Prepare Financial Reports

Accounting

Banking G11

Year 12 Semester 1

LEARNER RESOURCE

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© Qatar Banking Studies and Business Administration Independent Secondary School

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DOHA QATAR

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About this Learner Resource

The purpose of this Learner Resource is to provide you with the underpinning knowledge required to assist you in completing assessment/s in Produce spreadsheets.

This Learner Resource also contains activities for you to test your knowledge and examples of skills application.

Throughout this Learner Resource, you will see icons that provide opportunities to test your knowledge and practice skills. This icon is displayed as follows:



This icon is used to highlight an ideal time to test your knowledge or practice what you have learnt.

How will I be assessed?

- ➤ In order to achieve competency in Produce spreadsheets you will need to demonstrate the skills and knowledge required for the unit.
- Your teacher will decide with you how and when you will be assessed.



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About this unit:

Welcome to the Learner Resource for Produce spreadsheets. In this Learner Resource you will be learning about the performance outcomes, skills and knowledge required to develop spreadsheets through the use of spreadsheet software.

It is suggested that to meet all the requirements of Produce spreadsheets youwill need to complete the following tasks:

- > Read the information contained in this Learner Resource.
- ➤ Complete the activities.
- ➤ Complete all the required assessment/s for this unit.

The topics in this Learner Resource are:

- > Select and prepare resources.
- Create simple spreadsheets.
- > Produce simple charts.
- > Plan spreadsheet design.
- > Finalise spreadsheet.



Introduction



You are about to commence a vocational course where you will be required to demonstrate your competency in developing spreadsheets through the use of spreadsheet software. This unit of competency covers the skills and knowledge required to create and design spreadsheets that encompass formatting, formulae

and charts, working under minimal supervision.

Select and prepare resources

The first task you will need to consider when producing spreadsheets is how to select and prepare the resources you will need to successfully complete the task.

Occupational health and safety issues

The ergonomic requirements of the individual employee is a significant occupational health and safety (OHS) issue. As this unit focuses on using the computer to create and use spreadsheets, we need to be aware of the design of the office environment and the individual workstation.



It is recommended that you consider the following to prevent OHS issues when operating computers at workstations within an office environment:

- > style of workstation or desk, depending upon the functions to be performed.
- workstation or desk heigh.t
- > placement of workstation within the office.
- placement of keyboard to align with computer monitor and body, mouse and computer monitor, in-out tray, and other equipment regularly used.
- computer monitor stand, wrist or forearm rests or document holders, and their placements.
- ➤ placement of storage facility for items needed to be accessed regularly, such as training manuals, paper, envelopes, pens and so on.
- placement of necessary filing cabinets.
- ➤ adequate leg room underneath workstation or desk.
- footrest.
- ➤ lighting, including optimum lighting for the required task(s), reduction of glare and reflections from work surfaces.
- noise of nearby equipment or machinery.
- provision of privacy and place to talk without interrupting others.
- ➤ air quality, temperature, including impact from heating/cooling vents.
- adjustable chair to provide proper support and height.
- telephone headset for frequent use.
- cabling protection.



Look at the following checklist and answer the questions about your current workstation.

Checklist	Yes	No
Do you have an individual workstation?		
Is there enough space around your furniture to gain access to the workstation and move around it comfortably?		
Is your desk large enough to accommodate all your work?		
Is your desk at the correct height?		
Is your chair comfortable and able to be adjusted?		
Is your computer screen at a comfortable reading distance?		
Is the height and angle of your monitor correct?		
Is there sufficient space to move your mouse effectively?		
Is the keyboard angled correctly?		
Do you have to twist your neck to see your work?		
Are document holders available?		
Can you place your feet on the floor or is there a footrest available?		
Is the monitor clean and the image stable?		
Does your monitor reflect glare from windows and other objects?		
Is the lighting satisfactory, not too bright or too dull?		

Many employees spend most of their day using the computer. It is essential that correct posture is maintained throughout the day to avoid muscle or joint strain.

Developing touch-typing skills helps to reduce strain in moving the head frequently in order to look at the keyboard, particularly when typing from a document.



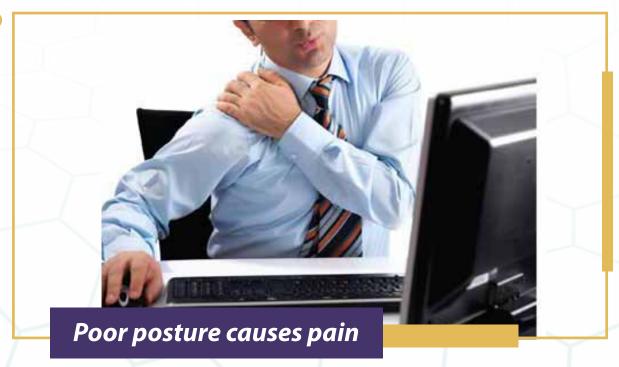
When typing, you should ensure that your fingers are curved over the keyboard with each of your thumbs over the spacebar. Wrists should not be raised and elbows should be alongside your body.

At your workstation, you should exercise frequently to prevent injuries from overuse. Be mindful of wrists, arms, shoulders, neck and head, taking adequate breaks from repetitive tasks, such as using a keyboard and mouse.

Eye strain is also a common problem when working at the computer for long periods of time. Look away from the monitor frequently to give your eyes a rest.Blinking often will stop your eyes from drying out.

If ergonomic requirements are not considered, then a worker could suffer all, or any of the following:

- aggravation of an existing injury or illness.
- neck, shoulder, back, or repetitive strain injury.
- eye strain or damage.





It is the responsibility of each individual to position their computer and keyboard to reduce the possibility of workplace injury.

Tick off the following to ensure that your computer and keyboard are correctly positioned.

Arrange your work area so that you are directly facing both the computer and keyboard. This avoids unnecessary twisting and turning.

The monitor should be at eye level when sitting. Check to see you are looking directly at the top line of the screen. This reduces the chance of stressing your neck muscles.

Place monitor at arm's length away from you to reduce visual fatigue.

Tilt your screen to reduce glare.

Provide enough workspace for the keyboard, mouse, and other attachments so you are able to move about freely without bumping into things.

Adjust your chair so that the keyboard is at elbow level. Your forearms, wrists and hands should be in a straight line parallel to the floor as you type.



The ergonomics of your workplace



You are required to adjust your workspace, furniture and quipment every time you use the computer facilities. You will be observed and assessed throughout this course on your ability to consistently demonstrate appropriate ergonomic practices.

Conservation techniques

Environmentally sustainable work practices are procedures adopted within a work environment that contribute to a reduction in the use of the earth's limited resources. It is generally accepted that we must conserve and manage these resources for our own needs so that we do not compromise the ability of future generations to meet their needs.

Some states and countries will have laws that apply to large corporations. There may also be laws that relate to specific industries which ensure that materials are disposed of appropriately.

Organisations will also have policies and procedures in place to minimise wastage. For example, some businesses will have policies for the shredding of paper or the correct disposal or recycling of consumables.

Vodafone Qatar is proactive in promoting environmentally sustainable work practices.

Read the following advertisement to see one way in which it is pursuing its environmentally sustainable ideals.





Hand it on.

Bring in your old mobile phone for recycling and get 10% off a new handset.

Hundreds of thousands of unwanted mobile phones are discarded every year. When dumped in landfills, the metals and chemicals from these handsets leak out and pollute the land, air and water. But there is a better way.

Vodafone has launched Qatar's first mobile phone recycling programme. If you've got an old mobile phone that you don't need anymore, bring it in-store and drop it in our handset recycling box. Phones that no longer work will be dismantled and recycled in a responsible way, while phones that do will be given a new life elsewhere.

What's in it for you?

To thank you for recycling your old mobile phone and taking care of our environment, we'll give you a voucher for 10% off the price of a brand new handset.

So go on, hand it on.

What can businesses do to respond to conservation issues?

- Use of email instead of printing and mailing correspondence
- Water conservation
- Paper recycling prepare note pads from scrap paper`
- Make double sided paper copies where possible
- Shredding of confidential waste paper for recycling
- Return of mobile phones
- Recycling of printer cartridges
- Use of energy efficient lighting
- Electronic filing and archiving
- Use of power-saving options and stand-by functions on office equipment.



- Turning office equipment off at power source when not in use.
- Car pooling.

Read the following article to see what other procedures Vodafone Qatar has implemented in support of its environmentally sustainable work practices.

News

Vodafone Qatar offers 'green' ideas to all companies

Friday 22 October 2010 | 11:13 CET

Vodafone Qatar is encouraging all companies to adopt some of its "simple yet effective" ideas to "make a world of difference" in protecting the environment following the success of its "Green Office" drive. To kick start the campaign, Vodafone introduced video-conferencing facilities to cut down on business travel and reduce carbon emissions, and purchased non-polluting, energy efficient items such as office furniture and carpets that can be reused and recycled at the company's Qatar Science & Technology Park headquarters. The operator says nurturing a 'Green' world is one of the pillars of its Vodafone Corporate Responsibility, which aims to lead activities that protect environment and its resources. Ultimately, all paper used at Vodafone Qatar is collected and recycled by Al Sawaidi, the only paper recycling facility in Qatar. Staff training and education in environmental issues is a key factor to the success of the campaign, Vodafone said.



Activity 1

List the practices you believe could be implemented here at school to assist with conservative techniques.

Task requirements

Often, supervisors will require a task to be completed by the employee. However, the supervisor may not provide specific or detailed instructions that will enable the employee to complete the task.

If this is the case, the employee will have to use appropriate questioning techniques in order to find out what key information is required to be able to perform the task.

The employee may have to consider who will be the best person to answer their questions. An organisational chart may have to be consulted in order to determine the most appropriate person to ask.

With spreadsheets, we may need to ask specific questions, such as:

- ➤ What is the purpose of the spreadsheet?
- What program is to be used?
- What data, numbers or text has to be entered?
- ➤ What is the output requirement and what formulae will be required?
- ➤ How is the data to be presented?
- ➤ Will the presentation of charts be necessary?
- ➤ How and where will the data be stored?





Create simple spreadsheets

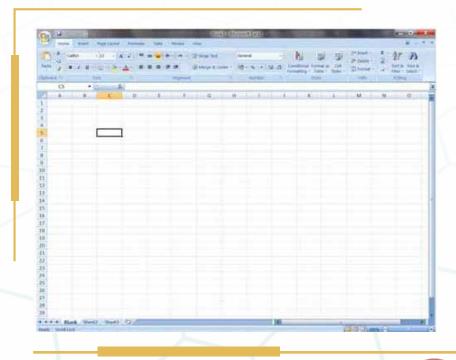
Entering data into a spreadsheet

Once you have selected and prepared the resources you need to commence creating your spreadsheet.

We first need to understand a number of basic concepts associated with spreadsheets.

A spreadsheet is actually a worksheet which is part of a workbook. If you look at the bottom left hand corner of the page you will see that 'Sheet 1' is highlighted. We can use and save any number of sheets, which will then form part of the one workbook.

You will also see that there are numbers down the left hand column, and letters across the top of the page. The numbers on the left, correspond to the rows across the page, and the letters at the top correspond to the columns appearing vertically. This is essentially a grid reference system, which uses these numbers and letters to determine the exact location of a cell.





When you open a worksheet, the box at the top left hand corner should be clearly highlighted – that is the active cell, and is called 'A1' as it appears at the junction of the number 1 row and number A column. As you move between cells, the highlighted cell is the 'active' cell, and its reference appears in the left hand panel below the toolbar or ribbon.

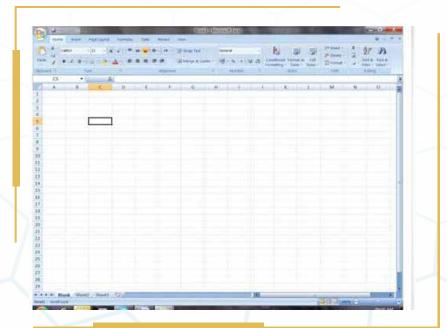


Activity 2

Look at the following worksheet.

What is the location of the active cell?	

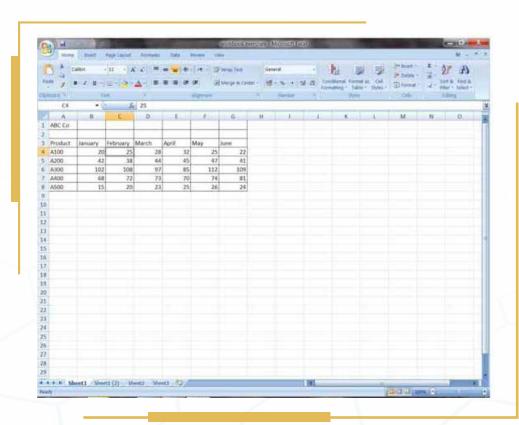
What is the name of the worksheet?





You can move between cells by using your mouse, left-click to activate a cell, or by using the Tab key. You should note that some manuals will tell you to press 'Enter' to secure data in the active cell and move to the next, and other programs will tell you to record data and then move to the next cell by pressing the Tab key. Provided that the correct data appears in the cell once you move to the next active cell, it does not matter which method you use to enter the data.

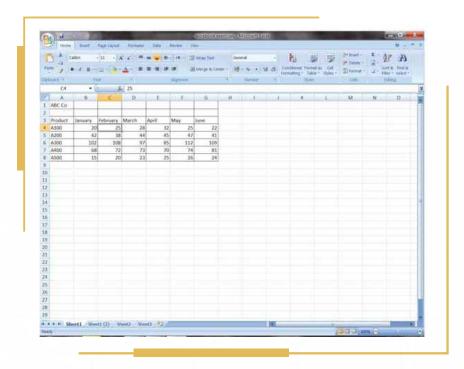
We will now practise working with a spreadsheet. Open excel and create a new worksheet and enter the data below. The data consists of both text and numbers.



Spreadsheets consist of rows and columns of numeric data. Mathematical calculations are performed upon this data. It is therefore most important that the data entry has to be completely accurate if the results of the spreadsheet are to be relied upon.

To enter the numeric data, engage the number lock at the right hand side of your keyboard and use the numeric keys in that section or use the numeric keys located above the alpha keys in the main section of the keyboard.

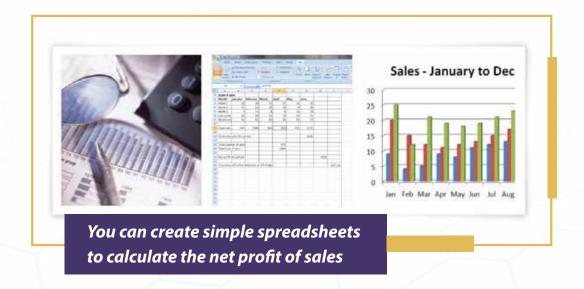
Identify the differences in the following worksheet and make the changes to the spreadsheet you have already created.



We have seen how important it is to identify the task requirements and how you may need to consult an organisational chart to determine who the most appropriate person is to assist you with enquiries.

It is equally important to be aware of the organisational requirements in preparing spreadsheets. There may be a number of style and presentation requirements you would need to meet in order to satisfy organisational procedures. For the purposes of this unit, we will assume the following procedures should be followed at all times, unless otherwise stated.

- Spreadsheets to be named 'drive\BSBITU304A\document_title\date'.
- Spreadsheets to be printed showing gridlines and row and column headings.
- Always preview your spreadsheet before printing to ensure you do not waste paper. Make sure the gridlines and row and column headings are showing.
- Print your document but take care to make sure you only print a particular sheet or selection of a worksheet.
- Save your work using correct protocol.
- Amend your spreadsheet to correct any data entry or calculation errors.
- Save your corrected work or 'save as' a different file name.



Formatting a spreadsheet using software functions

We have seen how important it is to identify the task requirements and how you may need to consult an organisational chart to determine who the most appropriate person is to assist you with enquiries.





Activity 3

You are employed by the stationery division of an organisation, and the manager wants you to calculate which of its pen products is the most profitable. The purpose of this spreadsheet is to calculate the net profit received for the sale of Super 6 pens over a period of six months.

Spreadsheet data:

- In January, the division sold 20 pens in the first week, 11 in the second week, 7 in the third week and 25 in the last week.
- In February, the numbers were 30 in the first week, 22 in the second week, 11 in the third week and 29 in the last week.
- The numbers for March were 28,19,8, and 22; for April were 21,10 6, and 18; for May were 15,9,15, and 18; and for June were 16,22,20, and 21.
- Each pen sells for 15\$ and the cost to the division for acquiring each pen is \$ 7.

Data entry:

So how do we go about this? Follow the steps in order.

Step 1

Open a new workbook.

Step 2

In the A1 cell enter 'Super 6 pens'.



In A2 enter the word 'Month', in A3 enter 'Week 1', in A4 enter 'Week 2', in A5 enter 'Week 3' and in A6 enter 'Last week'.

Step 4

In B2 enter January, in C2 enter February, in D2 enter March, in E2 enter April, in F2 enter May, and in G2 enter June.

Step 5
Then you have to enter the number of pens sold.

1	A	В	C	D	E	F	G
2	Month	January	February	March	April	May	June
3	Week 1	20	30	28	21	15	16
4	Week 2	11	22	19	10	9	22
5	Week 3	7	11	8	6	15	20
6	Last week	25	29	22	18	18	21

Step 6

Now we are going to total the number of pens sold in each month. First, enter the words 'Month total' in A7, and then enter the following formulae:

- ➤ in B7'=B+3B+4B+5B6' (eg we are directing the program to add the amount of pens sold in the first, second, third and last week of January)
- ➤ in C7'=C+3C+4C+5C6'
- ➤ in D7'=D+3D+4D+5D6
- ➤ in E7 '=E+3E+4E+5E6'



- ➤ in F7 '=F+3F+4F+5F6'
- ➤ in G7'=G+3G+4G+5G6'.
- ➤ All totals for the month should now show as ,55 ,77 ,92 ,63 57 and 79.

The next step is to calculate the monthly sales value, at 15\$ per pen:

- In A9 please enter the words 'Total sale price', then enter the following formulae:
 - ➤ in B9 enter '=B15*7' (eg we are directing the program to multiply the total number of pens sold in January by the sale price of 15\$)
 - ➤ in C9 enter '=C15*7'
 - ➤ in D9 enter '=D15*7'
 - ➤ in E9 enter '=E15*7'
 - ➤ in F9 enter '=F15*7'
 - ➤ in G9 enter '=G15*7'.

The total sale price for each month should now show as 945, 1,380, 1155,825, 855 and 1,185.

Step 8

Now let's add the total value of sales for the six month period by inserting the words 'Total sale price for period' in A11, and then in G11 entering the formula '=B9+C9+D9+E9+F9+G9' (eg we are directing the program to add the value of pens sold for the months of January to June, both inclusive).

The value of the total sales should now be shown as \$6,345.



We discover that we have made an error. Before we calculated the value of the total sales, we should have calculated the cost of buying the pens in order to arrive at a net profit figure. Do we have to do this all over again, or is there another way?

Fortunately, we can use the program to make most calculations, so this time we do not need to start from the beginning.

We know that the purchase price of each pen is 7\$. So first we need to add up the total number of pens for the period in question.

In A13 insert the words 'Total number of pens', and then in E13 insert the formula '=B+7C+7D+7E+7F+7G7' (eg we are directing the program to add up the total number of pens sold for each month).

The number shown should be 423.

Then in A14 insert the words 'Total cost of pens', and in E14 insert the formula '=E7*13' (eg we are directing the program to multiply the total number of pens for the period by the purchase price of 7\$).

In E14 the total acquisition cost should be shown as \$2,961.

Step 10

So now we know that the total amount the division received for the Super 6 pens during the period was 6,345\$ (G11), and the total costs for the Super 6 pens sold in that period was 2,961\$ (E14). How do we then ascertain the net profit?

In A16 insert the words 'Net profit for period', and then in H16 insert the formula '=G-11E14' (eg we are directing the program to deduct the total cost of the pens for the period as shown in E14, from the total sale price of the pens for the period as shown in G11).

The amount shown in H16 should be 3,384\$.

Step 11

Your employer has decided that to calculate the true profit, a percentage of 2% should be deducted for handling and freight costs.

So how do we do this?

We could multiply the net cost by 2% and then deduct that 2% from the total, or we could simply multiply our total by 98% to arrive at the true profit figure.

Therefore, in A18 please insert the words 'True net profit after deduction of 2% handling', and in I18 insert the formula '=H%98*16' (eg we are directing the program to find 98% of the amount in H16).

The figure shown should be 3,316.32\$.

Step 12

You have now completed Sheet 1 in your workbook. Save that workbook by using the designated naming and storing requirements.



Print Sheet 1, using the designated preview/printing requirements, and place your printed work in your portfolio.

Step 14

Please turn to Activity answer 3 at the back of this workbook to check your spreadsheet and take a rest break.



Activity 4

Unfortunately, your employer provided you with some incorrect data and the spreadsheet previously prepared has to be amended.

However, just in case he or she decides that the original data was not an error, we will decide to be prudent and retain the previously saved spreadsheet just in case.

Spreadsheet data:

➤ Week 1 sales for March should be 15, the last week's sales for Mayshould be 22 and June's sales for week 2 should be 20..

Data entry:

Retrieve the spreadsheet you have just completed.

Follow the steps in order to insert your information into another sheet and then correct the data.



With your mouse, using click and drag techniques, highlight all of the cells from and including A1 to I18.

Step 2

Copy the selection of cells and paste the selection into Sheet 2.

Step 3

In D3 change 28 to 15, in F6 change 18 to 22, and in G4 change 22 to 20.

You will notice that all of the cells in which formulae have been inserted will automatically re-calculate.

Step 4

However, we have not finished yet. Your employer has decided that the handling allowance should be %3 instead of 2%.

Step 5

Please alter cells A18 and I18 accordingly.

Step 6

Check that your work is the same as Activity answer 4 at the back of this workbook.

Step 7

Save your work.

Step 8

Review and print Sheet 2 for inclusion in your portfolio.

Step 9

Check that you have the original Sheet 1, and your new Sheet 2, in your workbook, exit the spreadsheet application and take a rest break.





Activity 5

You now have to re-name and colour your sheets, and then print them using the print option facility.

Spreadsheet data:

Sheet 1 is to be renamed 'Original Data Super 6 pens' and sheet 2 is to be renamed 'Updated Data Super 6 pens'. Both new sheet names are to be coloured.

Data entry:

Re-open your spreadsheet application, and then re-open the sheets you created in the previous two activities. Follow the steps.

Step 1

Make sure your active sheet is Sheet 1. Double left click on the 'Sheet 1' tab in the bottom left hand corner. Over the words 'Sheet 1' enter Original data Super 6 pens.

Step 2

Move to Sheet 2. Double left click on the 'Sheet 2' tab in the bottom left hand corner. Over the words 'Sheet 2' enter 'Updated data Super 6 pens'.

Step 3

Return to 'Original data super 6 pens', right click and colour the tab.

Repeat and use a different colour for the tab for 'Updated data Super 6 pens'.



Check that your work matches Activity answer 5.

Step 5

Go into Print preview, then Setup, then Header/Footer, Custom header, and in the centre section type 'Original data Super 6 pens', then 'OK'twice. Check that the print preview matches Activity answer 5.

Step 6

Print a copy of your 'Original data Super 6 pens' sheet, and include this in your portfolio.

Step 7

Repeat these actions in respect to 'Updated data Super 6 pens', make sure you save your amendments, print a copy for your portfolio and then take a rest break.



Activity 6

You now have to format your spreadsheet by merging cells, centringheadings, expanding column widths and changing the page orientation.

Spreadsheet data:

'Updated Data Super 6 pens' is to be formatted into a new sheet, renamed'Formatted updated data Super 6 pens' and with the tab coloured.



The heading, Super 6 pens is to be merged and centred.

Column A is to be expanded.

Both new sheet names are to be coloured.

Data entry:

Re-open your spreadsheet application, and then open the sheets you created in the previous activities. Follow the steps below.

Step 1

Open your 'Updated data Super 6 pens sheet', and then copy and paste it into Sheet 3.

Rename Sheet 3 as 'Formatted Super 6 pens sheet'.

Step 2

We will now change some attributes in your sheet:

- ➤ Go to cell A1, click and drag across to I1. In the Home tab and in the alignment section of the ribbon, click on 'merge and centre'.
- ➤ Then in B25 type the total net profit figure of 3197.12, then in A25 type 'Total net profit Super 6 pens' and press 'Enter'.
- ➤ You will see that all of the words in A25 are not visible in the cell (although you can see them in the top right hand panel).
- ➤ Whilst the active cell is A25, please go to Format Cells (right click), Alignment, click 'Shrink to fit' and 'OK'. You will now be able to see all of the words in A25.

Then with your mouse, click on the junction of A and B, and move the cell divider to the right until you can see the words in A25 in normal size.

Column I is now located on page two of the sheet, and will appear on a separate page when printed!



You will need to make some changes to ensure that all of the figures appear on the one page. We have a number of options:

- ➤ Go to Print or Print preview, find the Page setup, and set orientation to Landscape.
- ➤ Alternatively, you could go to Print or Print preview and 'shrink' to fit to one page. All components of the sheet will then print on the one page.

Step 4

Check that your work is the same as Activity answer 6.

Step 5

Print two copies using each of the methods above. Print one copy using landscape orientation and print another copy by shrinking and 'fit to one page' on portrait. Save your changes, include both printed sheets in your portfolio and take a rest break.

Use and testing of formulae to meet task requirements

It has been noted previously how important it is to enter data correctly. The same applies to entering formulae. Entering ncorrect formulae will trigger an error response from the software or will produce incorrect results.

One way of checking the formula is to highlight the cell containing the formula and look at the panel under the toolbar. This will indicate exactly what formula is being used in that cell.





Activity 7

You now have to re-name and colour your sheets, and then print them using the print option facility.

Spreadsheet data:

Create a new sheet.

Enter the following numbers in cells A1, B1, C1 and D1 – 235, 226, 273, 274.

Data entry:

Open the spreadsheet file we have been working on and then follow the steps.

Step 1

When you opened your new workbook, this should have opened automatically with three sheets. The first thing we are going to do here is to create a new sheet in your existing workbook:

- Click on 'Insert' and then 'Worksheet'.
- ➤ Using your mouse and the left click function, and the small arrow which will appear above the pointer, drag the new sheet to the right of your 'Formatted updated data super 6 pens'.
- ➤ Then using the steps you followed in previous learning activities, rename that sheet 'Checking formulae' and colour code.



Type the following data in your 'Checking formulae' sheet:

- in A1 insert the figure 235, in B226 1, in C273 1, in D274 1
- ➤ in B3 insert the formula '=A+1B+1C+1D1'
- ➤ in B5 insert the formula '=A+1B+1C1'.
- ➤ in B7 use the comparison operator formula '=B3=B5', to find out whether in fact B3 does equal B5.

Step 3

Then go to Formula, Formula auditing and activate 'Show formula auditing toolbar'.

- ➤ Activate cell B3, and then on the toolbar click on 'Trace precedents'. You can see that the program then links B3 with the four cells which provided data for the formula.
- ➤ Then activate cell B5, and again click on 'Trace precedents'. Again, the program links B5 with the three cells which provided data for the formula.
- ➤ Then if you trace the precedents for cell B7, you will see that this is also linked.
- ➤ Leaving the arrows as they appear, preview and then print this sheet, and include the printed sheet in your portfolio.



Activity 8

You are still employed by the stationery division of an organisation, and you have now been asked to prepare a spreadsheet for one of the other pen products sold by the division, the Slick 7.



The purpose of this spreadsheet is to enable the division to compare the net profit received from the sale of each line of pens – Super 6 and the Slick 7.

Spreadsheet data:

- In January, the division sold 9 pens in the first week, 8 in the second week, 13 in the third week, and 21 in the last week.
- In February, the numbers were 20 in the first week, 28 in the second week, 8 in the third week, and 39 in the last week.
- The numbers for March were 9,16,15, and 18; for April were,17,197, and 21; for May were 10,19,10, and 12; and for June were,15,1318, and 31.

Data entry:

Step 1

Open a new sheet in your existing workbook, and name the sheet 'Data Slick 7 pens'.

Step 2

Include appropriate descriptors in all applicable columns and rows.

Step 3

Enter the data above.

Step 4

nter the necessary formulae to calculate the total pens sold in each month.

Step 5

Enter the necessary formula to calculate the total number of pens sold over the six month period.



Enter the necessary formula to calculate the net profit for the total six month period where each pen sells for 14\$, and the cost of purchasing each pen is 6\$.

Step 7

Then enter the necessary formula to adjust the total net profit, taking into account handling costs of 1%.

Step 8

Apply shading to all cells which contain written descriptors.

Step 9

Include an appropriate header in your worksheet.

Step 10

Print your worksheet, including row and column headings but not gridlines, and include that worksheet in your portfolio.

Step 11

Save your work and exit the spreadsheet application, and take a rest break before moving to the next section.

Use of manuals and online help

When you experience problems in working with spreadsheets, there are many ways in which you can get assistance.

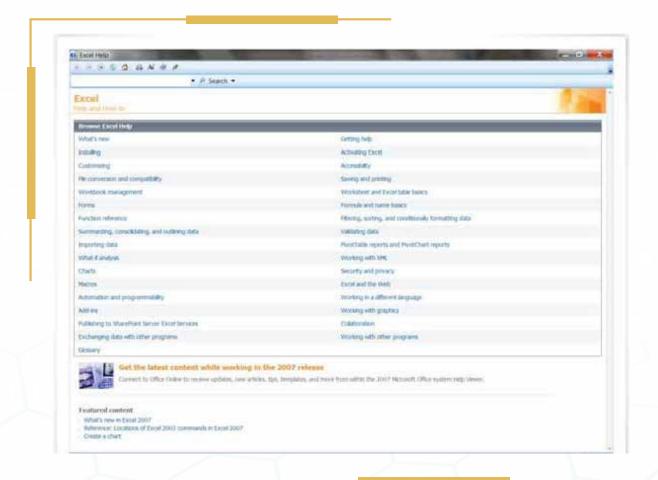
The Help function in excel is very good. You can search under headings or you can use the search tool. See the offline Excel Help screen below.



You can also search online for assistance with Excel.

Comprehensive user manuals are also available. These provide a useful resource for users of spreadsheet applications.

Many employers will also provide employees with organisational procedures, specific user documentation, style guides and presentation requirements.





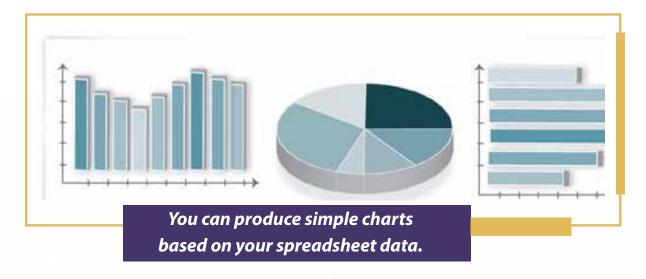


Activity 9

Using the online Help function, write a brief description of how to do the following.

How do you add or remove worksheet columns?
How do you add headers and footers to worksheets?
How do you change the number formatting?
How do you save a workbook in another file format?

Selection of chart type to meet task requirements

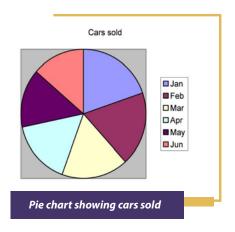


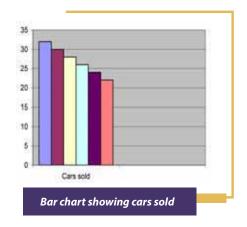
Now that you have completed entering data into a spreadsheet you can now use that information to produce a simple chart.

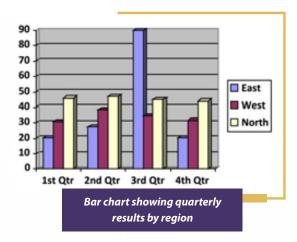
Charts are used for many purposes.

One purpose is to demonstrate the data contained in a spreadsheet, or in some other document, in a more visual way in order to increase its impact.

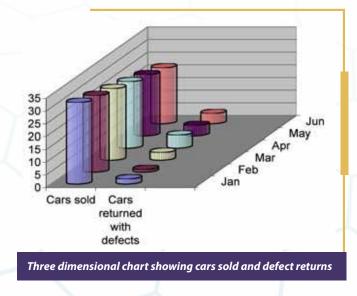
For example, if a colleague told you that in January this year his or her department sold 32 cars, but in each month since then the department had sold two cars less than the month before, or handed you a spreadsheet with the figures, you would hear the information, but it may not have a lot of impact. You might think, 'Oh well, business is slowing down a little, that's too bad'. However,if your colleague presented you with either of the following charts, you might view the information in a different way.



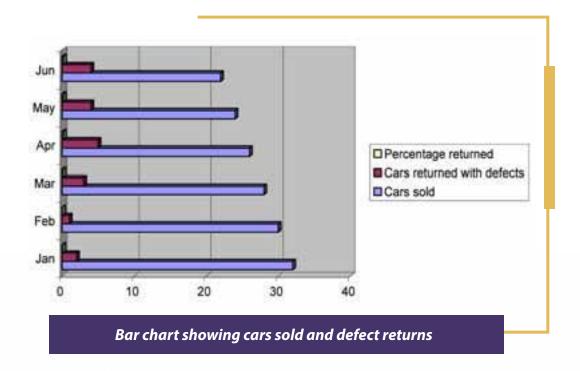




- Charts can be presented in many different ways, and the type of chart will often depend upon the business or organisation and the target audience.
- ➤ Let's use our cars again as an example, and add the element of cars being returned because of defects. The chart could be presented as follows.







- ➤ These are only some of the types of charts we can choose from, with some other selections being scatter, bubble, line, pie or 3D pie.
- ➤ In all cases, the type of chart will be dependent upon the nature of the business and the target audience.
- ➤ For example, some businesses or organisations might prefer very 'sedate' types of charts, such as the first two charts we included; whilst others will prefer those which provide significant visual impact. Some audiences might easily understand very complicated charts, whilst others will become lost in the detail if they are too complicated.
- ➤ In Excel, go to the Insert tab and look at the different types of charts that are available. Click on the Other charts icon to see other available chart designs.





Activity 10

After viewing these charts, select three different types and in the following table write down in what circumstances (types of presentation / industry /audience) you think these could be used.

Type of chart	Use of chart

Use of manuals and online help

Charts are most commonly created within a spreadsheet based upon the spreadsheet data.

Depending upon the task requirements and how the work is prepared, this can result in information being provided in a manner which combines statistical information (spreadsheet data), with visual information (chart).





Activity 11

You now work at Hussain's shop. Hussain wants to approach his local bank for a loan so that he can expand his business. At the moment, Hussain sells computers, printers, and printer toner cartridges, and wants you to prepare a spreadsheet showing his sales figures for the past 12 months.

Hussain thinks that a chart will emphasise the point that his sales are steady and instructs you to include a chart in the spreadsheet you are preparing based on his sales figures. Hussain does not specify what type of chart he wants.

Spreadsheet data:

- Computer sales for the 12 months (January December):
- **▶** 9,4,5,9,8,11,12,13,10,7,8,11.
- Printer sales for the 12 months (January December):
- **>** 20 ,15 ,12 ,11 ,12 ,13 ,15 ,17 ,16 ,17 ,21 ,22 .
- Toner sales for the 12 months (January December):
- **>** 25, 12, 21, 19, 18, 19, 21, 22, 26, 19, 20.

Data entry:

Work through the following steps to create the spreadsheet:

Step 1

Open a new workbook.



Step 2

In Sheet 1, enter the following data:

- in column B insert the following figures in rows: 2-13,9,4,5 9,8,11,12,13,10,7,8,11
- ➤ in column C insert the following figures in rows, 20,15,12:13 2
 22,21,17,16,17,15,13,11,12
- ➤ in column D insert the following figures in rows ,12 ,25 :13 2
 20 ,19 ,26 ,22 ,23 ,21 ,19 ,19,18 ,21
- ➤ in B14 insert the calculation required to add all of the numbers in A2 – A13
- ➤ in C14 insert the calculation required to add all of the numbers in B2 B13
- ➤ in D14 insert the calculation required to add all of the numbers in C2 C13.

Step 3

Label A1 as 'Sales', B1 as 'Computer sales', C1 as 'Printer sales', and D1 as 'Toner sales'. Use your mouse to click at the top of each column and drag the right hand border so that all of the words in B1, C1 and D1 appear in full.

Step 4

Commencing at A2, insert 'Jan', 'Feb' to 'Dec' down that row, and the word 'Totals' in cell A14.

Step 5

Insert a blank row before the totals so that the totals now appear in row 15.

Step 6

then to 'Custom header'. In the centre section insert the words 'Hussain's shop', increase the font to Arial 12, and underline these words.



Step 7

Rename that sheet 'Hussain's Shop Sales'.

Now we are ready to insert a chart.

In order for the program to prepare a chart based on the figures contained in your spreadsheet, you have to instruct the program accordingly, and you can do this by highlighting cells A1 – D13 in your spreadsheet.

Work through the following steps to create your chart.

Step 1

Click on the Insert tab, select a '-3D column' chart.

Step 2

The chart appears on screen in a text box. With your mouse, move the chart directly underneath the spreadsheet.

Step 3

Click the Layout tab and select 'Chart title' and then 'Above chart'. In the text box that appears, insert the words 'Sales – January to December over the top of the words 'Chart title'.

Step 4

Check to see that your work is the same as Activity answer 11.

Step 5

Save your work and print a copy to add to your portfolio.

Step 6

Repeat the process and experiment to see what other graphs look like.





Activity 12

Hussain has reviewed the previous spreadsheet and chart you prepared.

Some figures are incorrect and need to be changed, and he would also like you to change the type of chart presentation to a 3D line chart. Hussain does not want gridlines, or row and column headings shown in the printed spreadsheet.

He needs the updated spreadsheet and chart quite urgently, as he has an appointment with the bank manager tomorrow.

Assuming you saved your data and correctly exited the application in the previous activity, you will be able to retrieve your original spreadsheet data (and chart).

Spreadsheet data:

- Changes to computer sales:
 - October change from 7 to 11
 - ➤ November change from 8 to 12.
- Changes to printer sales:
 - January change from 20 to 18
 - > July change from 15 to 16
 - ➤ October change from 17 to 20.
- Changes to toner sales:
 - ➤ November change from 19 to 22
 - December change from 20 to 24.



Data entry:

Work through the following steps to create the spreadsheet.

Step 1

Re-open your spreadsheet application, open your 'Hussain's Shop' workbook, and copy your spreadsheet data to Sheet 2.

Step 2

Rename Sheet 2 as 'Hussain's Shop Sales revised date', and make the following data amendments:

B11 change 7 to 11, B12 change 8 to 12, C2 change 20 to 18, C8 change 15 to 16, C11 change 17 to 20, D12 change 19 to 22, D13 change 20 to 24.

Step 3

Prepare and include a 3D line chart in your spreadsheet based on the revised figures.

Step 4

Review your revised spreadsheet and chart, and ensure that gridlines and row and column headings will not be shown on printing, and ensure that the spreadsheet information and chart are neatly set out on page 1.

Step 5

Print a copy of your revised spreadsheet and chart for inclusion in your portfolio.

Step 6

Save your work and exit the spreadsheet application.





Activity 13

Hussain failed to obtain his additional finance, and you are now working on a part-time basis. You are also again working for the stationery division of an organisation on a part-time basis. The manager of the stationery division is aware that you can prepare charts and has asked you to prepare some charts for the spread-sheets you have previously prepared.

Spreadsheet data:

Spreadsheets for the Super 6 and the Slick 7 pens.

Data entry:

Open your spreadsheet application, and return to the spreadsheets you previously prepared ('Formatted updated data Super 6 pens') and ('data Slick 7 pens'), and then carry out the following.

Step 1

Copy the spreadsheets into a new workbook, into two sheets.

Step 2

The new workbook is to be saved and stored using the naming and storing conventions and is to be named 'Super 6 and Slick 7 pen omparison'.

Step 3

Sheet 1 is to be used for the Super 6 pen data, and is to be renamed 'Super 6 pen data'; Sheet 2 is to be used for the Slick 7 pen data, and is to be renamed 'Slick 7 pen data'.



Step 4

Create a line chart with markers in each of the sheets, using the data in those sheets, labelling the charts appropriately.

Step 5

Copy each chart into Sheet 3, and rename that sheet 'Comparison charts Super 6 and Slick 7 pens'.

Step 6

Insert an appropriate header in each of the three sheets.

Step 7

Using 'Print preview', implement the organisation's requirements regarding gridlines, and row and column headings in the 'Super 6 pen data' and 'Slick 7 pen data' sheets.

Step 8

Print a copy of all three sheets for inclusion in your portfolio.

Step 9

Ensure your work has been saved, and then exit the application.

Step 10

Back up the 'Super 6 and Slick 7 pen comparison' workbook using a USB.





Plan spreadsheet design

You are familiar with the use of spreadsheets and charts. You have created spreadsheets, entered data, amended spreadsheets, inserted formulae, formatted the presentation of the spreadsheet, produced charts, printed and stored. Our spreadsheets have met the specific requirements of the task and have included mathematical calculations.

5

Spreadsheet design

We now move on to designing spreadsheets so that other people can use them.

When designing spreadsheets, three things need to be taken into account.

- What is the purpose of the spreadsheet?
- ➤ Who will use, read or enter data into the spreadsheet (audience)?



Practice

Activity 14

Hussain continues to employ you on a part-time basis. He asks you to design a spreadsheet that will assist him with the preparation of his daily bank deposits. He is always making mistakes when calculating the cash and coins at the end of the day and it never equals his cash register totals.

Hussain wants to be able to add up the number of each denomination that he has entered it into a spreadsheet and check that the total equals the cash register takings for the day.



Spreadsheet data:

When designing a spreadsheet, we have to plan what it will look like, enter formulae and test before we can enter any 'real' data. Therefore the data will be supplied after we are confident the spreadsheet can meet Hussain's requirements.

Data entry:

Step 1

Create a new worksheet and name it 'Daily banking'.

Step 2

In cell A1, enter Denomination. Merge and centre this across cells A1 and B1.

Step 3

In cell A2 type the word Notes and in cell A7 type the word Coins.

Step 4

In cell B2 enter 100\$, B50\$ 3 and continue down to cell B12 where you should enter .05 (5c).

Step 5

Format the cell range B2 to B12 for currency and right align all denominations.

Step 6

In cell D2 enter the formula B2*C2, using your mouse to insert the cell references.

Step 7

Use the Fill handle to copy the formula down to D12.



Step 8

You will notice 0\$ appears in each of the cells. This is because we have not yet entered the number of each denomination.

Step 9

In cell D13, enter a formula =sum(d2..d12) to calculate the total of all cash.

Step 10

Format the cell range D2 through to D15 for currency with 2 decimals.

Step 11

To check if the spreadsheet is working enter the figure 1 into cells C2 through to C12. The total should appear as 188.85\$.

Step 12

The spreadsheet can now calculate the total of the cash deposits to be banked daily. However, we have not entered any checks to ensure our work is correct. Hussain checks his daily bank deposits against his cash register totals each day.

Step 13

In cell A14 enter 'Enter cash register total'. Centre and merge across cells A14 to C14.

Step 14

In cell D15 enter the formula D14 – D13. This will calculate if there is any discrepancy between the cash register totals and Hussain's bank deposits.



Step 15

Enter 185.50\$ into cell D14. This indicates that there is a discrepancy of 3.35\$ between the total that the cash register indicates should be deposited and how much cash is actually being deposited.

Step 16

Now that we know the spreadsheet is working. Delete the numbers you have entered into column C and the amount in D14.

Step 17

Check that your spreadsheet is the same as Activity answer 14, save your work using appropriate file protocol and print a copy for your portfolio.



Appearance of spreadsheet design

It is important that the design of the spreadsheet meets the purpose, audience and information requirements of the task. To be appropriate to the audience, the appearance of the spreadsheet needs to be considered. We will now make some changes to the spreadsheet above to meet organisational requirements as well as enhance its presentation to the audience.



Practice

Activity 15

Hussain has been very happy with the way the spreadsheet is helping him to calculate and reconcile his daily bank deposits. He now wants the spreadsheet to show him his daily deposits for the week. He would also like the sheet to be presented so that all staff an use it.

Data entry:

Step 1

In cell D1 type Sun (Sunday), in F1 Mon, H1 Tue, J1 Wed and L1 Thu.

Step 2

Merge and centre Sun across columns C and D. Repeat for all the other days of the week.

Step 3

In cell F2 enter the formula B2 * E2 to multiply the denomination by the number of units.

Step 4

Use the Fill handle to copy the formula down to F12.

Step 5

Repeat the procedure for columns H, J and L.

Step 6

Enter the total formulae for column F. The formula will be =sum(F2.. F12). Repeat for columns H, J and L.

Step 7

Enter the check formula in column F (F13 – F14) and repeat for columns H, J and L.

Step 8

Insert a new row at the top of spreadsheet so that 'Denominations' is now in B2.

Step 9

Centre and merge across Row 1 'Weekly bank deposits'. The heading should be in bold, Arial and 12pt.



Step 10

Font size for the rest of the spreadsheet should be in Arial and 10pt.

Step 11

Shade the ranges A2 – B13, D3 – D14, D16, F3 – F14, F16, H3 – H14, H16, J3 – J14, J16, L3 – L14 and L16.

Step 12

The unshaded cells will be the only cells left 'unlocked'. Users of the spreadsheet will be able to enter data only into these cells. Lock all of the shaded cells.

Step 13

In cell H19 type 'Total of bank deposits for the week'.

Step 14

In cell L19, enter the formula to calculate the total of all daily bank deposits, (D+14F+14H+14J+14L14).

Step 15

Check your work against Activity answer 15, save and print a copy for your portfolio.



Activity 16

Hussain now wants to use the spreadsheet for the week and get a weekly total of his daily bank deposits.



Spreadsheet data:

Denomination	Sunday	Monday	Tuesday	Wednesday	Thursday
\$100	5	5	7	3	8
\$50	22	28	14	18	29
\$20	105	88	95	65	112
\$10	85	71	95	58	83
\$5	45	56	75	81	76
\$2	36	25	42	51	62
\$1	25	14	36	41	34
50c	55	28	74	15	36
20c	25	45	72	44	53
10c	22	10	23	21	28
5c	14	12	35	11	24

Daily cash register totals for the week.

Sunday	Monday	Tuesday	Wednesday	Thursday
4907.40	4738.60	4800.25	3646.95	5890.60

Retrieve the spreadsheet you have been working on for Hussain and enter the data above. Check your work with Activity answer 10. Save and print a copy for your portfolio.



Design and layout

Hussain and his staff are now preparing many documents using spreadsheet applications. Because the appearance of each is so different, he wants to standardise this by creating style sheets. These style sheets will state what size and style headings and column headings should be and whether they should be normal, bold or italics. Hussain is also considering using some simple macros. He also wants to ensure that standard headers and footers and page numbering style is used by all staff preparing spreadsheets.

The remaining spreadsheet exercises you prepare must follow a standard style guide that you will given.



An example of a spreadsheet with calculations entres



Finalise spreadsheet

Preview, adjustment and printing

The last task you will need to complete as part of creating a simple spreadsheet is to finalise the work.

We have already considered adjusting data in a spreadsheet, and have worked through previewing spreadsheets.

We have also considered how the appearance of a chart can alter when the underpinning spreadsheet data changes, and also how we can select different types of charts which might be used in different situations and also, change their appearance.

There is no 'right way' to prepare spreadsheets or charts, as what is required will depend upon the particular task and organisational requirements.

Always preview (print preview) and adjust the spreadsheet prior to printing a hard copy. Because the columns and rows are almost endless, it is very easy with spreadsheets to waste paper. After amending the spreadsheet, preview to ensure it has not moved over to the next page.



When finalising your work you may need to preview, adjust or print your spreadsheet – Remember, you will always need to meet deadlines and manage your files correctly



Designated timelines

A designated timeline might include an organisational timeline where, for example, information might be required for presentation to a company auditor, an external customer or client may require the organisation to produce a spreadsheet or chart within a certain time, that is to assist in a presentation to the customer's employees, or it may simply be a timeline set by a supervisor.

If a timeline is set, then of course it must be met; and for this purpose, your teacher may allocate a designated timeline to any of your activities or assessment tasks.



Storing spreadsheets

After all the work is done, it is very important to ensure the spreadsheet is saved and stored correctly. We have already considered organisational requirements as to file and folder naming protocols. You should be following school protocols to save your work in the appropriate location.

Passwords on the school computers will ensure unauthorised access to your account will not take place. It is important that you do not share your passwords with anyone else.



How often do you back up your files, especially those that you may use between school and home? Think about what information would be lost if all your files were corrupted. Your files at school will be backed up regularly. However, you should ensure your personal files are backed up frequently. USBs are often used for this purpose.

Organisational policy and procedures will ensure that business data is protected. Always carefully follow instructions that relate to back up of files.

Methods of storage include CD ROM, zip drives, external hard drives and USBs.

Practice activity answers

How often do you back up your files, especially those that you may use between school and home? Think about what information would be lost if all your files were corrupted. Your files at school will be backed up regularly. However, you should ensure your personal files are backed up frequently. USBs are often used for this purpose.



Activity answer 1

- ➤ Recycling paper.
- ➤ Turning off lights when you leave the room.
- ➤ Turning off electrical equipment at the end of the day.
- ➤ Utilising sleep modes on equipment.
- ➤ Flash drives to store data electronically rather than print hard copies.
- ➤ Use email to send documents rather than print hard copies.

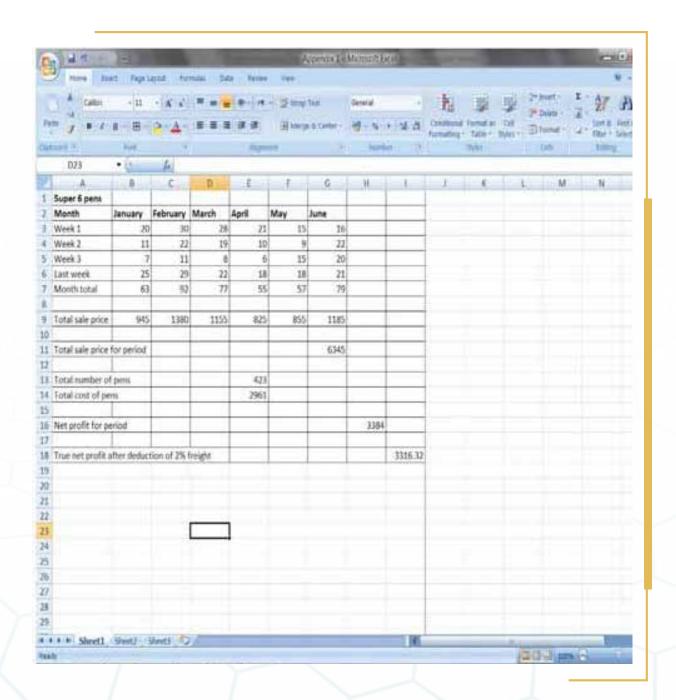


Activity answer 2

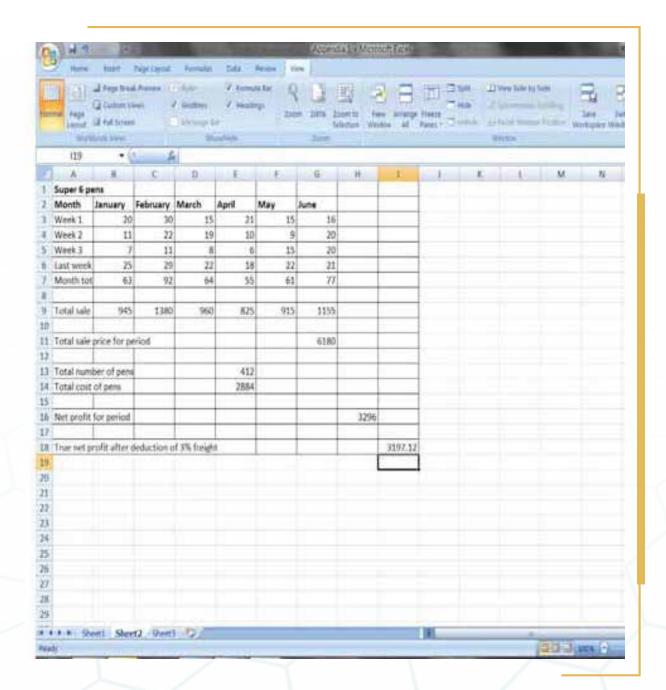
- ➤ The active cell is C5.
- ➤ The name of the worksheet is 'Blank'.





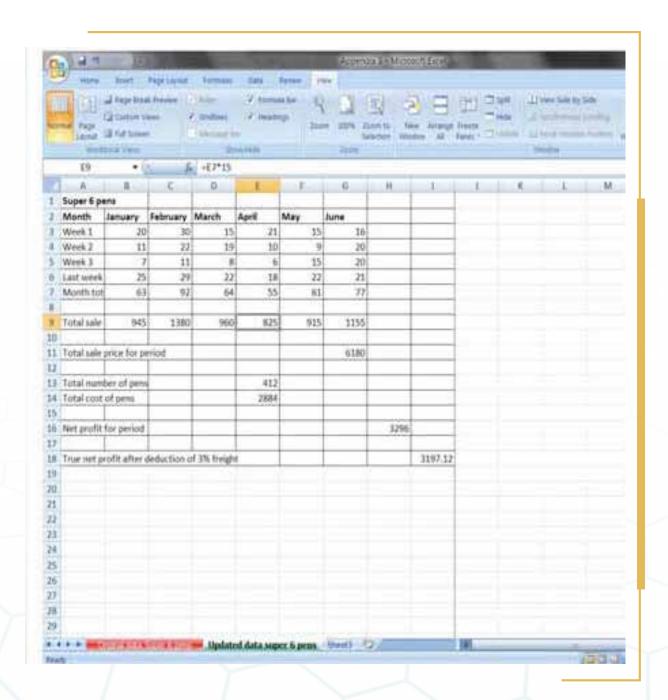






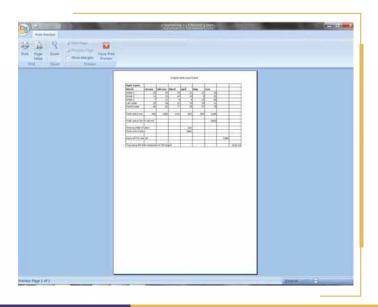






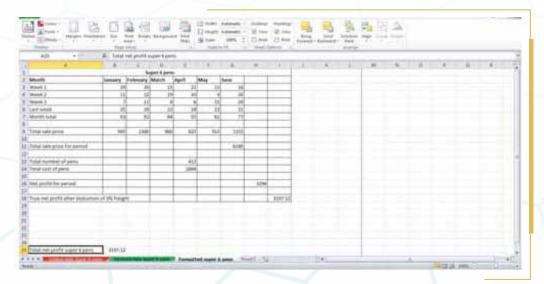


> Spreadsheet should be completed as per the following.





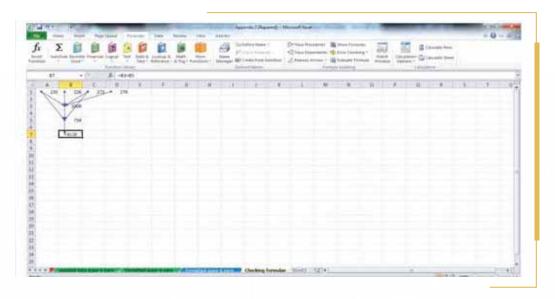
Activity answer 7







> Spreadsheet should be completed as per the following.





Activity answer 9

- Select the columns to be deleted. Go the 'Home' tab and in the'Cells' group click delete.
- Click on the worksheet. Go to the 'Insert' tab and in the 'Text Group'click on header/Footer.
- 3 Click on the cell or range of cells to be formatted and go to the 'Cells'tab and click on format.
- Click 'Save As' and in the 'Save as Type' click the type of file youwant to save.

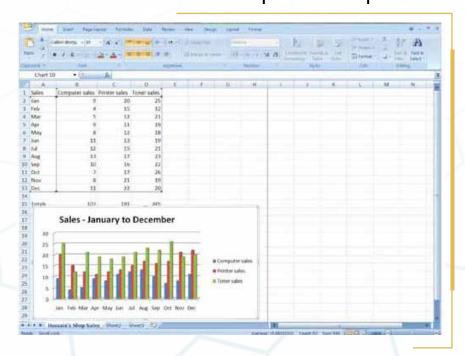




Pie graph	Show a break up of different selling expenses
	Show a break up of services by type
Line graph	Show the net profit figure month by month
	Show the weekly payroll figure
Bar graph	Show departmental expenses
	Show the number of employees by department



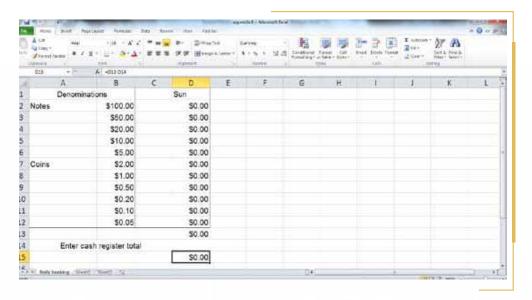
Activity answer 11







> Spreadsheet should be completed as per the following.





Activity answer 13

