

Resource sheet 1: A different way of paying

– The Daily Chronicle –

A different way of paying!

Do you want your boiler repaired?

Do you need a taxi to the station?

Perhaps you would like mathematics lessons at home for your child?

Or do you need advice from a lawyer?

Maybe you would like all of these – without paying for them with money.

The village of Little Snoring has come up with a scheme called LETS (Local Exchange Trading Scheme), where people don't use money but trade in **CREDITS**. How would you, as a villager, get involved?

To start with, you need to have something to offer. You might be a builder or a plasterer, or maybe you can offer help with ironing, gardening or babysitting. Whatever it is, you have to register in the local village directory.

If you want a job done on LETS, you contact the person you want in the directory and negotiate a price in credits.

People will contact you for your special services and pay you in credits when the job is done. You can then use those credits to pay someone else.

You can keep an account of the credits you have spent and earned, just like a bank statement.

Finally



Little Snoring has really put community spirit on the map, and it's all thanks to their credits!

My Money Mathematics Resources
Money – What is it?
Local Exchange Trading Schemes (LETS)

Resource sheet 2: Sheet of tokens to be used as credits



My Money Mathematics Resources

Money – What is it?

Local Exchange Trading Schemes (LETS)

Resource sheet 3: Role cards

Plumber

4 credits
per hour



Babysitter

2 credits
per hour



Gardener

3 credits
per hour



Taxi driver

10 credits
per hour



Tutor

6 credits
per hour



Electrician

4 credits
per hour



**Football
coach**

2 ½ credits
per hour



Hairdresser

4 ½ credits
per hour



Builder

4 credits
per hour



**Clothes
-maker**

3 credits
per hour



**Piano
teacher**

2 ½ credits
per hour



**Painter
/decorator**

4 credits
per hour



Resource sheet 4:
Your holiday package – cheap deal or rip off?

– The Daily Chronicle –

Your holiday package –

Cheap deal or rip off?

Have you found that ideal holiday
you've been looking for?
And is it a real cheap deal?
Maybe you should look again!

Holidaymakers are being
encouraged to examine precisely
what they are paying for
before booking a holiday.

Most likely, you will be paying for your flight and accommodation only. But have you thought about what you will have to spend once you get to your destination?

Many tourists lose money by using their credit or debit card abroad and failing to get the best exchange rates.

And have you taken airport parking into account?

A week abroad could end up costing you £100 in parking charges!

When you get to your dream destination, have you got any idea how far your hard earned spending money will go?

The UK pound goes a lot further in some countries- some basic research on exchange rates will often help you bag a bargain break.

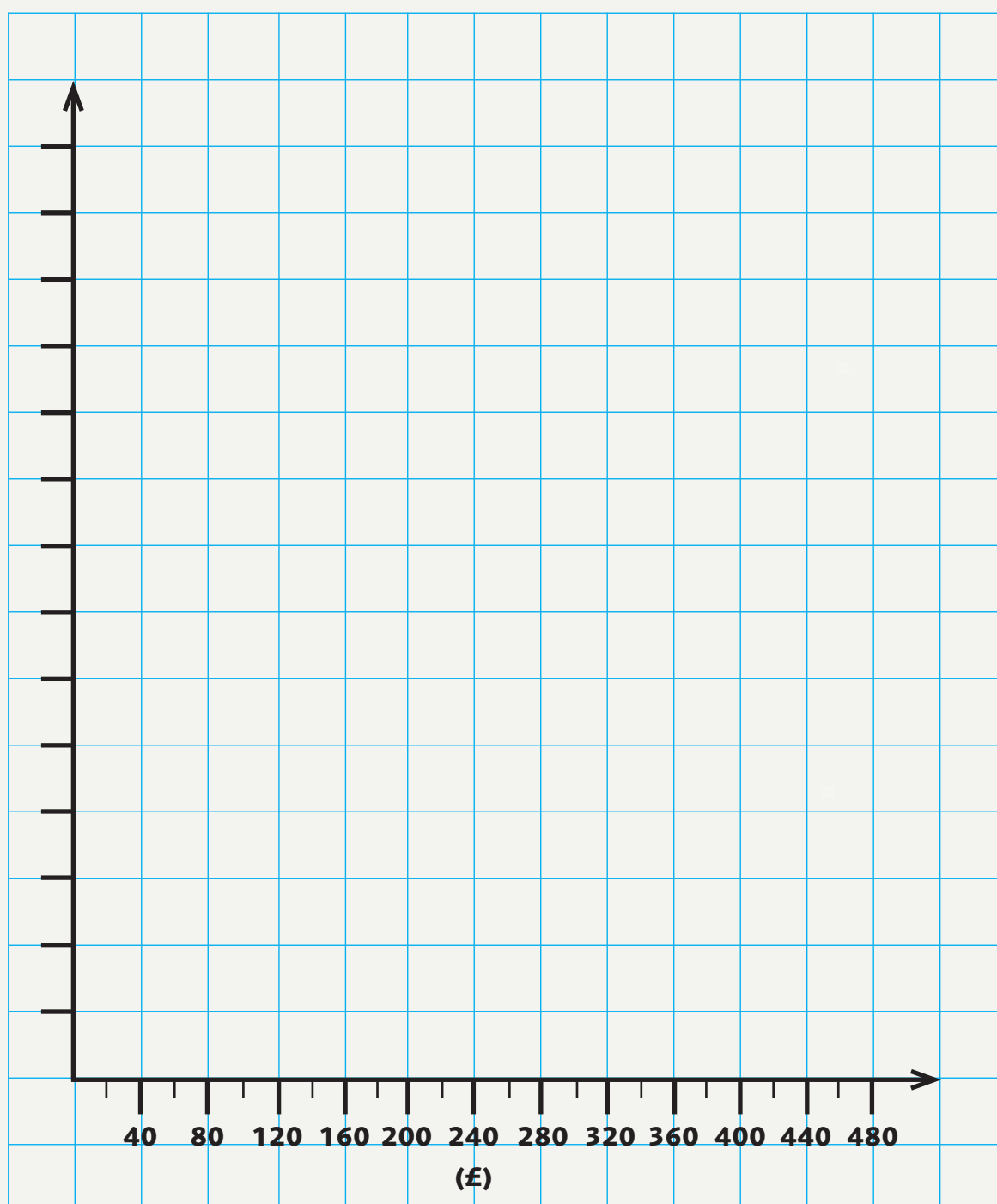


The message is clear. When you are booking a holiday, firstly take into account the hidden fees and secondly, budget for what you are going to have to pay for when you reach your destination.

My Money Mathematics Resources
Money – What is it?
Currency Exchange

Resource sheet 5: Currency conversion graph

Conversion graph of pounds against...



My Money Mathematics Resources

Money – What is it?

Currency Exchange

Resource sheet 6: Currency conversion table

Item	Price in France (euro)	Price in India (rupees)	Price in Dubai (dirham)	Price in China (yuan)	Price in Florida (US dollar)
Fast-food meal	6	25	20	20	5
Restaurant meal	10	50	85	188	20
Cinema ticket	7.60	150	30	100	6
Sandwich	3	50	8	10	3
Newspaper	1.20	1.53	10	5	1
French fries	1	40	19	10	2
Tea	1.50	40	5	5	1.50
Coffee	3	70	5	5	1.50
Soft drink	0.50	20	1	7	1.50
Toothpaste	1.65	75	7	10	8
Taxi ride (3.5 miles)	10	400	20	25	7



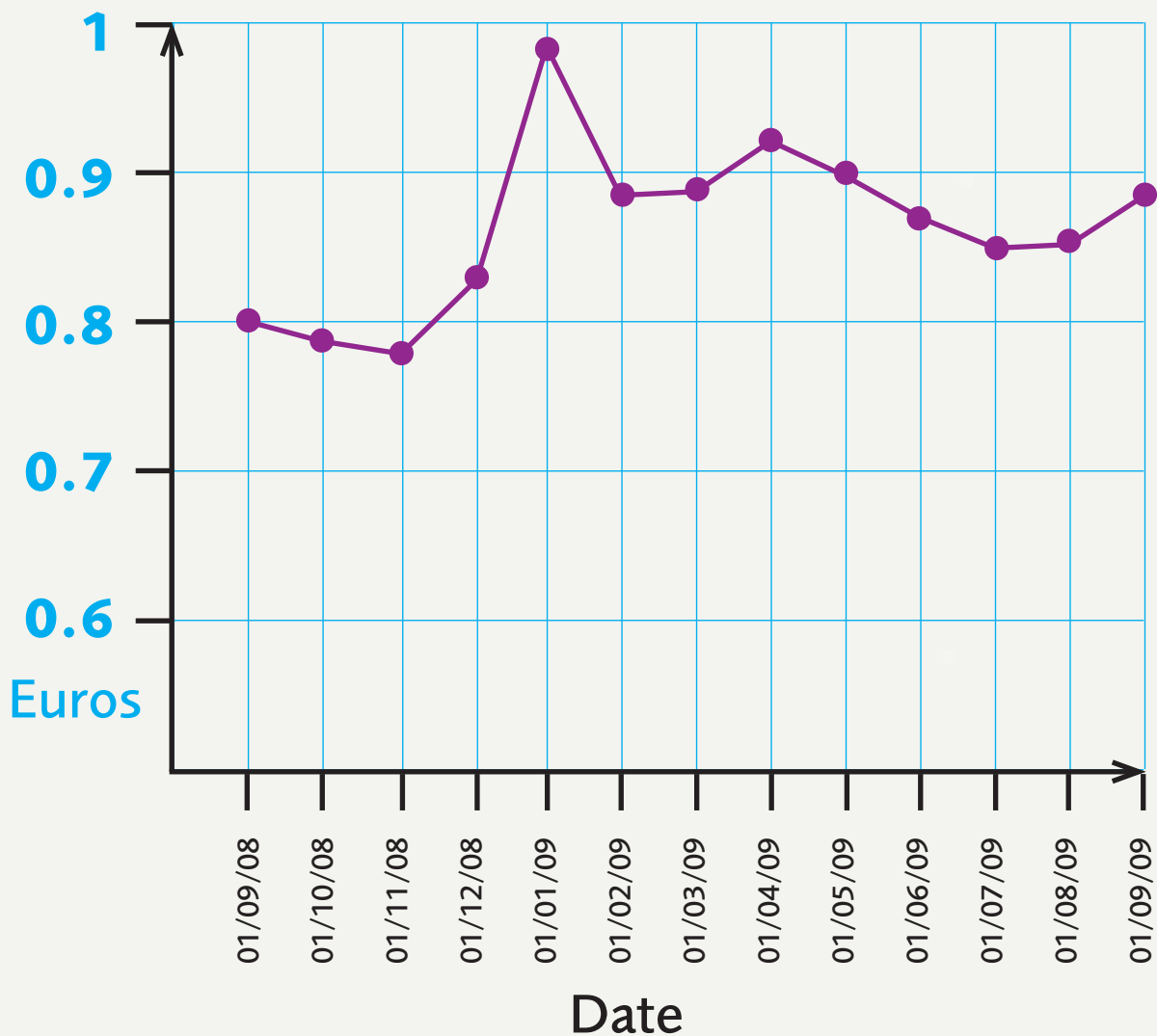
My Money Mathematics Resources

Money – What is it?

Currency Exchange

Resource sheet 7: An example of a historic currency conversion graph

Euro to pound conversion for teacher guidance
– data obtained from www.oanda.com/convert/fxhistory



Resource sheet 8: Crazy currencies

– The Daily Chronicle –

Hyperinflation warning!

Economists have made a gloomy prediction that hyperinflation may be on the way, in a number of developing countries.

Inflation is bad enough, but we often suffer it in the UK. It is when prices just go on rising. But hyperinflation is used to describe events when the monthly inflation rate is higher than 50%.

At a monthly rate of 50%, an item that cost £1 today would cost £130 on the same day next year!

Hyperinflation is a phenomenon of the 20th century. In Germany, in November 1923, the inflation rate was 322%.

On average, prices quadrupled every month for 16 months.

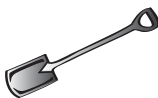









However, in Hungary, just after World War 2, prices rose by a staggering 19,000% per month!

Finally



Let's hope this is a situation we don't have to contemplate in the UK, but forewarned is forearmed!

Resource sheet 9: Annually, monthly, weekly

Job	Average Salary	How much is that....?	
		Monthly (÷ by 12)	Weekly (÷ by 52)
 Young skilled agricultural worker	£9,000	£	£
 Older skilled agricultural worker	£16,000	£	£
 Newly-qualified teacher	£20,000	£	£
 More experienced teacher	£29,500	£	£
 Army soldier (new recruit)	£12,500	£	£
 Army sergeant	£34,000	£	£
 Lorry driver	£18,500	£	£
 Leisure centre worker	£14,000	£	£
 Aeroplane cabin crew	£19,250	£	£
 Nurse	£24,000	£	£

Note: salary information correct as at 1/1/2010.

My Money Mathematics Resources

Money – Spending it

A set of wheels

Resource sheet 10: Example of car prices from local paper

– The Daily Chronicle –

<p>2004 FORD FOCUS 1.6 Zetec 3dr Hatchback</p> <p>52,350 miles, 3 Door Hatchback, Silver, Petrol, Manual, ABS, Alloy wheels, Audio remote control, Body coloured bumpers, Cloth seat trim, Drivers airbag.</p> <p>£3,500 ONO.</p>	<p>1990 TOYOTA MR2</p>  <p>2 Doors, Manual, Coupe, Petrol, Red. ABS, Alloy wheels, airbag, Electric door mirrors, Front electric windows, PAS, Remote central locking, adjustment, Front fog lights.</p> <p>07809 123 456</p> <p>£1,500</p>	<p>1993 Toyota Carina</p>  <p>1993 TOYOTA CARINA 2.0 GLi 5dr Auto Liftback. Heated door mirrors, Height adjustable drivers seat, Central locking, Immobiliser, Passenger airbag.</p> <p>07809 123 456</p> <p>£350</p>
<p>2003 SKODA Fabia H'back 5dr 1.2 HTP Classic</p> <p>Petrol, 35,031 miles, Dynamic Blue, Driver And Passenger Air Bags, Power-Assisted Steering, Front/ Bumpers, Immobiliser, Cloth interior, Spare Wheel.</p> <p>£2,950 ONO.</p>	<p>2006 Citroen C3 1.4i</p>  <p>5 Doors, Manual, Hatchback, Petrol, 20,552 miles, Red, 1 Owner(s), Power Steering, Air Conditioning, Remote Central Locking, Electric Windows - Front, CD / Radio</p> <p>07809 123 456</p> <p>£6,250</p>	<p>1992 Volkswagen Golf</p>  <p>3 Door Hatchback, Blue, Petrol, Manual power steering no mot screen crack plus clutch problem / Alloy wheels, Remote Central Locking</p> <p>07809 123 456</p> <p>£450</p>
<p>2001 VAUXHALL CORSA 1.2i 16V Club 3dr Hatchback</p> <p>Very economical and reliable car-perfect for the city and motorway. 11 m. MOT, 6 m. TAX & FSH</p> <p>£1,750!!!</p>	<p>2000 Renault Scenic</p>  <p>5 Doors, Automatic, Estate, Petrol, Black, MOT-10-2010. Heated door mirrors, Height adjustable drivers seat, Central locking, Immobiliser, Passenger airbag, Side AB, PX possible</p> <p>07809 123 456</p> <p>£2,100</p>	<p>2001 FIAT Punto 1.2</p>  <p>3 Doors, Manual, Hatchback, Petrol, 51,000 miles, Metallic Silver, 2 Owners. Electric windows, Folding rear seats, PAS, Insurance Group:4</p> <p>07809 123 456</p> <p>£1,850</p>

If you would like to advertise in:

Dealer Directory

Call the Motor Team today!

My Money Mathematics Resources

Money – Spending it

A set of wheels

Resource sheet 11: The car you drive (cards)



Fiat 500

08 Petrol, PAS, E/W, E/M, CD and alloys.
VGC, popular model with soft top roof.
Low insurance group, with low carbon emissions.
Travel for miles at 55.4 mpg.



Volkswagen GOLF GTi

Ever popular and the original best drive in a small car. 2008 in Metallic Silver.
This is the 2.0 Litre version and it is quick, but still returns a healthy 36.7 mpg.



Nissan X-Trail

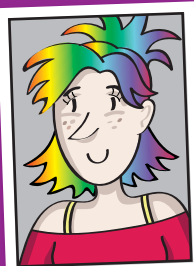
Great 4x4 in smooth black.
On-road or off-road with great performance (30.1 mpg).
This is the 2.5 Litre version in petrol.

My Money Mathematics Resources

Money – Spending it

A set of wheels

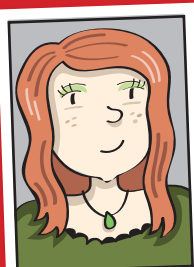
Resource sheet 12: Who you are (cards)



Name: Nicola Age: 17
Job / school: Trainee hairdresser and part-time college pupil
Income: £8,000 per year
Living status: Lives at home with her parents
Other info: Competes at national level under 18s in trampolining



Name: Nadine Age: 18
Job / school: Art pupil and part-time maid
Income: £80 per week
Living status: Rents a studio flat
Other info: Is very active in the local amateur dramatic society



Name: Cheryl Age: 19
Job / school: Works in a call-centre
Income: £10,000 per year
Living status: Shares a 2-bedroom flat with Kimberley
Other info: Her lucky day is Monday



Name: Kimberley Age: 20
Job / school: Apprentice plumber
Income: £800 per month
Living status: Shares a 2-bedroom flat with Cheryl
Other info: Always wears something pink



Name: Jeff Age: 17
Job / school: Studying Sports Science at College. Part-time bar work at Football Club
Income: £60 per week
Living status: Lives at home with parents
Other info: Plays right-back for local football team



Name: Gordon Age: 18
Job / school: Works in a Game Shop
Income: £1,000 per month
Living status: Shares a flat with Alan
Other info: Loves playing on-line shoot-em-up games



Name: Scott Age: 19
Job / school: Stacks deck chairs in the summer and works as a life-guard at the local swimming pool in the winter
Income: £10,000 per year
Living status: Lives in his camper van
Other info: Fancies himself as a bit of a surfer dude



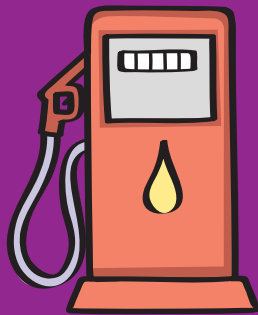
Name: Alan Age: 20
Job / school: Attends University studying Engineering
Income: £80 per week. He also has a £3,500 pupil loan
Living status: He rents a flat with Gordon and does some part-time bar work
Other info: He did a Charity sky-dive for MENCAP last year



Name: Virgil Age: 21
Job / school: He works in ARGOS as an Assistant manager
Income: £14,000 per year
Living status: Just got married to Sarah and rents a 2 bedroom house
Other info: Is in a local band and gigs about twice a month

My Money Mathematics Resources
Money – Spending it
A set of wheels

Resource sheet 13: The mileage you do cards

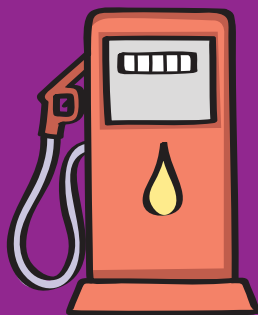


Your weekly mileage (low)

Work/College: 50

Going out: 20

Other stuff: 10

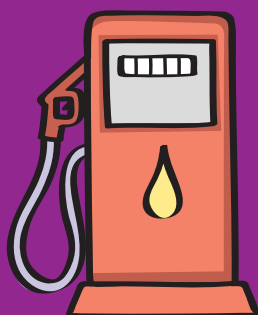


Your weekly mileage (med)

Work/College: 100

Going out: 40

Other stuff: 20



Your weekly mileage (high)

Work/College: 150

Going out: 60

Other stuff: 30

My Money Mathematics Resources

Money – Spending it

A set of wheels

Resource sheet 14: Car information sheet

All insurance quotes, road tax and MOT prices are per annum.

Male				
Age	Car	Insurance	Road Tax	MOT
17	Fiat 500	£2,478	£35	£54
	Golf Gti	£6,900	£175	
	Nissan X-trail	£5,070	£405	
18	Fiat 500	£1,100	£35	£54
	Golf Gti	£4,952	£175	
	Nissan X-trail	£3,615	£405	
19	Fiat 500	£970	£35	£54
	Golf Gti	£2,641	£175	
	Nissan X-trail	£2,240	£405	
20	Fiat 500	£808	£35	£54
	Golf Gti	£2,620	£175	
	Nissan X-trail	£1,777	£405	
21	Fiat 500	£619	£35	£54
	Golf Gti	£1,449	£175	
	Nissan X-trail	£1,330	£405	
Female				
17	Fiat 500	£1,290	£35	£54
	Golf Gti	£3,657	£175	
	X-trail	£2,687	£405	
18	Fiat 500	£834	£35	£54
	Golf Gti	£2,466	£175	
	X-trail	£1,916	£405	
19	Fiat 500	£514	£35	£54
	Golf Gti	£1,400	£175	
	X-trail	£1,187	£405	
20	Fiat 500	£428	£35	£54
	Golf Gti	£1,414	£175	
	X-trail	£942	£405	
21	Fiat 500	£328	£35	£54
	Golf Gti	£933	£175	
	X-trail	£705	£405	

Insurance quotes and road tax info from:

www.moneysupermarket.com www.comparethemarket.com www.whatcar.com

My Money Mathematics Resources

Money – Investing it

Savings accounts vs shares

Resource sheet 15: Stock market performance game

How to play - You will need:

- Groups of 4 players
- A 2 pence coin to toss
- Two dice
- Results chart for the recorder (or a laptop with a spreadsheet open)



Overview

This is a starter activity consisting of playing a game with a coin and 2 dice to simulate performance on the stock market. One player has to do the arithmetic mentally, while another keeps a paper record.

Information for pupils

Investment is defined as 'the use of money to gain profit in the future'. One form of investment means putting your money into a company or business. When the company does well, your savings will grow. If the company is doing badly, you may lose money. This form of investment is therefore a **risk**.

When you buy shares, you are buying a little bit of a company. The more you buy; the more of the company you own. You become a shareholder. When the company does well, your shares will do well. When the company is doing badly, your shares will do badly. If the company is doing really well, you will receive dividends, which are pay-outs of profits to you. Trading in shares is done on the stock market.

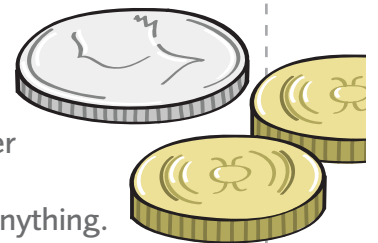
How to play the Stock market performance game:

The scenario is this: 2 players become stock market investors with a portfolio (a portfolio is your collection of shares in various companies). One investor has portfolio 'A' and the other has portfolio 'B'.

The third member of the group records the results for player 'A' and the fourth member for player 'B'. They are the Recorders. However, you must keep a mental note of how much you are losing or gaining in pence. This is as much a mental arithmetic game as anything.

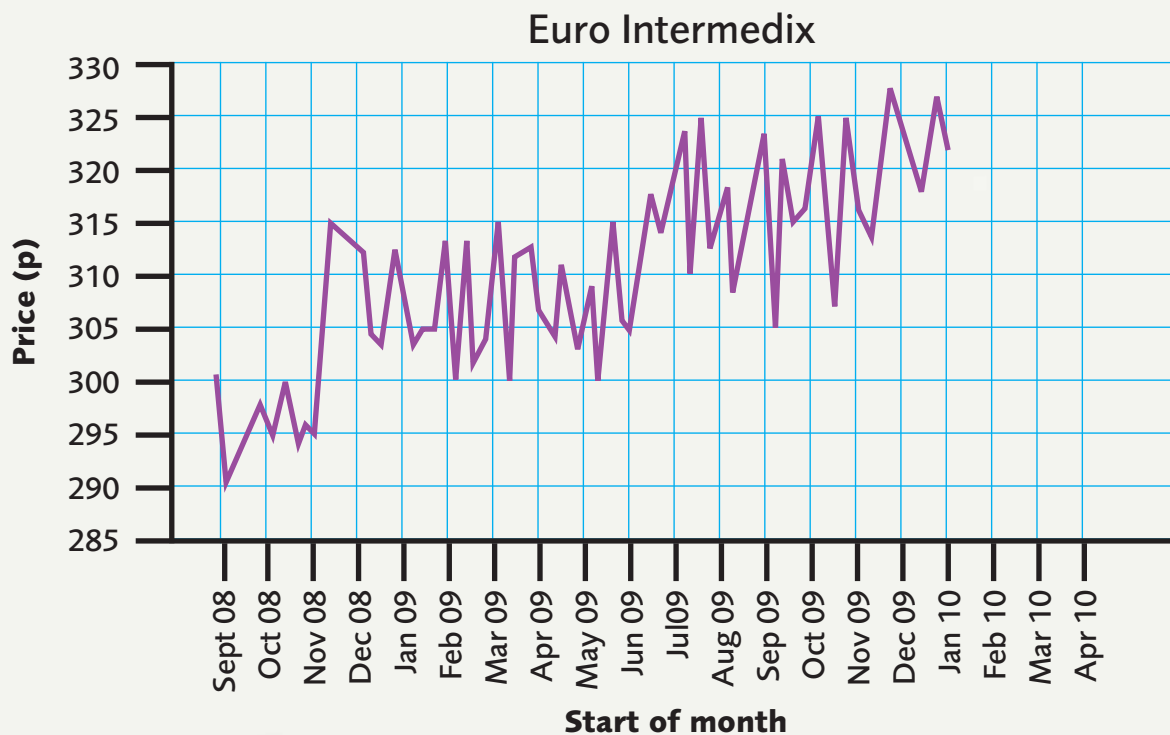
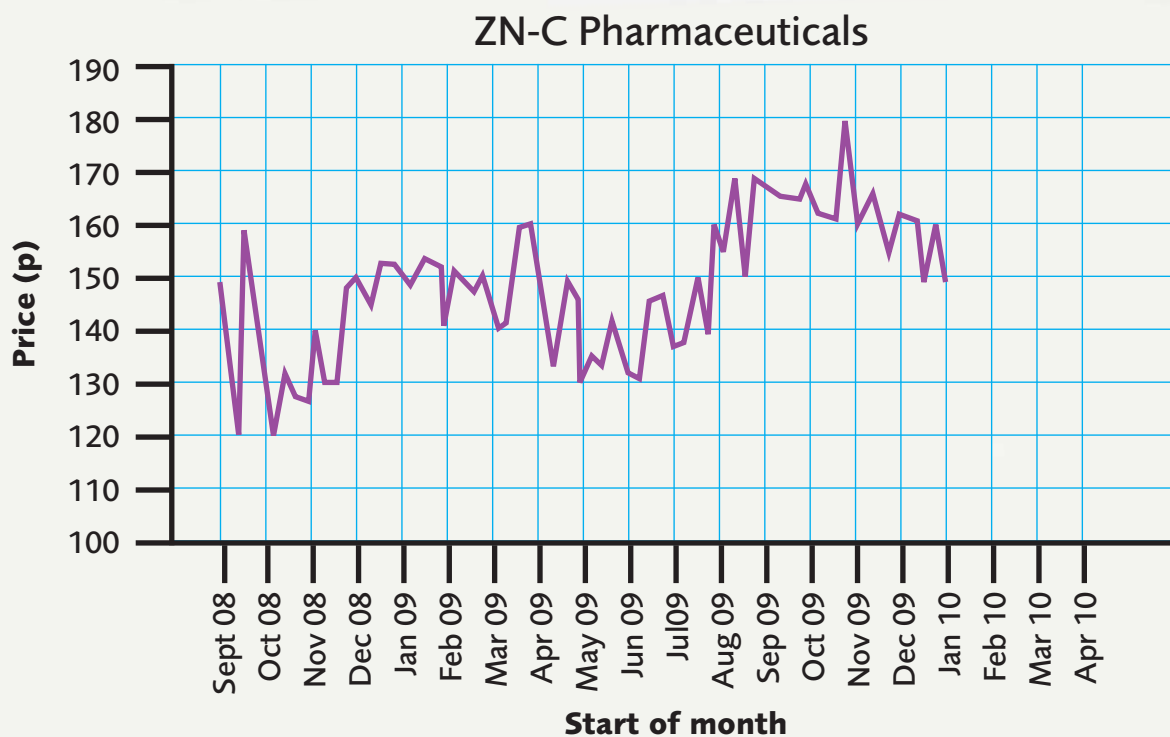
The game is played as follows:

- 1) Investor A tosses the coin. If it is '**heads**', it represents a gain in the value of stocks and shares. If it is '**tails**' it represents a loss.
- 2) The Investor then rolls the dice. The amount lost or won is found by multiplying the numbers on the two dice together. If the player's coin was tails, he has started with a loss, i.e. a minus figure.
- 3) He memorises this figure until his next go, but Recorder A writes it down.
- 4) Investor B now has his turn in exactly the same way, and Recorder B writes down the gain / loss.
- 5) As the game proceeds, the Investors continue to keep a mental note of the 'money balance' while the Recorders keep a written record. They should write down each amount as the game proceeds but keep a running total.
- 6) The winner is the Investor who has most money at the end of a period of time specified by the teacher.
- 7) However, there is a second outcome to the game. The players compare the final sum they have calculated mentally, with that written down by the Recorder. If the winning Investor does not match with the recorder, he forfeits the game. If the losing Investor then matches with his Recorder, he has won the game.
- 8) Now play a second game where Recorders and Investors swap roles.



My Money Mathematics Resources
Money – Investing it
Wheeling and dealing with £100,000,000!

Resource sheet 16: Graphs comparing the performance of 2 company shares on the stock market



My Money Mathematics Resources
Money – Investing it
Wheeling and dealing with £100,000,000!

Resource sheet 18:
Reasons for the fluctuation of share values



Changes in supply and demand of commodities



Stock is over-bought or over-sold (this usually means all of a company's shares)



Raising or lowering of interest rates



Unemployment statistics change



Gross National Product (GNP) has increased or decreased



The housing market collapses or recovers



Market environment changes



One country decides to invade another



Increases or decreases in earnings



Increase or decrease in share dividends



Business profits go up and down



Rumours that the stock market will be up or down



Commodity prices (usually raw materials like oil, metals and crops) have increased or decreased



Ramping – where a share is dishonestly talked up to make a profit for the share seller. The price can often drop sharply soon after purchase

My Money Mathematics Resources
Money – Risking it
Bingo!

Resource sheet 19: Bingo cards



bingo

bingo

bingo

bingo

bingo

bingo

bingo











bingo

bingo

bingo

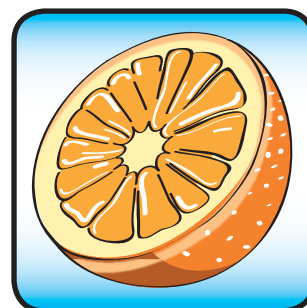
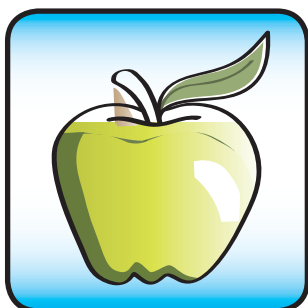
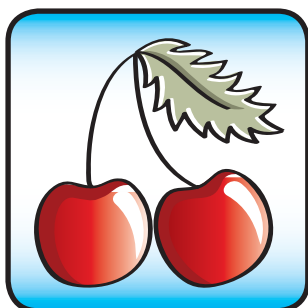
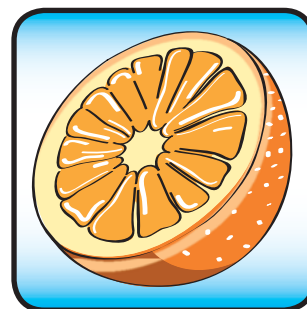
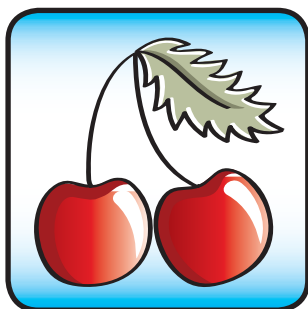
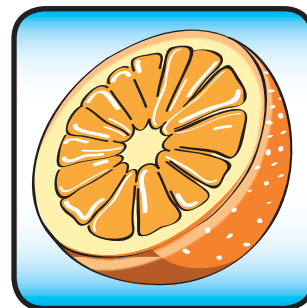
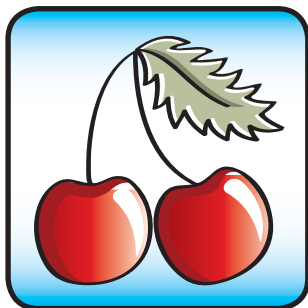
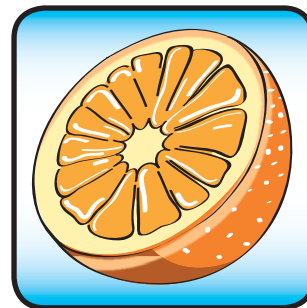
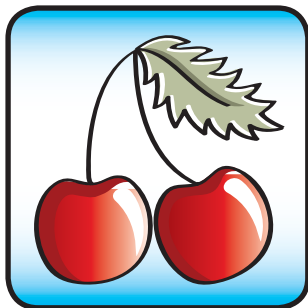
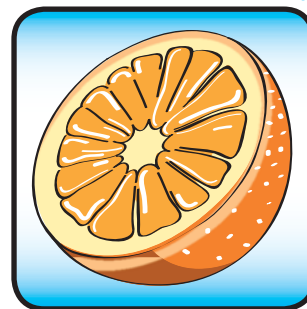
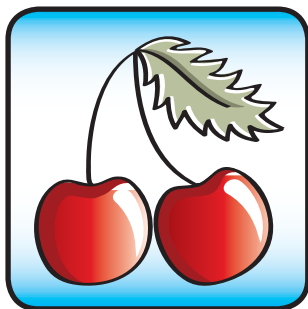
My Money Mathematics Resources
**Money – Risking it
 Bingo!**

Resource sheet 20: Nought to 10

	0	nought	zero	sometimes called the letter 'O'
●	1	one	unit	
●●	2	two	pair	
●●●	3	three	trio	
●●●●	4	four		
●●●●●	5	five		
●●●●●●	6	six		
●●●●●●●	7	seven		
●●●●●●●●	8	eight		
●●●●●●●●●	9	nine		
●●●●●●●●●●	10	ten		

My Money Mathematics Resources
Money – Risking it
Fruit machines and pay-out time (or is it?)

Resource sheet 21: Human fruit machine



My Money Mathematics Resources

Money – Being enterprising with it

Ice-cream cones

Resource sheet 22: A brief history of ice cream

A kind of ice cream was invented in China about 200 BC when a milk and rice mixture was frozen by packing it into snow. Another ice-cream-type food appeared in China in 618–97AD. King Tang of Shang made a dish of buffalo milk, flour and camphor.

Roman emperors are reputed to have sent slaves to mountain tops to bring back fresh snow which was flavoured and eaten.

Marco Polo (1254–1324), is believed to have seen ice creams being made during his trip to China and he then introduced them to Italy.

Charles I is reported to have offered his chef £500 a year to keep his ice-cream recipe a secret from the rest of England.

Ice-cream sundaes were invented when it became illegal to sell ice cream sodas on a Sunday in Evanston, USA during the 19th century. To get round the problem some traders replaced the soda with syrup and called the desserts 'ice cream sundaes.'

Ice-cream cones:

The first ice cream cone was produced in 1896 by Italo Marchiony, who emigrated from Italy in the late 1800s. He invented his ice-cream cone in New York City and was granted a patent in December 1903.

Although Marchiony is credited with the invention of the cone, a similar idea appeared at the 1904 St. Louis World's Fair. Ernest A. Hamwi, a Syrian pastry vendor was selling zalabis, (crisp, waffle-like pastries) in a booth next to an ice-cream vendor. The ice cream was really popular and the vendor ran out of dishes, so Hamwi rolled one of his like waffles into a cone for him to use instead.

There are three standard types of ice-cream cone: the cake cone which has a flat bottom, the waffle cone and the sugar cone.

Cone designers refine the patterns and other shape characteristics and make trial batches to find the best design that will release from the mould without breaking or creating weak spots.



My Money Mathematics Resources
Money – Being enterprising with it
Ice-cream cones

Resource sheet 23: Types of ice cream

ice creams



£1.40

£1.40

opus
cream/choc



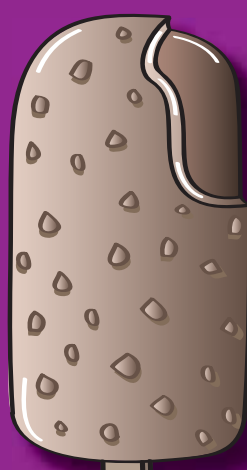
80p

twizzler



£1.10

cornelli
choc/strawberry/mint



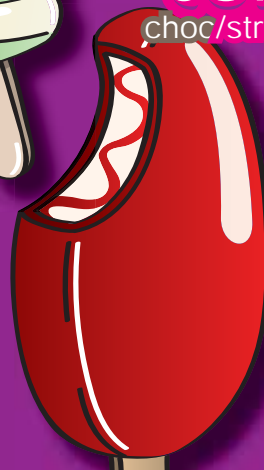
80p

fiesta



75p

cherry



£1.10

bolero



32p

petit lait



80p

CREME
DE CORNWALL

My Money Mathematics Resources

Money – Being enterprising with it

Ice-cream cones

Resource sheet 24: Business costs sheet

You want to set up a business selling ice creams and have decided to employ a member of staff all year, irrespective of how many you sell.

In setting up and running a business, you will come across 2 types of costs:

- **Start-up costs** – the money you need to put things together before you can sell anything.
- **Ongoing costs** – costs that you will incur once your business has started. Ongoing costs can be divided into the following:
 - **Fixed costs** – you have to pay these out every month even if you don't make anything.
 - **Variable costs** – the costs of production, which depend on the level of business.

Sort out the cost cards into three piles and calculate the total of each pile:

- Start-up costs
- Fixed costs
- Variable costs



Van with signage
£6,000



Advertising and promotion per year
£840



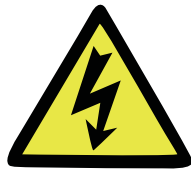
Interest on bank loan per year
£720



Kitchen equipment
£2,000



Computer and printer
£1,200



Electricity – estimate per year
£360



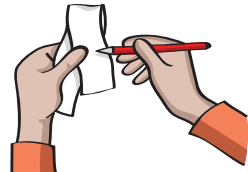
Van repairs and service – estimate per year
£600



Ingredients and packaging – estimate per year
£24,000



Telephone and internet connection
£200



Accountancy fees per year
£480



Wages per month
£2,000



Insurance per year
£1,200



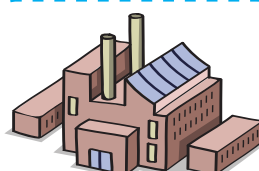
Internet and phone rental per month
£50



Fuel for van – estimate per year
£600



Purchase of fire extinguishers
£270



Rent of premises per year
£3,600

My Money Mathematics Resources

Money – Being enterprising with it

Ice-cream cones

Resource sheet 25: Your ice-cream business

You want to set up a new ice-cream business.

Activity: First, make your own cones out of circular waffles with a radius of 10cm. These can be rolled into a cone by making a cut along one of the radii and overlapping the waffle. You are planning to allow customers to roll their own cones and fill them with ice cream for a fixed price.

Question: What would be the minimum and maximum volumes of a cone made out of one of the waffles?

Ideally you would like the volume of the cone to be the same as the volume of the sphere of ice cream that would fit in the top, as this way all customers get the same amount of ice cream whether they fill up the cone or have a spherical scoop.

Question: Can you calculate what size of cone would this be true for?

You are going to provide a mould for your customers to use to roll their cones and need to decide what dimensions it should have. You need to balance the volume with the appearance of the finished cone and might decide that having matching volumes isn't really necessary.

Activity: Make a number of different cones out of paper with the same diameter, using different sector angles, e.g. 180° , 120° , etc., and consider which sector angles a business would consider using (e.g. a factor of 360° to minimise waste).

Question: What sector angle does your chosen cone have?

Question: Work out its height, radius and volume?

Question: What radius and volume is the ice-cream sphere that would just fit in the top?

Running costs

The cost of each waffle circle is £0.60 and ice cream costs £1 per litre.

Question: How much do the ingredients for each of your cones cost?

Now look at the running costs outlined on Resource sheet 3: Business costs sheet. Remember to take into account the 1 member of staff you are employing. Using these costs can you decide:

Question: How much will you sell each of your cones for?

Question: What percentage profit does this give you?

Question: How many cones will you need to sell each year in order to be able to pay all of your running costs?

Next steps

Your business is going so well that you decide to expand. You're planning to sell flat-topped frozen cones filled with ice cream through supermarkets. Each cone has to be wrapped in paper, including a circular lid.

Question: Construct a net of the wrapper, including the lid.

Question: If the wrapping paper costs £0.06 per sheet and is 1m x 1.5m, how many wrappers could you cut from each sheet?

Question: If constructing each wrapper costs £0.015, how much would you have to charge for each of your wrapped cones if your percentage profit is to remain constant?

