

Talk Money, Talk Maths

Financial Capability Through Mathematics



A resource for Key Stage 3

Contents

Foreword	iii
Introduction	1
Using the Resource	3
Talk Phones, Talk Maths	5
Talk School Trips, Talk Maths	15
Talk Banks, Talk Maths	31
Talk Computers, Talk Maths	45
Useful Websites	57
Appendix – Financial Capability Learning Intentions	59
Other Resources	61

The pfeg Quality Mark shows that this resource meets the pfeg quality standard. At the time of issue the resource contains educational benefits and accurate financial information. Please visit www.pfeg.org for further information.



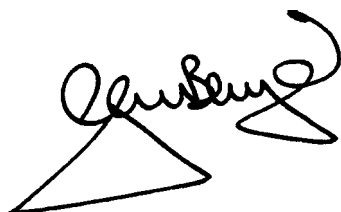


Foreword

Financial capability is an essential life skill in a society where individuals are faced by increasingly complex financial challenges. It is a skill which depends on using mathematics in everyday work and life situations and is an important preparation for adult life.

This resource aims to help develop the skills, knowledge and confidence which young people need to ensure they make informed judgements and take effective decisions in relation to their own financial circumstances. It is intended to support the learning and teaching of financial capability within Mathematics at Key Stage 3 in Northern Ireland.

CCEA is most grateful for permission to adapt this resource, which was originally developed by Learning and Teaching Scotland and the Scottish Centre for Financial Education.

A handwritten signature in black ink, appearing to read 'Gavin Boyd', written over a simple line drawing of a triangle.

Gavin Boyd
Chief Executive
CCEA



Introduction

The Northern Ireland Curriculum aims to empower young people to achieve their potential and to make informed and responsible choices and decisions throughout their lives. In the context of financial capability, this includes developing skills for informed, competent and responsible financial decision making.

Starting in 2007, financial capability becomes a statutory component of the mathematics learning area at Key Stage 3. Financial capability provides an ideal context in which to develop mathematical skills. A financially capable person will be numerate. Finance is an area in which people will definitely need to apply their mathematical skills and knowledge on leaving school. As such it supports the curriculum focus on learning for life and work.

Young people face increasingly complex financial decisions: an increasing range of non-cash methods of payment; the easy availability of credit; dealing with student debt; and a flexible job market where the idea of one job for life is diminishing.

Financially capable citizens are more likely to make informed decisions leading to financial freedom. They are less likely to get into financial difficulties and have to fall back onto government benefits. As competent and confident consumers, they can make the most of the available financial products and engage more fully with the financial services industry.

The activities in this pack feed into the Skills and Capability Framework by providing contexts for the development of Thinking, Problem Solving and Decision Making Skills and Managing Information. Open ended questions facilitate pupils' Using Mathematics. ICT opportunities are provided through using spreadsheets and additional tasks researching information using the internet.

Opportunities exist to develop the Key Elements of:

- Economic Awareness – applying mathematical skills in everyday financial planning and decision making.
- Employability – exploring how the skills developed in mathematics will be useful for business records; demonstrating how to be enterprising when discussing potential fund raising activities.
- Citizenship – developing the capacity of young people to make informed and responsible decisions.
- Moral Character – demonstrating an ability and willingness to develop logical arguments.

Learning and teaching

Learning and teaching in mathematics can be made more effective where a balance of practical, oral and written tasks is provided. This pack provides information and scenarios to assist in this task. The intention is to provide young people in Key Stage 3 with activities that are related to their age and attainment. One aspect of the pack is the use of the PowerPoint presentations in order to stimulate whole-class discussions before and after the activities have been completed. The emphasis should be on helping young people understand what the problems are and to become aware of the technical vocabulary surrounding the issues.

To prepare young people for the financial challenges they will face on leaving school they should have opportunities to develop:

- knowledge and understanding of personal finance issues, and skills to enable competent and responsible financial decision making;
- the application of mathematical skills to real life and work situations;

The contexts in this teacher support pack illustrate how Mathematics teachers can provide these types of opportunity.

The contexts are:

- Talk Phones, Talk Maths
- Talk School Trips, Talk Maths
- Talk Banks, Talk Maths
- Talk Computers, Talk Maths.

It is suggested that mathematics departments build these into their programmes of work with scenarios taught across Key Stage 3.

Finance can be a sensitive area

The aim of this resource is to ensure that all young people regardless of background, religious belief, social status or additional support needs have the chance to learn through a shared common experience in the classroom.

Teachers know that dealing with financial matters in a classroom may create difficulties and problems. Young people from different social backgrounds will have varied experiences of dealing with money. Each of the contexts in this resource could be a sensitive area for the young people in classes across Northern Ireland. Teaching about financial capability, like all other curricular areas, is neither culture nor value free. Young people are usually fully aware of their family circumstances and most teachers are aware of the difficulties some young people have. Regardless, however, of background all young people face challenges in coping with financial matters now and in the future.

Many people from lower income families do not have the same choice of mainstream financial services and this can be at a large cost to their own families. Those people who are 'financially excluded' may have difficulties giving their children the experience of using financial services that others take for granted. There is also evidence to suggest that such children can go on to be financially excluded themselves.

Young people from more affluent families have different experiences and they too may face difficulties when managing their money when they leave home for work, attend college or university. For example, they may not be aware of family budgeting and may rarely see their parents using cash.

Cultural differences can be an issue. For some religious groups the UK banking system is problematic. It may be advisable to take advice from local community leaders if you consider that this may be a problem in your area.

Using the Resource

This section illustrates four scenarios that can be used in mathematics to develop financial capability. The activities within each have been chosen to be both ability-related and age-specific; this means that the situations and activities are relevant for most young people aged 11 - 14. Where it has been possible the worksheets have been differentiated and so allows progression through the practical exercises. For example 'bronze' worksheets are aimed at young people working at levels 3 - 4 in Using Mathematics, 'silver' worksheets for those at levels 4 - 5 and 'gold' worksheets are aimed at young people working at levels 5 - 6.

The materials have been designed in such a way that teachers can use them in a variety of ways. They can be used, for example:

- in whole-class teaching using the PowerPoint slides
- in small group situations using the PowerPoint slides
- in individual work
- as homework.

However, teachers may wish to consider using the resource over one or two lessons focusing on financial capability. The pattern of the lessons could be as follows.

The teacher could:

- introduce the unit using the PowerPoint presentation (slide 1)
- involve the class by asking open questions (slide 1)
- use the material as a 'warm up' session on 'mental' maths (slides 2 and 3)
- discuss the problems illustrated through the PowerPoint presentations (slide 4)
- give young people the opportunity to solve practical problems (slide 5)
- close the lesson with a discussion on issues and problems dealt with – again using the PowerPoint presentation as a stimulus (slide 6).

There are notes attached to the PowerPoint slides that will provide more information and allow teachers to examine the issues raised in each scenario. In addition Appendix 1 illustrates how using this resource addresses the learning outcomes for financial capability.

The worksheets included in the pack can be photocopied for use in schools. The CD *Talk Money, Talk Maths* included in this resource contains the following files.

- Talk Money, Talk Maths
- Talk Money, Talk Maths (solutions)
- Four PowerPoint presentations
- Spreadsheets for 'Talk Computers, Talk Maths'.

Teachers can use these files to edit the material to meet the needs of the young people in their own schools.



Talk Phones, Talk Maths

One of the financial problems that young (and not so young) people face is whether or not to use a mobile phone. Deciding on which mobile phone and network to use is a difficult issue that consumers must deal with. In addition to this the widespread use of mobile phones raises important issues for individuals and society. It is the purpose of this unit to address these issues as well as the number work associated with the costs of using a mobile phone.

The purpose of the PowerPoint presentation is to give a stimulus for discussing the issues surrounding the use of mobile phones. Points that teachers may want to discuss with their classes are:

- who has a mobile phone
- whether you need a mobile phone
- what the rules and regulations are about using mobile phones in school
- how you pay for 'top up' cards
- how mobile phones are advertised
- how to deal with sales staff in shops
- how safe mobile phones are.

Talk Phones, Talk Maths – PowerPoint slides

Talk Phones, Talk Maths

- Who has a mobile phone?
- Do you need a mobile phone?
- When do you use the mobile phone?
- Do you text?
- Who pays for it?

What are the Costs?

	Pear Network	Peach Network	Plum Network
Text	10p per text	12p per text	8p per text
Off-peak	5p per minute	10p per minute	2p per minute
Peak	30p per minute	25p per minute	35p per minute

Kevin's Phone

Kevin has a 'pay as you go' mobile phone. He buys a £10 voucher.

- He makes 20 text messages at 10p per message.
- He uses his phone for 30 minutes off-peak at 10p per minute.
- He uses his phone for 10 minutes peak rate at 30p per minute.
- How much money is left on the voucher?

Pay as you go!	Cost
Text	10p per text
Off-peak	10p per minute
Peak	30p per minute

Talk Phones, Talk Maths

- Who will pay for the phone when you leave school?
- Will this affect the way you use the mobile phone?
- Will you always have a mobile phone?
- Does your phone give good value for money?
- Are all the calls/texts you make necessary?

Talk Phones, Talk Maths

Issues to consider

- Are they safe to use?
- Are there health issues surrounding mobile phone masts?
- How can security be improved?
- Are the school rules about mobile phones fair?

Vocabulary Corner

- Off-peak/peak time
- Voucher
- Text message
- Pin code
- Pay as you go/contract phone
- Balance
- Network
- VAT

This page illustrates the PowerPoint presentation 'Talk Phones, Talk Maths'. If it is not possible to use PowerPoint these slides can be printed for use with an overhead projector.

Talk Phones, Talk Maths – Bronze 1

Question 1

John and Michael use the Pear mobile phone network. They both have a £10 voucher on his phone. Peak times are from 8 a.m. to 6 p.m.

John	Cost	Total
30 texts	10p each	£
40 off-peak minutes	5p per minute	
10 peak minutes	20p per minute	
	Total spent	
	Balance	

Michael	Cost	Total
18 texts	10p each	£
10 off-peak minutes	5p per minute	
20 peak minutes	20p per minute	
	Total	
	Balance	

- (a) Who has more money left? _____
- (b) How many text messages did Michael make? _____
- (c) Who spent more money on peak-rate calls? _____
- (d) Who spent more money on off-peak calls? _____
- (e) How much more did John spend than Michael? _____
- (f) How much more expensive is the peak rate than the off-peak rate?

- (g) John made a two-minute call at 3 p.m. How much did this cost?

- (h) John made a two-minute call at 10 p.m. How much did this cost?

Talk Phones, Talk Maths – Silver 1

Question 1

Sinead and Michelle use the Apricot mobile phone network. They both have a £15 voucher on their phone. Peak times are from 8 a.m. to 6 p.m.

Sinead	Cost	Total
25 texts	4p each	£
40 off-peak minutes	6p per minute	
35 peak minutes	20p per minute	
	Total	
	Balance	

Michelle	Cost	Total
20 texts	4p each	£
50 off-peak minutes	6p per minute	
15 peak minutes	20p per minute	
	Total	
	Balance	

- (a) Who has more money left? _____
- (b) How many text messages did Michelle make? _____
- (c) Who spent more money on peak-rate calls? _____
- (d) Who spent more money on off-peak calls? _____
- (e) How much more did Sinead spend than Michelle? _____
- (f) How much more expensive is the peak rate than the off-peak rate?

- (g) Sinead made a five-minute call at 4 p.m. How much did this cost?

- (h) Sinead made a five-minute call at 9 p.m. How much did this cost?

Talk Phones, Talk Maths – Gold 1

Question 1

Maureen and Jamie use the S-mobile phone network. They both have a £15 voucher on their phone. Peak times are from 8 a.m. to 6 p.m.

Maureen	Cost	Total
45 texts	p each	£1.35
69 off-peak minutes	2p per minute	
30 peak minutes	18p per minute	
	Total	
	Balance	

Jamie	Cost	Total
55 texts	p each	£1.65
47 off-peak minutes	2p per minute	
60 peak minutes	18p per minute	
	Total	
	Balance	

- (a) Who has more money left? _____
- (b) How much does each text message cost? _____
- (c) Who spent more money on peak-rate calls? _____
- (d) How can Jamie cut down on his bill without spending less time talking to his friends?

- (e) How much more did Jamie spend than Maureen? _____
- (f) Maureen made a ten-minute call at 6.30 p.m. How much did this cost?

- (g) Jamie made a three-minute call at 8.30 a.m. How much did this cost?

Talk Phones, Talk Maths – Bronze 2

Question 1

Jenny is looking to buy a new mobile phone. She is keen to get best value for money. She has investigated the following two networks.

	Network O/3	Network R-Mobile
Text	5p each	10p each
Off-peak	15p per minute	5p per minute
Peak	20p per minute	30p per minute

(a) Which network is cheaper for text messages?

(b) Which network is more expensive for off-peak calls?

(c) Which network is more expensive for peak-rate calls?

Question 2

Jenny sends **30 text messages** and makes **40 minutes off-peak** and **10 minutes peak calls**.

(a) Complete the following tables for each of the two networks.

Network O/3

	No	Cost per minute/text	Total cost
Texts			
Off-peak			
Peak			
Total			

Network R-Mobile

	No	Cost per minute/text	Total cost
Texts			
Off-peak			
Peak			
Total			

Use the tables to help Jenny answer the following questions.

(b) Which network is more expensive overall?

(c) How much more expensive are peak-rate calls per minute on R-Mobile compared with Network O/3?

(d) How much cheaper is it to send text messages on Network O/3 compared with R-Mobile?

(e) Which network would you suggest Jenny use?

(f) Which network would you use?

(g) Are there any circumstances in which it would be better to use O/3?

Talk Phones, Talk Maths – Silver 2

Question 1

Ciara is looking to buy a new mobile phone. She is keen to get best value for money. She has investigated the following two networks.

	Network P2	Network Q3
Text	1p each	2p each
Off-peak	8p per minute	5p per minute
Peak	15p per minute	12p per minute

On average she sends **45 text messages** and makes **40 minutes off-peak calls** and **10 minutes peak calls**.

(a) You are required to complete the following tables for each of the two networks.

P2

	No	Cost per minute/text	Total cost
Texts	45	1p	
Off-peak	40	8p	
Peak	10	15p	
Total			

Q3

	No	Cost per minute/text	Total cost
Texts	45	2p	
Off-peak	40	5p	
Peak	10	12p	
Total			

(b) Which network is more expensive overall? _____

(c) Which network is cheaper for text messages? _____

(d) How much more expensive are peak-rate calls per minute on Network P2 compared with Network Q3?

(e) Why is text messaging popular?

Talk Phones, Talk Maths – Gold 2

Question 1

Helen is looking to buy a mobile phone. She is keen to get best value for money. She has investigated the following two networks.

	Allnet	Netphone
Text	p	p
Off-peak	12p per minute	8p per minute
Peak	20p per minute	25p per minute

On average she sends **26 text messages** and makes **35 minutes off-peak calls** and **15 minutes peak calls**.

(a) You are required to complete the following tables for each of the two networks.

Allnet

	No	Cost per minute/text	Total cost
Texts	26		£1.04
Off-peak	35		
Peak	15		
Total			

Netphone

	No	Cost per minute/text	Total cost
Texts	26		£1.82
Off-peak	35		
Peak	15		
Total			

(b) Which network is more expensive overall?

(c) How easy is it to change networks?

(d) If the network you were using doubled the price of text messages would you change to another one?

Other activities

- (a) Where do you find information on mobile phones?
- (b) Is this information always reliable?
- (c) Collect information on the cost of new mobile phones.
- (d) Collect information on the costs of the various networks.
- (e) Discuss the advantages and disadvantages of 'pay as you go'.
- (f) Discuss the advantages and disadvantages of long-term contracts.
- (g) Find out where mobile phones are manufactured.

Talk School Trips, Talk Maths

The background for this unit should be familiar to all young people in Key Stage 3. Many schools organise a residential experience to help develop skills such as team working and qualities such as self-motivation and self-reliance.

Increasingly, young people are expected to take more responsibility and this will involve them looking after their own money. It may also mean that they are required to save for the trip and organise payments over a period of time. Young people need to be aware of the financial implications the cost of the trip may have on their family.

Young people can also develop their financial capability by organising fund-raising events to subsidise the cost of the trip and by discussing the resources needed to make these events a success.

The purpose of the PowerPoint presentation is to give a stimulus to discussing the issues surrounding the school trip. Questions that teachers may want to discuss with their classes are as follows.

- How many people need to go on the trip to make it feasible?
- How is the trip going to be paid for?
- Which type of trip should the class or year group go on?
- How are the costs calculated?
- What should the deposit be?
- What insurance may be needed?
- How long can you be given to pay for the trip?
- Who should be allowed to go on school trips?

Talk School Trips, Talk Maths – PowerPoint slides

Talk School Trips, Talk Maths

- ♦ How many of you have been on a school trip?
- ♦ Where did you go?
- ♦ How many people were involved?
- ♦ How was it paid up?
- ♦ What did you get for your money?
- ♦ Was it good value?

Costs for Different Venues

Costs for 100 pupils in your year group	Venue A	Venue B
Accommodation	£4500	£3000
Travel	£1000	£2000
Activities	£2000	£1000
Total		

Katy's Trip

- ♦ Katy wants to go on a school trip.
- ♦ The total cost is £160.
- ♦ She has saved £40 already.
- ♦ She has a part-time job and can save £20 per month.

How many months will it be before she can pay for the trip?

Talk School Trips, Talk Maths

- ♦ Who would decide whether activities are safe?
- ♦ When should you go on school trips?
- ♦ How could money be raised to lower the cost of the trip?

Talk School Trips, Talk Maths

Issues to consider

- ♦ Who would decide on the rules and regulations for the trip?
- ♦ Who should be able to go on a school trip?
- ♦ What would be a reasonable cost per person for a visit to an outdoor centre?
- ♦ How much spending money should you be allowed to take?

Vocabulary Corner

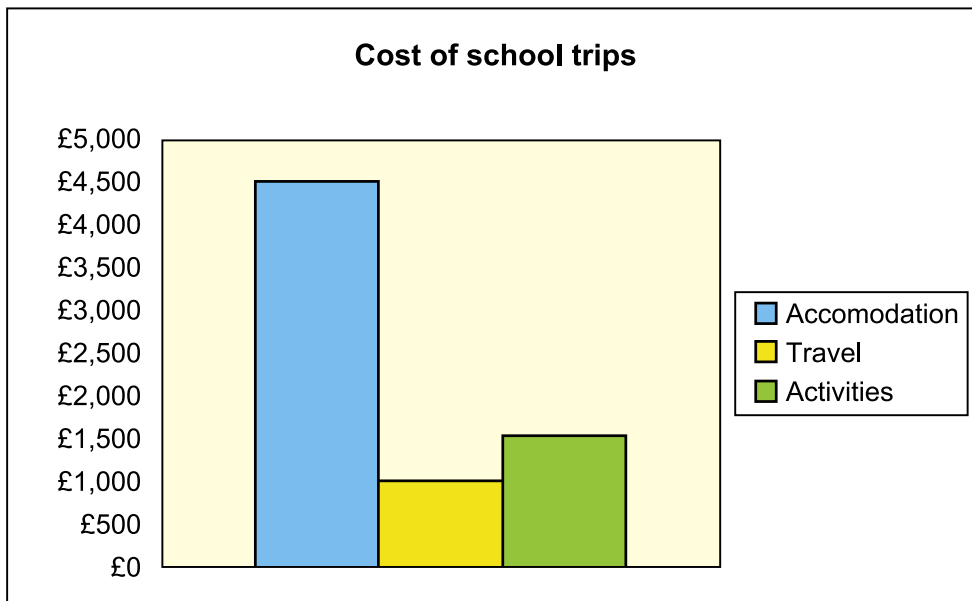
- ♦ Deposit/instalments
- ♦ Budget/affordability
- ♦ Savings
- ♦ Subsidies
- ♦ Basic cost
- ♦ VAT

This page illustrates the PowerPoint presentation 'Talk School Trips, Talk Maths'. If it is not possible to use computer software slides these can be printed for use with an overhead projector.

Talk School Trips, Talk Maths – Bronze 3

Question 1

Katy has carried out an investigation into taking her year group on a two-day school trip. There are 100 pupils in her year group. She has completed the following bar chart to illustrate the costs of accommodation, travel and activities.

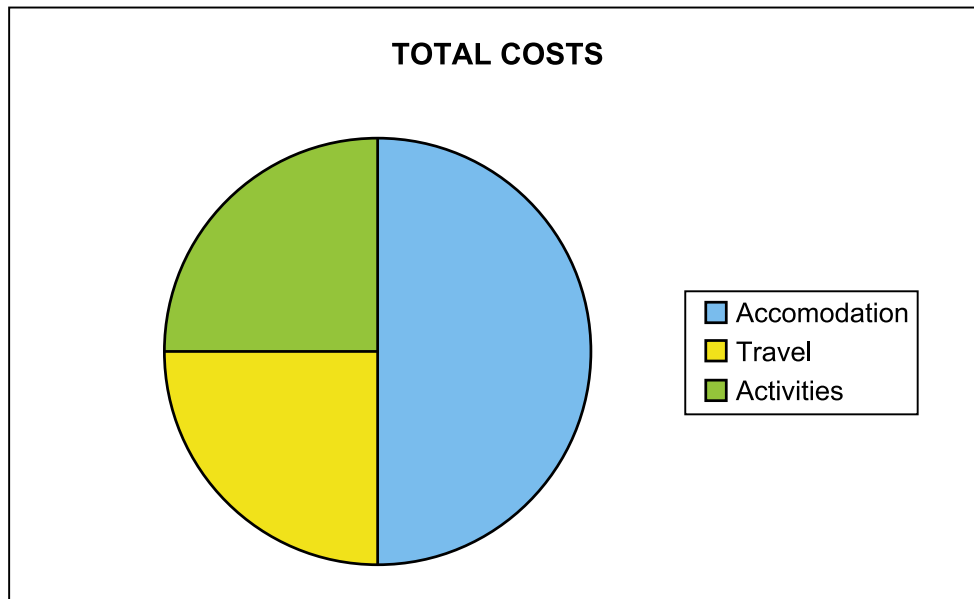


- (a) What is the accommodation cost? _____
- (b) What is the cost of the travel? _____
- (c) What is the cost of the activities? _____
- (d) What is the total cost for 100 pupils? _____
- (e) What is the cost per pupil? _____

Talk School Trips, Talk Maths

Question 2

Mairead has carried out an investigation for her year group that also has 100 students. She has illustrated her findings in a pie chart.



(a) What percentage of the total cost will be spent on accommodation?

(b) What percentage of the total cost will be spent on travel?

(c) What percentage of the total cost will be spent on activities?

Talk School Trips, Talk Maths

Question 3

Karen wants to go on a school trip.

The cost is £125. She has paid a £35 deposit.

- (a) How much does she still have to pay?

$$£125 - £35 =$$

- (b) If she has to pay for the rest of the trip in six, monthly, instalments, calculate the amount she will pay each month?

$$6 \quad \square$$

Question 4

Jean wants to go on a school trip to an outdoor pursuits centre.

The cost is £175. She has paid a £25 deposit.

- (a) How much does she still have to pay?

$$£175 - £25 =$$

- (b) If she has a part-time job and can save £30 per month, how many months will it be before she can pay for the trip?

- (c) Why do some people prefer paying by monthly instalments?

Talk School Trips, Talk Maths

Question 5

The basic cost per person for the accommodation and travel for a school trip is £150. The extra costs for the activities are shown below.

Activity	Cost
Watersports	£30
Quad biking	£40
Archery	£15

Complete the following combinations table.

Watersports	Quad biking	Archery	Total
£30	£40		£70
£30		£15	
	£40	£15	

Which two activities would you choose to keep the cost below £200?

Talk School Trips, Talk Maths

Question 6

Your teacher has worked out the basic cost of accommodation and travel for the school trip to be £100. The extra costs for the activities are shown below.

Activity	Cost
Tennis	£15
Trip to theme park	£25
Swimming	£10
Ice skating	£20

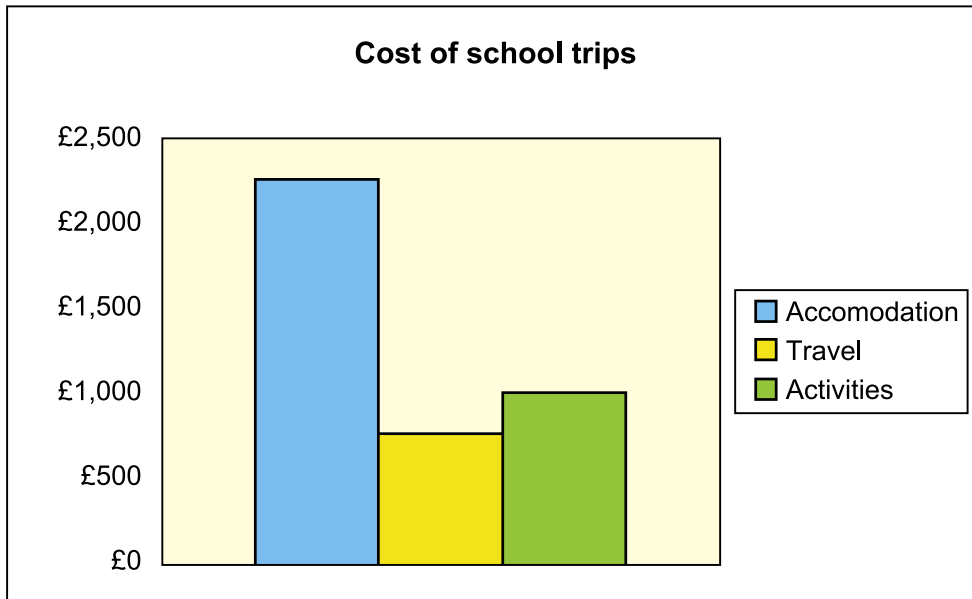
Complete the following combinations table to work out which three activities keep the cost below £150.

Tennis	Trip to theme park	Swimming	Ice skating	Total
£15	£25	£10		£50

Talk School Trips, Talk Maths – Silver 3

Question 1

Liam has carried out an investigation into taking his year group on a school visit. There are 50 pupils in his year group. He has completed the following bar chart to illustrate the costs of accommodation, travel and activities.



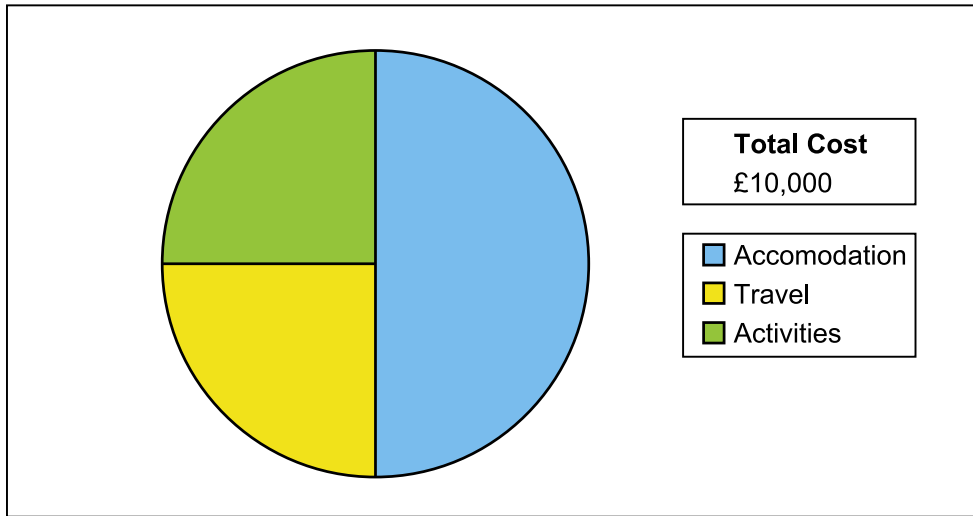
- How much does it cost for accommodation? _____
- How much more does it cost for activities than for travel? _____
- What is the total cost for all 50 pupils? _____
- What fraction of the total cost is for activities? _____
- What percentage of the total cost is for activities? _____
- What is the cost per pupil? _____

Question 2

Richard has carried out an investigation for his year group that has 50 students. The total cost of the school trip is £10,000.

He has illustrated his findings on a pie chart.

- (a) What percentage of the total cost will be spent on accommodation?



- (b) How much is spent on accommodation? _____

- (c) What percentage of the total cost will be spent on travel? _____

- (d) How much is spent on travel? _____

- (e) Calculate the cost per person. _____

Question 3

Ruth wants to go on a school trip. The cost is £250. She pays a £25 deposit to book her place on the trip.

(a) How much does she still have to pay? _____

(b) If she has to pay for the rest of the trip in 10, monthly instalments, how much does she need to pay each month?

Question 4

Aine wants to go on a school trip. The cost is £500. She pays a deposit of 10 per cent to book her place on the trip.

(a) How much does she pay as a deposit? _____

(b) How much does she still have to pay? _____

(c) What percentage is this of the total cost? _____

(d) If she has a part-time job and can save £50 per month how many months will it be before she can pay for the trip?

(e) Why do some people prefer to pay for school visits in monthly instalments?

Question 5

Mrs Davidson is organising a trip to Newcastle. The cost of accommodation and travel is £100 and she has discovered the following costs per person.

Food	£6 per day
Sports	£4.25 per day
Swimming	£2 per day

Assuming the trip to Newcastle lasts four days, calculate the total cost of the trip.

Question 6

The basic cost of accommodation and travel for an outdoor education trip is £160.

The young people will be at the centre for two days and they will choose two activities per day.

Activity per day	£
Swimming	5
Tennis	6
Watersports	9

Complete the following combination table.

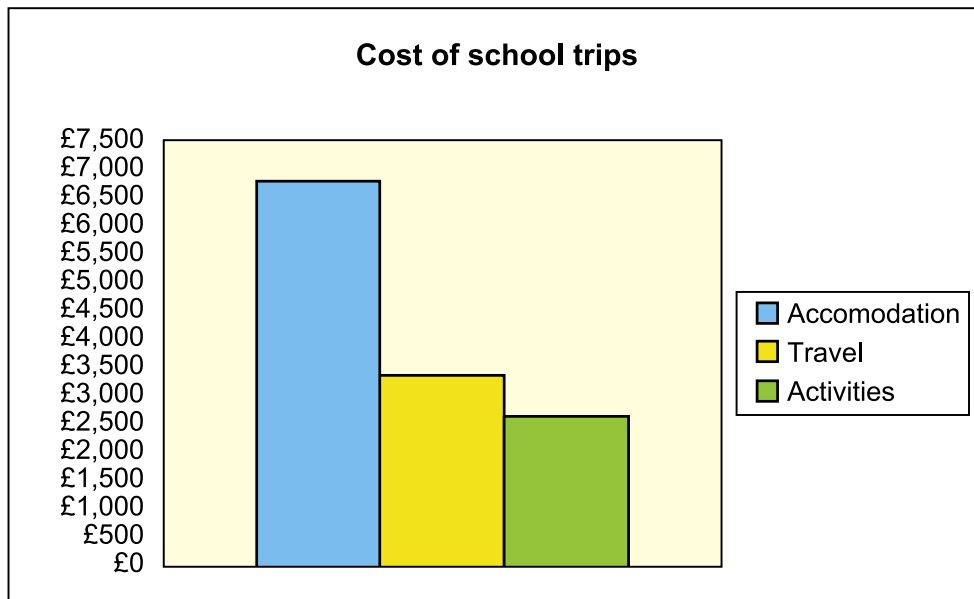
Swimming	Tennis	Watersports	Total

If James pays £186 for the trip, which activities did he choose?

Talk School Trips, Talk Maths – Gold 3

Question 1

Mr Kennedy has carried out an investigation into taking his year group on a school trip. There are 200 pupils in his year group. He has completed the following bar chart to illustrate the costs of accommodation, travel and activities.



(a) How much more does it cost for accommodation than for travel?

(b) How much more does it cost for travel than for activities? _____

(c) What is the total cost for all 200 pupils? _____

(d) What fraction of the total cost is for activities? _____

(e) What percentage of the total cost is for activities? _____

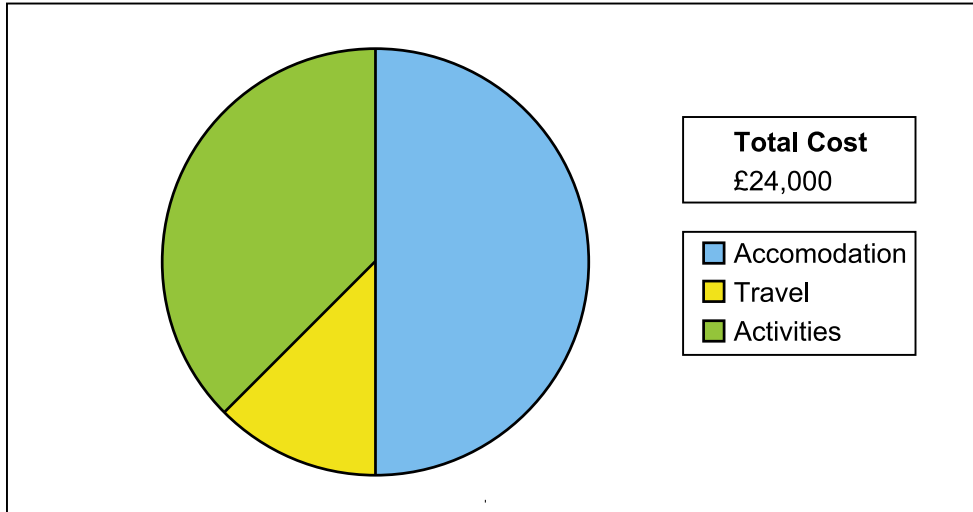
(f) What is the cost per pupil? _____

(g) How much should Mr Kennedy charge if he wants an amount rounded up to the nearest £5?

Question 2

Joe has carried out an investigation for his year group that has 80 students. The total cost of the school trip is £24,000.

He has illustrated his findings on a pie chart.



(a) What percentage of the total cost will be spent on accommodation?

(b) What percentage of the total cost will be spent on travel? _____

(c) What percentage of the total cost will be spent on activities? _____

(d) How much will be spent on accommodation? _____

(e) How much will be spent on travel? _____

(f) How much will be spent on activities? _____

(g) What is the cost per pupil? _____

Question 3

Niamh wants to go on a school trip. The cost is £450. She pays a deposit of 20 per cent to book her place on the trip.

(a) How much does she pay as a deposit? _____

(b) How much does she still have to pay? _____

(c) If she has to pay for the rest of the trip in five, monthly, instalments how much does she need to pay each month?

(d) Why do some people prefer to pay bills by monthly instalments?

Question 4

Claire wants to go on a school trip. The cost is £240. She pays a deposit of 12.5 per cent.

(a) How much does she pay as a deposit? _____

(b) How much does she still have to pay? _____

(c) How long will it take Claire to save up for the visit if she can pay £20 per month?

Question 5

Mrs Robertson is organising a trip to Enniskillen. Accommodation and travel will cost £60 per person and in addition the following information has been obtained.

Food	£7 per day
Sports	£3.75 per day
Swimming	£2.25 per day
Disco	£2.50 each

Assuming the trip to Enniskillen lasts for four days, calculate:

(a) the cost for each individual student _____

(b) the total cost for 50 pupils. _____

Question 6

Miss O'Neill has organised a school trip, however the tour operator has not added VAT to the costs.

Cost item	£
Accommodation	2400
Travel	1200
Watersports	800
Quad biking	1600
Total before VAT	
VAT @ 17.5%	
Price charged to group	
Number in group	30
Cost per person	

Use this to help calculate the VAT.

10%	
5%	
2½%	
17½%	

Complete the table above.

Other activities

- (a) Discuss where you can get money to pay for the trip.

- (b) In groups of three or four, discuss the best way to save or pay for the trip.

- (c) What rules should be applied when you are on a school trip?

- (d) Discuss how best to advertise the trip in school.

- (e) Discuss opportunities for fund-raising activities.

Talk Banks, Talk Maths

Keeping money safe and planning ahead are two reasons why this scenario is important for young people. It is important that young people know about interest received on savings and interest paid on loans. In addition it gives teachers an opportunity to discuss loan sharks and the high levels of interest they charge.

Many banks are involved in providing insurance for their customers and this scenario gives the opportunity to discuss this type of service.

As in previous units the purpose of the PowerPoint presentation is to give a stimulus to discussing the issues surrounding banks and building societies. Questions that teachers may want to discuss with their classes are as follows.

- Why would you keep your money in a bank?
- What other services do banks provide?
- How many ways can you get information on your bank account?
- How would you decide which is the best bank or building society?
- What do banks charge?
- How do banks make profits?
- Where can you buy foreign currency?

Talk Banks, Talk Maths – PowerPoint slides*

Talk Banks, Talk Maths

- Why do you keep money in a bank?
- How many of you have a bank account?
- How did you choose which bank and which account?
- Can you name some of the main high street banks?
- Do all banks offer the same interest rates on savings accounts?

Talk Banks, Talk Maths

	Money invested at start of year.	Interest	Money at end of year
Charlie	£100	£6	£106
Fiona	£200	£10	£210
Katy	£300	£12	£312

Who is getting the best deal?

Michelle's Savings

- Michelle puts £60 savings into a bank account at the start of the year.
- The interest rate on the account is 10% p.a.
- How much interest does she earn in a year?
- How much money will she have in her account at the end of the year?

Talk Banks, Talk Maths

- Do you think that getting 5% p.a. interest on your savings is a good deal?
- Where else can you put your savings?
- If you borrow money from a bank what will they charge?
- What information does a bank's APR give?
- How else can you borrow money?

Talk Banks, Talk Maths

- What other services do banks provide?
- Is borrowing from the bank a good idea?
- How does the duration of a loan affect the amount of interest charged?
- In what other ways can you buy goods now and pay for them later?

Vocabulary Corner

- Savings
- Interest
- Mortgages
- Loans
- Foreign exchange
- Insurance

This page illustrates the PowerPoint presentation 'Talk Banks, Talk Maths'. If it is not possible to use PowerPoint slides these can be printed for use with an overhead projector.

* Teachers can apply their own design to the presentations on the CD.

Talk Banks, Talk Maths – Bronze 4

Question 1

Bill, Rashid and Monica save with different banks.

Complete the table and answer the questions below.

	Money saved at start of year	Annual interest earned	Money at end of year
Bill	£200	£10	£
Rashid	£100	£	£106
Monica	£400	£	£408.50

(a) Who has saved the most money?

(b) Who has saved the least money?

(c) (i) If Rashid had saved £200 how much money would he have had at the end of the year?

(ii) Is this more or less than Bill?

(iii) Who earns the better rate of interest, Bill or Rashid?

Talk Banks, Talk Maths – Bronze 5

Question 1

Mr Brown takes out a bank loan to pay for a new car that costs £7000.

He pays back £200 every month for four years.

- (a) How much does he pay each year?

$$£200 \times 12 =$$

- (b) What is the total amount paid at the end of four years?

$$4 \times \quad =$$

- (c) Explain why he had to pay back more than £7000.

Question 2

Louise decides to pay her car insurance through her bank. The annual fee is £360.

- (a) How much will she pay each month?

$$£360 \div \quad =$$

- (b) Give a reason why Louise would do this.

Question 3

Denis pays his car insurance through his bank. It costs him £35 each month.

- (a) What is his annual insurance premium?

$$£35 \times \quad =$$

- (b) If Denis paid in full the cost would be £400. How much more does he pay in a year by paying monthly? Do you think this is a good deal?

Talk Banks, Talk Maths – Bronze 6

Question 1

David is on a school trip to France and the exchange rate is 1.5 euros for £1.

To help him with prices the school has given David this ready reckoner.

Euros	Pounds
3	2
6	4
15	10
30	20
75	50
150	100

- (a) David exchanges £200 for euros at the bank. How many euros will he have to spend?

- (b) David buys a bottle of juice costing 3 euros. How much is this in pounds?

- (c) A meal costs 9 euros. How much is this in pounds?

- (d) He wants to buy a pair of trainers costing 60 euros. How much is this in pounds?

- (e) If he brings home 30 euros, how much is this in pounds?

Talk Banks, Talk Maths – Silver 4

Question 1

Tim, Sean and Martin save with different banks.

Study the table and answer the questions below.

	Money saved at start of year	Interest rate per annum	Money at end of year
Tim	£300	3%	£309
Sean	£200	4%	£208
Martin	£500	2%	£510

(a) Who earned the most money in interest?

(b) Whose bank offered the best deal?

(c) If Sean had invested £400 how much money would he have had at the end of the year?

(d) If Martin had saved his money in the same bank as Sean, how much would he have earned in interest?

Talk Banks, Talk Maths – Silver 5

Question 1

Marian takes out a bank loan of £9500 over three years to pay for a new car.

She pays back £300 every month.

(a) How much does she pay back after the three years?

(b) How much interest did she pay over the three years?

(c) Explain why she has to pay interest.

Talk Banks, Talk Maths

Question 2

Larry decides to pay his car insurance through his bank. The annual fee is £450.

- (a) How much will he pay each month?

- (b) Give a reason why Larry would do this.

Question 3

Donal pays his car insurance through his bank. It costs him £32.50 each month.

- (a) What is his annual insurance premium?

- (b) If Donal paid in full, the cost would be £360. How much more does he pay in a year by paying monthly? Do you think this is a good deal?

Talk Banks, Talk Maths – Silver 6

Question 1

Gillian is on a school trip to France and the exchange rate is 1.5 euros for £1.

To help with prices the school has suggested that she complete this ready reckoner.

Euros	Pounds
3	
6	
15	
30	
75	
150	

- (a) Gillian exchanges £240 for euros at the bank. How many euros will she have to spend?

- (b) She buys an ice cream costing 4.5 euros. How much is this in pounds?

- (c) A meal costs 21 euros. How much is this in pounds?

- (d) She wants to buy sunglasses costing 51 euros. How much is this in pounds?

- (e) If she brings home 36 euros, how much will the bank give her in pounds?

- (f) Gillian doesn't go to the bank straight away on her return home. When she does, the exchange rate has changed to 1.6 euros for £1. How much will the bank now give her in pounds in exchange for 36 euros?

Talk Banks, Talk Maths – Gold 4

Question 1

Cheryl, Tracey and Kathryn save with different banks.

Complete the table and answer the questions below.

	Money saved at start of year	Interest rate per annum	Money at end of year
Cheryl	£300	3%	
Tracey	£200	4%	
Kathryn	£400	2%	

(a) Who earned the most money in interest?

(b) Whose bank offered the best deal?

(c) If Tracey had invested £300, how much money would she have had at the end of the year?

(d) If Cheryl had saved her money in the same bank as Tracey how much more would she have earned?

Talk Banks, Talk Maths – Gold 5

Question 1

Jimmy buys a new kitchen costing £12,500. He pays an initial 20 per cent deposit and borrows the rest over five years from the bank. He pays back £200 every month.

(a) How much is the deposit?

(b) How much does he pay back to the bank after the five years?

(c) How much interest did he pay over the five years?

(d) What is the total cost of the kitchen?

(e) Do you think this is a good way to pay for a kitchen?

Talk Banks, Talk Maths

Question 2

Bernie decides to pay her car insurance through her bank. The annual fee is £525.

How much will she pay each month? _____

Question 3

Andy pays his car insurance through his bank. It costs him £44.25 each month.

What is his annual insurance premium? _____

Talk Banks, Talk Maths – Gold 6

Question 1

Danny is on a school trip to France and the exchange rate is 1.4 euros for £1.

Complete the ready reckoner below.

Pounds	Euros
1	1.4
2	
5	
10	
20	
50	

- (a) Danny exchanges £225 for euros at the bank. How many euros will he have to spend?

- (b) He buys an ice cream costing 3.5 euros. How much is this in pounds?

- (c) A meal costs 21 euros. How much is this in pounds?

- (d) He wants to buy a sports top costing 77 euros. How much is this in pounds?

- (e) If he brings home 49 euros, how much will the bank give him in pounds?

- (f) If the bank charges 1% commission on foreign currency transactions, how much will Danny have to pay in total charges?

Other activities

- (a) Find out which banks or building societies offer accounts to young people.
- (b) Which do you think offers the best deal? Why?
- (c) Why do you think these organisations offer such deals?
- (d) Collect information regarding bank accounts, loans and credit cards. You will find these in various high-street banks and building societies but also in some supermarkets.
- (e) Which of these offer a good deal? Why?
- (f) Find out at what age you can borrow money from a bank or building society.
- (g) In groups of three or four, discuss where you will find, hear or see advertisements for loans.
- (h) Why do you think that advertisers choose to do this?
- (i) Find out the current exchange rate between pounds (sterling) and euros?
- (j) Find out which organisations charge the lowest commission on foreign currency transactions. Do any provide a commission free service?

Talk Computers, Talk Maths

'.... schools should consider ... the use of teaching strategies and resources, particularly ICT, to ensure that the pupils are provided with a variety of motivating experiences to achieve the necessary breadth and depth in mathematical learning, taking account of differences in the pupils' abilities and in the ways in which they learn most effectively'

*Improving Mathematics in Post - Primary schools (ETI report 2001)**

Information and communications technology is having a huge impact on the way we live our lives. In the future more people will buy goods and services using the internet. Spreadsheets and databases are useful for recording and analysing financial information. Using ICT can enhance learning and teaching and making connections between ICT and mathematics can assist in developing financial capability.

This scenario gives young people the opportunity to discuss ICT and the effects it will have on their decisions in the future. It will allow young people to discuss the effects of advertising and ICT on their choices and illustrate ways in which ICT can be used to help with their financial affairs.

As in previous units the purpose of the PowerPoint presentation is to give a stimulus to discussing ICT and the solutions and problems it can bring. Using spreadsheets is a very powerful tool for analysing financial information and this is illustrated in this scenario.

These spreadsheets are aimed at levels 4 - 6 approximately for ICT across the curriculum.

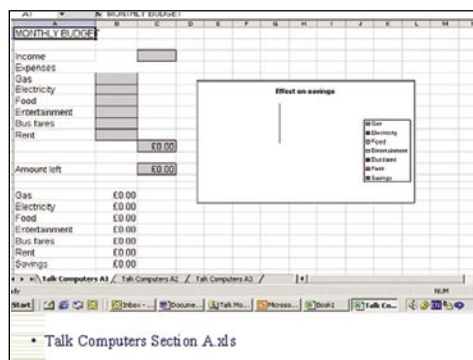
It is acknowledged that many maths teachers may find it difficult to access computer suites, however it is also important to make connections between what young people are learning in mathematics and the power of information and communications technology. It is suggested that in this unit in particular the use of group work or using computer suites perhaps during examination periods would be beneficial. In addition teachers may have access to interactive white boards and these are powerful in illustrating mathematical concepts.

** Reproduced courtesy of the Department of Education (DE)*

Talk Computers, Talk Maths – PowerPoint slides

Talk Computers, Talk Maths

- ◆ How many people have computers at home?
- ◆ What do you use the computer for at home?
- ◆ How can computers make life easier?
- ◆ How do computers make maths easier?



As you enter data into the spreadsheet, the pie chart is also completed.

Inserting Data and Formulae

- ◆ Add $F6 = F4 + F5$
- ◆ Subtract $A7 = A6 - A5$
- ◆ Multiply $B6 = B4 * B5$
- ◆ Divide $D7 = D6 / D5$
- ◆ Fill down
- ◆ Fill across

Using the Internet

- ◆ Bank services
- ◆ Travel
- ◆ Holidays
- ◆ Online shopping
- ◆ Homework information

Using the Internet

- ◆ www.moneyextra.com
- ◆ www.easyjet.co.uk
- ◆ www.jet2.com
- ◆ www.ryanair.com
- ◆ www.theaa.com

Vocabulary Corner

- ◆ Spreadsheets – numbers, budgeting, charts
- ◆ Cells
- ◆ Rows
- ◆ Columns
- ◆ Data
- ◆ Formulae

This page illustrates the PowerPoint presentation 'Talk Computers, Talk Maths'. If it is not possible to use PowerPoint slides these can be printed for use with an overhead projector.

Talk Computers, Talk Maths – Section A

Question 1

Joyce has asked you to prepare a spreadsheet to help her keep a budget.

- (a) Load spreadsheet '**Talk Computers Section A.xls**' and enter this information into the worksheet Talk Computers A1. Where the cells are shaded you are required to enter either data or formulae.

Joyce earns £700 per month.

She has to pay the following bills each month.

Gas	£25
Electricity	£15
Food	£240
Entertainment	£80
Bus Fares	£35
Rent	£200

The formula to be entered is as follows.

$$C11 = B5 + B6 + B7 + B8 + B9 + B10$$

or

$$C11 = \text{SUM}(B5:B10)$$

$$C13 = C3 - C11$$

- (b) How much money does she have at the end of the month?

- (c) Which of the above expenses do you think that Joyce can control?

- (d) How much can Joyce save if her rent is increased to £250 per month?

- (e) Illustrate using a pie chart how much Joyce spends on each bill.

Question 2

Paul has asked you to prepare a spreadsheet to help him keep his budget.

- (a) Load spreadsheet '**Talk Computers Section A.xls**', worksheet Talk Computers A2 and enter this information.

Paul earns £650 per month.

He has to pay the following bills each month.

Gas	£20
Electricity	£25
Food	£280
Entertainment	£40
Mobile phone	£15
Bus fares	£25
Rent	£160

- (b) How much money did he spend during the month?

- (c) How much money does he have at the end of the month?

- (d) Which of the above expenses does Paul not control?

- (e) Why is it important to prepare a budget?

- (f) If Paul moves to a new flat that will cost £195 per month how much can he save per month now?

- (g) Illustrate using a pie chart how much Paul spends on each bill.

Question 3

Chris has asked you to prepare a spreadsheet to help him keep a budget.

- (a) You are required to use spreadsheet '**Talk Computers Section A.xls**', worksheet Talk Computers A3 to complete this exercise.

Chris earns £690 per month.

He has to pay the following bills each month.

Food	£180
Entertainment	£100
Bus fares	£35
Rent	£240
Mobile phone	£40
Electricity	£10
Gas	£15

- (b) How much money is he planning to spend each month?

- (c) How much money does he have at the end of the month?

- (d) He wants to buy a new music system that costs £350. How many months would he need to save for in order to buy it?

- (e) How much money will he have at the end of each month if the rent is increased to £300?

- (f) Prepare a bar graph illustrating the amount spent on each item of expenditure.

Additional internet tasks

Question 4

At today's values how much is £100 worth in:

- (a) US dollars

- (b) Euros

- (c) Turkish lira

Question 5

- (a) How much would a return flight from Belfast to London cost, flying two weeks from today? You want to leave Belfast about 8 a.m. and return at about 6 p.m.

- (b) Do you think this is a good buy? _____

- (c) What are the alternatives to flying? _____

- (d) Find out some other costs of travelling from Belfast to London.

Talk Computers, Talk Maths – Section B

Question 1

- (a) You have been asked to help keep records and calculate profits for the healthy tuck shop that the school has been running. In order to help with this you have been given spreadsheet 'Talk Computers Section B.xls', worksheet Talk Computers B1. Data and formulae are entered into the shaded cells. The spreadsheet is illustrated on the next page.

In the first week of the new term you purchased:

- 10 kg of apples at 85p per kg
- 8 kg of oranges at 60p per kg
- 6 kg of pears at 75p per kg.

Sales for the week amounted to £20.

You are required to use a spreadsheet to calculate the weekly profit.

You are required to enter the formula into cells as follows.

$$D5 = B5 * C5$$

$$D6 = B6 * C6 \quad \text{You can use the fill down facility here}$$

$$D7 = B7 * C7$$

$$D8 = D5 + D6 \text{ or } D7 = \text{SUM}(D5:D7)$$

$$B15 = D8$$

$$B16 = B14 - B15$$

- (b) What would the profit have been if sales had fallen to £18?

- (c) Illustrate the total cost of each item of fruit using a bar graph.

- (d) Illustrate this information using a pie chart.

- (e) What would the profit have been if pears were 90p per kg and sales were £20?

	A	B	C	D	E	F	G	H	I											
1	Talk Computers, Talk Maths		Section B	Question 1																
2	Calculation of costs																			
3																				
4	Items	No of kg	Cost of kg	Total cost per item																
5	Apples																			
6	Oranges																			
7	Pears																			
8	Total purchase cost			0.00																
9																				
10																				
11					<p>Total cost per item</p> <table border="1"> <tr><td>£1.00</td></tr> <tr><td>£0.90</td></tr> <tr><td>£0.80</td></tr> <tr><td>£0.70</td></tr> <tr><td>£0.60</td></tr> <tr><td>£0.50</td></tr> <tr><td>£0.40</td></tr> <tr><td>£0.30</td></tr> <tr><td>£0.20</td></tr> <tr><td>£0.10</td></tr> <tr><td>£0.00</td></tr> </table> <p>Apples Oranges Pears</p>					£1.00	£0.90	£0.80	£0.70	£0.60	£0.50	£0.40	£0.30	£0.20	£0.10	£0.00
£1.00																				
£0.90																				
£0.80																				
£0.70																				
£0.60																				
£0.50																				
£0.40																				
£0.30																				
£0.20																				
£0.10																				
£0.00																				
12	Profit calculation																			
13																				
14	Sales																			
15	Total purchase cost																			
16	Profit																			
17																				

Question 2

- (a) Using the spreadsheet '**Talk Computers Section B.xls**', worksheet, Talk Computers B2, calculate the profit for week 5. Notice that the prices and quantities have changed.

Purchases were:

- 12 kg of apples at 80p per kg
- 8 kg of oranges at 75p per kg
- 10 kg of pears at 70p per kg.

Sales for week 5 amounted to £25.

- (b) What advantages are there in using spreadsheets?

- (c) Why do you think prices have changed?

- (d) What will influence the amount of fruit sold?

- (e) Illustrate the total cost of each item using

- a bar chart
- a pie chart.

Question 3

You and some friends have organised a stall at the school fund-raising event. Use the spreadsheet '**Talk Computers Section B.xls**', worksheet Talk Computers B3, to show your records and calculations

Your sales were for £85.

You purchased:

- two boxes of chocolate bars at £7.50 per box
- three boxes of fruit gums at £5.25 per box
- four boxes of cola at £6.50 per box
- five boxes of orange juice at £4.50 per box.

(a) What was the total cost of the goods purchased?

(b) What was the profit made?

(c) Illustrate the total cost of goods purchased in a bar graph.

(d) Illustrate this information in a pie chart.

(e) At the end of the event there were 10 chocolate bars left. What could you have done to make sure these were sold?

Additional internet tasks

Question 4

- (a) Find the names of four hotels in Dublin.
- (b) How much do they cost per night?
- (c) Which one would you decide to stay in? Why?

Question 5

- (a) How far is it from Enniskillen to Lisburn?
- (b) How long would it take to drive this distance?
- (c) How much would it cost in petrol if you decided to drive this distance?
- (d) What are the problems with this information?

Question 6

List five websites you could use that could save you money when buying goods or services.

Additional tasks

- (a) Why is it important to prepare a budget?
- (b) Discuss how to keep financial and personal information safe when you are using the internet.
- (c) Discuss appropriate websites where young people can purchase goods or services more cheaply than on the high street.
- (d) Discuss different sources of income.
- (e) How are goods and services advertised on the internet?
- (f) Discuss different internet providers and how much they cost.
- (g) Do they give good value for money?

Useful Websites

The following list of websites may assist in the previous exercise.

www.theaa.com

www.flybe.com

www.easyjet.co.uk

www.flybmi.com

www.moneysupermarket.com

www.moneyextra.com

http://money.msn.co.uk/Bank_Plan/Loans/Tools/it_loans/default.asp

In addition to these websites the use of various search engines may be useful, for example:

<http://uk.yahoo.com>

www.ask.co.uk

www.msn.co.uk

<http://uk.altavista.com>



Appendix - Financial Capability Learning Intentions

The following table illustrates how the learning intentions for financial capability can be addressed through the activities in *Talk Money, Talk Maths*.

Aspect of financial capability*	Learning intention	Young people are given the opportunity to:
Financial understanding As a result of learning experiences young people should be able to demonstrate an understanding and appreciation of:	1a the nature and role of money in society, including foreign currency	discuss using money to buy phones and pay for calls
	1b sources of income	discuss where money comes from to pay for top-up cards
	1c taxation, spending, saving and investment	discuss interest as a type of spending
	1d credit and debt	examine different loans and credit cards
	1e financial services/products and advisory services	discuss different savings accounts and rates of interest received
	1f consumer rights and responsibilities	discuss rights and responsibilities in relation to using mobile phones
	1g the impact of advertising ICT and the media	use the internet to get best deals on shopping, travel and banking
Financial competence As a result of learning experiences young people should be able to:	2a keep financial records	collect information on various telephone networks
	2b analyse financial information	compare costs of different school trips
	2c assess value for money	choose mobile phone network, school trip or bank service giving best value for money
	2d prepare and use budgets	calculate cost for different trips and phones
	2e make financial decisions	prepare budget using spreadsheet decide on best payment methods for mobile phone or school trip
Financial responsibility As a result of learning experiences young people should be able to:	3a take increasing responsibility for making decisions with respect to themselves	discuss health risks associated with mobile phones discuss health and safety issues on school trips
	3b analyse the potential impact of financial decisions made by others on society and the environment both locally and globally	examine the impact of telephone masts on the local environment discuss the impact of rising interest rates on the costs of borrowing
	3c analyse the potential impact of their financial decisions on society and the environment both locally and globally	examine the effect that using mobile phones has on others and on the environment
Financial enterprise As a result of learning experiences young people should be able to:	4a evaluate potential risks and returns	decide on 'enterprise project' to subsidise cost of school trip
	4b use financial and other resources in an innovative and confident manner	participate in 'enterprise project'
	4c apply knowledge and skills creatively in a range of situations	apply numeracy skills in a variety of contexts, including using ICT

*Taken from Scottish CCC position paper: Financial Education in Scottish Schools (1999). Financial enterprise aspect links to employability strand of Learning for Life and Work (LLW).

Other Resources

Teachers of mathematics may find the following resources and contacts useful.

Websites

Council for Curriculum, Examinations and Assessment (CCEA)

www.ccea.org.uk link to Financial Capability microsite with downloadable resources.

Personal Finance Education Group (PFEG)

Pfeg is an education charity whose mission is for all young people to leave school with the confidence, skills and knowledge they need in financial matters so that they can participate fully in society. Their web site www.pfeg.org lists a range of resources for teaching financial capability. Their 'Excellence and Access' program includes case studies of successful teaching and learning activities.

General Consumer Council (GCCNI)

Lesson plans in a range of subjects are available on their education portal: www.consumerline.org/portal. These tackle different issues in consumer education. Their 'Shop Around' resource was developed to help raise awareness of consumer rights and responsibilities: www.shoparound.org.uk
Other websites: www.gccni.org.uk and www.consumerline.org

Citizens Advice Bureau (NICAB)

'Money talks' program – A money management resource for Key Stages 3 & 4. This covers consumer rights, income, banking, credit, debt and budgeting. Both teacher and outreach resource packs can be downloaded from: www.citizensadvice.co.uk/moneytalks

Learning and Teaching Scotland

This website provides a range of online resources for Scottish education. There is information about the activities, products and services of Learning and Teaching Scotland and it includes pages on the work of the Scottish Centre for Financial Education. www.LTScotland.org.uk

Face 2 Face With Finance

This is a range of resources developed by NatWest. They are available from their website www.natwestf2f.com

www.rbsf2f.com – The Royal Bank of Scotland Face 2 Face With Finance

This is the portal of the Royal Bank of Scotland's *Face 2 Face With Finance* website.

BBC on the internet

There is a section on BBC learning dedicated to financial information. www.bbc.co.uk

Channel 4 learning on the internet

Channel 4 Learning produces many programmes that can be used in schools. In particular there is a link to *Looking after the Pennies*, a series of three television programmes that illustrates the importance of good financial management. www.channel4.com

Interactive CDs / CD-ROMs

Facing Up 2 Finance – Learning and Teaching Scotland

Lifeskills: Traveller's Cheque – Learning and Teaching Scotland

Lifeskills: Smart Spender – Learning and Teaching Scotland

Lifeskills: Time and Money – Learning and Teaching Scotland

Switched On – Ofgem

Money go Round for schools – Basic Skills Agency

Shop Around – General Consumer Council for Northern Ireland

Making the Most of It – **pfeg**

Printed materials

Money Talks – Citizen's Advice Bureau

Colossal Cards – Financial Services Authority

The Red Box – The Inland Revenue

Shop Around – General Consumer Council for Northern Ireland



NI AWARD WINNER 2003



INVESTOR IN PEOPLE



CUSTOMER SERVICE EXCELLENCE



Rewarding Learning

COUNCIL FOR THE CURRICULUM EXAMINATIONS AND ASSESSMENT 29 Clarendon Road, Clarendon Dock, Belfast BT1 3BG
☎ +44 (0)28 9026 1200 📠 +44 (0)28 9026 1234 📞 +44 (0)28 9024 2063 ✉ info@ccea.org.uk 🌐 www.ccea.org.uk

ISBN 1 84639 073 7

