

## Introduction

*Kids Planet is a toy library which serves about 30 families and is constantly growing. Its large selection of toys attracts a lot of children, age 2-12. Every so often, the library renews its stock, partly to replace old and damaged toys and partly to keep it up to date with the growing choice of toys on the market.*

*Kids Planet is situated in New Castle, where most of its customers live. It occupies 3 rooms on the ground level of an apartment building, on a side street, next to the shopping centre. The entrance is the reception room where the secretary works. The two other rooms are the library and the playing area. A large door connects those two rooms and an Assistant keeps an eye on what goes on in both rooms, giving advice to people, helping them finding what they're looking for and is best suited for them and making sure the children in the playing area are all right.*

*The secretary answers the phone, registers new members in the library and, of course, registers all the borrowing of toys. Besides for that, she sees to the day to day running of the library, placing orders when necessary, paying invoices, etc...*

*She keeps a manual record of what goes on in the library. She has an expenditure-file, where she keeps all the invoices and a borrowing-book where she writes down all the borrowing that goes on and an income-book where she writes down all the income. At the end of every month, she calculates the total of that month's expenditures and income and checks it against the bank statement. At the end of the year, she adds up all the expenditures and income of the year and hands it all to the manager who tries and study the situation, comparing the monthly totals. The decisions for the next year will be based on this study.*

*This system, is quite **problematic**. As we can well imagine takes a lot of space. Those books get full very quickly, about every three months. Then, the secretary has to get new ones. Every three months, her shelves become a bit fuller.*

*Besides for that, it takes the secretary a long time to calculate everything at the end of each month and every year especially since she always does the calculations a few times to make sure she hasn't done any mistakes. Also, she only gets an idea of how much money*

went through the library at the end of the month, and a proper study of the situation can only be made at the end of the year. Even then, it takes a lot of time, comparing everything manually. The results aren't always so accurate even though the secretary does her best.

As a **solution** to all this, the manager has decided to introduce Spreadsheet as a system to record all transactions that take place in the library. Every time money goes out of the library, the secretary enters it on a monthly sheet. She also has a yearly sheet for income and expenditures and a few charts. In that way, she can always check how much has been spent on a monthly basis and on a yearly one, even in the middle of the month or year.

Data **sources** for expenditures will be invoices. Amounts can then be checked against the cheque books. For the income, data sources will be bank statements.

All transactions will be **input**.

Then, the system will **process** the data in the following way: Totals will be automatically calculated, with subtotals for each category of expenses. This will avoid mistakes and save a lot of time. The system will also automatically copy the expenditures of the monthly sheet onto the yearly one. Again, this will save time and avoid mistakes. Finally, it will analyse the data and show it in three different charts. This will allow a perfectly accurate study of the situation in no time at all. This will release the manager of a enormous burden.

The **output** will then be clear monthly sheet with all the expenditures, their total and subtotal per category; a yearly sheet with monthly totals and a yearly total for both income and expenditures; finally, a first chart will show what the biggest expenses of the library are, on a yearly basis; a second one will show its biggest income, on a yearly basis and a third chart will show the balance of each month. This will enable the secretary and the manager to see which month are the most profitable, what costs most and should be reduced, what brings in most, to try and bring in even more money, etc... They will help the user in studying the situation accurately and taking good decisions, accordingly.

The system will include menus and macros to make it user friendly. When finished, the complete and tested system will be saved as a template.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4			Logo	TOY LIBRARY								
5												
6												
7												
8												
9												
10			Jan	Feb	Mar	Apr	May	Jun				
11			Jul	Aug	Sep	Oct	Nov	Dec				
12												
13												
14												
15												
16												
17												
18												
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31												
32												
33												

Buttons - By clicking on them, one gets to the monthly sheet of that month. ex: By clicking on Jan, one gets to January's monthly sheet.

Income & Expenditure | Graph 1 | Graph 2 | Graph 3

Lists

Menu Sheet. Contains 15 buttons. clicking on them gets us to all the different sheets of the workbook.

← Merge cells  
Colour Background

	A	B	C	D	E	F	G
1		January Expenditures			← Merge cells		
2							
3	Supplier	Category	Date	Amount	MENU	← brings me to the menu sheet when I click on it.	
4		Combo box -	I set the format of "Cells" to date.	Only amounts between 0.00			
5		I set it by clicking on "Validation" in	Also, as a validation, only dates between	and 10,000.00 will be accepted.			
6		"Data".	greater than	It ensures no mistakes occur in the typing of the amount.	SUMMARY	← clicking on this button creates a summary with subtotals for each category.	
7		In the Validation Criteria, I allowed only "List".	31/12/2006 will be accepted to ensure no mistakes occur in the date.		Clear Summary	← clears the Summary	
8		I chose the list that I had created and named "Categories".	The input message will be "Enter date greater than 31/12/2006".		Clear Sheet	← clears the content of the sheet but not its format.	
9		In this way, I can only enter in that column names that appear in the "Category" list.	Every time I'll click on a cell in this column, the message will appear.		PRINT	← Prints with a summary and the subtotals.	
10		By clicking on the combo box,					
11		I can see all the items of that list.					
12		By clicking on one of them, I can choose to enter it.					
13							
14							
15							
16							
17							
18							

Monthly Sheet 1.

19					
20	Total Expenditure By Category				
21	List of Categories	=SUMIF(B34:B348, A21, (B34:B348))	<p>← This formula means the following:</p> <p>All expenditure from a certain category, will be added up. Column B will tell me if something belongs to that category and Column D will tell me the amount, to calculate the total.</p> <p>Column B and D with 1-18 are fixed references of the locations of the data. Therefore they appear in the formula with the sign "\$" incorporated in it to indicate that whenever the formula is entered, this reference doesn't change.</p> <p>Column A, &amp; cells 21-31, contains the names of all the categories. If in A21, "Phone" appears, then in cell B21, all expenditures from the "phone" category will be totalised.</p> <p>This is a relative reference.</p> <p>When I choose to "cut" these two cells (A21-B21) and copy them 2 rows further down, I want the "A21" to in the formula in B23 to change to "A23". In other words, when I write A21, I only mean the cell next to the one in which I'm writing the formula - that is a relative reference. Therefore it appears without the dollar sign.</p>		
22	↓	copy the formula in all cells. The fixed reference won't change. The relative one will.			
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					

	A	B	C	D	E	F	G
1							
2		<p>← list of categories - To create the list, enter all categories - Then, Insert a Name → Define - your list now has a name - and can be used in a Validation -</p>					
3							
4							
5							
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8							
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13							
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16							
17							
18							

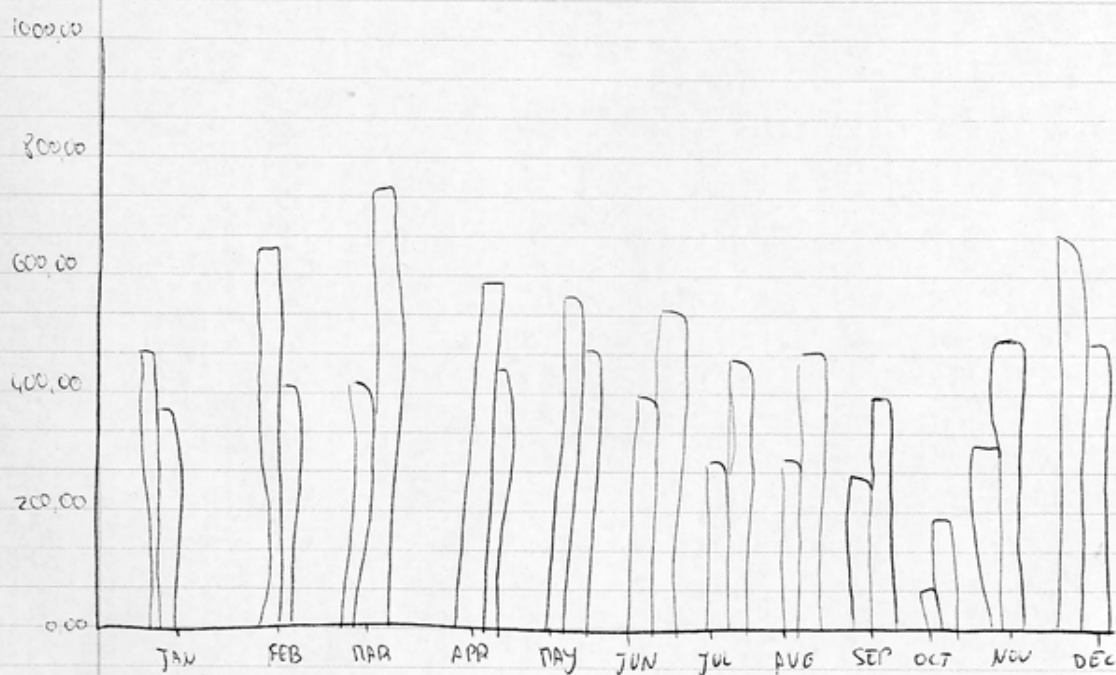
	A	B	C	D	E	F	G
1	Menu	← Button logo to Menu Sheet.					
2					INCOME AND EXPENDI		
3							
4							
5	Income <sup>← Bidd</sup>	January	February	March	April	May	June
6	Grants						
7	Membership fees						
8	charge for toys						
9	TOTAL	=SUM(B6:B8)	=SUM(C6:C8)	=SUM(D6:D8)	=SUM(E6:E8)	=SUM(F6:F8)	=SUM(G6:G8)
10		↑ Add up the amounts from B6 → B8 - same for the whole row -					
11	Expenditure <sup>← Bidd</sup>	again what's written in Sheet 'Jan', G11 A21.					
12	Wages	=JAN!B21	=FEB!B21	=MAR!B21	=APR!B21	=MAY!B21	=JUN!B21
13	New toys	=JAN!B22	=FEB!B22	=MAR!B22	=APR!B22	=MAY!B22	=JUN!B22
14	Phone	=JAN!B23	=FEB!B23	=MAR!B23	=APR!B23	=MAY!B23	=JUN!B23
15	Stationery	=JAN!B24	=FEB!B24	=MAR!B24	=APR!B24	=MAY!B24	=JUN!B24
16	Other	=JAN!B25	=FEB!B25	=MAR!B25	=APR!B25	=MAY!B25	=JUN!B25
17	TOTAL	=SUM(B12:B16)	=SUM(C12:C16)	=SUM(D12:D16)	=SUM(E12:E16)	=SUM(F12:F16)	=SUM(G12:G16)
18	Change cells →	=IF(N17>N9, "We've overspent!", "We've made benefit!")					

← conditional Formatting: If cell value is equal to "We've overspent!" → Red background.  
 "We've made benefit!" → Green background.

	H	I	J	K	L	M	N
1					Button to clear all the income → cells content, not format.		Clear Income
2	TURES	2005					
3							
4							
5	July	August	September	October	November	December	TOTAL
6							=SUM(B6:M6)
7							=SUM(B7:M7)
8							=SUM(B8:M8)
9	=SUM(H6:H8)	=SUM(I6:I8)	=SUM(J6:J8)	=SUM(K6:K8)	=SUM(L6:L8)	=SUM(M6:M8)	=SUM(N7:N10) ← Bold
10							
11							
12	=JUL!21	=AUG!21	=SEP!21	=OCT!21	=NOV!21	=DEC!21	=SUM(B12:M12)
13	=JUL!22	=AUG!22	=SEP!22	=OCT!22	=NOV!22	=DEC!22	=SUM(B13:M13)
14	=JUL!23	=AUG!23	=SEP!23	=OCT!23	=NOV!23	=DEC!23	=SUM(B14:M14)
15	=JUL!24	=AUG!24	=SEP!24	=OCT!24	=NOV!24	=DEC!24	=SUM(B15:M15)
16	=JUL!25	=AUG!25	=SEP!25	=OCT!25	=NOV!25	=DEC!25	=SUM(B16:M16)
17	=SUM(H12:H16)	=SUM(I12:I16)	=SUM(J12:J16)	=SUM(K12:K16)	=SUM(L12:L16)	=SUM(M12:M16)	=SUM(N12:N16)
18	Conditional Formatting: If cell value is less than "£N99" → Green & greater than "£N99" → Red						

chart 3.  
Balance of each month on a yearly basis.

Revenue ← Button to get to Revenue

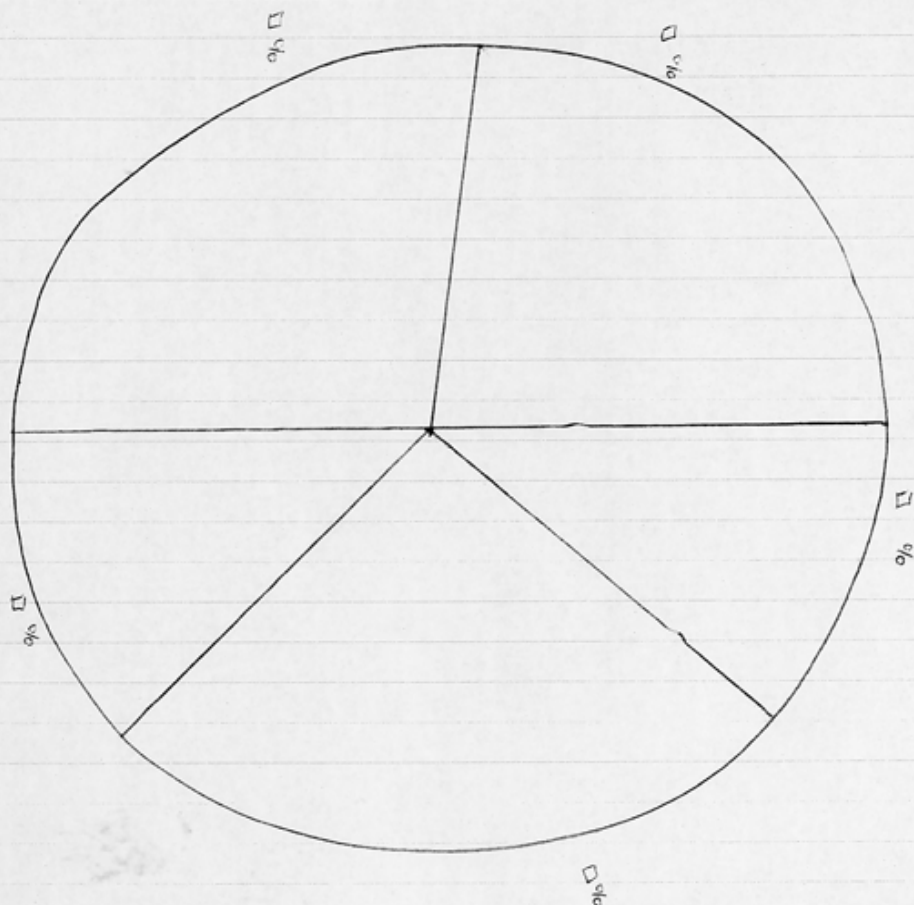


Income Expenditure

chart 1.

What is the most expensive for the library?

Menu ← Button  
to get to  
Menu



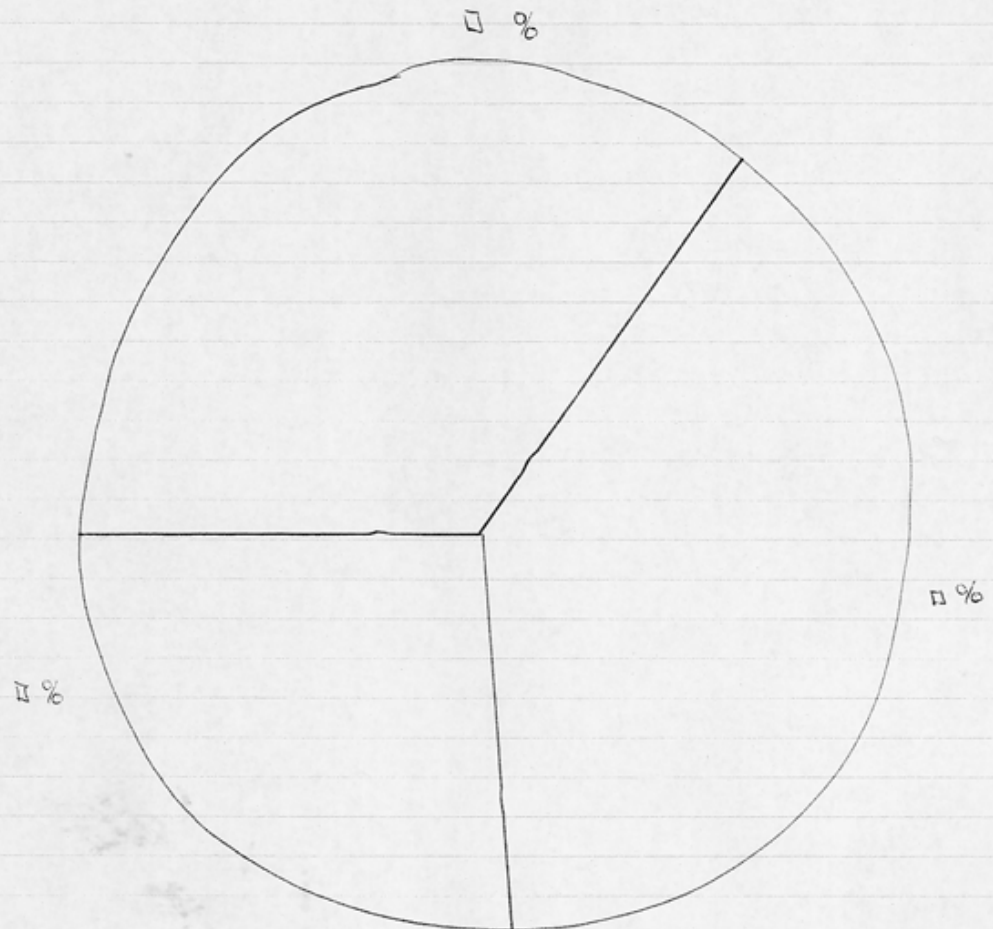
□ Wages	□ Stationery
□ <del>Phone</del> New Toys	□ Other
□ Phone	

6

Chart 2.

What is the biggest income of the library?

Press < Button  
to get to  
Menu



- ☐ Grants
- ☐ Membership fees
- ☐ Charge for loans

## TIME PLAN

<b>Project Implementation plan</b>	<b>Target dates</b>	<b>Final dates</b>
Design	09/06/05	09/06/05
Implementation	21/06/05	22/06/05
User Guide	23/06/05	23/06/05
Technical Documentation	23/06/05	23/06/05
Testing	24/06/05	24/06/05

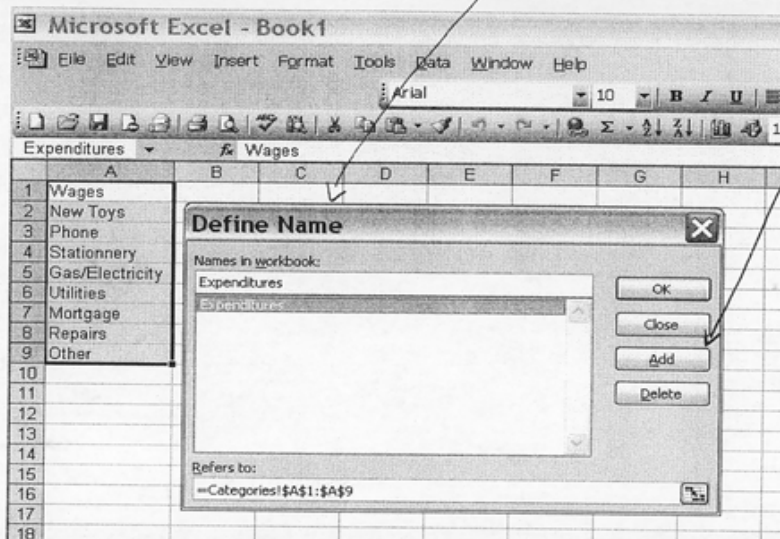
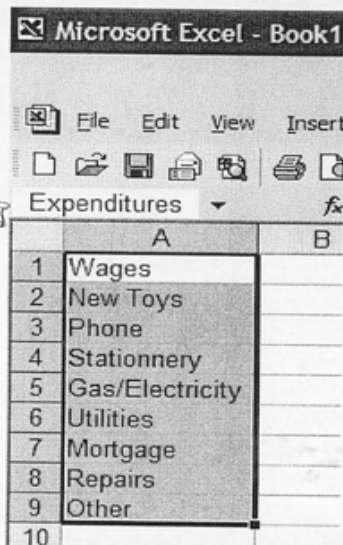


I created a list and called it 'Expenditures'.

I typed it in, then selected the whole range, "Insert", "Name", "Define". I entered the name of the category, then clicked on

"Add".

My list now has a name.



Instead of typing the whole list in I type "-" and then selected the list on sheet "Categories". I then copied the formulae, which is a relative one.

That's how I got the whole list of formulae.

The formulae means that in cell A38 for eg. "Wages" will come up - etc...

TOTAL EXPENDITURES BY CATEGORIES											
=CATEGORIES!A1											
=CATEGORIES!A2											
=CATEGORIES!A3											
=CATEGORIES!A4											
=CATEGORIES!A5											
=CATEGORIES!A6											
=CATEGORIES!A7											
=CATEGORIES!A8											
=CATEGORIES!A9											

=SUMIF(\$C\$4:\$C\$33,A38,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A39,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A40,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A41,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A42,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A43,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A44,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A45,\$D\$4:\$D\$33)  
 =SUMIF(\$C\$4:\$C\$33,A46,\$D\$4:\$D\$33)

← This formulae indicates that all values belonging to the same category should be added up. What ever is in cell C4 till C33 that belongs to the same category as cell A38, should be added up.

BC61, :C\$33 is a fixed formulae. Whenever you copy it, it won't change. A38 is relative. If you move the formulae to the cell below, it will show A39.

The answer can be checked in cell D4 till D33.

JANUARY

This is my monthly sheet.

I added →  
all the  
entries.  
Then, everything  
will be  
added up  
at the  
bottom  
of the  
page

Microsoft Excel - Book1

File Edit View Insert Format Tools Data Window Help

Castellar 18 B I U 75%

A1 JANUARY EXPENDITURES

DATE	SUPPLIER	CATEGORY	AMOUNT
15-Jan-05	Gas & Electricity	Gas/Electricity	£67.87
13-Jan-05	Kids Store	New Toys	£69.50
20-Jan-05	Smoby	New Toys	£47.00
25-Jan-05	BT	Phone	£75.53
2-Jan-05	WHSmith	Stationery	£23.75
31-Jan-05	Secretary	Wages	£250.00
31-Jan-05	Assistant	Wages	£175.00
28-Jan-05	Cleaner	Wages	£50.00
18-Jan-05	Wilkinson	Utilities	£36.00
15-Jan-05	Leason Property	Mortgage	£105.00
3-Jan-05	Tesco	Other	£13.05
8-Jan-05	Dixon	Repairs	£34.00

← Merge Cells

MENU  
SUMMARY  
CLEAR  
SUMMARY  
CLEAR  
SHEET  
PRINT

← Set to "currency" in Format Cells  
← Set to "Date" in Format Cells

TOTAL EXPENDITURES BY CATEGORIES	
WAGES	£475.00
NEW TOYS	£136.50
PHONE	£75.53
STATIONERY	£23.75
GAS/ELECTRICITY	£67.87
UTILITIES	£36.00
MORTGAGE	£105.00
REPAIRS	£34.00
OTHER	£13.05

FEBRUARY

Microsoft Excel - Book1

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

B9 Assistant Σ 2 75%

FEBRUARY EXPENDITURES				
DATE	SUPPLIER	CATEGORY	AMOUNT	
15-Feb-05	Gas & Electricity	Gas/Electricity	£102.57	
25-Feb-05	BT	Phone	£89.65	
2-Feb-05	VHSmith	Stationery	£12.57	
28-Feb-05	Secretary	Wages	£250.00	
14-Feb-05	VHSmith	Stationery	£13.57	
28-Feb-05	Assistant	Wages	£175.00	
15-Feb-05	Leason Property	Mortgage	£105.00	
19-Feb-05	Cleaner	Wages	£43.00	
5-Feb-05	Tesco	Utilities	£31.00	
6-Feb-05	Wilkinson	Stationery	£6.00	
28-Feb-05	Srips	Other	£14.00	

MENU

SUMMARY

CLEAR SUMMARY

CLEAR SHEET

PRINT

TOTAL EXPENDITURES BY CATEGORIES	
WAGES	£468.00
NEW TOYS	£0.00
PHONE	£89.65
STATIONERY	£32.34
GAS/ELECTRICITY	£102.57
UTILITIES	£31.00
MORTGAGE	£105.00
UTILITIES	£31.00
MORTGAGE	£105.00

Please note that similar pages for the remaining months have been removed.