:</p> <p>What happens because of a decision you make</p>	<p>I have: Costs</p> <p>Who has:</p> <p>A plan showing where your income will come from and where you think it will go</p>
<p>I have: Affordability</p> <p>Who has:</p> <p>Money you put away (for example, in the bank) for use at a later time</p>	<p>I have: Needs</p> <p>Who has:</p> <p>Expenses involved in setting up or running a business or an enterprise</p>

Copymaster: Can You Afford a Pet?

Extra game: Definition Bingo

Savings	What you'd like to have but don't really need
Income	Options you have before making a decision
Budget	Paying for goods or services
Debt	Items you must have
Wants	What you owe other people or organisations
Decision	Having enough money to pay for the goods or services you decide to buy
Consequences	Money that you borrow and have to pay back
Trade-off	Selecting a choice
Loan	What you want to achieve
Choices	Money you earn from work or other sources
Profit	The money you make after you have paid for all your costs
Spending	What you are prepared to give up to get what you want (opportunity cost)
Goals	What happens because of a decision you make
Costs	A plan showing where your income will come from and where you think it will go
Affordability	Money you put away (for example, in the bank) for use at a later time
Needs	Expenses involved in setting up or running a business or an enterprise

Glossary of Financial Terms for Levels 2-3: The Real Cost of Pets

Affordability	Having enough money to pay for the goods or services you decide to buy
ATM	Automated teller machine
Bank account	A service that a bank provides for holding funds on your behalf
Balance	The difference between money in and money out at a particular point in time
Bank balance	The amount of money held in an account at a particular time
Bill	A statement of the money owed for goods or services
Budget	A plan showing where your income will come from and how you will use it
Business	A commercial activity for profit
Buy	Pay money for goods or services
Cash	Money in coins or notes
Cash book	A book in which money in and money out are recorded
Choices	A range of options from which to choose
Consequences	What happens because of a decision you make
Cost	The purchase price of goods or services
Cost price	The price at which goods are bought by a retailer for resale
Costs	The money that needs to be spent for setting up or running a business or enterprise
Credit	The supply of goods or services under an arrangement to pay later
Debt	What you owe other people, businesses, or organisations
Decision	Selection from a range of choices
Donation	Money or goods given free to a person or organisation
Earn	Obtain income in exchange for labour or services or else as interest or profit
Earnings	Income earned
Enterprise	A project or undertaking, especially a bold one; a business or company
Entrepreneur	A person who sets up a business, taking on greater than normal financial risks in order to do so
Expenditure	Money spent
Expenses	The costs of doing a job or task
Expensive	Costing a lot of money
Financial advantages	Monetary benefits or profit
Financial plan	A plan of future income and spending, based on money you expect to earn
Financial records	Records of income and expenditure to help you keep track of your savings and spending
Free	Costing no money
Fund-raising	Raising money for an organisation or a cause
Funds	Money saved or put aside for a particular purpose
Goal	What you set out to achieve
Goods	Items made or produced for sale
Grant	Money given by the government or by other public organisations, such as charitable trusts, for a particular purpose

Glossary of Financial Terms for Levels 2-3: The Real Cost of Pets

Hidden costs	Costs that are not noticed at first
Income	Money you earn from work or get from other sources
Inexpensive	Not costing much money
Loan	Money that you borrow and have to pay back
Money	A system used for buying and selling, based on coins, banknotes, and bank transfers
Needs	Items you must have
Ongoing costs	Costs that continue
Options	Choices
Outgoings	Expenditure paid out of income
Pocket money	A small amount of money given to children, usually regularly, by their parents or caregivers
Profit	Financial gain from a business or an enterprise, such as the income you have left after you have paid for all your costs
Purchases	Things bought
Rates	Levies that local authorities charge landowners
Risks	The chances of losing income or even making a loss
Running costs	Money involved in managing or operating a business
Salary	A yearly sum (less tax), paid fortnightly or monthly, that an employer pays to an employee for work done
Saving	Money not spent, due to buying items on special or second-hand
Savings	Money put away (for example, in the bank) for use at a later time
Second-hand	Owned by someone before and therefore not new
Services	Work done for a person, group, or community
Set-up costs	The costs of beginning a business or enterprise
Special offers	Prices lower than the usual ones (financial incentives)
Spending	Paying for goods or services
Start-up money	Money needed to begin a business or enterprise
Tax	An amount of money deducted from personal income or business profit and paid to the government, or an amount added to the cost of some goods, services, and transactions
Trade-off	What you are prepared to give up to get what you want (opportunity cost)
Transaction	An exchange between buyer and seller, usually of money for what is purchased
Unbudgeted	Not included in a financial plan of income and spending (budget)
Wages	Money that an employer pays an employee at an hourly rate (less tax) for work done
Wants	What you'd like to have but don't really need
Withdrawal	Money you take out of an account, for example, at the bank or at an ATM

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